Chapter V.3

Drought and Surcharge Rates

A rate surcharge is a separate charge added to existing rate structures to collect either a targeted amount of revenue or to assess an appropriate charge for particular usage characteristics outside of those covered in the basic charge for service. Surcharges are often presented separately from the existing rates and labeled for the specific purpose for which the funds will be used or the events that caused the need for the surcharge. Drought rates are a specific form of a surcharge rate.

Water utility rate surcharges are used relatively infrequently, but in certain circumstances can be an effective tool for meeting the utility's short-term and possibly long-term financial requirements. Surcharges are usually placed into effect for limited periods of time and may have a specific revenue target, often directed toward emergency purposes, to fund specific, one-time requirements, or to establish/replenish a reserve fund. They may be subject to legal constraints.

The term *surcharge* may be used to describe a variety of different rates that are in addition to a basic rate structure. For purposes of this chapter, the term *surcharge* will apply to a temporary rate for the utility that wants to highlight the separate recovery of specific costs. Examples include situations where a utility is responding to a natural disaster, managing demand in times of drought, building up reserves in anticipation of large capital project financing or for rate stabilization funds, or paying for one-time upgrade requirements, such as water system security or compliance with new water quality regulations.

GENERAL CONSIDERATIONS

Surcharges are, by definition, an atypical charge designed to recover revenues for a specific purpose. Accordingly, the basis or need for the surcharge should be readily understood and considered valid from the utility's governing body and the utility's customers. For utilities regulated by a public service commission, the ability to

implement rate surcharges is subject to regulatory approval. Public utilities generally have more flexibility in the policy decision to establish a surcharge rate.

Some common reasons for implementing rate surcharges include the following:

- Response to disaster—A surcharge is an appropriate fee for supplying funds needed to financially assist a utility in recovering from a one-time natural or infrastructure disaster. In these cases, the cost to recover from a natural disaster (e.g., forest fire in a watershed, earthquake, hurricane) or an infrastructure failure (e.g., major transmission main break) are not normal ongoing costs (i.e., included within the utility's revenue requirement). Normal ongoing costs would typically be recovered from the rate structure or could have been fully anticipated when establishing rates. From a customer's perspective, the need for the surcharge, if labeled appropriately, is clear, and when the funds are fully collected, the surcharge can be removed. In these cases, a surcharge provides a method for recovering the costs needed without disturbing the integrity of the existing rate design. The acceptability of surcharges as a response to natural disaster is, in part, a function of the severity of the disaster and the effective inability of typical measures, such as insurance or emergency reserve funds, to manage risks to cover the extent of the utilities' damages.
- Rate stabilization—Surcharges are often used to accumulate designated reserves for a rate stabilization fund. Once established, a rate stabilization fund can be drawn on to mitigate large impacts of prospective rate adjustments. The rate stabilization fund is used to meet a portion of the utility's revenue requirements. Rate stabilization may also help the utility manage through unexpected low-revenue periods. Once rate stabilization fund levels are established, the maintenance of the appropriate fund level is often managed by adjusting the necessary future increases in general rate revenue to recognize any variations in annual water sales rather than maintaining the fund level through subsequent surcharges.
- Elevation surcharges—For some systems, the cost of pumping due to differences in elevation and terrain within their service area can be significant. Elevation (zone) surcharges are a method to fairly reflect the additional or incremental costs associated with pumping from one elevation zone to a higher elevation zone. Elevation surcharges are well accepted within the industry but have very limited applications. At a minimum, these surcharges typically include the incremental power costs associated with pumping from the lower zone to the higher elevation zone. The cost of infrastructure related to elevation zone pumping may also be included in the elevation zone surcharges, but some utilities may exclude this particular cost given the impact to the overall surcharge. Administratively, elevation zone surcharges may be challenging in that a utility may have multiple elevation zones.
- Capital financing—Surcharges may also be an effective means of accumulating funds for major capital project financing. For example, a surcharge may be put in place to prefund a major water treatment plant upgrade to address new regulatory requirements. By prefunding the capital project, the utility will help minimize the amount of their long-term borrowing and potentially minimize customer rates over the long-term. It should be understood that prefunding typically does not cover 100 percent of the capital construction cost of the improvement. This approach typically funds only a portion of total project costs to avoid a significant one-time overall increase in general rates to provide the funding for the project.

- Drought surcharges—Drought surcharges are often used on an emergency and temporary basis to pay for costs associated with purchasing emergency water supplies during a severe drought or to support drought restrictions. When drought conditions result in the need to purchase emergency supplies, a surcharge is a logical and simple way to pass along the additional temporary cost of acquiring these high-cost water resources to the current users who require the water supply. Often, surcharges used during drought conditions are also intended to provide a price incentive for customers to reduce water demand. In both of these cases, the surcharge can be in place while the drought exists and can be removed once the drought has ended.

HISTORICAL PERSPECTIVES

Rate surcharges have been used when specific situations dictated the financial need for such charges. In the late 1980s and early 1990s during a severe drought, surcharges were used in California to cover the additional costs associated with obtaining emergency water supplies. In Pennsylvania, surcharges have been used to help investor-owned water systems accelerate the pace of needed improvements to the water delivery system. With the approval of state legislators and utility regulators, water investor-owned utilities in Pennsylvania have previously implemented a distribution system improvement charge (DSIC). By allowing utilities to make incremental rate adjustments to pay for improvements, this mechanism enhances rate and revenue stability, reduces regulatory lag, and lengthens the time between formal rate cases. Less frequent rate cases reduce rate case expenses for all parties. The Rhode Island Public Utility Commission has approved surcharges to repay one-time loans caused by revenue shortfalls. In addition, some utilities that historically attempted to pay for growth-related debt service via system development charge revenues discovered, as a result of slowed growth, the need to implement rate surcharges to cover the revenue shortfall between the growth-related debt-service payments and the reduced system development charge revenue.

ADVANTAGES AND DISADVANTAGES

The relative advantages and disadvantages of rate surcharges may be assessed in terms of simplicity, equity, revenue stability, conservation, effect on customers, and implementation including legal considerations.

Simplicity

For the most part, surcharges are simple to calculate, understand, implement, and administer. Surcharges can be applied and collected in different ways, but utilities typically strive to implement a surcharge that is easy to administer, given the typical short-term nature of this type of charge. Drought surcharges may be more complex if they follow the various stages of drought specified within a drought management plan (Stage 1, Stage 2, etc.).

Equity

The issue of equity can often be addressed by considering the specific circumstances that create the need for the surcharge and the way in which the surcharge is assessed and collected. For equity to prevail, there should be a reasonable relationship between the amount of surcharge revenue collected from each customer class and the benefits that accrue when the surcharge revenues are used. Properly designed drought surcharges should be equitable if discretionary usage is primarily targeted.

Revenue Adequacy and Stability

By definition, a surcharge is a temporary rate assessed to collect revenues above that generated from existing rate levels. Accordingly, surcharges generally enhance revenue adequacy by increasing the total amount of revenue generated. Surcharges may provide additional revenue, but in the case of drought surcharges, the surcharge may off-set the decline in revenue and consumption. It is also important to realize that demand for water may decrease due to the increased water bills caused by surcharges, which also affects revenue stability.

Conservation

Surcharges are generally not considered a long-term conservation pricing tool because they are typically temporary in nature. The distinction between conservation pricing and surcharge pricing is that conservation pricing is usually a long-term pricing approach intended to permanently alter demand while surcharge pricing is temporary and is intended to support the identified need. However, drought surcharges can be effective in reducing short-term demands especially when designed to help manage short-term, severe drought restrictions.

Effect on Customers

The effects of surcharges on customers vary in relation to the level of the surcharge and the length of time the surcharge is in effect. It also varies depending on how it is assessed. In most cases, the relative effect on individual customers is minimal and limited in duration.

Implementation

Implementing rate surcharges should be relatively straightforward but may be limited by specific billing systems. In the planning process, the utility should strive to communicate the need for the charge to its customers and to calculate a fee that is equitable, easy to implement, and easy to administer. Generally, the perception and acceptance of surcharges by customers may vary based on the need for, or reasoning behind, the surcharge. Some level of customer resistance will likely be encountered.

DETERMINING RATE SURCHARGES

Determining rate surcharges is a fairly simple matter, but the method of collection can take many forms.

Fixed Surcharge

A fixed amount surcharge is a fixed or flat rate generally applicable to all customers, i.e., each customer's bill includes a fixed dollar amount surcharge. For example, each customer may be charged a $5.00 surcharge on their bill regardless of the volume of usage or the type of customer. Variations of fixed surcharges include surcharges that increase with meter or connection sizes or that vary by customer class. This may be an appropriate and equitable approach to assessing surcharges and is one that has a low-cost recovery risk.

Volumetric Surcharge

The volumetric surcharge approach is often used when the surcharge revenues are used to benefit customers in proportion to how they use water or when there is a

need to reduce the amount of water used via price (i.e., drought surcharges). In this approach, only the volumetric portion of the rate has a surcharge applied to it. Depending on how the volumetric surcharge is applied, it potentially allows a utility to be more specific in the customers that the surcharge targets and in the impact on demands of different user groups. Volumetric surcharges have greater revenue risk and variability than fixed fee surcharges.

Percentage Bill

This approach simply places a fixed percentage surcharge on the total bill of the customer. The percentage bill approach is simple and straightforward and can be accomplished in two different ways. First, each of the rate components of the entire rate structure may be increased equally to produce the incremental amount of revenues. This approach does not explicitly separate the surcharge from the rates. Alternatively, the bill can be computed at current rates, and then a percentage surcharge assessed in addition to that amount. This approach is more explicit in that the surcharge is clearly identified.

DETERMINING DROUGHT SURCHARGES

Drought surcharges are a specific form of a rate surcharge used during a drought. A water utility typically has two overriding objectives during a drought. The first is to reduce the volume of water used by its customers to reflect the utility's potentially reduced and constrained water supply resources. This reduction is usually accomplished by a combination of actions, such as appealing to customers to voluntarily reduce water demands, placing mandatory restrictions on discretionary water uses (often outdoor uses such as irrigation and car washing), and increasing rates or adding surcharges as incentives to reduce water demands. The goal is to immediately reduce demands on water supplies made scarce by the drought. The second objective during a drought is to maintain adequate revenues to meet system revenue requirements. To the extent that the first objective (i.e., water-use reduction) is met, it is often correspondingly more difficult to meet the second objective. To deal with this situation, many utilities draw on financial reserves, reduce budgeted expenditures (although during a drought, a utility will often incur unbudgeted costs), and implement drought surcharges.

DROUGHT SURCHARGE CONSIDERATIONS

Revenue forecasting for post-drought pricing periods should anticipate the potential for long-term effects on demand patterns arising from the temporary drought conditions. Drought surcharges are intended to reduce demand immediately as a precautionary or emergency response to a temporary and severe limitation in water supplies. Once the drought or emergency has passed, drought surcharges may be removed or revised to align with longer-term pricing objectives, which may be achieved through normal rate setting. In contrast, conservation pricing is designed to permanently reduce or modify total annual demand or alter demand patterns and often is an institutionalized characteristic of a utility's rate structure. Notably, however, depending on the duration and severity of a drought and the effectiveness of the drought surcharges, permanent reductions in water usage may be induced, although this may not be the intended consequence of the drought surcharge strategy.

The approach used for drought surcharges may blend the drought surcharge with existing rates or the drought surcharges may be a separately identified surcharge on a customer's bill. A utility's ability to select between these two approaches

may be limited by its billing system and either approach can be effective, although a separately identified drought surcharge provides a clearer price signal to customers.

Types of Drought Surcharges

Drought financing and demand management. Surcharges are often used as an emergency and temporary fee to pay for costs associated with purchasing emergency water supplies during a severe drought or to support drought restrictions. When drought conditions result in the need to purchase emergency supplies, a surcharge is a logical and simple way to pass along the additional temporary cost of acquiring these high-cost water resources to the current users who require the water supply. Often, surcharges used during drought conditions are also intended to provide a price incentive for customers to reduce water demand. In both of these cases the surcharge can be in place while the drought exists and can be removed once the drought has ended. Excess funds are generated from surcharges imposed solely to encourage conservation, above those needed to meet potentially increased costs, and should be set aside in a reserve fund to be used for future drought-related mitigation purposes, such as development of additional sources for supply.

The following is a discussion of different approaches to drought surcharges.

General rate adjustment. One method of rate setting during a drought is to implement a drought surcharge on all commodity rates. For example, all volume rates (regardless of the rate structure) could be increased by a specific percentage estimated to yield an acceptable level of demand reduction, while still generating the required revenue requirement from the decreased consumption. While this is a relatively simple and unsophisticated method of developing drought surcharges, customers may better accept this approach because it may be perceived as treating all customers "equally." This method of establishing rate surcharges is also relatively easy to explain to customers and implement for billing purposes. However, this method does not target those users or end uses most able to reduce water demands or most likely to respond to price changes. Finally, the drought surcharge component is not explicitly identified under this approach and may not clearly communicate the drought issue to the customer. Thus, while this approach is simple and appears to treat customers equally, its lack of specificity and transparency may ultimately make it less acceptable.

General volumetric surcharge. To better communicate the price impact to customers of using water during a drought, many utilities implement separate drought surcharges that are distinct from their established water rates. A general volumetric surcharge provides incentive for customers to reduce demand and specifically identifies on their bills the cost impacts of using water during periods of drought. Volumetric surcharges may take many forms including ones that uniformly apply the surcharge over all consumption blocks, apply the surcharge to consumption beyond a stated level (e.g., a surcharge applied to consumption over 10,000 gallons per month), or graduated increases in the surcharge as consumption increases (i.e., an increasing block surcharge). While this form of drought surcharges may be effective in communicating cost impacts, it is also a relatively blunt pricing technique that does not target specific individualized customer uses (i.e., residential vs. commercial) or consider whether or not specific customers have the ability to reduce their consumption (discretionary versus nondiscretionary use).

Class-based volumetric surcharges. A variation of the general volumetric surcharge approach is to establish quantity limits per customer for different classes of users and to apply a surcharge to any user exceeding the limit for that class. In essence, this is a volumetric surcharge by customer class of service. This approach requires establishing reasonable consumption targets based on the consumption

characteristics for each class. Often, the target setting can be performed in a reasonable and relatively equitable manner for single-family and multiple-family residential customers, with the latter group set on a per-dwelling unit basis. It is more difficult to set uniformly applied quantity limits for commercial and industrial customers than residential customers because of diversity in the number, types, and sizes of commercial and industrial customers. This diversity limits the extent to which volumetric surcharges may be equitably applied to commercial and industrial customers. As a result, this approach may be less effective in achieving the desired consumption reduction targets for commercial and industrial customers than those applicable to relatively homogeneous residential consumption.

Individualized volumetric surcharge. Another approach is to apply drought surcharges to users whose water demands exceed a specified percentage of their base-period water use. For example, the utility might apply a 25 percent surcharge to any customer with water use greater than 80 percent of that customer's average demand during a previous base period. This approach sets a clear water reduction target for each individual user and provides reduction incentives to all customers. An individualized approach can also recognize variations within a class, such as household size and lot size that may be important in setting target consumption levels. Agricultural and irrigation limits might be based on the type of crop or plant being watered and the acreage. While this approach places a similar reduction requirement on all customers, there remains a disadvantage of using historical usage characteristics to establish targeted levels of reduction. In those instances where a customer is already using water efficiently, the customer has less of an ability to reduce their demand and thus avoid a surcharge while a customer whose water use has been the least efficient has the greatest opportunity for avoiding the surcharges. Individualized approaches are limited to utilities that have billing systems that can set individualized consumption goals or consumption thresholds.

Targeted volumetric surcharge levels. A utility could target certain customer classes for larger surcharges than others. Such classes would include those that have more discretionary use and should be able to more easily reduce water use. This approach avoids affecting customers whose water demands are extremely inelastic or are desirable from a public health or other policy perspective. For example, a utility might place a high surcharge on residential outdoor usage and might not apply the same level of surcharges to hospitals or public schools. A major concern with this approach is that the utility may be criticized for targeting some customer groups and exempting others. There are also certain legal implications and considerations to this targeted approach. Implicit in this approach is the ability of a utility to evaluate and make conclusions about the relative merit of one use of water over another.

Drought Surcharge Policy Issues

Drought management plan. In a drought, policymakers are faced with many decisions requiring them to balance water supply management imperatives, customer and community needs, and the potential financial consequences of drought response. When prepared in advance, a drought management plan can provide well-thought-out and comprehensive guidance in times of drought. A well-prepared drought management plan should provide clear policy direction as it relates to declaring a drought. The drought management plan will also discuss the various specific "stages" of drought and the target reductions of water use for each stage. The drought management plan provides the planning basis for the drought surcharges and the targeted savings from the drought surcharges. These plans should include drought pricing and financial management strategies as well as water resource strategies.

Timing for implementation of drought surcharges. With the development of a drought management plan, the utility has a clear understanding of the various stages of drought, the actions to be taken, and the needed consumption savings. The drought management plan frequently establishes clear criteria for declaring when a utility is in a drought. Drought management plans typically classify droughts as to their severity (e.g., Stage 1 through Stage 5). Given the key information contained within the drought management plan, a utility can develop drought surcharges well in advance of a drought. The drought surcharges can be adopted and in place, ready to be implemented when a drought stage is declared by the governing body of the utility. Once the drought stage is declared, the associated drought surcharges become effective until the drought stage changes or the drought is declared to be over. By developing the drought surcharges in advance of an actual drought, and using the information contained in the drought management plan, the utility can carefully consider the various options available to them for establishing equitable drought surcharges and any billing system limitations.

Revenue sufficiency. While drought pricing can help a utility manage the revenue reductions that result from reduced water sales, it is likely that the utility will need to also use its financial reserves as well as reduce and defer planned expenditures. Because the duration of a drought is not known (i.e., 1-year events vs. 10-year events), utilities cannot be certain about how long their reserves will last and thus should draw on them cautiously, especially insofar as the ability to replenish them is limited during the drought.

Ideally, a well-designed drought surcharge should hold customers harmless if they comply with the desired and targeted savings levels. In other words, a customer that has a targeted Stage 1 reduction of 10 percent and reduces their consumption accordingly may pay roughly the same bill as before the drought and produce the same level of revenue because the pricing of the surcharge has been structured to recover the same level of revenue, assuming a 10 percent reduction in consumption. The difficult and challenging part of establishing drought surcharges is the uncertainty of how customers will respond and what reductions in consumption will be realized. When reductions in consumption are greater than the targeted level, the utility may have a budget shortfall. If the reductions in consumption do not occur, the utility should collect more than their revenue requirement.

Additional and/or deferred expenses. A drought response often requires additional expenses beyond the anticipated revenue requirement and may at the same time require the deferral of other anticipated expenses within the utility's revenue requirement. The additional expenses may be a function of the need to obtain additional and costly water supply, additional pumping costs, and so forth. In addition, expenses may be incurred to impose water-use restrictions in the event that the utility elects active enforcement of its rules. The utility will also likely incur additional costs associated with public outreach and communication. The drought management plan may have estimates of the unplanned expenditures for each drought stage. At the same time, capital projects may be postponed or deferred during a drought to help preserve cash flow and reserves.

Equity. Cost-of-service rate-making considerations are a recommended practice when establishing the utility's overall general rate structure. However, variance from the traditional cost-of-service principles may become necessary when implementing emergency drought surcharges, which include controlling demand and recovering total system costs. In designing drought surcharges, a utility should consider the price and demand response of various types of water uses and target those that are

the most discretionary and responsive to price. This may or may not strictly relate to cost-of-service considerations.

Bill presentation and accounting issues. If the drought surcharges are intended to integrate with the other drought-related programs, it should ideally be clearly communicated to customers on their bill. This means that the drought surcharge should be presented as a separate line item on the bill. Utilities should also have a method for tracking the amount of drought surcharge revenue they receive from each customer class. This is important for accountability and transparency reasons during the drought. After the drought, this will provide valuable information for analysis purposes.

Customer acceptance. Customer acceptance and ease of implementation are important considerations in selecting a drought surcharge approach. Customers naturally expect their water reduction efforts during a drought to be recognized and perhaps rewarded, not penalized. In designing the surcharge rates, and as previously discussed, if all customers respond appropriately, consumption will decrease. The surcharge rate should, if properly designed, make the utility financially whole (i.e., lower use × higher surcharge rate should produce revenue = revenue requirement). For the customers that respond appropriately (e.g., save the reduced level of usage suggested in the drought plan), their bill should be roughly equal to what they pay under normal water conditions. Those customers that do not choose to conserve will appropriately end up with increased bills. Accordingly, to achieve the expected results of the surcharge, a vigorous educational campaign is important in explaining the drought pricing rationale and gaining its acceptance by its customers.

Media relations. Working with the media during a drought is critical to providing information to customers about the severity of the drought, desired customer responses, and the need, purpose, and implications of drought pricing strategies. As it relates to drought surcharges, the utility should provide background on when the drought surcharges might go into effect, the potential magnitude of the drought surcharges, and its purpose. It should also explain that drought surcharges are one tool in a set of measures that the utility is using to engage the community in effective water resource management.

Removal of drought pricing. Just as it is complicated to know when to implement drought surcharges, it is just as complicated to know when the drought is over and to remove drought surcharges. Caution is needed to avoid removing the drought pricing prematurely and then having to reimplement the drought surcharges. Formal action declaring the end of the drought should be the basis for the removal of the drought surcharges.

DROUGHT SURCHARGE EXAMPLE

In this example, the drought surcharges are triggered by the severity of the drought (Stage 1, Stage 2, etc.). For increasing levels of severity, more aggressive pricing policies are implemented as part of a comprehensive drought management plan to change customer behavior and reduce water demand. These drought surcharges are instituted when a declaration is made that a drought emergency exists. The basis around which the drought surcharges are established is related to the estimated price responsiveness and price elasticity. Assuming an average price elasticity response of –0.1 to –0.2 for a relatively large change in price, a 25 percent increase in the commodity charge would yield a demand reduction of about 2.5 percent to 5 percent, all other factors remaining constant. It is presumed that other drought responses (i.e., restrictions and public education) will compliment and add to this reduction.

During a moderate Stage 1 drought, the following actions would be taken:

- Single-family rates are assessed a surcharge of 25 percent that is applied to the two upper blocks (i.e., more discretionary use). The initial block is assumed to be more "essential needs."
- The multifamily, commercial, and industrial rates under normal water conditions are converted from uniform block rates to increasing two-block rates. Block 1 remains at its current level, and block 2 is indexed to the block 2 rates for the single-family class.
- Irrigation rates are also converted to a two-block rate and block 1 increases by 25 percent (because all outdoor irrigation use is considered discretionary) and block 2 is indexed to the block 3 rates for the single-family class.

If the drought situation worsens to a Stage 2 severe drought, a greater emphasis is given to targeting outdoor usage with higher prices:

- Block 1 rates for all customers are adjusted, but at moderate levels, particularly for single-family and multifamily customers, because their block 1 use is considered to be nondiscretionary or essential and is less sensitive to price.
- Blocks 2 and 3 rates are increased creating a steeper pricing curve to the customers as they use more water. The single-family residential blocks 2 and 3 increased by 50 percent of their normal water condition level. Multifamily and commercial/industrial block 2 rates are indexed to the single-family residential rate and irrigation consumption. Irrigation class usage, which is deemed the most discretionary, in block 2 is priced at the block 3 single-family residential level.

Finally, if the drought situation became critical (Stage 3), the utility would need to increase the price incentive to reduce demand. In this case, the utility might implement the following:

- Block 1 for all customers, except irrigation, would increase by 50 percent over its normal level.
- Single-family residential blocks 2 and 3 would increase by 100 percent over their normal level, increasing the price curve to these customers for outdoor usage.
- Multifamily and commercial/industrial blocks 2 would be indexed to the midpoint between blocks 2 and 3 for the single-family residential.
- Irrigation block 2 rates would be indexed to the block 3 single-family rates.

This example for drought rate adjustments is summarized in Table V.3-1. A utility should carefully plan the details for implementation. This phased-in approach to rate setting in a drought is designed to reduce water demand and yet maintain as much of the revenue stream for the utility as possible under various levels of water shortage.

The example, while greatly simplified, provides an overview of the basic approach and considerations that may be used in the pricing and development of drought surcharges. As the drought surcharges are analyzed and developed, consideration must be given to the overall reductions in use needed under the particular drought stage and the overall revenue impacts.

The characteristics of the utility's customer base, water supply, and constraints on resources should be evaluated in tailoring a drought surcharge approach that will best meet the utility's needs. Careful planning and effective customer communication

Table V.3-1 Drought surcharge pricing example ($ per thousand gallons)

Customer Class	Non-Drought Normal Water	Stage 1 Moderate Drought	Stage 2 Severe Drought	Stage 3 Critical Drought
Single-Family Residential				
Block 1	$1.00	$1.00	$1.10	$1.50
Block 2	$1.50	$1.87	$2.25	$3.00
Block 3	$2.00	$2.50	$3.00	$4.00
Multiple-Family Residential				
Block 1	$1.25	$1.25	$1.38	$1.87
Block 2	$1.25	$1.87	$2.25	$3.50
Commercial/Industrial				
Block 1	$1.30	$1.63	$1.79	$1.95
Block 2	$1.30	$1.87	$2.25	$3.50
Irrigation				
Block 1	$1.75	$2.19	$2.63	$2.89
Block 2	$1.75	$2.50	$3.00	$4.00

NOTE: For example only and based on specific assumptions.

will enhance the likelihood that drought surcharges will help secure required changes in water demand patterns and gain general community acceptance.

SUMMARY

Rate surcharges can be an effective means of financially protecting the utility during periods of severe drought, or other natural disasters. Surcharges may also provide an effective means to fund specific improvements or build necessary reserves for future requirements. While rate surcharges have limited application and may be politically sensitive to implement, and subject to legal constraints, they can help stabilize rates over the long term and provide other nonfinancial benefits, such as achieving needed reductions in consumption during drought periods.