



# Public Service Commission of Wisconsin

## Introduction to Water Rates

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### Introduction

Pricing water to recover its full cost, including the costs of building, operating, and maintaining a water system, is essential to long-term sustainability. The Public Service Commission of Wisconsin (PSC) establishes water rates for more than 580 public water utilities, including municipally-owned utilities. The PSC's authority includes setting rates for general (retail) service, wholesale service, public fire protection, and charges for other utility services. There are three steps to establishing fair and equitable water rates: (1) determining the revenue needed by the utility; (2) allocating costs among classes of customers; and (3) designing rates to generate the necessary revenue from each customer class.

### Revenue Requirement

PSC oversight and regulation helps to ensure that a water utility has an opportunity to earn sufficient revenue to support its operations over the long term. Under Wisconsin law, a municipality that owns and operates a water utility is treated as a business enterprise. As such, the PSC applies business concepts in its determination of the revenue requirement and rates for water utility service. The revenue requirement is based on a forward-looking test year, which is typically the first calendar year in which the rates are expected to take effect. The components of the revenue requirement include:

- Operation and maintenance (O&M)– routine expenses including salaries and wages, fringe benefits, power, chemicals, rent, material and supplies, office equipment, etc.
- Depreciation – the loss in value of facilities, not restored by maintenance, due to wear and tear, inadequacy, and obsolescence. Straight line depreciation recovers the capital investment in the asset over its useful life.
- Taxes and tax equivalent – for a municipal utility, this includes payroll taxes plus a statutorily allowed payment in lieu of taxes (PILOT). This component is usually calculated by applying the local and school tax rates for the calendar year to the utility's gross book value plus materials and supplies, multiplied by the assessment ratio for the municipality.
- Return on rate base – an amount sufficient to pay the annual interest cost of debt capital and provide a fair rate of return on the municipality's investment (earning equity) in water facilities. The typical rate of return authorized for Wisconsin water utilities is between 5 to 8 percent.

The return and depreciation components together provide the cash flow needed by the utility to pay interest and principal on any outstanding debt. Debt costs are not directly included in a public utility revenue requirement.

### Cost of Service Study

Once the revenue requirement for the test year has been determined, these dollars are allocated among the ratepayers by conducting a cost-of-service study (COSS). A water utility provides service to different classes of customers who have different water use and demand patterns. Typical customer classes include residential, commercial, industrial, public authority, and public fire protection customers. The cost of service study recognizes the differences in usage between customer classes and apportions a

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utility's costs to the class that causes them. Thus, the cost of service study provides the fundamental basis for a fair and equitable rate design.

The PSC uses the American Water Works Association's "Base-Extra Capacity" cost of service model. Under this model, the utility's operating and capital-related expenses are allocated to pre-defined service cost functions, which include:

- Base costs – expenses such as power and chemicals that vary with the amount of water sold.
- Extra capacity costs – expenses associated with meeting service requirements that exceed the average, including both O&M expenses and capital costs. For example, this could include capital costs of elevated storage needed to meet maximum day or hour demand.
- Customer costs – expenses associated with serving customers regardless of the volume or rate of water use. For example, the costs associated with meter reading and billing.
- Direct-fire protection costs – expenses related solely to the fire protection function. For example, the O&M expenses to maintain fire hydrants and the depreciation and return on the capital cost of the hydrant, branch mains, and valves.

After the expenses have been allocated to the appropriate service cost functions, these dollars are then allocated among each customer class served by the utility. The PSC uses information such as sales volume, customer demand ratios, the number of customers in a class, or direct assignment to allocate these service cost function totals to the various customer classes.

## Rate Design

The PSC's primary goal in designing rates is to ensure that the utility recovers the appropriate amount of revenue from each customer class. Rates for general water service include a fixed charge based on the size of the meter and a volumetric charge based on the amount of water used. There are endless combinations of fixed and variable charges that are capable of generating the revenues needed. As a result, rate designs often reflect other policy preferences, such as promoting water conservation, simplifying billing practices, or maintaining equity among customer classes. Historically, the predominant volumetric rate structure for water utilities in Wisconsin has been a declining block rate. This structure is simple to administer and allows a utility to apply a single set of rates to a broad range of customers with varying usage characteristics. Under a declining block structure, most residential water use is billed at the highest rate while large industrial and commercial users—who have lower costs of service due to economies of scale—benefit from the lower volumetric rates. Alternative rate designs, such as inclining block rates, are becoming increasingly common for utilities seeking to promote efficient water use, reduce operating expenses, and avoid costly infrastructure investments.

