Revenue
Criteria Report

Water and Sewer Revenue Bond Rating Guidelines

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Summary

Municipal water and sewer utilities in the U.S. are enduring natural monopolies that provide highly essential services. As such, the sector exhibits extremely strong credit characteristics with a minimal default history for the past quarter century. Reflective of this strong performance, the majority of Fitch Ratings' credit ratings in this sector are between 'A–' and 'AAA' and should remain within this range for the foreseeable future. Fitch currently rates more than 300 water, sewer, or combined utilities in 35 states, the District of Columbia, Puerto Rico, and the territory of Guam.

These rating guidelines provide a summary of Fitch's water and sewer revenue bond criteria. Underlying each of these areas is a focus on high-quality management practices, which Fitch believes has increased operating stability in the sector over the past three decades during the implementation of significant environmental mandates by federal and state governments. Foresighted management efforts and sophisticated long-term planning can better position a utility to confront upcoming challenges or, conversely, the lack thereof can undermine credit quality.

New Information in this Report

Fitch first published its water and sewer ratings criteria in 1997 and released updates in 2004 and 2007. This update does not contain substantive changes to the criteria itself. Instead, Fitch continues to make its comprehensive analysis based on the 10-point rating criteria known as the "10 Cs". However, in an effort to present the criteria in the order of significance impacting credit quality and in a manner more consistent with Fitch's published reports, the 10 Cs are grouped and reorganized in this update. In addition, this version is supplemented with answers to frequently asked questions throughout the report, a table describing the key ratios considered in the rating process, and a checklist of information required during the review process.

Rating Considerations

Historically Strong Credit Quality in the Sector

The sector has experienced an intense period of regulatory pressure since enactment of the federal Clean Water Act (CWA) in 1972 and Safe Drinking Water Act (SDWA) in 1974. Despite the intense capital and operating demands put on the sector to contend with these regulatory pressures, the requirements have had little discernible effect on the sector's default history.

Key credit strengths of municipal water and sewer utilities are their essential nature, monopoly status, and local rate-setting authority. Water and sewer utilities exhibit few of the legal, market, or technological characteristics that have disrupted the solid waste, health care, and electric power sectors in recent years. Furthermore, operations of water and sewer utilities are often less politicized on a day-to-day basis than the wide array of general government operations affecting tax-supported bond ratings.

Experience has also shown that strong management practices can dramatically improve a utility's ability to cope with unexpected demands, plan for future needs, and maintain healthy, vibrant fiscal operations in a cooperative manner with elected officials and

regulators. Consequently, best management practices in the water and sewer sector relevant to the rating review process detailed on page 3 will be emphasized throughout this report.

Rating Methodology — Fitch's "10 Cs"

Fitch differentiates revenue bonds in this sector following a comprehensive analysis of the utility's management practices, financial operations, balance sheet components, capital planning and debt issuance, and the service area. As described in this report and summarized in Appendix A, these areas can be remembered as the 10 Cs of Fitch's analysis: crew, an informal term for management; coverage and financial performance; charges and rate affordability; cash and balance sheet considerations; capital demands and debt policies; capacity; compliance; community characteristics; customer growth and concentration; and covenants. The table below describes the key ratios considered during the rating process and ongoing surveillance.

Key Ratios Used in the "10 Cs" Rating Process

Ratio	Definition	Significance
Total Outstanding Long-Term Debt per Customer ($)	Total amount of utility long-term debt divided by the number of utilities from which system revenues are pledged (i.e. one for an individual water or sewer utility or two for a combined water/sewer utility), divided by total number of customers (for a combined utility, the individual utility with the most customers is used, typically the water utility)	Indicates the existing debt burden attributable to each customer (principal only)
Projected Debt per Customer — Year Five ($)	Total outstanding system debt divided by the number of utilities from which system revenues are pledged (i.e. one for an individual water or sewer utility or two for a combined water/sewer utility), divided by total outstanding projected customers five years from the date of the rating	Indicates the total debt burden to ratepayers five years from the date of the rating
Three-Year Historical Average Senior Lien Annual Debt Service (ADS) Coverage (x)	Historical average of annual revenues available for debt service divided by respective senior lien debt service for the year	Indicates the historical annual financial margin to meet current senior lien ADS with current revenues available for debt service
Current Senior Lien ADS Coverage (x)	Current-year revenues available for debt service divided by current-year senior lien debt service	Indicates the financial margin to meet current senior lien ADS with current revenues available for debt service
Minimum Projected Senior Lien ADS Coverage (x)	Minimum debt service coverage projected, based on revenues available for debt service in any given fiscal year, divided by the respective senior lien debt service amount for that fiscal year	Indicates the financial margin during the year in which future senior lien ADS coverage is projected to be the lowest
All-In ADS Coverage (x)	Current-year revenues available for debt service divided by current-year total debt service	Indicates the financial margin to meet current total ADS with current revenues available for debt service
Operating Margin (%)	Operating revenues minus operating expenditures plus depreciation, divided by operating revenues	Indicates financial margin
Days Cash on Hand	Current unrestricted cash and investments divided by operating expenditures minus depreciation, divided by 365	Indicates financial flexibility
Days of Working Capital	Current unrestricted assets minus current liabilities payable from unrestricted assets, divided by operating expenditures minus depreciation, divided by 365	Indicates financial flexibility

Based on Fitch's rating methodology, the most creditworthy municipal water and wastewater treatment facilities — those rated 'AA', 'AA+', and 'AAA' — will perform well in most, if not all, areas of Fitch's 10 Cs analysis. These elements are interactive in that

strengths in one area may offset risks in another to some degree. However, one word summarizes the characteristics of all highly rated utilities — stability.

The highest rated utilities also exhibit multiple management practices that maximize expenditure stability by anticipating future regulatory and growth demands, reliably implementing rate increases to cover operational and capital costs, and ensuring liquidity sufficient to cope with unexpected sales shortfalls or emergency needs. While elected officials play a necessary role in regulating the utilities' monopolies in their jurisdictions, the most stable utilities will generally operate relatively free from day-to-day political interference or controversies concerning rate-setting policies. This is made easier by the long-term maintenance of financial management and planning practices, rate flexibility, manageable and well-planned capital programs, and segregation of enterprise fund finances from those of the general government.

Management

Crew

Sound management practices are critical to a highly rated utility credit, affecting all aspects of Fitch's rating criteria. Throughout this report, numerous management practices that impact credit quality are discussed and highlighted. These are summarized in the table below.

Water and Sewer Best Management Practices

System Related

- Key management industry experience and active participation in organizations to keep pace with sector issues, regulatory mandates, and technological advances.
- Use of professional engineers, either within the utility or outside of it, to prepare objective reviews of system performance and needs on a regular basis and provide periodic revisions of construction cost estimates.
- Regular consultation with regional and local growth planners, community development officials, and demographers to predict and, if possible, limit infrastructure needs related to population and business growth.

Debt and Capital Related

- Prioritized capital improvement plans that cover at least five years and consider growth, capacity, regulatory, and replacement and renewal needs.
- Debt issuance policies, including types, terms, and suitability under specific conditions, as well as the total amount of variable-rate debt deemed appropriate.
- Development of comprehensive policies on the use of hedge agreements and their disclosure prior to entering into any such agreements.

Finance Related

- Long-term integrated financial forecasting that considers future growth in demand, expected rate increases, regulations, and infrastructure renovation and renewal needs.
- Policies to ensure appropriate financial margins, including debt service coverage and operating liquidity levels. Utilities with variable-rate debt and swap agreements are expected to understand the implications and potential risks of such capital management strategies. In addition, these utilities should include management's rationale for the sizing of financial reserves and the adequacy of those reserves to cope with interest rate fluctuations and possible termination payments.
- Regular financial reporting and monitoring systems that enable policymakers access to timely information on fiscal performance relative to the budget.
- Limited operating exposure to growth-sensitive revenues, such as tap, connection, or impact fees.
- Collection policies that regularly track the rate of timely payment receipts and enforce penalties against late payers or terminate service for nonpayment.
- Willingness of political leaders to adjust rates when necessary.
- Limited exposure to financial operations of the general government, so that system revenues can be relied on for use to operate and improve the utility. For transfers to the general fund, policies that specifically limit their scope and growth are favorable.
- Compliance with industry accounting practices and establishment of appropriate internal controls.
- Rate affordability guidelines that consider absolute levels of rates and their affordability relative to income levels.

Fitch expects that this list will be expanded or modified over time. Utilities and their advisers are encouraged to bring their management practices to Fitch's attention, both during and after the rating review process.

FAQ: Are more stringent policies considered a credit enhancement?

Not necessarily, a utility credit rating is more likely to be enhanced by policies and targets that are achievable and adhered to by management, as opposed to those that are stronger but are either not likely to be reached or would adversely impact other credit fundamentals if maintained.

Finances and Rates

Coverage and Cash (Financial Performance and Balance Sheet Considerations)

Fitch, in general, views long-term financial planning as a highly desirable credit feature, and this is perhaps more true for enterprise operations, for which long-range planning can clearly illustrate future structural deficits necessitating revenue development, expenditure containment, or both. Fitch believes that utilities are more likely to be stable when such decisions are considered in advance, as a result of financial forecasting, rather than when they are made on a reactive basis, under pressure, and with acute political controversy.

Highly rated utilities set goals for appropriate financial margins, including debt service coverage levels, debt affordability, and reserve funding (such as rate stabilization, repair and rehabilitation, and operating reserves), and consistently establish rates and budgets that comply with their goals. Debt service coverage as a rating factor has been somewhat overemphasized in the past. Fitch believes that, in many instances, 1.5x–2.0x coverage can support 'AA' category ratings if other system characteristics demonstrate a suitably strong credit profile. However, more comfortable financial margins are clearly a very important positive credit consideration and can be one way utilities can overcome risks related to other credit factors.

FAQ: Does Fitch have a coverage threshold to determine rating categories?

No, debt service coverage is a key ratio in the rating process; however, the ratio itself does not determine where a utility falls on the rating scale. Due to the huge variation in operating profiles of utilities across the nation, specific recommended formulae for coverage and liquidity margins leading to higher ratings are not feasible.

Numerous factors can cause financial volatility during one fiscal year or over time, including variations in water supply and weather-related demand. Debt service coverage and liquidity goals should be developed with historical climate volatility in mind. In short, utilities operating in areas especially prone to rainfall volatility generally should consider the effect of such variability on their revenues and establish financial cushions to deal with potential weather events. Along a similar line, a utility's financial goals generally should consider its fixed annual system cash flow requirements. As part of monitoring financial performance relative to agency goals and policies, highly rated utilities demonstrate regular financial reporting and accountability systems that report year-to-date financial performance to rate setters so midyear revenue and expenditure adjustments can be considered when needed.

Because the financial health of a utility depends on the receipt of revenues for services rendered, Fitch considers the development and maintenance of adequate billing and collection measures an imperative. Credit concerns exist for utilities that fail to meter customers or ones that do not replace aging meters in a timely fashion. Likewise, Fitch's rating considers the existence of policies regarding the termination of service for unpaid accounts and a utility's practice of acting on those policies when necessary. In cases where accounts receivable (expressed as days of operating revenues) are significantly high in relation to a utility's billing cycle, credit concerns may be raised.

In evaluating debt service coverage levels, Fitch considers the stability of revenue streams available for the payment of operations and debt service. Significant exposure to growth-sensitive revenues, such as tap, connection, or impact fees, will continue to be a credit concern for some utilities, especially when growth-sensitive fees represent more than 20% of annual revenues. Steps to mitigate these concerns include prohibiting or limiting reliance on these growth-sensitive fees for rate covenants and additional bonds tests, implementing conservative budgeting strategies for such revenues, and meticulously tracking these fees as they accumulate and strictly limiting their use to growth-related capital, rather than operational spending. To gauge the ongoing ability of a utility to meet operating and debt service expenditures, Fitch calculates coverage both with and without growth-related fee revenues in its rating evaluation, if fees are pledged to bondholders. In published reports, while Fitch will calculate coverage based on all legally available revenues, particular mention may be made in cases where growth-sensitive fees constitute a material amount of pledged revenues or coverage may also be presented without these fees.

Charges and Rate Affordability

For municipal utilities, political leaders generally play a key role in overseeing utilities' rates. Highly rated utilities consistently consider the impact of operational and capital programs on rate affordability. While Fitch believes credit is due to those systems that consistently raise rates to preserve financial strength, these activities will be more sustainable when rate affordability is a focus of policymakers and cost containment is regularly employed. Fitch believes that not only should the level of rates for particular customers be considered in these reviews, but also the affordability of rates relative to income, particularly for residences, which tend to generate the most user charge revenues of retail systems.

Fitch generally considers rates for combined water or sewer service higher than 2% of median household income (or 1% for an individual water or wastewater utility) to be financially burdensome. As regulations continue to proliferate and the cost of CWA and SDWA compliance grows, some communities may be forced to approach and surpass this target; however, currently, few do, and utility bills on average should remain within this affordability range for the foreseeable future, based on some national studies.

FAQ: Are utilities with lower service rates deemed more creditworthy?

No, Fitch's review of service rates and charges focuses on rate flexibility, which not only incorporates existing low rates, but also considers a utility's ability to control costs and raise rates in a timely manner without political impediment. Rates as a percentage of median household income alone do not provide a complete assessment of rate flexibility.

Another measure Fitch considers when evaluating utility rates is the cost of service from other comparable utilities in the region. The comparison is utilized to determine whether future growth may be hampered due to the lack of competitiveness, particularly in neighboring suburban communities that have similar economic and residential bases. The comparison is also useful in that anticipated rate increases may be projected forward to determine continued competitiveness. Finally, a regional comparison acts as a counterbalance to the 2% threshold where rates overall are above average but well within local affordability levels or, conversely, low-to-moderate overall but at or near 2% of median household income.

Fitch also incorporates the rate approval process and general relationship with the utility's regulatory body into its rating analysis. As mentioned previously, a key credit strength for municipal utilities is to have local control over rate setting and not be subject to external oversight. Having said this, local authorities can be subject to other

community interests or political pressures. A lengthy rate review process, which can hinder timely cost recovery, or a demonstrated reluctance to adjust rates in line with increasing costs, can negatively affect the rating.

Capital Improvement Program and Future Debt

Capital Demands and Debt Policies

Regulations, customer growth, and capacity constraints, as discussed, are each major determinants of a utility's capital improvement burden. In Fitch's view, highly rated utilities integrate these diverse considerations into a comprehensive multiyear capital improvement and asset management strategy. Capital plans that attempt to prioritize expansion, improvement, and operating and maintenance needs and determine their financial impacts for rate-setting officials are viewed favorably. This can facilitate informed long-term discussion of funding and construction alternatives, minimizing political and consumer rate shock in some cases, if additional revenues are required.

Water and sewer utilities are capital intensive, with annual debt burdens often surpassing those of general governments as measured by the percentage of expenditures. Utilities limiting debt exposure by utilizing annual pay-as-you-go revenues, including excess user charges and growth-related fees, to fund a significant portion of their capital programs are generally viewed more favorably than those relying predominantly on debt-funded means. Elevated debt issuance over the near term may not adversely affect credit quality, although, in assigning a credit rating, Fitch does consider anticipated debt issuance in light of outstanding obligations, affordability levels, and historical financial performance, as well as the need for financing such projects.

FAQ: How does Fitch view an amortization rate of 30 years or longer, even for projects with a life cycle exceeding this term?

While highly rated utilities typically amortize debt with terms under 30 years, the pace of debt retirement is only one of several factors in Fitch's water/sewer revenue bond rating criteria. However, amortization is an important credit metric used by Fitch because it acts as a gauge to measure how much future strain will be put on a utility's financial flexibility and borrowing capacity for potential capital needs.

For debt funding for capital requirements, long-term fixed-rate debt historically has been the norm for utilities, with terms ranging from 20–30 years. However, in recent years, borrowers have increasingly utilized variable-rate instruments to reduce borrowing costs. In many instances, borrowers have also entered into swap agreements as a hedge to variable-rate obligations or to take advantage of spreads between fixed-rate debt and a swap index.

Fitch recognizes the benefits of both variable-rate obligations and swap agreements to borrowers and believes that both types of instruments can be important tools in a utility's overall debt strategy. While Fitch has resisted proposing rigid limits to which all borrowers should adhere, Fitch believes it is imperative that management understand the implications of variable-rate and swap strategies prior to engaging in them, thoroughly evaluating the potential risks and benefits of such instruments within the utility's asset/liability plans, especially in the current credit environment. Nevertheless, utilities with a perceived high degree of exposure and/or a perceived lack of understanding and ability to manage such exposure will face tighter scrutiny than those with little or no variable-rate obligations or swap agreements outstanding.

System

Capacity

Capital development and asset management strategies that consider capacity at every stage of the water/sewer utility's service delivery process — supply sources, treatment facilities, collection, transmission, and distribution, as well as management, technological, and personnel capacity to deal with anticipated service demands — are viewed favorably. Fitch believes that cooperative service management efforts with local land use and growth planning can be especially helpful in this regard. Such interactions can produce more accurate estimates of expected aggregate service area expansion and determine where and when such growth may occur. With these facts, managers can make better informed decisions on where, when, how, and in what priority service capacity should be expanded, maintained, or reduced.

Fitch's rating criteria takes into account comprehensive plans to maintain existing facilities and replace aging or obsolete assets. Consequently, Fitch views trends of deferred maintenance as a credit risk. In this regard, Fitch evaluates a utility's annual depreciation, in relation to overall assets historically depreciated, to determine the age of plant. Fitch also compares a utility's annual capital expenditures, in relation to depreciation for the year, to gauge the amount of ongoing maintenance being performed. Utilities with aging infrastructure or annual capital spending that regularly falls below the amount of annual depreciated assets may require substantial upgrades in the near term to maintain regulatory compliance. Another indicator of potential needs, as far as water utilities are concerned, is the amount of treated but unbilled water distributed. Water utilities regularly replacing aging pipelines should experience water loss rates at or below the 10%–12% typically seen within the industry.

FAQ: Can changes in weather patterns affect a bond rating?

In general, Fitch acknowledges that the water/sewer utility sector is impacted by changes in weather patterns. Some fluctuation in annual financial performance alone is not likely to result in a rating change; however, the prolonged lack of management's action to contend with effects on the long-term financial profile, resulting in deterioration of credit fundamentals, could negatively impact the rating. The degree to which a utility is prepared to handle these challenges is a reflection of managerial expertise, overall financial flexibility, the rate structure, and rate flexibility.

The availability of adequate water supplies is critical for a utility to meet its customer demands. As such, highly rated water utilities carefully should consider their water supply source capacity on an ongoing basis as part of their capital and financial planning processes, considering not only their demands on such sources, but also those of neighboring jurisdictions. Utilities that demonstrate a sustainable long-term supply to meet current, as well as expected future growth, needs are viewed more favorably by Fitch than those whose resources may be insufficient to allow for continued economic development. In instances where supply is an issue, Fitch considers a positive rating factor the regulatory management of potentially strained regional water resources, as well as the encouragement of and investment in customer conservation, as is the case in many Sun Belt states.

Compliance with Environmental Laws and Regulations

Mandates have been the dominant factor in water and sewer utility credit analysis since passage of CWA in 1972 (amended in 1977, 1981, and 1987) and SDWA in 1974 (amended in 1986 and 1996). Although regulatory requirements continue to pressure some enterprises, utilities can reduce credit risk by consistently attempting to predict and stay ahead of expected requirements at both the state and federal level. From the viewpoint

of operating stability, anticipating and financing improvements over time are generally preferable to doing so under the threat of orders and fines from regulatory bodies or the courts.

In assessing utilities on which a regulatory action has been imposed, Fitch incorporates into the rating process the events leading to enforcement, scope of the corrective plan, current stage of the corrective plan, and projected timeline for completion. Fitch also focuses on the expected impact on ratepayers and management's commitment to meeting the set milestones and returning to compliance.

Regulatory enforcement neither precludes a utility from a high credit rating nor necessarily dictates immediate rating action. However, enforcement actions may reflect underlying credit weaknesses that extend beyond actual violations (e.g. management issues), in which case, the rating could be directly affected. Fitch observes that this is most likely to occur in instances of political unwillingness to raise rates to address needed capital improvements or lack of planning to identify and address shortcomings within the system. In such cases, enforcement action likely would put increased downward pressure on a rating, as opposed to being the explicit cause for such action.

Service Area

Community Characteristics

The service area economy and customer base characteristics are key drivers in ratings for water and sewer utilities, since the essentiality of the enterprises' services provides localities with a de facto ability to tax for their provisions. Accordingly, the vitality and diversity of the customer base, as well as its ability to absorb cost increases, serve as a base to determining credit health.

The 'AAA' water and sewer ratings typically reflect service areas with broad economies and broad and diverse customer bases, since they are less vulnerable to sectoral downturns and cyclical economic shifts. At the other end of the typical rating spectrum, 'A' category ratings reflect a reasonably stable but less diversified customer base. The 'AA' category ratings are generally associated with utilities in the middle of this range, when considering sectoral diversification. This rating category should continue to include many urban and suburban service areas.

FAQ: Are revenue bond ratings capped by the general obligation (GO) rating of the service area?

No, Fitch's revenue bond ratings are neither notched from the service area's GO bond rating nor are those ratings considered a cap. Although, generally, since GO bondholders enjoy the full faith and credit pledge, these ratings are often higher than those assigned to an enterprise revenue stream. However, in some cases, Fitch rates the revenue bonds higher than local GOs.

Service areas with prospects for significant future population, commercial, and industrial volatility or long-term decline are more likely to have 'BBB' or lower water and sewer bond ratings. The presence of agricultural activities in and of themselves does not preordain 'BBB' ratings. Rather, a detailed examination of the precise nature of the agricultural presence, its prospects for future stability, its concentration within the broader regional economy, and the utility's direct and indirect dependence on it are considered in Fitch's rating evaluation.

Customer Growth and Concentration

Related to service area demographics is growth in a utility's residential, commercial, industrial, and government customer bases, as well as its customer concentration. In terms

of growth, demonstrated steady increases are considered preferable from a credit perspective, as these utilities typically are better able to project financial results and plan for needed improvements or expansions. Conversely, high growth and declining customer bases are more likely to affect a rating, as they can pressure the financial and capital decisions of a utility. From a quantitative standpoint, Fitch considers annual growth rates above 3% to be rapid, whereas 1% and below is viewed as stable; annual growth rates between 1%–3% are seen as moderate.

A high-growth environment poses special challenges for utilities, particularly in terms of the timing and funding of capital improvements. As a community expands, water and sewer infrastructure must often be built in advance of growth and/or additional water supplies or treatment capacity must be developed. Potential vulnerabilities include instances when growth does not occur as fast as anticipated. In such cases, user charges will likely be raised for existing customers to cover debt and operating costs. Not only can this provoke political and rate pressure for the utility, potentially resulting in strained financial margins, but it also can reduce the community's attractiveness to new residents and businesses, compounding the growth challenge.

While these growth challenges pose credit concerns, management can offset potential risks through well-developed capital and financial plans and policies that identify the nature and timing of future capital and operational needs. In high-growth locales, highly rated utilities are likely to require developer funding of many components of capital expansions upfront, including procurement of additional water rights to serve a proposed development. Rate structures for high-growth utilities often include impact fees that are sized to recover a meaningful proportion of the capital costs required to serve the growth. Fitch generally views these impact fees as a positive credit feature of the rate structure, although a utility must be able to respond to a reduction in these revenues if growth slows. In addition, high-grade credits will tend to favor modular capital expansion plans, which can be accelerated or slowed based on actual demand trends.

Similarly, Fitch's ratings will reflect the pressure associated with a declining customer base. Utilities with long-term planning practices in place may find savings through cost or personnel reduction and rely less on under-used assets, when possible. The credit benefits of these management practices will be more pronounced when they are institutionally implemented on an ongoing basis, preparing for future challenges instead of responding to such demands in a reactive way.

FAQ: Do ratings reflect size?

No, Fitch does not consider "size" to be a key rating factor. Some of Fitch's highest credit ratings are smaller utilities with substantial capacity, strong financial margins, low rates and considerable rate flexibility, and limited capital needs.

While planning may limit certain exposures of a declining service base, customer concentration, which may ultimately lead to the loss of significant revenues with the departure of a single customer or downturn in a particular industry, is viewed negatively in the rating process. To this end, Fitch evaluates concentration levels in light of a service area's economic focus and sector concentration among the users. Volatility in the service base can be most severe when the largest customers, particularly industrial entities, exit a community or substantially downsize operations. In such a case, a utility would face pressures not only from the loss of revenues of such large users, but it also may be constrained to increase rates because of elevated unemployment among its residential customers.

The presence of a large customer concentration is a negative credit factor. Fitch expects utilities in this situation to demonstrate the impacts of a large customer withdrawal on its

revenue stream, rate structure, and rate competitiveness. Fitch will evaluate reserves and the sufficiency of those reserves to serve as a buffer to ratepayers to phase in the real impact of such customer loss over time.

Overall, the top 10 largest customers among Fitch's 'AAA' rated utility credits generally account for less than 10% of revenues in any one system. A minimal number of credits in the 'AA' and 'A' categories approaches or exceeds 30%. However, in these cases, the composition of individual users is diminished or concentration exists among users considered stable (e.g. governmental entities). Conversely, 'BBB' rated credits with similar concentration rates exhibit little diversity among the largest customers or have users that are more susceptible to economic volatility.

Legal Documents

Covenants

Covenants promote a certain level of credit stability for investors. If adhered to, they can provide a degree of protection against downgrades of water and sewer revenue bonds. Standard bond covenants for senior lien water and sewer utility bonds include those limiting parity bond issuance to instances when historical and/or projected revenues cover annual debt service at least 1.2 times (x); requiring 1.2x rate setting annually to cover both operations and debt service costs; and creating debt service reserve funds at the maximum levels allowed under tax law. Additional covenants requiring set-asides for operational, maintenance, and other financial reserves are positive credit features, as they heighten prospects for stable financial management.

In nearly all cases, Fitch will consider financial performance on a net revenue basis, even if a gross revenue debt security pledge is present, as creditworthy systems must reliably cover operating expenditures from the same revenue streams used to pay debt service. However, most retail water and sewer enterprises comfortably exceed their covenant coverage and liquidity requirements and should continue to do so. For them, the focus of a rating review should be actual and likely future performance, not minimum guaranteed performance in a stress scenario.

In recent years, a general trend in the water and sewer sector toward relaxed covenants has developed. Changes proposed typically focus on reducing coverage requirements or reserve fund levels. The particular rating impact of relaxed covenants will depend on the system, its characteristics, and the specific proposed changes. In cases where a change in covenants has not adversely affected a rating, such utilities have demonstrated strong and consistent performance well above existing requirements, and such change is not expected to weaken the credit quality of the utility over the foreseeable future.

Covenants will receive the most scrutiny during the rating process when utilities show a likelihood of testing or breaching them altogether or where other credit factors deemed weak are of concern. In these cases, the covenants may dictate actual, rather than theoretical, financial performance. Consequently, any loosening or modernization of such covenants may be expected to have a negative impact on the rating for those credits exhibiting weaker than average credit fundamentals.

FAQ: How does Fitch view modifications to standard legal covenants?

A utility credit rating is unlikely to move upward by a marginal enhancement to standard covenants. However, the same degree of change toward relaxing these covenants could put downward pressure on the rating.

As for relaxation of the rate covenant in particular, Fitch views 1.0x coverage of annual debt service from ongoing net revenues, excluding one-time sources like connection fees,

as a minimum requirement. Utilities not producing 1.0x annual debt service from ongoing net revenues — even utilities that substantially exceed their rate covenant from all pledged sources — very likely will receive a lower credit rating than a comparable system that is able to meet this level of coverage.

Other legal covenants that have been modified (and weakened from a bondholder's perspective) in recent years include the satisfaction of debt service reserve funds with surety policies and the ability to enter into swaps or other forms of hedge agreements. To date, there has been little impact to utility credit ratings from these changes, and it is anticipated that any future downward pressure to individual credits will be isolated, even in the current market environment. However, instances that may arise and impact the credit rating of a utility include cases where there is a reasonable chance that a debt service reserve fund may be tapped and the surety provider rating is below that of the utility; a large swap termination payment(s) exists, which would materially impact an entity's financial capacity if required to be paid; or it is likely that rated obligations could be affected by cross-default provisions of a hedge agreement.

Appendix A: Fitch's "10 Cs" of Water and Sewer Revenue Bond Analysis

Crew
- Important for linking all credit features together.
- Are management and administrative practices institutionalized, recognized by political leaders and management officials, and able to withstand personnel changes?
- Have management and administrative practices withstood prior periods of operating volatility, if any?

Coverage and Financial Performance
- Goals and policies for annual financial performance.
- Reasonableness of future budget assumptions.
- Payment enforcement and account delinquencies.
- Cause of past financial volatility, if any.
- Operating reliance on growth-sensitive fees derived from customer base growth, if any.
- Policies to limit transfers to the general fund are preferable.

Cash and Balance Sheet Considerations
- The less stable the operating environment, the larger the needed financial cushion.
- Operating reserve levels.
- Repair and replacement reserve levels.
- Rate stabilization reserve levels.
- Debt service reserve levels.
- Unrestricted cash and investments.
- Reserves for variable-rate fluctuations if the utility incurs variable-rate debt.
- Leverage ratio of outstanding debt to undepreciated plant assets.

Capital Demands and Debt Policies
- Do political leaders and utility officials regularly raise rates when needed? Is review by an outside entity required?
- Affordability of rates for residential, commercial, and industrial classes.
- Comparison of rates to those in nearby communities and whether they affect the ability to raise rates when needed.
- Level of near-term increases expected.

Capital Demands and Debt Policies
- Costs of growth, regulations, and maintenance.
- Debt burden to customers.
- Cost effects on financial flexibility.
- Pay-as-you-go versus debt funding sources.

Capacity
- Water supply sources, regional demands on these sources, and adequacy for existing and future needs.
- Treatment facilities.
- Collection, transmission, and distribution infrastructure.
- Management, technological, and personnel capacity.
- Age of facilities and extent of deferred maintenance.

Compliance with Environmental Laws and Regulations
- Is the utility staying ahead, keeping up, or falling behind regulatory mandates?
- Status of consent decrees or compliance litigation, milestones to meet, and current stage within corrective plan.
- What developing regulations could affect the utility?
- How much will meeting regulations cost in the five- to 10-year timeframe?

Community Characteristics
- Economic diversity.
- Income and property wealth levels.
- Population growth.
- Potential for residential, commercial, or industrial sector volatility.

Customer Growth and Concentration
- Stability, growth, or decline?
- Effect on the capital program, rates, and financial flexibility.
- Customer base concentration and sector concentration of largest users.

Covenants
- Annual debt service coverage of 1.2x in rate covenants and additional bonds tests are typical.
- Does the system regularly exceed typical covenant requirements? If so, does it show strong prospects of continuing this trend?
- Other legal enhancements.
- Level of minimum credit protection provided if utility is likely to test or breach covenants.

Appendix B: Checklist of Basic Requirements During the Rating Review Process

- ☐ Description of the water/wastewater system including, water sources, purchased water contract terms (if applicable), number of treatment plants and capacity of each, method of treatment, storage capacity, and distribution and collection lines.
- ☐ Integrated resource plan, if available.
- ☐ Discussion of potential new supplies, if applicable.
- ☐ Five-year history of average annual number of customers, average daily demand, peak demand, and unaccounted for water losses, average sewer flows, and peak flows.
- ☐ List of top 10 water/wastewater customers in terms of both annual sales and revenue.
- ☐ Wholesale service providers, whether full or partial, should provide an estimate of single-family equivalent units.
- ☐ Disclosure of compliance or regulatory issues, if any; required remedies and major milestones; and costs.
- ☐ Current rate schedule, historical rate changes for at least five years, and proposed future rate schedule (planned or adopted).
- ☐ Current rate comparisons with area providers.
- ☐ Policies on reviewing and setting rates.
- ☐ Description of billing procedures, including method of meter reading and frequency and policies on collection and disconnection for nonpayment.
- ☐ Detailed five-year capital improvement plan (CIP), including sources of funding by year.
- ☐ Discussion of longer term capital needs beyond the five-year horizon.
- ☐ List of current debt outstanding segregated by lien, including the principal maturity schedule and total debt service requirements for each lien; this should include all obligations outstanding supported by the water/sewer system.
- ☐ Five years of audited financial statements.
- ☐ Minimum five-year financial forecast inclusive of implementation of the CIP, related debt issuance, and operations; this forecast should include detailed assumptions used, including service rate adjustments, nonrecurring revenue sources, and timing of debt issuances.
- ☐ Formal Policies and disclosure of targets for annual financial performance and transfers to the general fund, as well as other formal policies, including those related to investments, cash funding of the CIP, and maintenance of repair/replacement, rate stabilization, and other reserve funds.