# A Review of State Fair Market Value Acquisitions Policies for Water and Wastewater Systems

**Kathryn Kline | Senior Research Associate**

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Cover: Water tanks in the wastewater treatment processing after drained from the generator power plant in cooling systems. Shutterstock/John Kasawa

## Table of Contents

## List of Figures



## List of Tables



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## List of Acronyms

**AICPA** American Institute of Certified Public Accountants

**APA** Asset Purchase Agreement

**CBO** Congressional Budget Office

**CIAC** Contribution in Aide of Construction

**CWS** Community Water System

**DWSRF** Drinking Water State Revolving Fund

**EPA** Environmental Protection Agency

**FMV** Fair Market Value

**IOU** Investor-Owned Utility

**LIHEAP** Low-Income Heating Energy Assistance Program

**NSP** Negotiated Sales Price

**PPB** Parts per Billion

**PUC** Public Utilities Commission

**PURA** Public Utility Regulatory Authority

**PWS** Public Water Systems

**RCNLD** Replacement Cost New Less Depreciation

**RFP** Request for Proposal

**RFQ** Request for Qualification

**RoR** Rate of Return

**ROE** Return on Equity

**RRB** Ratemaking Rate Base

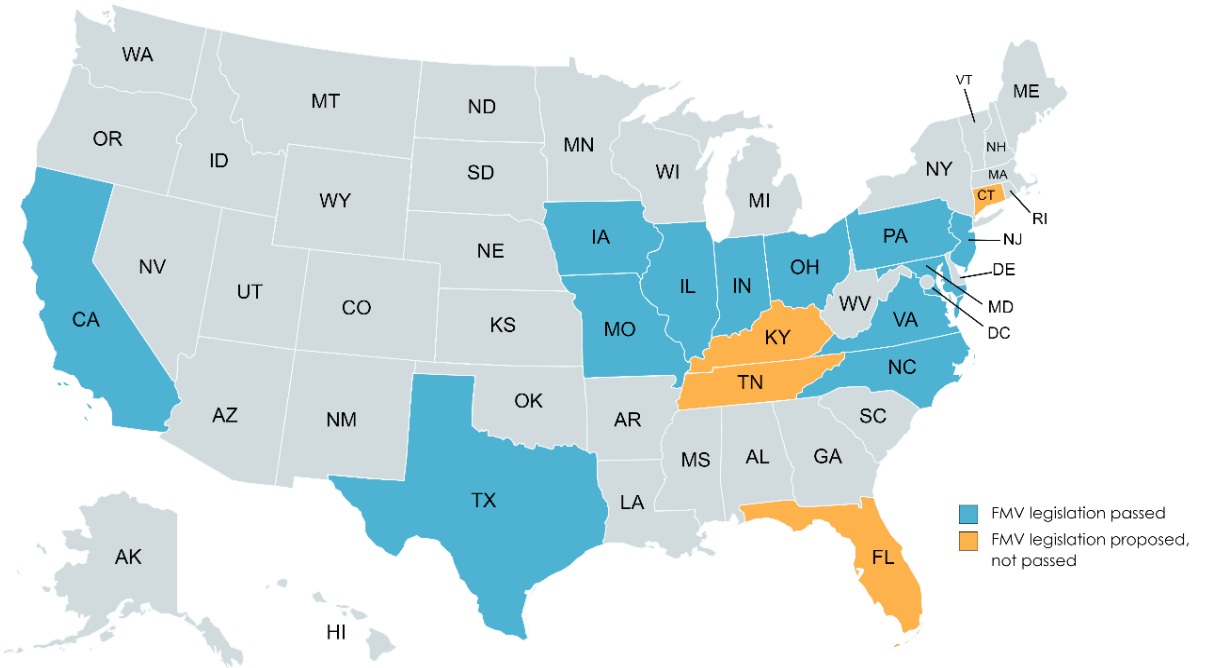
**RSP** Rate Stabilization Plan

**SDWA** Safe Drinking Water Act

**SWRCB** State Water Resources Control Board

## Executive Summary

Fair market value (FMV) acquisition is a rate mechanism used for encouraging the acquisition of distressed, municipal, and/or small water and wastewater systems by regulated water utilities. The traditional method for determining the value of a system to be acquired is to calculate the original rate base value less depreciation. The book value of a water system at the time of an acquisition is generally determined based on decades of depreciation and thus represents the presumed value of the system at the point of acquisition as well as the remaining useful life. Proponents of FMV say that the traditional valuation process may undervalue the assets of a water system. FMV differs from traditional valuation methods because it allows the fair market value of the acquisition (generally determined by multiple appraisals) to be included in the rate base of the newly acquired system. This increases the allowable rate base associated with an acquisition. Using the FMV of a system instead of its original cost is designed to encourage well-operated water and wastewater utilities to acquire small, municipal, or distressed systems.




Sixteen states have considered adopting FMV acquisition rate mechanisms and 12 have adopted these policies. There has been an uptick in FMV legislation in response to challenges faced by water and wastewater systems. These challenges are driven by increasingly stringent water quality standards, limited technical and managerial

expertise in smaller companies, and the need for investment to replace aging infrastructure.

FMV acquisition policies vary from state to state, but generally include provisions that are designed to protect the public interest and ensure that acquisitions are targeting distressed, small, and/or municipal systems. In addition to the 12 states with FMV policies, legislation allowing FMV acquisitions has been proposed, but did not pass, in four states (Connecticut, Kentucky, Tennessee, and Florida). Although states have continued to pass new FMV legislation, concerns remain about whether or not this valuation practice provides enough value to customers, and stakeholders are divided on whether or not FMV acquisitions provide enough value to customers to be justified. This report reviews the key concerns raised about this type of acquisition and explores the different elements of each state's FMV policy.

In addition to considering key elements of FMV policies, this paper identifies some of the differences between its application to small system versus medium and large municipal systems. There are differences between the value propositions for small versus larger systems that this report will explain. In Section II, the key regulatory challenges each of these types of systems face are reviewed.

Section III provides an overview of states' current FMV acquisition policies and discusses some of the key provisions.

Section IV reviews 34 FMV acquisitions in Indiana, Illinois, and Pennsylvania to provide insight into the actual FMV acquisitions that have occurred in the past five years. Two-thirds of the acquisitions reviewed were small systems (defined as 3,300 or fewer customers), whereas the other third of systems reviewed (32 percent) were medium or large systems. The acquisitions reviewed revealed that the size of acquired systems increased over time, beginning in 2018. Not surprisingly, there were differences in cost per customer based on the type of system being acquired. Wastewater systems were the most expensive acquisitions (based on customers served by ratemaking rate base) in three of the five years reviewed. Both water and combined water and wastewater system cases appear to trend slightly upward in acquisition price over time, whereas wastewater systems seemed to have a slight downward trend for the five years reviewed. Additionally, Section IV reviews the McKeesport, Pennsylvania, acquisition case study to provide additional perspective on the reasons systems decide to sell, as well as the key outcomes of these acquisitions.

Section V includes an overview of other mechanisms to support struggling systems. These suggestions include alternative financing options, rate mechanisms, promising technology, and recently introduced alternative acquisition methods.

This report concludes with a discussion of the imperative of ensuring both water accessibility and affordability when considering potential FMV acquisitions. Although consolidation policies may be consistent with the goal of long-term affordability, it is important to weigh the value of proposed acquisitions to customers.

## I. Introduction and Purpose

Fair market value (FMV) acquisition is a rate mechanism used for encouraging the acquisition of distressed, municipal, and/or small water systems by larger, well-managed, regulated water utilities. The traditional basis for determining the value of a system to be acquired is to calculate the original rate base less depreciation. The book value of a water system at the time of transfer is generally determined based on decades of depreciation and thus may undervalue the assets of a water system. FMV differs in that it allows the fair market value of the acquisition to be included in the rate base of the newly acquired system. This increases the allowable rate base associated with an acquisition.

FMV acquisitions for water and wastewater systems are designed to encourage large (healthier) system to consolidate small, struggling, and (in some cases) municipal systems. These acquisitions can help to reduce the number of struggling water systems and improve water quality for customers. Stakeholders remain divided as to whether or not the benefits of FMV acquisitions outweigh the costs to customers. Designing FMV acquisitions that clearly identify customer benefits, determining the appropriate amount for acquisition premiums, and ensuring support for low- and moderate-income customers while focusing on the goal of long-term affordability are key to ensuring the success of these acquisitions.

The use of FMV acquisitions has increased in the past decade, with 12 states adopting FMV acquisition rate mechanisms. This may be because the cost of running a small system and meeting clean water requirements has increased, or because small system owners see FMV as a way to sell a difficult to manage system at a higher price. FMV acquisitions provide policymakers with an option to address the problems faced by the many small and struggling water systems throughout the United States by supporting the consolidation of small systems with large, better funded systems. Water infrastructure is extremely fragmented, with more than 50,000 community water systems.[1] Many of these small systems do not have the benefit of managerial expertise, the ability to invest in infrastructure, or the economies of scale inherent in larger systems.[2] Many of these systems are struggling to maintain the infrastructure necessary to provide safe and adequate service. For example, in 2018, 1,871 small and very small U.S. water systems were in “serious violation”[3] of the Safe Drinking Water Act

[1] ‘Fragmented is used to describe the state of U.S. water industry because, unlike other regulated utilities, there are more than 50,000 community water systems in the United States and many of these systems are small or very small. For more information on fragmentation in the U.S. water industry, see https://www.brookings.edu/blog/planetpolicy/2014/10/16/americas-fragmented-water-systems/.

[2] Brass, Chirigotis, Engelberg, and Peczarski. (2006). Office of the Inspector General Evaluation Report No. 2006-P-00026. EPA, p. 7, https://www.epa.gov/sites/production/files/2015-11/documents/20060530-2006-p-00026.pdf.

[3] The EPA has developed a system that assigns either one, five, or ten points to each violation as a reflection of the violation's severity. Systems called "serious violators" are an aggregate score of at least eleven points as a result of some combination of: unresolved more serious violations (such as MCL violations related to acute contaminants),

standards. There are many different proposed approaches for supporting struggling small systems and the customers they serve. A growing number of public utility commissions (PUCs) have encouraged consolidation to reduce industry fragmentation, take advantage of economies of scale and spread costs over a larger customer base and facilitate health and safety regulations.[4]

multiple violations (health-based, monitoring and reporting, public notification, and/or other violations), and/or continuing violations. For these purposes, "continuing" means the violation has not been reported either as corrected or as addressed by a formal enforcement action.

[4] Illinois Commerce Commission Annual Report, 2019, p. 20, https://www.icc.illinois.gov/downloads/public/en/2019%20Annual%20Report.pdf.

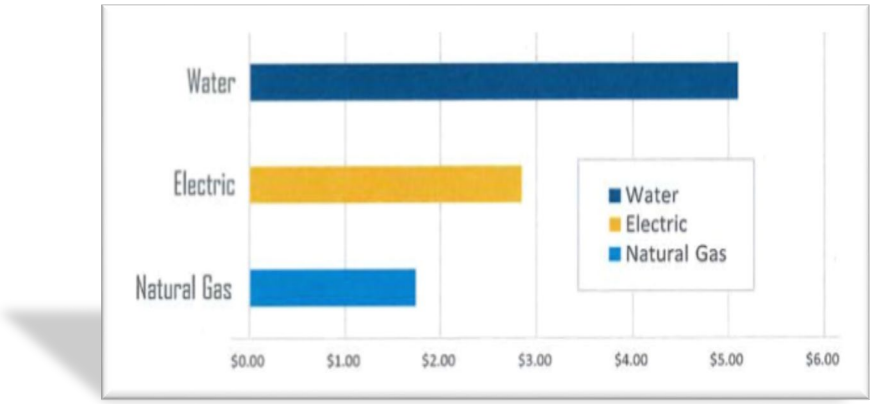
## II. Background

The unique characteristics of the water and wastewater industry have led decision-makers to consider economic incentives to encourage consolidation of the water industry. Many water and wastewater systems face continuing and growing challenges to fund the vital infrastructure and maintenance necessary to supply safe drinking water. These systems face the following issues:

1) Water is the only utility that is physically ingested and must meet Environmental Protection Agency quality standards.
2) Meeting water quality standards can be costly.
3) Water service is crucial for ensuring fire safety.
4) Population growth and the recent spate of record droughts threaten water supply in many areas.
5) Water systems are more geographically fragmented than any other utility across the United States.

Exacerbating these challenges is the fact that the water industry is the most capital-intensive industry among utilities (see **Figure 1**).

***Figure 1**:* Capital Investment per Dollar of Revenue in 2017




Source: Indiana Utility Regulatory Commission: 2019 Annual Report, 2019, p. 58, https://www.in.gov/iurc/files/20190910101209630.pdf.

To understand FMV acquisitions, it is helpful to understand how system sizes are defined by the EPA. Some state FMV legislation designates that only small or very small systems are eligible for FMV acquisitions. These system size classifications are provided in **Table 1**.

**Table 1**: EPA System Size Designation

| EPA Size Designation | Population Served |
|---|---|
| Very Small | 500 or fewer |
| Small | 501-3,300 |
| Medium | 3,301-10,000 |
| Large | 10,001-100,000 |
| Very Large | Greater than 100,000 |

### A. FMV Acquisitions for Small versus Municipal Systems

Fair Market Value acquisition policies have been established for small, municipal, or distressed systems, but each state that uses FMV has established its own policies for determining which systems qualify to either acquire or be acquired using FMV. As illustrated in **Table 2,** these policies depend on the ownership of the system, whether the system is distressed, and the system's size. States may specify that systems under a certain size (IOU or municipal) are eligible for FMV acquisitions; they may focus on systems that they deem "distressed"; they may specify that only municipal systems are eligible for FMV acquisition; or they may require acquiring systems to be of a certain size to be eligible for FMV.

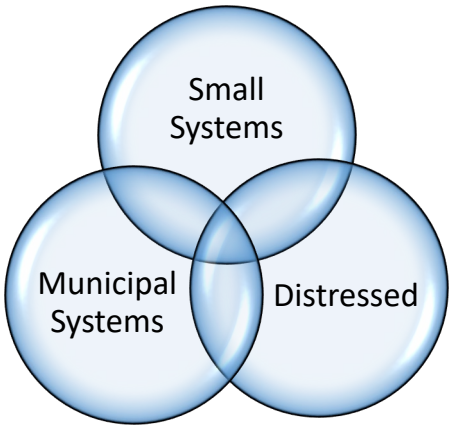
**Table 1**: **Water & Wastewater System Types Eligible for FMV Acquisitions**

| Allows FMV Acquisitions for | No. of States Specifying Types of Acquisitions |
|---|---|
| Municipal | IA, IL, IN, NC, PA, VA |
| Distressed/Disadvantaged | CA, IN, NJ |
| Size cap on systems eligible for FMV acquisition | IL, IN, MO |
| Acquiring systems must be larger than a specified size | IL, OH, TX |

It is important to recognize that there can be overlap between these eligibility factors: municipal systems can also be small systems; small systems can be distressed; and distressed systems can be municipal systems. Some systems are small, municipal, and distressed. Systems of different types may experience different challenges, and may also have different benefits associated with being acquired by a larger system. Where

applicable, this paper will identify differences in the nature of the challenges and benefits systems may face based on these defining characteristics.

***Figure 2:*** *Overlaps among FMV-Eligible Water Systems*




## 1. Water industry challenges impacting small systems

Small and municipal water and wastewater systems face many challenges; for example, the need for infrastructure investment caused by increasingly stringent health and safety regulations and legislation. Recently enacted lead and copper standards could drive the need for additional water treatment investment. When new water quality rules create higher standards, many water systems will face challenges maintaining compliance with these higher standards. Subsection 2 reviews some of the unique hurdles that municipal systems face.

### *a) Infrastructure investment and funding*

The water industry is one of the most capital intensive industries in the United States. Currently, the largest financial challenges facing water and wastewater system are replacing or repairing aging infrastructure and investing in the water treatment equipment necessary to meet the Safe Drinking Water standards established by the EPA.[5] The EPA's Fifth Report to Congress on *Drinking Water Infrastructure Needs Survey and Assessment* estimates that small water systems will require 247.5 billion dollars (adjusted to 2011 dollars) over the next 20 years to address system needs.[6] The majority of these needs fall into the distribution and transmission category. Although the distribution and transmission component of water systems is one of its least visible parts, the buried pipes of this network generally account for most of a system's value.[7]

In its report *Buried No Longer: Confronting America's Water Infrastructure Challenge,* the American Water Works Association (AWWA) identifies the challenge of maintaining

[5] "Drinking Water Infrastructure Needs Survey and Assessment: Fifth Report to Congress", *Environmental Protection Agency*. 2015 (Report No. EPA 816-R-13-006),i, 5-6, https://www.epa.gov/sites/production/files/2015-07/documents/epa816r13006.pdf.

[6] Ibid. i, 5-6.

[7] Ibid., i, 5-6

affordability while financing the necessary infrastructure improvement requirements faced by water systems. In this report, AWWA finds that household water bills will need to increase significantly to fund necessary infrastructure repairs over the next 25 years, with water bills tripling in some of the most affected communities.[8] Rural areas also face high costs, because pipe miles-per-customer are higher than in urban or suburban areas.

Small and medium systems with a large backlog of deferred maintenance face challenges in addressing the backlog due to lack of funds and lack of expertise. This deferred maintenance can lead to costly emergency repair projects, losses from non-revenue water, as well as the associated costs of treating and pumping water that never makes it to the customer.[9] Providing an incentive for larger water and wastewater systems to acquire struggling systems through a liberalized ratemaking procedure may allow the acquiring system's economies of scale to be utilized in the improvement of system performance and water quality. *Table 3* illustrates the pattern of higher costs per customer faced by smaller systems in addressing infrastructure needs over the next 20 years.

**Table 2:** Total National 20-Year Infrastructure Need by System

| System size/type | Need | Population Served (millions) | Cost per Million Customers |
|---|---|---|---|
| Large Community Water Systems (serving more than 100,000 people) | $174.4 | 141.7 | $1.2 |
| Medium Community Water Systems (serving 3,301-100,000 people) | $210.6 | 139.4 | $1.5 |
| Small community Water Systems (serving 3,300 and fewer people) | $74.4 | 23.4 | $3.2 |
| **Total State Need** | **$464.6** | | |

Based on data from "Drinking Water Infrastructure Needs Survey and Assessments," Exhibit 1.1, *Environmental Protection Agency*, 2015, https://www.epa.gov/sites/production/files/ 2018-10/documents/corrected_sixth_drinking_water_infrastructure_needs_survey_and_assessment.pdf.

[8] *Buried No Longer: Confronting America's Water Infrastructure Challenge*, American Water Works Association, 2011, 10, http://www.climateneeds.umd.edu/reports/American-Water-Works.pdf

[9] Non-revenue water is the distributed volume of **water** that is **not** reflected in customer billings (water that is treated, but never reaches the customer's tap).

### *b) Historic Legislation*

The cost of treating drinking water has increased over a number of decades due to the increasingly stringent drinking water standards established by Congress. National legislation has required improvements in drinking water quality to reduce water-borne illness. As new drinking water legislation has passed, water utilities have faced escalating costs for water and wastewater treatment. *Table 4* provides an overview of significant drinking water legislation beginning with the 1974 Safe Drinking Water Act.

**Table 3**: Significant Drinking Water Legislation

| |
|---|
| **1974 Safe Drinking Water Act (SDWA)** Required EPA to establish national health-based drinking water standards, and rules for source water protection, operator certification, water system improvement funds, and the provision of public information. Authorized regulation of 22 contaminants, and gave states lead role on enforcement. (P.L. 93-523) |
| **1986 Safe Drinking Water Act Amendments** Increased the EPA's pace for regulating contaminants, and provide additional ground water protection. (P.L. 99-339) |
| **1988 Lead Contamination Control Act** Required the EPA to issue a guidance document and testing protocol for states to help schools and daycare centers identify and correct contamination in drinking water (P.L. 100-572) |
| **1996 Safe Drinking Water Act Amendments** Created the Drinking Water State Revolving Fund (DWSRF) to help public water systems obtain financing for improvements necessary to comply with drinking water regulations. (P.L. 104-182) |
| **2011 Reduction of Lead in Drinking Water Act** Tightened the SDWA definition of "lead free." (P.L. 111-380) |
| **2014 Water Infrastructure Finance and Innovation Act (WIFIA)** Authorized a five-year pilot loan guarantee program to promote increased development of, and private investment in, large water infrastructure projects. (P.L. 114-45) |
| **2016 Water Infrastructure Improvements for the Nation Act** Authorized new grant programs to (1) help public water systems serving small or disadvantages communities meet SDWA requirements; (2) support lead reduction projects; and (3) establish a voluntary program for testing for lead in drinking water at schools. (P.L. 114-322) |

The Lead and Copper Drinking Water Rule revision is just one example of continued increasing costs of water systems, as well as other concerns relating to emerging contaminnants that may result in additional regulations and costs.

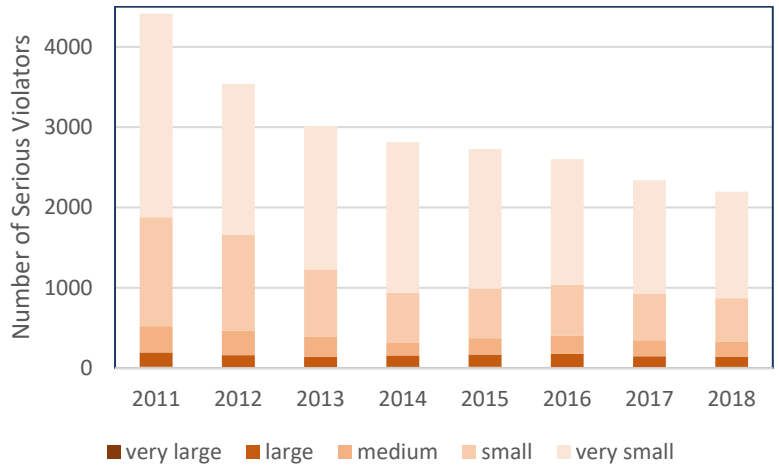
This legislation has improved federal drinking water quality across the United States, but not without costs to systems that have required greater resources for testing and water treatment.

State laws to regulate drinking water quality using more stringent standards, for example, state regulation of Polyfluoroalkyl contaminants (PFAS), have also increased water treatment costs.[1] In future years, additional revisions to national primary drinking water standards,[1] such as revisions to the Lead and Copper rule, will likely further increase the costs of maintaining water systems.[1] The EPA estimates that the total cost of the Lead and Copper Rule revision will be between $450 and $675 million annually, or in the range of $4.5- $6.75 billion over a decade of enforcement.[1]

### c) Serious Violators

In 2018, small and very small water systems[10] made up 85 percent of all systems that the EPA labels as serious violators (meaning the system has unresolved serious, multiple, and/or continuing violations of EPA's Drinking Water Enforcement Response Policy).[11] Serious violations present health risks if not addressed in a timely manner, including waterborne disease outbreaks or other public health concerns. **Figure 3** illustrates EPA Safe Drinking Water Act compliance by system size from 2011-2018. This figure demonstrates a reduction in the number of serious violators over time for a spectrum of system sizes. Despite this reduction, small and very small systems continue to make up the majority of serious violators in real numbers in every year for which data were collected by the EPA.

***Figure 3**: Number of Serious Violators of the Safe Drinking Water Act*




*Source*: Environmental Protection Agency. (2019). Analyze Trends: Drinking Water Dashboard. https://echo.epa.gov/trends/comparative-maps-dashboards/drinking-water-dashboard [table available in Appendix A]

### *d) System abandonment*

In addition to the challenges posed by infrastructure investment needs, increasingly stringent regulation, and the high number of serious violators, systems face other

[10] The EPA classifies small public water systems as systems that serve between 501 and 3,300 people, and very small public water systems as systems that serve between 25 and 500 people, https://www3.epa.gov/region1/eco/drinkwater/small_dw_initiative.html.

[11] "GPRA Inventory Report: Q3, 2016," [website], *Environmental Protection Agency*, 2016, https://obipublic11.epa.gov/analytics/saw.dll?PortalPages.

challenges in providing clean drinking water. Among these challenges can be issues related to system abandonment.

System abandonment can occur for a variety of reasons. An owner may simply decide to abandon or shut down a system, because it can't meet requirements set forth in commission orders or cannot provide customers with potable water that meets federal standards. Abandonment can also result from the retirement or death of a small system owner, when there is no plan in place for an alternative operator. In these cases, the PUC generally appoints an emergency operator until the system can find an appropriate buyer to take ownership.

System abandonment is a poor outcome for all parties involved. Commissions are put on the spot to appoint system receiverships or new management. Acquiring systems may not receive timely information about abandoned systems, and customers lack continuity in their service. Finding new owners for abandoned systems is a clear example of a time when acquisitions are a valuable tool in the regulatory tool kit, but there is no one size fits all solution. The most effective choice is based on the utility size, geographic location, water source, infrastructure age, and other issues. More broadly, commission assistance, deliberate communication, robust partnerships, and FMV acquisitions are all tools to help ensure customers are not negatively impacted when small system owners are struggling to provide adequate service.

### *e) Limited expertise*

Finally, many parts of the U.S. communities are facing a shortage of water and wastewater treatment plant operators. This shortage is exacerbated by a wave of retirements taking place from members of an aging workforce. Due to the industry's state and federal standards for water and wastewater, communities can struggle to provide safe drinking water without qualified treatment operators.[12] Small, rural towns face particular challenges, as many of these systems rely on operators for additional support with system record keeping, and institutional knowledge of the system that might not be recorded more formally.[13] The current shortage of qualified operators is not predicted to improve in the next decade. According to Bureau of Labor Statistics data, the water industry is predicted to lose 4,550 experienced workers by 2021, and 27,550 by 2031.[14]

[12] Daniel Willems, "Operating at a Deficit: Solutions to a Water and Wastewater Operator Shortage," December 12, 2019, https://efc.web.unc.edu/2019/12/12/operating-at-a-deficit-solutions-to-a-water-and-wastewater-operator-shortage/.

[13] Daniel Willems, "Operating at a Deficit: Solutions to a Water and Wastewater Operator Shortage," December 12, 2019, https://efc.web.unc.edu/2019/12/12/operating-at-a-deficit-solutions-to-a-water-and-wastewater-operator-shortage/.

[14] "Shrinking Pool of Water and Wastewater Treatment Plant Operators Will Impact the Stability of Clean Water", *WesTech Engineering*. November 3, 2020, https://www.westech-inc.com/blog-commerical-industry/shrinking-pool-water-and-wastewater-plant-operators-impacts-stability.

### 2. Challenges unique to municipal system

Municipally owned water and wastewater systems face an additional set of unique challenges due to their governance structure. Some of the reasons a municipal system would have an incentive to be acquired include tight budgets and underfunded pensions, competition for funding with other municipal services, additional property tax revenue from acquiring IOUs, and high costs to comply with EPA mandates.

Many municipalities across the United States are facing increasing issues relating to tight budgets and debt obligations. States and localities have a combined $4.2 trillion in underfunded pension liabilities.[15] In many cases, selling a municipal water or wastewater system provides a city with the opportunity to amortize debt, increase cash flow, and avoid costly maintenance and infrastructure upgrades that are part of running a water system with increasingly stringent water quality mandates. Sales of municipal water and wastewater utilities to private systems (including FMV transactions) have accounted for more than half a billion dollars in the past five years.[16]

Municipal water systems also face challenges with underinvestment, because local governmental entities are often reticent to enact the unpopular rate increases necessary to fund infrastructure maintenance. Rather than using funds for maintenance, municipalities may allocate funds earned from water systems to close gaps in a locality's budget. This can be an appealing stopgap measure for budget shortfalls, but leaves municipal water systems short on funding. At the same time, although selling a municipal system provides an opportunity for an influx of capital, customers can have strong reactions to the idea of selling a public utility to a private water or wastewater company.[17]

An additional incentive for municipalities considering acquisition offers by larger systems is the allure of an increasing tax base. After the sale of the town of Riley, Indiana's wastewater system to Indiana American Water in April 2020, Riley Town President Clayton White shared his support for the acquisition, saying: "This acquisition will … provid[e] future rate stability by keeping our sewer rates lower than they would have been under municipal ownership, mak[e] needed improvements to the system, and generat[e] additional property tax revenues."[18]

The experience of the city of Alton, Illinois, demonstrates the challenges faced by municipalities. Prior to Illinois American Water's acquisition of Alton's wastewater treatment plant for $53.8 million in 2018, the city of Alton had nearly $113 million in

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[15] Fola Akinnibi, "Cash-Hungry Cities Seek Buyers for Sewer Systems to Pay Pensions," Bloomberg, December 17, 2019, https://www.bloomberg.com/news/articles/2019-12-17/cash-hungry-cities-seek-buyers-for-sewer-systems-to-pay-pensions.

[16] Ibid.

[17] Elizabeth Douglass, "Towns Sell their Public Water Systems—and Come to Regret It," *Washington Post*, July 8, 2017, https://www.washingtonpost.com/national/health-science/towns-sell-their-public-water-systems--and-come-to-regret-it/2017/07/07/6ec5b8d6-4bc6-11e7-bc1b-fddbd8359dee_story.html.

[18] Reed Parker, *Indiana American Water Completes Acquisition*. Inside Indiana Business. April 30, 2020. https://www.insideindianabusiness.com/story/42074947/indiana-american-water-completes-acquisition.

pension liabilities. In addition, the city had been under an EPA mandate since 1994 to separate sewer and storm water facilities—an undertaking that was estimated to cost $60 million.[19] After American Water acquired the system, Alton was able to put almost $54 million toward the city's mounting pension liability. As part of the sale, Illinois American Water agreed to make the investment necessary to meet the EPA mandate. This acquisition defrayed almost half of the city's outstanding pension liability, and shifted the cost of completing the EPA mandate from the city to Illinois American Water—creating a win-win scenario for Alton, its water customers, and Illinois American Water.

In the first 12 months of ownership, Illinois American Water invested more than $3.7 million in system improvements. A few of the projects that this investment has supported include: sewer main and manhole installation; replacement of the wastewater treatment plant chlorine injection equipment; the rebuild at five aeration blowers and motors (which helped improve energy efficiency); and a grit removal system upgrade.[20]

### B. Encouraging Acquisitions to Improve Outcomes

Faced with a highly fragmented water industry, many states have encouraged consolidation as a means of allowing utilities to take advantage of greater managerial expertise and economies of scale.[21] Fair Market Value acquisition is one means for providing an incentive for larger systems to acquire struggling, small, and/or municipal water systems to improve water quality outcomes for customers. Proponents of FMV acquisitions claim that it can be challenging to encourage large systems to acquire struggling systems without some type of incentive, because these acquisitions frequently require additional infrastructure upgrades to comply with health and environmental laws and regulations. Allowing regulated systems to acquire municipal water or wastewater systems can also be appealing to regulators, as this ensures that the PUC will be able to provide appropriate oversight to newly acquired systems.

California's Public Water System Investment and Consolidation Act of 1997 (Consolidation Act) demonstrates the linkage between infrastructure investment needs and the desire to create an incentive. California's law states that:

a. Public water systems are faced with the need to replace or upgrade the public water system infrastructure to meet increasingly stringent state and federal safe drinking water laws and regulations governing fire flow standards for public fire protection.
b. Increasing amounts of capital are required to finance the necessary investment in public water system infrastructure.

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[19] Cory Davenport, "Alton approves sale of wastewater treatment plant to Illinois American Water," River Bender, 2018, https://www.riverbender.com/articles/details/alton-approves-sale-of-wastewater-treatment-plant-to-illinois-american-water-27913.cfm.

[20] "Illinois American Water invests over $3.7 Million in Alton District Wastewater System," *Water World*, August 12, 2020, https://www.waterworld.com/wastewater/press-release/14181572.

[21] Illinois Commerce Commission Annual Report, 2019, 20, https://www.icc.illinois.gov/downloads/public/en/2019%20Annual%20Report.pdf.

c. Scale economies are achievable in the operation of public water systems.
d. Providing water corporations with an incentive to achieve these scale economies will provide benefits to ratepayers.[22]

The Consolidation Act establishes the relationship between utilities' mounting infrastructure cost and the importance of using economies of scale to reduce the cost of improving water quality. It establishes FMV acquisitions as a tool to help achieve the desired outcome of better infrastructure maintenance through economies of scale.[23] Whereas California's policy makes explicit the importance of using fair market value acquisitions to encourage consolidation, many other states also have policies focused on improving service to customers of small, distressed, and/or municipal systems that either incent or could benefit from FMV.

Finally, FMV might be a useful option for smaller systems that do not have accurate or complete records of the initial costs and expenses occurred by the system. In these cases, it is extremely difficult to establish the original cost rate base of the system. If the in-service date of any asset is unknown, then regulators must make an educated guess about a system's accumulated depreciation. In these scenarios, allowing for independent appraisal, as required by state FMV policies, may help to address poor record-keeping issues that sometimes occur with systems that have limited technical and managerial expertise.

### 1. Acquisitions with original cost ratemaking

The traditional method used in utility asset valuation for ratemaking is the original cost less depreciation standard. Original cost ratemaking refers to the in-service capital cost of assets minus accrued depreciation. The acquiring utility is permitted to earn a specified rate of return based on the original cost of the acquired system. Using original cost less depreciation to establish the value of a utility for acquisition values a system's assets based on the years of use, and has the potential to establish the value of the utility at a lower price compared to a fair market value determination. For this reason, FMV's higher valuation may make a system a better acquisition target and net the seller more.

FMV is not the only way to encourage the acquisition of small or troubled systems. PUCs may allow acquiring utilities to provide an additional incentive to encourage the acquisition of distressed system by allowing additional basis points on rate of return or allowing an acquisition premium to be included in the rate base in certain circumstances. These incentives can help to encourage acquisitions without adding an inflated acquisition price into a utility's rate base. One example of this is Florida, where regulators may allow for a positive acquisition adjustment to be used in extraordinary

[22] CA Public Water System Investment and Consolidation Act of 1997, https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PUC&division=1.&title=&part=2.&chapter=2.5.&article=

[23] Brass, Chirigotis, Engelberg, and Peczarski, 2006, Office of the Inspector General Evaluation Report No. 2006-P-00026. EPA, 7, https://www.epa.gov/sites/production/files/2015-11/documents/20060530-2006-p-00026.pdf.

circumstances where an acquisition is anticipated to improve the quality of service, improve compliance with regulatory mandates, help to reduce rates, or encourage rate stability over a long-term period.[24]

### 1. Fair market value acquisitions

Fair market value acquisition is based on market valuation, as opposed to historical regulatory treatment. The valuation is computed without considering the circumstances that may have "depressed or raised the price, but the fair and just price of buying and selling in the market."[25] The American Institute of Certified Public Accountants (AICPA) defines Fair Market Value as:

> the price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arms-length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of relevant facts.[26]

As noted previously, FMV is a rate mechanism that encourages regionalization or consolidation of small, distressed, and/or municipal water systems by valuing the system at its potential sales price rather than its historical value. Some state PUCs have explicit policies encouraging consolidation. For example, Pennsylvania's goal is to "substantially restrict the number of nonviable drinking water systems by discouraging

An FMV acquisition allows for a "liberalization of rate base valuation rules beyond strict original cost principles for the acquiring company."[27] The purchase price may be greater than the system's original cost, less depreciation, since the market value of a utility may exceed the accounting value. This difference in valuations creates an impediment for acquisition of troubled water systems. Proponents of FMV argue that companies that purchase systems at their fair market value but are only allowed to recover the original accounting costs of the asset will experience a revenue shortfall.[28] Therefore, an acquisition adjustment is required to recover the premium paid for acquiring a company that has a market value greater than its tangible assets or book value. In cases where an acquiring entity is awarded a higher value in its rate base than the original cost less depreciation standard, the Pennsylvania Public Utility Commission specifies that it is important to identify the benefits that would be received by existing customers due to

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[24] Florida Administrative Code 25-30.0371

[25] Fishman, Jay E., Shannon P. Pratt, and William J. Morrison. *Standards of Value: Theory and Applications.* Hoboken: John Wiley & Sons, 2007. Google Book, https://books.google.com/books?id=sAI1atgTYpoC&lpg=PA36&ots=uiUMdNkA37&dq=fair%20market%20cost%20defined%20by%20bonbright&pg=PA37#v=onepage&q=fair%20market%20cost%20defined%20by%20bonbright&f=false.

[26] "Statement on Standards for Valuation Services," *American Institute of Certified Public Accountants*, June 2007, 33, https://www.aicpa.org/InterestAreas/ForensicAndValuation/Resources/Standards/DownloadableDocuments/SSVS_Full_Version.pdf.

[27] Ibid., 116

[28] Ibid., 117

this purchase as they will face a rate increase with the FMV of the system acquisition built into new rates.[29] FMV sales are voluntary, they are subject to commission review, and there is an opportunity for public input during the proceeding where the commission reviews the sale.

Although state laws enabling FMV acquisitions vary based on the explicit goals of such policies and state-specific concerns, the FMV acquisition process generally includes the elements described in **Figure 4**.

### C. Concerns with FMV Acquisitions

As more states have adopted these policies, the benefits of FMV have been questioned by a number of stakeholders, including consumer advocates. A key concern is ensuring that customers are not saddled with exorbitant rates after the acquisition. Although rate increases might occur after an acquisition due to the need for additional infrastructure

**Figure 4:** FMV Acquisition Process

| | |
|---|---|
| 1. | Establish the target for acquisition, generally a small or distressed system. States may also allow FMV acquisitions based on broader policy support for consolidation. |
| 2. | A utility interested in acquiring a water system makes an offers. The two systems agree on an Asset Purchase Agreement (APA), which establishes the price paid to the acquired system owner. |
| 3. | The acquiring system submits an application for FMV acquisition to the PUC, and submits supporting documents. |
| 4. | Both buyer and seller engage the services of 1-3 utility valuation experts to determine the fair market value of the assets. PUCs may maintain a list of utility valuation experts from which the buyer and seller must choose, or require valuation experts to not have any conflicts of interest. Some states may require multiple appraisers to provide fair market value estimates, and then allow a price that splits the difference of the provided valuations. |
| 5. | Some states require acquiring utilities to provide public notice to customers prior to the purchase. Notification requirements many include open meeting, and public comment periods, prior to approval of sale. |
| 6. | The PUC considers the FMV acquisition application. There may be an adjustment to the Asset Purchase Agreement based on system valuation findings. The commission establishes the allowed acquisition rate base, which in most cases is the lesser of the negotiated sales price (APA) or the fair market value plus some portion of valuation and legal fees. |
| 7. | If the PUC approves the FMV acquisition application, the acquiring system is issued a Certificate of Public Convenience, which allows the acquiring system to operate the acquired system. |
| 8. | Integration period—acquiring systems may plan to invest money into the acquired system to ensure that it meets safe drinking water standards, the acquiring system notifies new customers if it has not already, and provides information about customer assistance and bill payment. In some cases, systems might interconnect the newly acquired system with the local systems. |

investment or water treatment, other concerns include the liberalization of ratemaking policies, customer rate impacts, or the precedent set by allowing this type of acquisition. These issues are reviewed in further detail.

[29] Ibid., 117

One common critique of FMV is that both the buyer and the seller may have an incentive to inflate the purchase price.[30] Municipal sellers can use the extra proceeds to fund other programs (e.g., to support underfunded pensions or build a new fire station), whereas the acquirer is allowed to include the cost of the acquisition in the new rate base. For municipalities, an FMV acquisition of a municipal water or wastewater system is effectively a decision that water customers should fund debt obligations and other municipal services. For these reasons, neither the buyer nor the seller has an incentive to reduce the price.

Indiana established an FMV acquisition policy in 2015.[31] Since then, staff have reported an increase in average acquisition cost per customer, which nearly doubled between 2015 and 2019.[32]

> In eight cases prior to the passage of the acquisition legislation, the average price per customer was $2,522 and the average size of the utility acquired was fewer than 600 customers. Since the legislation has passed, the average size of an acquired utility is more than 2,200 customers and the average price per customer is $4,827.[33]

Monopoly assets are difficult to appraise because there aren't many transactions to use as comparables. The fair market value of a utility is determined by one to three appraisers, depending on the state. The appraiser holds considerable power during an FMV deal. FMV determinations can be affected by the party who selects the appraiser, whether the appraiser has a conflict of interest, the method used to determine the final value (for states using more than one appraiser), the variation between appraisals (a single high appraisal may significantly increase the average price), and the qualifications of the appraiser. How states handle these potential issues varies (see ***Table 5***). Additionally, there may not be many experts in a given state that have the required knowledge of pricing water and wastewater assets. This can result in cases where appraised values may not accurately take into account the appropriate value of parts of water and wastewater systems. In these cases, commission staff may use their own experience and training to ensure that the pricing is correct.

An additional concern about the acquisition process is the potential that an acquisition will result in rate increases that can lead to customer rate shock post-acquisition. As discussed earlier, many systems have faced historical under-investment, creating a backlog of infrastructure investment necessary to ensure water quality to customers. As a result of this underinvestment, and the increase in rate base associated with the

[30] Scott Hempling, "Water Mergers: Are They Making Economic Sense?," June 2019, https://www.scotthemplinglaw.com/essays/water-mergers-are-they-making-economic-sense.
[31] Ind. Code chapter 8-1-30.3.
[32] IURC Annual Report 2019, 2019, 56, https://www.in.gov/iurc/files/2019%20AR%20Report/IURC%20AR_2019%20WEB%20lowres%20(1).pdf.
[33] Ibid.

acquisition, customers frequently see increases in rates which are necessary to ensure newly acquired systems are in compliance with regulations.

The Connecticut Public Utility Regulatory Authority (PURA) and the Office of Consumer Counsel (OCC) opposed proposed legislation to allow FMV acquisitions for cost reasons, stating that the bill

> …prohibits PURA from ensuring that regulated water utilities pay fair and reasonable price to acquire municipal water and wastewater systems. As a consequence, the legislation will potentially lead to regulated water utilities overpaying for municipal systems, thereby resulting in existing utility ratepayers subsidizing the costs of the purchase and the necessary future capital improvements.[34]

The legislation in Connecticut did not pass.

Commissions have also expressed concerns that allowing FMV may encourage "bad behavior" from system owners who are considering selling, because owners will see that they do not have to invest in their systems to eventually sell the system for a premium.

Another challenge for municipal acquisitions, in particular, is the customer perception of public versus privately owned water systems. Customers frequently have strong opinions about who provides their water, and there can be a general distrust of privately owned systems. This has led to recent cases in Mooresville and Fort Wayne, Indiana, and Missoula, Montana, where municipalities have attempted to repurchase their water systems post-acquisition due to complaints of poor service or rate hikes. [35]

Finally, FMV policies may encourage only the acquisition of potentially "lucrative" systems, while not providing an incentive for the acquisition of the systems that would most benefit from being acquired. A 2014 report by the Townsley Consulting Group for the Connecticut Public Utility Regulatory Authority addresses this concern. The study identifies an important limiting factor to the number of IOU acquisitions—there are only so many desirable water systems available for acquisition. The study concludes that at some point, the water systems that can be cost-efficiently rehabilitated will all be acquired, and the remainder of the systems will not be attractive under the current

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[34] Joint Testimony of the Public Utility Regulatory Authority and Office of Consumer Counsel on Senate Bill No. 222, February 19, 2019, ftp://ftp.cga.state.ct.us/2019/tmy/et/2019SB-00224-R000219-Betkoski,%20John%20W.,%20Acting%20Chairman-PURA-TMY.PDF.

[35] Elizabeth Douglass, "Towns sell their public water systems—and come to regret it," July 8, 2017. *Washington Post*. https://www.washingtonpost.com/national/health-science/towns-sell-their-public-water-systems--and-come-to-regret-it/2017/07/07/6ec5b8d6-4bc6-11e7-bc1b-fddbd8359dee_story.html.

policy climate to attract the larger systems that have the knowledge and capacity to rehabilitate them.[36]

### 1. Addressing concerns

Policymakers have developed a number of strategies for addressing these concerns. These approaches include:

- Establishing criteria for multiple appraisals to confirm accuracy, adherence to best practices, and ensure that there are no conflicts of interest;,
- Ensuring explicitly that proposed acquisitions will benefit from consolidation as a condition for approval;
- Establishing an initial moratorium on rate increases, setting a maximum amount that rates can be increased, or establishing an allowable frequency for rate increases; and
- Communicating clearly with affected customers and providing opportunities for customer input.

These measures provide options for ensuring successful outcomes for all stakeholders in the acquisition process. Other stakeholders in the industry have provided alternative proposals to ensure that these acquisitions are in the public interest.

Attorney and expert witness Scott Hempling[37] provides suggestions for improving FMV outcomes by focusing on quantifying the benefits of FMV by establishing clear metrics that will allow regulators to better understand the outcome of each acquisition. Hempling also encourages competition, where possible, to ensure that purchasers acquire systems at the most economically efficient cost. Finally, Hempling suggests that commissions use benchmarking to hold acquiring systems accountable for improvements post-acquisition. [38]

Jeff Jacobson suggests a different approach in his testimony on behalf of the Office of the Ohio Consumers' Counsel before the Ohio legislature on its proposed FMV bill, HB 422. In his testimony, he recommends following the 2004 Deloitte manual on ratemaking, which notes that where the original cost standard was not used in ratemaking cases, consumers have typically been given protection from higher rates by a requirement to lower the utility's rate of return. Jacobson proposed requiring the Ohio

PUCO to reduce the utility's rate of return if valuations for acquired assets are allowed at above original cost.[39]

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[36] A Review of Financial and System Viability of Connecticut's Small Community Water Systems Prepared for the State of Connecticut Public Utilities Regulatory Authority, March 2014, *Townsley Consulting Group, LLC,* https://portal.ct.gov/-/media/PURA/Water/ReviewSmallCommunityWaterSystemsFinalReportpdf.pdf.

[37] "About" [webpage]. Scott Hempling, Attorney at Law, https://www.scotthemplinglaw.com/about.

[38] Scott Hempling, Water Mergers: Are They Making Economic Sense? June 2019, https://www.scotthemplinglaw.com/essays/water-mergers-are-they-making-economic-sense.

[39] Jeff Jacobson, Testimony on House Bill 422, Strategic Insight Group, Ltd. On behalf of Ohio Consumers' Counsel, June 7, 2018, 3-4, https://ipu.msu.edu/wp-content/uploads/2018/12/2018-06-07-Testimony-hb422.pdf.

## III. Overview of Current Acquisition Policies

FMV policies continue to evolve as state regulators gain more experience with this type of acquisition. This section provides an overview of state FMV acquisition polices, enabling legislation, key provisions, and customer protection mechanisms in states that have passed or proposed FMV acquisition legislation. This section also includes an overview of the failed FMV legislation in Connecticut, Kentucky, Tennessee, and Florida.

**Figure 4:** Status of Fair Market Value Acquisition Legislation in the U.S. (2021)

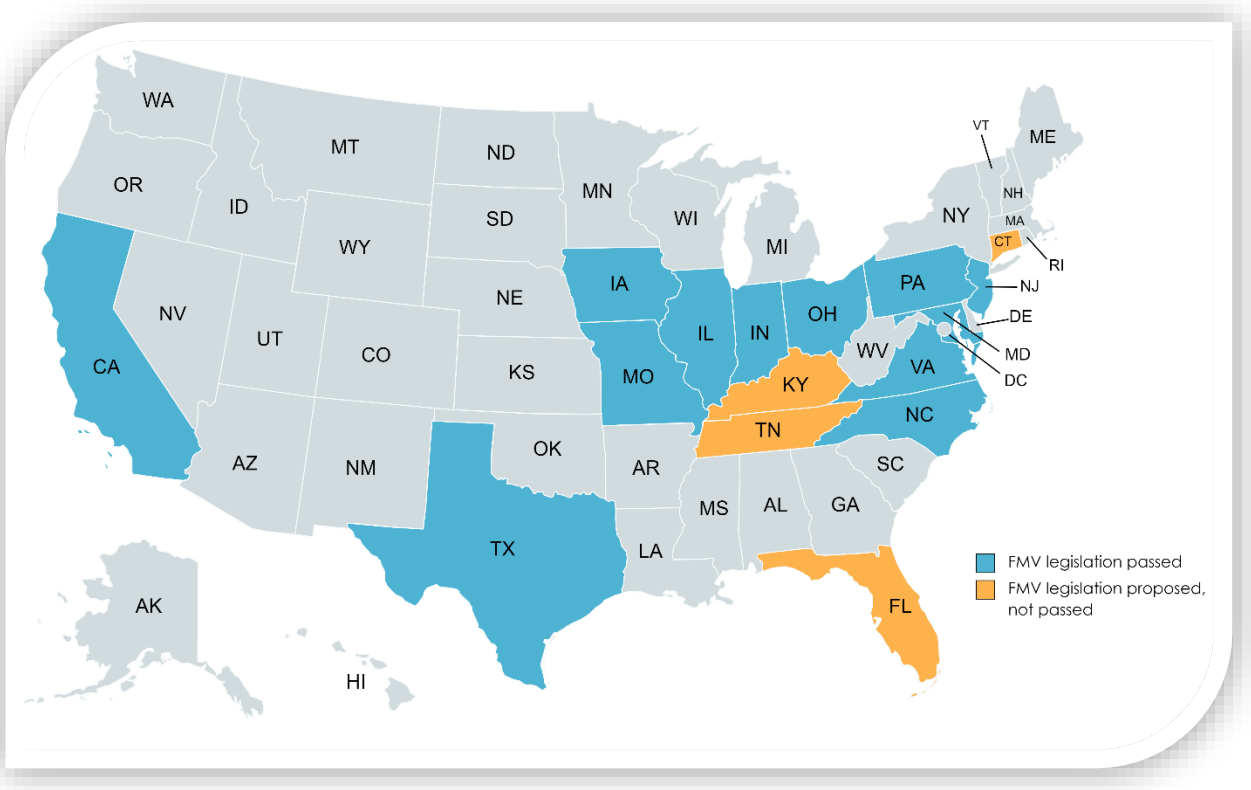


**Figure 5** illustrates the status of FMV legislation. Twelve states have enacted FMV acquisition policies (California, Iowa, Illinois, Indiana, Maryland, Missouri, North Carolina, New Jersey, Ohio, Pennsylvania, Texas, and Virginia). FMV legislation failed in Tennessee, Florida, Kentucky, and Connecticut.

**Tables 5** and **6** provide an overview of the key elements of each state's FMV policy. Additional details about key elements of each state's policy and links to state statutes can be found in *Appendix A*.

## ***Table 4:*** *Key Policy Elements*

| | System Size Eligibility | Municipal, Disadvantaged/ Distressed, or Small Systems (m, d, s) | Rate Base Lesser of Negotiated Sales Price or FMV | Acquisition Must Benefit from Economies of Scale/Regionalization | Initial Moratorium on Rate Increases or Rate Stabilization Plan (RSP) | Estimate of Rate Impacts Included in Application |
|---|---|---|---|---|---|---|
| California | | | | • | | |
| Iowa | | m | • | | •[c] | |
| Illinois | Public utility ≤ 6,000 | m, s | • | | • | • |
| Indiana | < 8,000 | | • | • | | |
| Maryland | <400,000 | | • | • | | • |
| Missouri | Acquiring system must serve >8,000 customers | s | • | | | [m] |
| New Jersey | | d [d] | | • | | • |
| North Carolina | | m | •[l] | | | • |
| Ohio | Large system acquirer [e] | | • | | | |
| Pennsylvania | | m, s, d | • | | •[k] | |
| Texas | Class A or B system acquirer | | • | • | | |
| Virginia | | m | • | | | •[f] |

* Represents states where FMV legislation was proposed, but not passed.

[a] Public water system or state small water system serving a disadvantaged community (defined as a community, in whole or in part, is substantially reliant on domestic wells that consistently fail to provide an adequate supply of safe drinking water).

[c] The IAUB has the authority to approve ratemaking principles that provide for reasonable restrictions to seek rate increases for a period after the acquisition.

[d] Emergent conditions shall exist if: 1) the system is located in an area designated by the DEP as an area of Critical Water Supply Concern I or II, 2) the owner of the system is a significant non-complier, 3) there is a present deficiency or violation of maximum contaminant levels established pursuant to the Safe Drinking Water Act, 4) there is a demonstrated of historical investment, repair, or sustainable maintenance or material damage to the infrastructure of the system, or 5) the system owner lacks the financial, technical, or managerl capacity to adequately address any of the foregoing on a sustainable basis.

[e] "Large water-works or sewage disposal system company" means a water-works or sewage disposal system company that has annual operating revenues of two hundred fifty thou dollars or more.

[f] The acquiring utility to submit an analysis identifying the qualitative and quantitative benefits and estimated customer rate impacts for the next five years as a result of the propose acquisition.

[g] Municipal systems must provide a comparison of the applicable water or sewer charges before and after the proposed acquisition, and the estimated savings to be achieved or additional costs expected to result, or both, from the proposed acquisition.

[h](4-a) "Class A utility" means a public utility that provides retail water or sewer utility service through 10,000 or more taps or connections. (4-b) "Class B utility" means a public utilit provides retail water or sewer utility service through 2,300 or more taps or connections but fewer than 10,000 taps or connections.

[i] Large public utility means an investor-owned public utility that: regularly provides water or sewer service to more than 30,000 customer connections

[j] Acquisitions shall include a plan to resolve all outstanding permit compliance issues.

[k] In PA, rate stabilization plans are allowed, but not required.

[l] If the commission Does not find that the FMV price established is in the best interest, it may adjust the FMV.

[m] Notice to customers of the utility company if the proposed acquisition will increase the utility company's rates by an amount that is greater than one percent (1%) of the utility company's base annual revenue.

**Table 5:** FMV Appraisers' Requirements

| State | Number of Appraisers | Licensed Engineer (e) or Real Estate License (re) Required | PUC List of Valuation Experts or PUC Must Approve Experts | Conflict of Interest Requirements for Valuation Experts | Caps for Valuation Expert Fees | Uses Uniform Standards of Professional Appraisal Practices |
|---|---|---|---|---|---|---|
| California | | | | | | |
| Iowa | 2 | | ●[g] | | | ● |
| Illinois | 3 | re [h] | ● | ● | ●[k] | ● |
| Indiana | 1[n] | e[l] | | ● | [m] | |
| Maryland | 2 | e | | ● | ● | ● |
| Missouri | 3 | | | | | ● |
| New Jersey | | | | | | |
| North Carolina | 3 | e | ● | ● | ● [j] | ● |
| Ohio | 3 | e | ● | | | ● |
| Pennsylvania | 2 | e | ● | ● | ● | |
| Texas | 3 | e | ● | ● | ● | ● |
| Virginia | 3 | e | | ●[i] | ●[j] | ● |

* Represents states where FMV legislation was proposed, but not passed.
[g] One appraiser is picked by the acquiring utility, one appraiser is picked by the Iowa Utility Board.
[h] Must be a certified general real estate appraiser.
[i] "Qualified, independent, and impartial appraisers."
[j] "Reasonable transaction costs and fees."
[k] The total amount of all of the appraisers' fees to be included in the transaction and closing costs shall not exceed the greater of $15,000 or 5% of the appraised value of the water or sewer utility being acquired.
[l] IC 8-1-30.3-5.5 requires both an engineer registered under IC 25-31 and an appraiser licensed under IC 25-34.1-8.
[m] The fee for the appraisal services is fixed before the individual performs the appraisal.
[n] One appraisal is reviewed and agreed upon by three separate appraisers (at least two must support the appraisal).

## A. Description of State Policy Mechanisms

### 1. Key policy elements

FMV acquisition policies vary from state to state, with each approach addressing the state's specific challenges and customer concerns. These policies appear in **Table 5** and are described in greater detail.

**System Sizes Eligibility.** Six states have system size requirements. Illinois, Indiana, Maryland, and Missouri have each established a maximum system size eligible for acquisition. Ohio, Illinois, and Texas have established size requirements for water or wastewater acquiring systems that may apply for FMV acquisition.

**Type of Systems Eligible for FMV Acquisition.** Seven states (Iowa, Illinois, Missouri, New Jersey, North Carolina, Pennsylvania, Virginia) specify the types of systems that are eligible for fair market value acquisitions. The systems that may be eligible for FMV acquisitions are distressed water systems, disadvantaged systems, municipal water systems, and small water systems. Indiana expanded the types of systems eligible to be acquired using FMV acquisitions in 2019, changing the language from "distressed utilities" to "offered utilities" and in 2020, expanding the system size eligible to FMV acquisition to utilities with less than or equal to 8,000 customers.

**Rate Base Must Be the Lesser of the Negotiated Sales Price (NSP) or FMV.** Ten states (Iowa, Illinois, Indiana, Maryland, Missouri, North Carolina, Ohio, Pennsylvania, Texas, Virginia) specify that after an acquisition has occurred, the rate base for the newly acquired system shall be the lesser of the negotiated sales price or the fair market value.

**Acquired Utility Must Benefit from Economies of Scale or Regionalization.** Five states (California, Indiana, Maryland, New Jersey, Texas) specify that PUCs considering FMV cases must confirm that the acquired utility will benefit from regionalization.

**Rate Moratorium (Freeze) or Rate Stabilization Plan (RSP)** Three states (Iowa, Illinois, Pennsylvania) require the acquiring company to submit a rate stabilization plan with the FMV application or to establish a rate moratorium for a set period post acquisition. This type of plan can help to reduce customer rate shock, as the acquiring companies establish plans to bring out-of-compliance systems into compliance. One challenge with rate increase moratoriums is that when paired with rate consolidation plans, moratoriums can require a much higher "subsidy" from customers of the acquiring system, especially when multiple acquisitions are occurring in a condensed time period.

**Estimate of Rate Impacts** Five states (Illinois, Maryland, New Jersey, North Carolina, Virginia) require FMV acquisition applications to include an estimate of the rate impact on affected customers. This allows commissions to consider the financial impact on customers in weighing the costs and benefits of proposed acquisitions.

## 2. FMV Appraiser Requirements

An important element of an FMV acquisition policy is the guidelines for selecting the appraisers input when determining the value of a system. The appraised value impacts the acquisition price per customer and is added into the rate base. These requirements are summarized in **Table 6**, with more detail to follow.

**Number of Appraisers.** Ten states (Iowa, Illinois, Kentucky, Maryland, Missouri, North Carolina, Ohio, Pennsylvania, Texas, Virginia) require multiple appraisers. Requiring input from three appraisers is the most common format.

**Licensed or Certified Professional Required.** Eight states (Illinois, Indiana, Maryland, North Carolina, Ohio, Pennsylvania, Texas, Virginia) require a certified appraiser. Other states also require a licensed engineer to evaluate the utility's physical plant.

**PUC List of Valuation Experts.** Six states (Iowa, Illinois, Ohio, North Carolina, Pennsylvania, Texas) have established lists of approved valuation experts. The most common process is to require companies conducting FMV valuations to select appraisers from the PUC's list.

**Conflict of Interest Requirements.** Seven states (Illinois, Indiana, Maryland, North Carolina, Pennsylvania, Texas, Virginia) require valuation experts to be free of conflicts of interest. For example, Maryland specifies that a utility valuation expert may not: "(1) derive any material financial benefit from the sale of the selling utility other than fees for services rendered; or (2) be an immediate family member of a director, an officer, or an employee of either the acquiring entity or the selling utility within 12 months."[40] These requirements help to ensure arms-length transactions, which will not unduly benefit one party over another.

**Caps for Valuation Expert Fees.** Six states (Illinois, Maryland, North Carolina, Pennsylvania, Texas, Virginia) have established caps on valuation expert fees. These fees are generally included in the ratemaking rate base of acquired utilities. These caps are generally based on a percentage of the determined fair market value of the selling utility (frequently 5 percent) or another set number.

**Use of Uniform Standards of Professional Appraisals practices.** Eight states (Iowa, Illinois, Maryland, Missouri, North Carolina, Ohio, Texas, Virginia) require valuation experts to determine the fair market value in compliance with the Uniform Standards of Professional Appraisal Practice. This helps to ensure that appraisals are based on the same agreed upon accounting principles.

### 3. Additional policy elements

A number of states have adopted additional FMV acquisition rules. These approaches are reviewed briefly below.

**Rate Consolidation** Consolidated rates can be defined as "the use of a unified rate structure for multiple water (or other) utility systems that are owned and operated by a single utility, but that may or may not be contiguous systems or physically interconnected."[41] After a utility is acquired, one key question is whether the state will allow the acquiring utility to merge its rates with the rates of the acquired system. With rate consolidation, all customers pay the same service rate, even when the individual

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[40] Maryland Code, Division I, Title 6, Subtitle 3, § 6-305. (2018). Restrictions on utility valuation expert, https://law.justia.com/codes/maryland/2018/public-utilities/division-i/title-6/subtitle-3/section-6-305/.

[41] Consolidated Water Rates: Issues and Practices in Single-Tariff Pricing. USEPA Office of Water, p 1., September 1999, https://nepis.epa.gov/Exe/ZyPDF.cgi/200027XN.PDF?Dockey=200027XN.PDF.

systems vary in terms of the number of customers served and operating characteristics.[42] Consolidating rates over a larger number of rate payers helps to reduce rate shock for acquired customers that would see higher rates due to the increased funding required to bring the acquired utility into compliance with environmental and health rules. On the other hand, consolidation (sometimes referred to as rate socialization) also results in customers of the acquiring company having to pay for improvements which do not improve the quality of service of their own systems. Illinois, Indiana, and Pennsylvania[43] allow rate consolidation for acquired systems. Other states may allow for rate consolidation during a future rate case.

**Value assigned to Contributions In Aid of Construction (CIAC).** Indiana's 2016 FMV law expanded the incentives provided to acquiring systems by allowing them to assign value to property they donate; for example, computers or other equipment no longer needed after consolidation.

**Public Comment.** Finally, states provide opportunities for public input or comment as part of the acquisition process. These opportunities for public input may include public meetings, notice requirements, and, in some cases, public votes.

[42] Ibid.

[43] Pennsylvania permits shifts of wastewater revenue requirement to water customers (66 Pa. C.S. § 1311(c)).

# IV. Review of FMV Acquisitions in Illinois, Indiana, and Pennsylvania

To better understand some of the trends in FMV acquisitions, we reviewed data from transactions in Pennsylvania, Indiana, and Illinois. These states were early adopters of FMV policies, and have had a significant number of FMV acquisitions.

FMV acquisitions included in this report were initially identified through the collection of data from commission dockets, annual reports, and announcements in business and local online news articles. After cases were identified, online commission docket searches were used to collect information. Whenever possible, docket searches were used to identify additional FMV cases using terms such as “mergers and acquisitions” and “water and wastewater utilities” for the time period when FMV acquisitions policies were enacted. This review process identified 34 FMV acquisitions between 2015 and 2020. Details on these dockets appear in *Appendix B*.

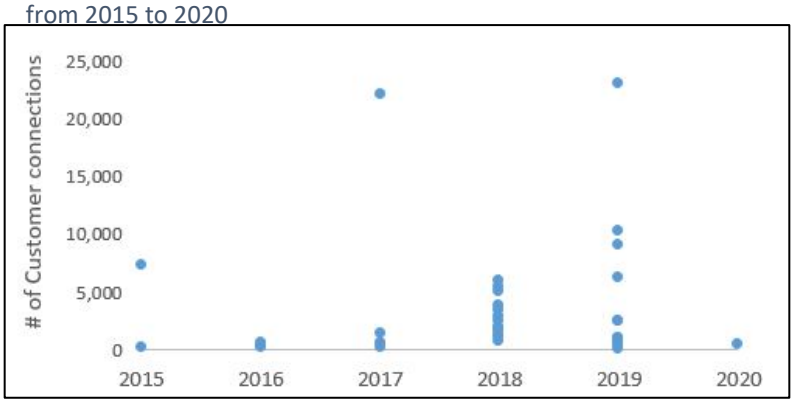
## 1. Overview of Data

The 34 FMV cases identified in this review represent a range of acquisitions. The cases included three types of acquired systems: water systems (15), wastewater systems (11), and combined water and wastewater systems (8). For combined systems, customer connections are counted as the sum of the water system customer connections plus the wastewater system customer connections. The smallest system acquired had 68 customer connections and the largest system had 23,000 customer connections. The highest purchase price identified was $159 million and the lowest purchase price identified was $100,000.[44]

### *a) Size of acquisition*

Approximately two-thirds of the acquisitions reviewed were small systems[45] (23 of the 34 systems reviewed), whereas the other third of systems reviewed (32 percent) were medium or large systems. As noted in *Section III*, both Illinois and Indiana have established a size cap for fair market value acquisitions. In the cases reviewed, the system size increased over time, starting in 2018. This suggests that acquisition targets may not include only distressed systems. **Figure 6** is a

**Figure 5**: Size of Systems (by No of Customer Connections) Acquired from 2015 to 2020




[44] See *Appendix C*.

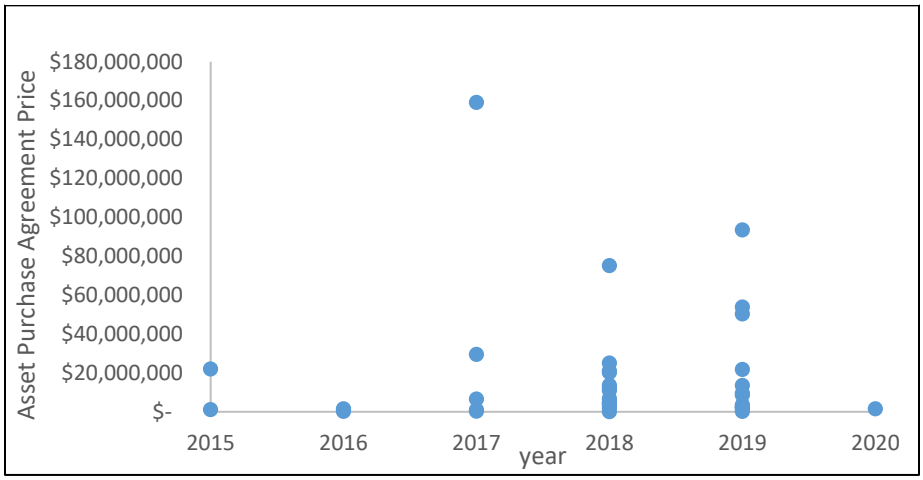
[45] Defined as 3,300 or fewer customers.

scatter chart of the number of customer connections in each FMV acquisition case reviewed over time for the period of 2015 to 2020.

### *b) Purchase price over time*

**Figure 7** provides an overview of the Asset Purchase Agreement (APA) price over time for fair market value cases identified between 2015 and 2020. Most states with FMV acquisition policies require that the sale price will be the lesser of the Asset Purchase Agreement price or the Fair Market Value of the system. Although most APAs have remained steady over time, a few have exceeded the average APA, particularly between 2017 and 2019 (Figure 7). These outlier APAs represent larger systems and are distinctly different from the other acquisitions during this time period.

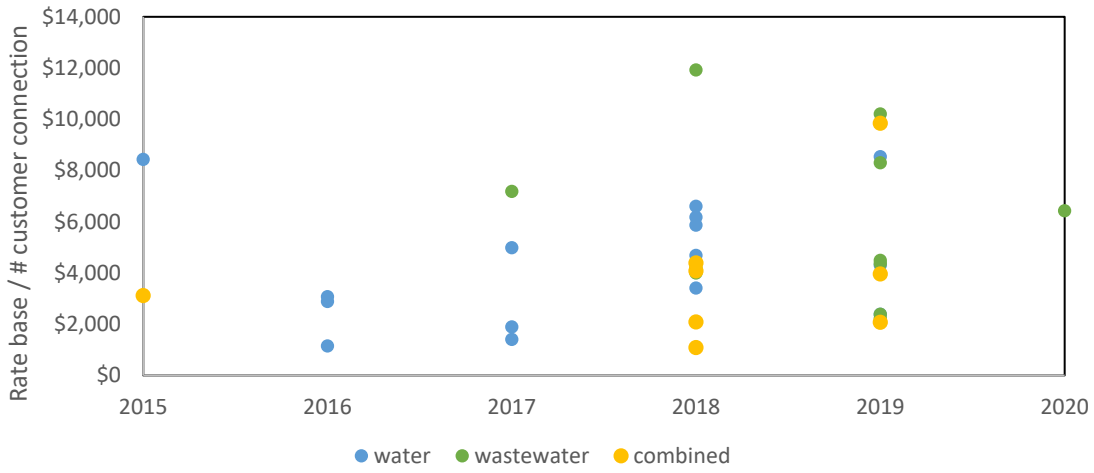
***Figure 6:*** *Asset Purchase Agreements Price Over Time (2015-2020)*




### *c) Cost per connection over time*

**Figure 8** presents the permitted Rate Base (RB) per connection for the FMV cases described here. This metric was developed by dividing the number of customer connections by the permitted rate base for each of the acquisitions identified. The permitted Rate Base (RB) is the commission determined rate base for the acquired system that will be used in the system's next rate case. This helps provide a comparison between system sizes and costs. **Figure 8** presents the approved Rate Base per Customer Connections over time by system type (water, wastewater, or combined). This figure shows that water systems generally have a lower rate base per number of customer connections than wastewater systems. Both water and combined water and wastewater system cases appear to trend slightly upward over time, whereas wastewater systems seem to have a slight downward trend for the period reviewed.

***Figure 8**: Rate Base per Customer Connections Over Time (2015-2020)*




### *d) Other considerations for acquisitions*

Other variables that might impact post-acquisition outcomes include compliance with EPA drinking water standards before and after acquisitions; planned infrastructure improvement investments for newly acquired systems; customer satisfaction surveys; and whether or not municipalities that originally ran both water and wastewater systems decide to sell the other system to the original acquirer. These questions are ripe for further evaluation. As more cases become part of the record over time, considering these variables may help to provide a clearer understanding of the growth and success or failure of fair market acquisition cases.

## B. McKeesport, Pennsylvania, Case Study

The city of McKeesport, Pennsylvania sold its wastewater system to Pennsylvania American Water in December 2017 for $159 million. This sale was the first under Pennsylvania's new FMV legislation. McKeesport officials supported the sale, because it allowed the city to stabilize its finances and avoid municipal bankruptcy. Selling the wastewater system to PA American Water also provided the city of McKeesport with access to American Water's operational and managerial expertise, as well as funding to increase system investments. Prior to the acquisition, customers of the Municipal Authority of the city of McKeesport were not protected by the PA Public Utility Code, the Public Utility Commission, the Bureau of Investigation and Enforcement, the Office of Small Business Advocate, or the Office of Consumer Advocate.[46]

[46] Recommended Decisions in case A-2017-2606103, *Pennsylvania Public Utility Commission, October 2017*, p. 13, retrieved from: https://www.puc.pa.gov/pcdocs/1539666.pdf.

Multiple factors led to McKeesport's decision to sell their wastewater system. First, McKeesport had experienced a significant decrease in population over the past 50 years. The city had underfunded pension liabilities and was considering municipal bankruptcy. Additionally, the city faced rising costs for its wastewater system to support regulatory compliance.

Under the acquisition agreement, the city received the balance of the purchase price (after system debts and obligations were settled). The city planned to use these funds to balance the budget, invest in infrastructure improvements, market the city, and improve services to existing business and residents.[47] Because the wastewater system was purchased by an investor owned utility (IOU), the former MACM property assets were taxable post-acquisition. Mayor Michael Cherepko supported the acquisition, citing financial stability as one of the primary outcomes of the city's wastewater system sale and preventing the city from Act 47 municipal bankruptcy.[48]

The acquisition agreement specified that all MACM wastewater system workers would be offered employment, subject to pre-employment screening. As a result of the acquisition, remaining MACM wastewater workers would have access to additional training, development, and career opportunities through American Water. Through the acquisition, low-income wastewater customers gained access to Pennsylvania American Water's H2O Help to Others program, which offers grants of up to $500 and 30 percent discounts on bills for qualifying customers. After the debts and obligations of the wastewater system were settled, the city received $40 million in net proceeds that it was able to use for community needs.[49]

Three years post acquisition, Pennsylvania American Water has made substantial investments in the McKeesport system. To date, Pennsylvania American Water has invested approximately $34 million in support of system upgrades. This investment has supported projects such as:

- Ongoing investments to prevent pollution and storm water from infiltrating our collection and treatment systems.
- Correcting severe sewer line defects and upgrading sewer mains that are more than 70 years old and have reached the end of their useful lifespans. The company has replaced approximately 4 miles of wastewater mains since 2017.
- Disconnecting residences from "wildcat sewers" that are discharging wastewater directly into abandoned mines. Approximately 60 structures have been connected to the collection system.

[47] Recommended Decision, pp. 7-8.
[48] "McKeesport Wastewater," *American Water,* July 2019. https://www.amwater.com/corp/resources/McKeesport_Wastewater_CaseStudy.pdf
[49] Togyer, Jason, "Sewerage System Sale Finalized; City Taxpayers Receive $40M Payment" *The Tube City Almanac*, December 18, 2017, http://almanac.tubecityonline.com/almanac/?e=819.

- Studying system hydraulic and infrastructure mapping, including locating and raising covered manholes.
- Ongoing maintenance of the wastewater treatment plant.

As a stipulation of the acquisition, Pennsylvania American Water agreed to a one-year rate moratorium for McKeesport customers. Since the rate moratorium has been lifted, the PA PUC has approved a rate adjustment effective January 2021, that resulted in a 38 percent ($19.82) rate increase for McKeesport Wastewater customers. This adjustment reflects the company's capital investments from 2019 through 2022 to maintain and upgrade its water and wastewater systems.

## V. Other Mechanisms to Support Struggling Systems

FMV acquisitions are not the only option available to states concerned about small, distressed, or municipal systems. There are other potential methods for supporting water utilities to update aging infrastructure and reduce costs without the need for an acquisition. These alternatives include formal processes such as securitization and Distribution System Improvement Charges that have been ordered by commissions or enacted through legislation, as well as informal methods, such as partnerships. A discussion of these alternatives to FMV follow.[50]

### A. Securitization

Utility securitization is a form of financing that is designed to lower a utility's borrowing costs and pass the savings onto customers.[51] Utility securitization is enabled via state legislation allowing investor-owned utilities (IOUs) to petition state PUCs for a financing order that authorizes the utility to create a special purpose entity that issues bonds for an express purpose, in this case, a system acquisition or infrastructure repairs. Securitization, creates a property right enabling a non-bypassable charge on customer bills to cover this funding requirement. The property right is then assigned to a limited purpose entity that pledges it as collateral for securitized utility bonds sold to investors. The revenue requirement associated with the bond amortization is reviewed for revenue sufficiency and adjusted as needed. Because of the nature of the special purpose entity, the non-bypassable nature and automatic adjustment of the revenue stream, these bonds have historically received "AAA" ratings, which makes them attractive to investors, and provides utilities with a lower interest rate than they would achieve through normal borrowing instruments.[52] After the debt is securitized, the utility no longer has a financial responsibility for the cost of the asset, and any related rate base or other regulatory assets are removed from the utility's books.[53] As a consequence, securitization reduces a utility's debt burden while increasing its coverage ratios and enhancing its credit worthiness.

Securitization has been a popular mechanism since the 1990s and has been used to address stranded generation assets (such as the early retirement of nuclear projects) and hurricane damage, among other uses. Twenty-three states and the District of Columbia have passed enabling legislation for securitization.[54]

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[50] The NARUC Committee on Water approved a resolution in 2013 providing a list of best practices for small water systems. See https://pubs.naruc.org/pub.cfm?id=53A0D971-2354-D714-51EB-8A01C0909879.

[51] Joseph Fichera, "Managing Electricity Rates Amidst Increasing Capital Expenditures: Is Securitization the Right Tool? An Update," *National Regulatory Research Institute,* January 2019: 1.

[52] Art Graham, "Ask the Chairman: What is "securitization," and how does it impact their bills?," *Florida Public Service Commission*, 2017, http://www.psc.state.fl.us/Files/PDF/Consumers/AskTheChairman/2015_07.pdf.

[53] Fichera, "Managing Electricity Rates," p. 3.

[54] Fichera, "Managing Electricity Rates," p. 1.

After securitization, customers are no longer charged for the utility's cost of capital held by the newly securitized bond, but instead pay a special charge on their bill to repay bondholders. This benefits customers, because the utility's base rates go down significantly more than the securitized charges go up. An independent board established during the securitization process has the authority to adjust the special charge regularly to ensure payment of principal, interest, and associated costs without further regulatory review. [55]

Customers benefit from securitization in two ways. The first is that the cost of capital associated with the acquisition is lower. The second is that the utility does not receive a return on equity for what would have been the addition to the rate base. Eliminating the return on equity benefits customers, because the cost of equity is typically higher than the cost of debt. In addition, the revenues associated with the cost of equity are grossed up to reflect corporate tax liability.

There is a third potential benefit to customers from securitization. Securitization allows targeting the customers who will pay for the cost of an acquisition, rather than passing the costs on to all the customers included in the new entity created by the acquisition. To understand this, let's take the hypothetical case of the acquisition of a municipal system at a cost above the system's book value using the fair market valuation of the system. Clearly, the acquisition benefits the municipality. But is it equitable to share the cost of that acquisition over all of the utility's ratepayers, or should it be applied only to those ratepayers served by the municipal system acquired by the new entity? Securitization enables the targeting of only those customers who will benefit from the acquisition and should thus pay for its costs.

One of the reasons often cited for FMV is that it provides the acquiring utility with an incentive to take over the ailing water company. One might argue, that securitization, by eliminating the return on equity, eliminates that incentive. However, the fact that the water system is ailing in itself implies that it will require an infusion of capital that would be added to the utility rate base. Ultimately, whether the return on capital for improvements is sufficient to incent the acquisition is an empirical question. In addressing that question, it is important to recognize that securitization also improves the utility's credit worthiness, which would be an incentive to securitize for a prudent utility.

The use of securitization in the water industry is new. In 2014, California passed the Monterey Peninsula Water Supply Securitization Act. This Act allows the California PUC to issue financing orders for the water provider to the Monterey Peninsula to facilitate the recovery, financing, or refinancing of water supply costs.[56] Subsequently, California American Water Company proposed a desalination project on the Monterey Peninsula

[55] Fichera, "Managing Electricity Rates," p. 3.

[56] Monterey Peninsula Water Supply Securitization Act, 2014, https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PUC&division=1.&title=&part=1.&chapter=4.&article=5.7.

that was to be financed through tax-exempt securitization. This project was authorized by the California PUC in 2018 through decision D. 18-09-017, which included an approval framework for financing the project with a securitization component.[57] The project is currently on hold, awaiting permitting approval from the California Coastal Commission, and at this time, California American Water has not sought a specific financing order from the CPUC for this project.

### B. Distribution System Improvement Charges

Distribution System Improvement Charges (DSICs) can be used in conjunction with FMV or securitization to support a water utility's infrastructure replacement goals. DSICs allow companies to increase rates outside of general rate cases to fund the replacement of aging infrastructure. By collecting a small charge over time, DSICs can fund infrastructure upgrades, without the rate shock that might occur if these charges were applied as a single rate increase. This allows utilities to expedite infrastructure improvement plans to improve water quality.

Utilities applying for DSICs are generally required to identify water system infrastructure needs and file a rate schedule application with the PUC. Intervening parties are allowed to submit comments indicating support or opposition to the application. The commission then holds a hearing on the petition and issues an order approving or disapproving the request. After approval, and prior to implementation, most state commissions require the utility to provide customers with a description of the DSIC charge, and an explanation of why the proposed improvement projects are necessary. DSIC charges are then included in customer bills, usually as a separate line item. Finally, utilities must reconcile their DSIC collections with the approved filings. During this process, commission staff review the funds collected for DSIC through customer bills and confirm that the amounts collected are within the bounds determined under the original filings. After the PUC has approved a company's initial DSIC, the company must submit additional DSIC requests to the commission for review and approval following the same procedure.[58]

Implementing a DSIC can provide several key advantages for utilities and customers. DSICs can provide the funding needed to improve the quality of service over time by allowing water companies to complete necessary infrastructure improvement projects on a faster time scale. These improvements can reduce non-revenue water loss and improve water quality and water pressure for customers. DSICs can also fund accelerated infrastructure remediation. As cities in the United States have aged, some

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[57] Decision Approving a Modified Monterey Peninsula Water Supply Project, Adopting Settlement Agreements, Issuing Certificate of Public Convenience and Necessity and Certifying Combined Environmental Report. *California Public Utilities Commission*. Decision 18-09-017. September 13, 2018. https://d3583ivmhhw2le.cloudfront.net/images/uploads/publications/PUC_Final_Decision_Cal_Am_(9_20_18).pdf .

[58] Kathryn Kline, *Water Distribution System Improvement Charges: A Review of Practices*, National Regulatory Research Institute, January 2018, pp. 8-9, https://pubs.naruc.org/pub/FA86A4CE-0F06-7899-27F8-D923A23EEAE4.

water utility rate structures have not provided adequate funding for infrastructure repair and replacement, leading to infrastructure deterioration and water loss. By increasing funding for infrastructure repairs, utilities can take a more strategic approach to these repairs, which can save money, and improve the efficiency of repair planning. Finally, DSICs can help to mitigate rate shock. As water systems age, the amount of repair and replacement work necessary to maintain the quality of the system increases. By increasing funding for distribution system improvement projects before emergencies arise, water utilities have the opportunity to address needed water improvement projects in a strategic and cost-effective way, reducing the need for emergency rate increases later on.

One challenge of DSICs is that a system must have adequate managerial and technical expertise to apply for a DSIC charge. The small and distressed systems that need these charges the most that may not be able to take advantage of this tool if they don't have the capacity to handle the administration of this type of surcharge.

State commission oversight, in concert with deliberate consumer protections, helps to ensure that DSIC mechanisms support the goal of maintaining the quality of water service for customers.

### C. Partnerships

The partnership model allows small water utilities to reap the benefits of information and resource sharing by working jointly with other companies. Partnerships can range from informal cooperation between systems to a complete transfer of ownership. Because of the considerable variability of different water systems, the most helpful option on the partnership spectrum depends on the attributes of individual systems. Partnerships can help water utilities develop technical, managerial, and financial capacity, as well as reduce the level of oversight and state resources required to keep struggling systems afloat.[59]

**Figure 10:** Partnership Spectrum


The least intrusive option for engaging in partnerships is informal cooperation, where a small water system works with other systems without a contractual agreement. Examples of informal cooperation include sharing equipment, sharing bulk supply purchases, and signing mutual aid agreements. Contractual assistance is the next step; this requires a contract that remains under the original system's control. These

[59] *Restructuring and Consolidation of Small Drinking Water Systems: A Compendium of State Authorities, Statutes, and Regulations*. Environmental Protection Agency, Office of Water (Report No. EPA 816-B-07-001), 2017, pp. ii-iv, http://bit.ly/2nkedbJ.

agreements can take the form of contracting out the company's operation and management, outsourcing engineering services, or purchasing water. Finally, A Joint Power Agency agreement can be used to create a new entity that merges the operations of several systems, while allowing them to continue to exist as independent entities. Examples include sharing system management, sharing operators, or sharing source water.

### D. Reproduction Cost New Less Depreciation (RCNLD)

In March of 2020, West Virginia enacted Senate Bill 551, removing some of the disincentives to water and wastewater system consolidations without using the full FMV appraisal methodology.

West Virginia responded to the financial difficulties increasingly being experienced by some municipal and investor-owned water and wastewater utilities by enacting legislation to establish the "fair value" of utility assets in the context of acquisitions.[60] The legislature found that a valuation of the utility assets that is primarily based on the original cost of those assets less depreciation and less the value of contributed property will understate the actual fair value of those assets to an acquiring party, reduce the financial benefit to utilities considering selling those assets, and thereby discourage those utilities from selling those assets.[61] To mitigate this disincentive, the legislation directs the commission to permit the acquiring party to include the negotiated sale price of acquired utility assets in the post-acquisition rate base for rate-making purposes, provided that the negotiated sales price is in accordance with industry standard utility asset valuation methods, including "reproduction cost new less depreciation" (RCNLD)[62] but excluding "fair market appraisal valuation methods," and the Commission finds that the terms of the acquisition are reasonable and do not adversely affect the public.[63] The RCNLD methodology uses the Handy-Whitman Index of Public Utility Construction Costs to derive the current reproduction costs of utility assets. The RCNLD does not require estimation and consideration of a system's market value or income-producing potential and focuses on only one market value valuation method.

### E. Additional Acquisition Incentives

Commissions have considered and implemented other options to encourage acquisitions as well, generally in cases where the acquired system was small, and the system was non-viable. For example, in 1996, the Pennsylvania PUC expanded its

[60] W. Va. Code Ann. § 24-2-4g.
[61] W. Va. Code Ann. § 24-2-4g(a)(3).
[62] In the West Virginia statute, "reproduction cost new less depreciation" is defined as "an estimate of the cost to construct, at current prices, an exact duplicate or replica of the utility assets, without regard to the original sources of funding for those assets, using the same materials, construction standards, design, layout, and quality without adjustment for deficiencies, super-adequacies, and obsolescence of those assets, net of depreciation." W. Va. Code Ann. § 24-2-4g(d)(6).
[63] W. Va. Code Ann. § 24-2-4g(b)(1)-(2).

acquisition incentives to include a rate of return premium for the acquiring utility, a debit acquisition adjustment, allowing the deferral of acquisition improvement costs, and allowing a plant improvement surcharge.[64] These tools all helped to support the Pennsylvania PUC's policy of encouraging well-operated water and wastewater utilities to consolidate with smaller systems, and have helped to reduce the number of private water companies in Pennsylvania from 333 in 1983 to 60 private water companies regulated by the commission in 2018.[65]

In 2021, Kentucky enacted House Bill 465, which requires the commission to fix the value of an acquired water or sewer system asset for ratemaking purposes at an amount between the asset's net original cost and its acquisition price without regard for the original source of funds used to procure the asset. The acquiring utility must demonstrate several factors designed to ensure that the acquisition promotes the public interest to the commission.[66] These factors include a showing that the asset acquisition price plus the cost of restoring the acquired facilities will not materially adversely impact rates, a showing that the acquisition will result in operational economies, and a showing that the acquisition will result in overall financial and service benefits of the acquiring utility's operations.

### F. Acoustic Leak Detection Technology

New technologies also offer a promising opportunity to address the years of deferred maintenance for distressed systems in a more efficient and affordable manner. One such technology is acoustic monitoring leak detection. Acoustic monitoring leak technology requires that a system install internal sensors throughout their water systems (on places like fire hydrants). Combined with accurate maps of water systems, these sensors collect acoustic data that provide utility system operators with information to pinpoint leaks and other problems and focus investigation and repair efforts.

The New Jersey Board of Public Utilities (BPU) recently initiated an acoustic testing pilot program which will provide grants of up to $500,000 for water utilities to install testing equipment. To qualify for the pilot program, water systems must have unaccounted for water or non-revenue water greater than 15 percent, with priority given to overburdened communities. Acoustic leak detection technology is estimated to save millions of dollars per year in New Jersey based on estimates of water and energy loss related to leaks.[67] The NJ BPU will review results from the Acoustic Testing Pilot Program at the conclusion of the 18-month pilot program to determine the benefits of creating permanent leak detection program.

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[64] 52 Pa. Code § 69.711
[65] James H. Cawley and Norman J. Kennard, *A Guide to Utility Ratemaking*, 2018. Pennsylvania Public Utility Commission, pp. 29.
[66] 2021 Ky. H.B. 465 (enacted Apr. 6, 2021).
[67] Acoustic Testing Pilot Program [webpage], 2021, *New Jersey Board of Public Utilities*. Retrieved from: https://www.njcleanenergy.com/acoustic.

## VI. Conclusion

Interest in Fair Market Value acquisitions laws has grown as states explore new options for improving service to customers. Currently, 12 states have adopted some form of FMV acquisition policy for water systems.

FMV legislation has been used to meet the challenges facing struggling small and municipal water and wastewater systems. These challenges include increasingly stringent water quality standards, limited technical and managerial expertise, and the need to address deferred maintenance in aging infrastructure. This legislation supports improvements to water quality and customer service by encouraging successful systems to acquire struggling ones.

FMV policies vary from state to state, but generally include provisions that protect the public interest and focus acquisitions on improving and strengthening struggling systems. That said, opinion is still divided on whether or not FMV acquisitions are the best way to encourage consolidation, and support distressed systems.

The FMV cases in Indiana, Illinois, and Pennsylvania help to clarify trends in actual acquisitions that have occurred in the past 5 years. The majority of the 34 acquisitions (68 percent) reviewed were of small and very small systems (defined as 3,300 or fewer customers), and approximately one third of the cases reviewed (32 percent) were medium or larger systems. The acquisitions showed an increase in the size of the acquired systems over time, beginning in 2018. This review also identified differences in cost per customer based on the type of system being acquired. Wastewater systems were the most expensive acquisitions (on a ratemaking rate base per customers served basis) in three of the five years reviewed. Both water and combined water and wastewater system cases appear to have trended slightly upward in acquisition price over time, whereas wastewater systems appear to have had a slight downward trend over the five years reviewed.

Cases such as the City of McKeesport wastewater system acquisition provide an example of how an FMV acquisition can provide technical and managerial expertise and resources to systems facing the challenges of addressing mounting costs and government mandates.

Although the initial review has identified some helpful trends, future research might address questions such as: 1) the amount of money acquiring systems invest post-acquisition to ensure that acquired systems meet standards; 2) the amount of customer rate increases on average, post-acquisition; and 3) customer satisfaction after the initial improvement phase of an acquisition.

FMV is still a relatively new concept in many states. As this type of acquisition becomes more frequent, commissions will develop a deeper understanding of the outcomes for customers. Some commissions are already considering whether these high acquisition

prices have hit an inflection point. A recent case involving the City of Bellflower, California, provides an interesting example.[68]

California American Water offered Bellflower $17 million to purchase their water system. Bellflower voters approved the deal in 2016, followed by approval from the City Council in 2017. Despite these approvals, the California Public Advocates Office questioned the sale, stating that the proposed price was "grossly inflated and would result in rate increases for a significant number of customers."[69] The administrative law judge reviewing the case agreed and in their proposed decision said that the system was in such poor condition that the city should pay someone else $5 million to $9 million to take it off the city's hands.[70] As of March 2021, this acquisition remains unresolved. The ALJ has ordered a new valuation report be to completed, at which time acquisition terms will be reconsidered.[71]

The Public Advocate's position in the Bellflower case provides an important reminder about the need for affordability in the water industry. The industry is facing the interrelated problems of infrastructure investment and affordability. Systems need to increase rates to invest in infrastructure, but these improvements are costly. At the same time, aging infrastructure costs ratepayers additional money due to the costs associated with non-revenue water, such as water treatment and pumping of water that never reaches the ratepayer, in addition to costly emergency maintenance for systems that have historical under-investments.

The electric and gas industries ensure affordability by offering programs like the Low Income Heating Energy Assistance Program (LIHEAP), but, until recently, the water industry has not had an equivalent program.[72] The 2020 and 2021 COVID-19 stimulus bills have created the Low Income Household Water Assistance Program (LIHWAP), but details on the administration of this program are limited, and the enacting legislation created only a one-time grant. Although some water utilities provide ratepayer assistance to low-income customers, there is no permanent, federally mandated safety net for individuals who cannot pay their water bills. The state of California recognized a human right to water in a 2012 with Assembly Bill 685 and the COVID-19 pandemic has emphasized the importance of access to running water to ensuring proper hygiene.[73]

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[68] Sharon McNary. August 4, 2020, "A Small City Wants to Unload a Leaky Water System, But Regulators Say Not So Fast," *LAist*, https://laist.com/2020/08/04/bellflower-water-system-sale-price-consumer-dispute.php.

[69] Ibid.

[70] Ibid.

[71] Administrative Law Judge's Ruling amending prior ruling and ordering valuation evidence and settlement discussions. Docket A1809013. March, 18, 2021.

[72] There is growing interest in a Water LIHEAP program: *Building a Federal Water Assistance Program: What Can we learn from federal programs that protect low income families*, September 17, 2020, The Aspen Institute, 1, https://assets.aspeninstitute.org/content/uploads/2020/09/Aspen-Nicholas-9.10-Virtual-Water-Forum-Summary-Report_final.pdf.

[73] California Water Board, https://www.waterboards.ca.gov/water_issues/programs/hr2w/.

With this in mind, policy makers might benefit from considering the value of water quality and the importance of water accessibility when developing FMV policies. Policies that establish caps for the size of systems that can be acquired, or require systems being acquired to meet metrics that identify them as distressed may help to ensure that FMV is used in cases with the greatest need. Requiring purchasers to identify planned system improvements and provide an estimate of the rate impact on customers, could allow regulators to consider acquisition impacts on customers. Developing a tracking mechanism to ensure that these improvements are made may also help in determining whether the terms of an acquisition are appropriate.

Ultimately, consolidation policies such as FMV acquisitions can be consistent with the goals of affordability if handled prudently. Clear communication with customers about what to expect post-acquisition, paired with greater technical and managerial expertise and access to capital, can ensure that needed system improvements are completed in a cost-effective manner in cases where FMV is an appropriate tool.

# VII. Appendix A: Description of State FMV Policies

## California

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|---|---|
| Rule citation | Public Utility Code, Section 2718-2720 & 10061 |
| Legislation | SB 1268 the Public Water System Investment and Consolidation Act of 1997 |
| Year passed | 1997 |
| Major provisions | • This bill would require the Public Utilities Commission to use the standard of fair market value when establishing the rate base value for the distribution system of a public water system, as defined, acquired by a water corporation.<br>• If the fair market value exceeds reproduction cost, determined in accordance with existing law, the commission would be permitted to include the difference in the rate base for rate setting purposes if it finds that the additional amounts are fair and reasonable.<br>• Applies to acquisition of water and sewer systems.<br>• In determining whether the additional amounts are fair and reasonable the commission shall consider whether the acquisition of the public water system will improve water system reliability, whether the ability of the water system to comply with health and safety regulations is improved, whether the water corporation by acquiring the public water system can achieve efficiencies and economies of scale that would not otherwise be available, and whether the effect on existing customers of the water corporation and the acquired public water system is fair and reasonable. |
| Consumer protections | • This bill would require the acquiring group to disclose to the customers of the public water system to be acquired, a written statement of the price, terms, charges, savings, and added costs of the proposed acquisition. |
| Issues/commentary | Rationale listed in legislation:<br>(a) Public water systems are faced with the need to replace or upgrade the public water system infrastructure to meet increasingly stringent state and federal safe drinking water laws and regulations governing fire flow standards for public fire protection.<br>(b) Increasing amounts of capital are required to finance the necessary investment in public water system infrastructure.<br>(c) Scale economies are achievable in the operation of public water systems.<br>(d) Providing water corporations with an incentive to achieve these scale economies will provide benefits to ratepayers. |
| Rule citation | Health and Safety Code, Division 104, Part 12, Chapter 4, Article 9, Section 116682 |
| Enabling legislation | SB 778 |
| Year passed | 2017 |
| Major provisions | • Where a public water system consistently fails to provide an adequate supply of safe drinking water, the State Water Resource |

| | |
|---|---|
| | Control Board may order consolidation with a receiving water system.<br>• Adequately compensate the owners of a privately owned subsumed water system for the fair market value of the system as determined by the CPUC or the State Water Resources Control Board.<br>• Consolidation must adequately compensate the owners of a privately owned subsumed water system for the fair market value of the systems as determined by the PUC or SWRCB for all other water systems.<br>• The consolidated water system, wholesaler, or any other agency in the chain of distribution that delivers water to a consolidated water system, shall not be held liable for claims by past or existing customers or those who consumed water provided through the subsumed water system concerning the operation and supply of water from the subsumed water system during the interim operation period specified in subdivision.<br>• CA HSC, Division 104, Part 12, Chapter 4, Article 9, Section 116682. |
| Consumer protections | • The consolidated water system shall not increase charges on existing customers of the receiving water system solely as a consequence of the consolidation or extension of service unless the customers receive a corresponding benefit.<br>• Customer notification prior to acquisition (public meeting, with 30 days' notice)<br>• Allows public comment period.<br>• Prior to consolidation, the State Water Resource Control Board shall find that consolidation or extension of service is the most effective and cost-effective means to provide an adequate supply of safe drinking water. |
| Issues/commentary | "Existing law declares it to be the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." (CA SB 778, 2017)<br>https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/dashboard.html<br>https://www.waterboards.ca.gov/drinking_water/programs/compliance/index.html |

## Connecticut

| | |
|---|---|
| Rule citation | -- |
| Enabling legislation | Bill No. 222 Did not pass |
| Year | 2019 |
| Major provisions | • Allows municipal systems to sell its water supply system or wastewater system to a water company. With the provisions that:<br>○ A municipality that owns such a system negotiate with a water company for the sale of such system and determine sale price,<br>○ That systems utilize a licensed engineer and two utility valuation experts representing both parties to determine the system's fair market value, and then submit an application for approval to PURA,<br>○ PURA may determine the ratemaking rate base as the lesser of the negotiated sale price or the system's average fair market value. |
| Consumer protections | • Appraisal shall be conducted based on Uniform Standards of Professional Appraisal Practice<br>• Transaction and closing costs and fees paid to the engineer and utility valuation experts may be included in the rate base as long as appraisal fees do not exceed 5% of the FMV of the system. |
| Issues/commentary | CT PURA testified against this bill, and it did not pass. |

## Florida

| | |
|---|---|
| Rule citation | Sections 367.0712, Florida Statutes |
| Enabling legislation | HB 207 – Did not pass |
| Year passed | Filed on 9/19/19, if passed, would become effective on 7/1/2020 |
| Major provisions | • FMV must be based on appraisals conducted by two licensed appraisers chosen from a list established by the commission<br>• Each appraiser shall determine the fair market value using the Uniform Standards of Professional Appraisal Practice, employing cost, market, and income approaches in assessing the value.<br>• For ratemaking purposes, the fair market value is the average of the two appraisals.<br>• An application for the approval of the rate base value of the utility system must be submitted to the Commission.<br>• This FMV acquisition process applies to acquiring utilities that provide water and wastewater services to more than 10,000 customers and are engaged in a voluntary and mutually agreeable acquisition. |
| Consumer protections | • FMV acquisition application is presented to the FL PSC<br>• The acquiring utility must provide a projected rate impact for the selling utility's customers for the next 5 years in the company's application before the commission. |
| Issues/commentary | |

## Iowa

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| Rule citation | 388.2A, Section 476.72 subsection, 4, code 2018 |
| Enabling legislation | House File 2307 |
| Year passed | 2018 |
| Major provisions | • FMV available for the acquisition of municipal utilities<br>• Process may be triggered by a council's motion or the receipt of a valid petition.<br>• The governing body of the utility shall determine the FMV of a utility based two appraisals: one from an independent appraiser selected by the city's governing body, and one independent appraiser approved by the Iowa Utilities Board.<br>• After considering the appraisals obtained from the independent appraisers, the governing body shall establish the city utility's FMV, which shall be the greater of any of the following:<br>  ○ The average of the two appraisals<br>  ○ The depreciated value of the capital assets to be sold<br>  ○ The amount necessary to retire all of the city's outstanding revenue and general obligations issued for purposes of the city utility<br>• The governing body shall make the above information available on its website, along with any purchase offers or appraisals of FMV from any prospective purchasers.<br>• The council shall submit a valid petition to sell the city utility during the next election. |
| Consumer protections | • Appraisals shall be conducted in conformance with the uniform standards of professional appraisal practice or substantially similar standards<br>• The governing body shall make a good-faith effort to provide notice in the mail to each property owner in the city and each city utility rate payer a notice of the proposal to dispose of the city by sale, and where such information can be located on the website. |
| Issues/commentary | |

## Illinois

| Rule citation | Section 9-210.5 of the Illinois Public Utilities Act (220 ILCS 5/9-213) |
|---|---|
| Enabling legislation | Public Act 98-213 |
| Year passed | 2013 |
| Major provisions | • Allows a large public utility to elect to use FMV procedures when establishing a rate base for newly acquired system.<br>• Three appraisals shall be performed by appraisers selected by the ICC's water department manager and engaged by either the water or sewer utility being acquired or by the large public utility, and the average of these shall represent the FMV value of the utility being acquired<br>• The appraiser shall be engaged on reasonable terms approved by the commission, and the appraiser shall be a disinterested person licensed as a state-certified general real estate appraiser under the real estate appraiser licensing act of 2002.<br>• Each appraiser shall engage one disinterested engineer who is licensed in Illinois to prepare an assessment of the tangible assets of the water or sewer utility that is to be incorporated into the appraisal.<br>• The lesser of (i) purchase price or (ii) the fair market value determined shall constitute the rate base associated with the water or sewer utility as acquired.<br>• The amount of the appraiser's fees to be included in the transaction and closing costs shall not exceed the greater of $15,000 or 5% of the appraised value.<br>• Any acquisition of a water or sewer utility that affects the cumulative base rates of the large ICC's existing ratepayer in the tariff group into which the water or sewer utility is to be combined by less than (1) 2.5% at the time of the acquisition for any single acquisition completed under this section or (2) 5% for all acquisitions completed under this section before the commission's final order in the next rate case shall not be deemed to violate section 7-204 or any other provision of this act.<br>• If the water utility being acquired is owned by the state or any political subdivision thereof, then the utility must inform the public of the terms of its acquisition by the large IOU by (1) holding a public meeting prior to the acquisition, and (2) causing to be published, in a newspaper, a notice setting forth the terms of its acquisition and options that shall be available to assist customers to pay their bills after the acquisition.<br>• The acquiring utility shall recommend the district or tariff group of which the water utility shall, for ratemaking purposes, become a part after the acquisition.<br>• From the date of acquisition until new rates are effective, the customers of the acquired system shall pay the then-existing rates of the district, if these rates increase the total bill of customers (minus fire services), then the acquiring utility shall uniformly reduce rates (the reduction shall result in a total annual bill excluding fire |

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| | services equal to 1.5% of the latest median household income as reported by the census bureau). (p. 9)<br>• In the acquiring utility's next rate case, the utility shall combine costs under the same rate tariff (based on allocation of costs of service and utilizing a rate design that does not distinguish among customers on the basis of utility service source or type).<br>• Any post-acquisition improvements made shall not be depreciated for ratemaking purposes until the investment has been in service for 4 years, or until the rates are implemented in the large public utility's next rate case<br>• This section applies to large public utilities in voluntary and mutually agreeable acquisitions.<br>• Only applies to communities with 7,600 customer connections or fewer<br>• Sunset clause—this section is repealed on June 1, 2018. |
| Consumer protections | • Sunset clause<br>• Cap on rate increases tied to COL increases.<br>• Requires acquiring systems to provide public notice in newspapers and hold a public meeting.<br>• Public notice must provide information on options that shall be available to assist customers to pay their bills after the acquisition occurs. |
| Issues/commentary | Before 2013, the Illinois Commerce Commission averaged less than two acquisitions/year, in 2013, five cases were initiated, three cases in 2014, and six cases in 2016 (NARUC presentation). |

## Indiana

| **Rule citation** | **Section 1. IC 8-1-30.3** |
|---|---|
| Enabling legislation | Public Law 189 House Enrolled Act No. 1319 |
| Year passed | 2015 |
| Major provisions | • Supports the acquisition of distressed utilities (defined as: serving 3,000 customers or fewer, or nonviable in the absence of the acquisition).<br>• The rates charged by the utility company before acquiring the utility property of the distressed utility will not unreasonably increase as a result of the acquisition.<br>• The cost differential will be added to the utility's rate base to be amortized as an addition to expense over a reasonable time with corresponding reductions in the rates. |
| Consumer protections | • The utility company and the distressed utility are not affiliated and share no ownership interest.<br>• The rate charged will not unreasonably increase.<br>• Provide notice of proposed acquisition and any changes in rates or charges<br>• Notice to customers of the utility company if the proposed acquisition will increase the utility company's rates by an amount that is greater than one percent of the utility company's base annual revenue.<br>• Provide notice of the proposed acquisition to the office of the consumer counselor. |
| Issues/commentary | Defines a distressed utility as:<br>"…not furnishing or maintaining adequate, efficient, safe, and reasonable service and facilities if the commission finds one (1) or more of the following:<br>(1) The distressed utility violated one (1) or more state or federal statutory or regulatory requirements concerning the safety, adequacy, efficiency, or reasonableness of its services or facilities.<br>(2)The distressed utility has inadequate financial, managerial, or technical ability or expertise.<br>(3) The distressed utility fails to provide water in sufficient amounts, that is palatable, or at adequate volume or pressure.<br>(4) The distressed utility, due to necessary improvements to its plant or distribution or collection system or operations, is unable to furnish and maintain adequate service to its customers at rates equal to or less than those of the public utility.<br>(5) Any other facts that the commission determines demonstrate the distressed utility's inability to furnish or maintain adequate, efficient, safe, or reasonable service or facilities." |

| **Rule citation** | **IC 8-1-2-6** |
|---|---|
| Enabling legislation | Senate Enrolled Act No. 257 (amends the Indiana code) |
| Year passed | 2016 |
| Major provisions | • The commission shall value all property of every public utility actually used and useful for the convenience of the public at its fair value, giving such consideration as it deems appropriate in each case to all bases of |

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| | valuation which may be presented or which the commission is authorized to consider by the following provisions of this section. As one of the elements in such valuation the commission shall give weight to the reasonable cost of bringing the property to its then state of efficiency.<br>• Adds to the definition of a distressed utility: “a municipally owned utility property of a municipally owned utility that serves fewer than 5,000 customers. |
| Consumer protections | |
| Issues/commentary | |

| **Rule citation** | **IC 8-1; IC 8-1.5** |
|---|---|
| Enabling legislation | Senate Bill No. 472 (amends Indiana Code) |
| Year passed | 2019 |
| Major provisions | • Changes the term "distressed utility" to "offered utility" for purposes of statutory provisions regarding the acquisition of water or wastewater utilities.<br>• Further expands the incentives to all water and wastewater utilities serving fewer than 5,000 customers and modified some of the Commission’s regulatory approval processes for streamlined acquisitions that are less than two percent of the acquiring utility’s rate base<br>• Makes the following changes for purposes of the statutory provisions under which a utility that acquires property from another utility at a cost differential may petition the IURC to include the cost differential in the acquiring utility's rate base: (1) Provides conditions for applicability of the rebuttable presumption that the cost differential is reasonable. (2) Amends the findings the IURC must make to approve the petition. (3) Provides that notice of the filing of the petition may be provided to customers of the acquiring utility company in a billing insert. (4) Requires the acquiring utility company to submit with its petition to the IURC a written description of how the acquiring utility will identify and make reasonable and prudent improvements necessary to provide safe and reliable service to customers of the offered utility.<br>• Provides, for purposes of the requirement that a municipality that plans to sell or dispose of non-surplus municipally owned utility property must appoint appraisers in a writing that is a public record, that a written contract with the appraisers or the appraisers' firms satisfies this requirement.<br>• Provides that the municipality must hold a public hearing regarding the appraisal and proposed sale not later than 180 days (rather than 90 days, under current law) after the appraisal is complete.<br>• Amends factors the IURC must consider in deciding whether the sale or disposition is in the public interest. |
| Consumer protections | • Provides that notice of the filing of the petition may be provided to customers of the acquiring utility company in a billing insert. |

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| | • Requires the legislative body and the municipal executive must hold a public hearing regarding the appraised and proposed sale not later than 180 days after the appraisal is complete |
| Issues/commentary | From 2019 annual report: "The Commission continues to pursue the reduction of the number of small investor-owned utilities. These small utilities often lack the financial and technical expertise and capabilities to effectively and efficiently provide safe drinking water and/or proper wastewater services. The Commission has found that, in most cases, customers receive better water and sewer service from larger utilities due to the economies of scale. Therefore, the Commission has encouraged acquisitions or mergers of small systems by larger municipal and investor-owned utilities." |

| **Rule citation** | **Ind. Code § 8-1-1-9.3, IC 8-1-2-101.5, IC 8-1-30.3-5.5** |
|---|---|
| Enabling legislation | House Bill 1131 |
| Year passed | 2020 |
| Major provisions | • Expanded the criteria for municipalities to fewer than 8,000 customers from 5,000 customers.<br>• Clarified appraiser qualifications.<br>• Clarified appraisal determination process.<br>• Expanded criteria as to when a cost differential is reasonable. |
| Consumer protections | |
| Issues/commentary | |

## Kentucky

| **Rule citation** | **Proposed the creation of a new section of KRS 278.450** |
|---|---|
| Enabling legislation | SB 163 |
| Year passed | Proposed in 2019, did not pass. |
| Major provisions | • If an investor-owned water or sewer utility acquires an existing water or sewer utility or its assets, including but not limited to city-owned assets that provide water or sewer services, the acquiring utility's next base rate application may seek to include in the rate base the entire value of all assets acquired as measured by the fair market value as of the date of the acquisition or by the purchase price paid by the acquiring utility, whichever is less.<br>• In reviewing the acquiring utility's request to include the value of the acquired assets in the rate base, the commission shall consider, among other factors, whether operational economies were achieved through the acquisition and whether inclusion of the value of the acquired assets in the rate base will result in utility rates that are fair, just, and reasonable as required by KRS 278.030.<br>• The fair market value of an acquisition under this section shall be established by the average of three (3) appraisals, the costs of which shall be paid by the acquiring utility. (One appraiser shall be chosen by each party, and the third appraiser shall be chosen by mutual agreement of the first two appraisers.) |

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| Consumer protections | • Appraisers must: (a) have expertise, technical knowledge, and qualifications to make a fair and proper appraisal and valuation, (b) no financial or other interests in the acquisition, and (c) are neither residents nor taxpayers of the service area of the utility being acquired. |
| Issues/commentary | |

## Maryland

| **Rule citation** | Annotated Code of MD Public Utilities, Section 6-301 through 6-308 to create a new subtitle "Subtitle 3: Acquisition of Water Companies and Sewage Disposal Companies" |
|---|---|
| Enabling legislation | Senate Bill 854 |
| Year passed | 2018 |
| Major provisions | • The ratemaking rate base of the selling utility, including allowed transaction and closing costs, shall be the lesser of: (1) the purchase price negotiated by the acquiring entity and selling utility; or (2) the FMV of the selling utility<br>• The tariff approved by the commission shall remain in effect until new rates are approved for the acquiring entity in a base rate case proceeding<br>• The cost of an improvement that an acquiring entity places in service after the acquisition shall accrue a construction allowance after the date the cost was incurred until the earlier of: (1) 3 years after the improvement is placed in service, or (2) the date the improvement is included in the acquiring entity's next rate case.<br>• Depreciation on an acquiring entity's improvements after a specified time period. |
| Consumer protections | • Commission retains final approval of acquisition.<br>• Conflict of interest clause for utility valuation experts.<br>• Cap established for utility valuation expert fees. |
| Issues/commentary | |

## Missouri

| Rule citation | RSMo sections 393.320 |
|---|---|
| Enabling legislation | HB No. 142 |
| Year passed | 2013 |
| Major provisions | • Allows FMV to be utilized for large water systems (serving more than 8,000 customer connections) acquiring small water systems (8,000 or fewer customer connections).<br>• Requires an appraisal jointly prepared by three appraisers (chosen by each party, with the third appraiser appointed by the prior two appraisers).<br>• The lesser of the purchase price or the appraised value, together with the reasonable and prudent transaction, closing, and transition costs incurred by the large water public utility, shall constitute the ratemaking rate base for the small water utility as acquired by the acquiring large water public utility; provided, however, that if the small water utility is a public utility subject to chapter 386 and the small water utility completed a rate case prior to the acquisition, the public service commission may select as the ratemaking rate base for the small water utility as acquired by the acquiring large water public utility a ratemaking rate base in between: (a) The lesser of the purchase price or the appraised value, together with the reasonable and prudent transaction, closing, and transition costs incurred by the large water public utility unless such transaction, closing, and transition costs are elsewhere recoverable in rates; and (b) The ratemaking rate base of the small water utility as ordered by the public service commission in the small water utility's last previous rate case as adjusted by improvements and depreciation reserve since the previous rate case together with the transaction, closing, and transition costs incurred by the large water public utility unless such transaction, closing, and transition costs are elsewhere recoverable in rates.<br>• Acquisitions shall include a plan to resolve all outstanding permit compliance issues.<br>• Section is intended for the specific and unique purpose of determining the ratemaking rate base of small water utilities and shall be exclusively applied to large water public utilities in the acquisition of small water utilities. |
| Consumer protections | • Determination of FMV shall be in accordance with Missouri law and with the Uniform Standards of Professional Appraisal Practice |
| Issues/commentary | |

## New Jersey

| **Rule citation** | **NJ Revised Statutes 58:30** |
|---|---|
| Enabling legislation | Assembly No. 3628 – The Water Infrastructure Protection Act<br>https://www.njleg.state.nj.us/2014/Bills/S2500/2412_E1.HTM |
| Year passed | 2015 |
| Major provisions | • Allows the owner of a system to sell or lease the system without a referendum if "emergent conditions" are certified to exist (emergent conditions are defined as a system that: has a combined sanitary and storm sewer overflow system, is located in a water supply critical area I or II, the ground water has the potential for sodium intrusions that may impact the system, the system has received an environmental violation, there is a present deficiency concerning the availability or potability of water, the owner lacks the financial or structural capability to immediately and adequately repair or otherwise alleviate the deficiency, or there is material damage to the infrastructure of the system and the owner lacks the financial or structural capability to immediately and adequately repair or otherwise alleviate the deficiency.<br>• After an emergent condition certification is made, a public meeting on the certification shall be held, and the owner shall provide notice<br>• The owner shall publish a notice of the certification, and prominently state that a petition may be filed within 20 days after the publication of such notice to require a referendum before a resolution authorizing the lease or sale of utility assets may take effect, for municipal utility authority, a petition may be filed with the municipal clerk protesting the lease or sale without a referendum and if the petition is signed by at least 15% of total votes cast in the municipality in the last election, a resolution to lease or sell assets shall not take affect without a referendum.<br>• The seller shall release a request for qualifications (RFQ) and determine qualified respondents. The owner shall issue request for proposals (RFPs) to qualified respondents. The governing body of an owner shall designate one qualified respondent whose proposal the group finds to be most advantageous to the public.<br>• Requires acquiring utilities to have at least as many customers as the utility being acquired and is currently in compliance with environmental water quality rules. |
| Consumer protections | • Option for a referendum for municipalities |
| Issues/commentary | Rationale:<br>a. The maintenance of water and wastewater treatment and conveyance systems is vital to ensuring the protection of clean drinking water in New Jersey;<br>b. There are public water and wastewater systems in the state that present serious risks to the integrity of drinking water and the environment because of issues such as aging combined sanitary and storm sewer overflow systems, the threat of sodium intrusion, the deterioration of the physical assets of the systems, or damage to |

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| | infrastructure so severe that it is beyond governmental capacity to restore;<br>c. The transfer of these threatened water and wastewater assets to a private entity with the financial resources and expertise to improve management, operation, and continued maintenance of the assets would protect drinking water; and<br>d. It is in the public interest that public entities have the option to transfer, lease, or sell water or wastewater assets if there exists emergent conditions that threaten drinking water or the environment.<br><br>https://njbiz.com/new-jersey-american-water-acquiring-long-hill-township-sewer-system/ |

| **Rule citation** | **R.S. 40:62-3** |
|---|---|
| Enabling legislation | SB 3870 |
| Year passed | Proposed in 2019—did not pass |
| Major provisions | • Applies exclusively to sewer and wastewater utilities<br>• The rate-making rate base of the sewerage system would be the lesser of the purchase price negotiated by the public utility and the municipality; or the fair market value of the sewerage system.<br>• Current law authorizes a municipality to sell a municipal-owned sewerage facility to an investor-owned public utility if the sale is approved by voter referendum. This bill would allow a municipality to authorize the sale of a municipal-owned sewerage facility by adoption of an ordinance, subject to the review and approval of the Board of Public Utilities.<br>• Two appraisers would be hired from a list of BPU qualified utility valuation experts, to submit appraisals. |
| Consumer protections | • Appraisers shall be impartial.<br>• Fees paid to utility valuation experts shall not exceed the greater of $50,000 or five percent of the FMV of the sewage system. |
| Issues/commentary | https://www.njspotlight.com/2019/09/19-09-11-op-ed-whos-profiting-from-repairs-to-aging-water-and-sewer-systems/ |

**North Carolina**

| **Rule citation** | **General Statutes: Article 7, Chapter 62, § 62-133.1A** |
|---|---|
| Enabling legislation | H.B. 351 |
| Year passed | 2018 |
| Major provisions | • A water or wastewater public utility may elect to establish a rate base by using the fair value of the utility instead of original cost when acquiring an existing water or wastewater system owned by a municipality or county.<br>• Fair value shall be based on three **impartial** appraisals—representing the selling utility, the acquiring utility, and the PUC and based on a list established by the Commission.<br>• Fair value shall be the average of the tree appraisals.<br>• The parties shall retain a licensed engineer to conduct an assessment of the tangible assets of the system, and the assessment shall be used by the appraisers.<br>• The rate base value which shall be reflected in the next general rate case shall be the lesser of the purchase price negotiated between the parties or the fair value plus fees and costs.<br>• An application shall be submitted to the commission including the valuation report.<br>• The selling utility's rates shall be the rates charged to the customers of the acquiring public utility until the acquiring public utility's next general rate case, unless ordered by the commission for good cause shown<br>• The Commission shall have the discretion to classify the acquired system as a separate entity for rate-making purposes. |
| Consumer protections | • Application to PUC is required to include projected rate impact for the selling utility's customers over the next five years. |
| Issues/commentary | |

## Ohio

| **Rule citation** | **Revised Code 4905.81-4909.052** |
|---|---|
| Enabling legislation | HB 422 |
| Year passed | 2019 |
| Major provisions | • With approval of the PUC, a large water-works of sewage disposal system company (defined as having an annual operating revenue of $250,000 or more) may purchase any municipal water works or sewage system<br>• The acquiring system shall recommend whether the geographic area of the customers of the company being acquired shall be integrated into an existing rate division of the acquiring company or given a new rate division.<br>• The FMV shall be determined based on the average of three appraisals performed by independent utility-valuation experts mutually selected by the acquiring company and the company being acquired from a list maintained the PUC |

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| | • The lesser of the purchase price or the FMV is reported as the original cost<br>• The PUC may authorize the acquiring company to defer any depreciation expense related to post-acquisition improvements described in division (A) of this section to be recovered over the life of the assets commencing with the first rate case including the acquisition. This depreciation deferral shall continue until the associated investment has been in service for a three-year period, until the acquiring company's next rate case that includes the investment or until the inclusion of the investment in a charge authorized under section 4909.172 |
| Consumer protections | • The FMV shall be determined in compliance with the uniform standards of professional appraisal practice |
| Issues/commentary | |

## Pennsylvania

| **Rule citation** | **Title 66, § 1329** |
|---|---|
| Enabling legislation | PA Act 12 of 2016 |
| Year passed | 2016 |
| Major provisions | • Enables a public utility or entity (buyer) to utilize fair market valuation when acquiring water and wastewater systems that are owned by a municipal corporation or authority.<br>• Adverse operating conditions for the acquired company need not be present.<br>• The fair market valuation process requires both the buyer and the selling Municipal Corporation or authority (seller) to engage the services of a licensed engineer to assess the tangible assets of the seller.<br>• The buyer and seller are also required to each engage a utility valuation expert to determine the fair market value of the assets. |
| Consumer protections | • The Commission maintains a list of utility valuation experts from which the buyer and seller must choose. |
| Issues/commentary | http://www.puc.state.pa.us/about_puc/consolidated_case_view.aspx?Docket=A-2017-2606103<br>http://www.puc.state.pa.us/pcdocs/1541348.pdf<br>http://www.puc.state.pa.us/filing_resources/issues_laws_regulations/section1329_applications.aspx<br>http://www.puc.state.pa.us/pcdocs/1607789.docx |

## Tennessee

| Rule citation | Tennessee Code, Title 65, Chapter 5, Part 1 |
|---|---|
| Enabling legislation | SB 532 |
| Year passed | Submitted in 2019, Adjourned Sine Die—did not pass |
| Major provisions | • A utility may request to acquire a willing utility based on a FMV, this shall be based on the average of two appraisals by independent appraisers representing the selling utility and the acquiring utility<br>• The appraisers shall engage one disinterested engineer who is a licensed professional engineer in Tennessee to prepare an assessment of tangible assets of the selling utility which is to be incorporated in the appraisal under the cost approach,<br>• The lesser of the purchase price or the fair market value constitutes the rate base associated with the selling utility by incorporating it into the rate base of the current tariff district designated by the acquiring public utility under this section<br>• Any post-acquisition improvements made by the acquiring utility to the selling utility must accrue cost for financing set at the acquiring public utility determined rate for allowance for funds used during construction, inclusive of debt, equity, and income tax gross up components, after the date on which the expenditure was made by the acquiring public utility until the investment has been placed in service and new rates or surcharges are implemented by the acquiring public utility. |
| Consumer protections | • Appraisers shall determine the FMV of the selling utility in compliance with the Uniform Standards of Professional Appraisal Practice<br>• The amount of the appraisers' fee must be included in the rate base, and must not exceed the greater of $15,000 or 5% of the appraised value of the selling utility. |
| Issues/commentary | |

**Texas**

| Rule citation | Section 1. Subchapter E, Chapter 12, Water Code, Sec. 13.305 |
|---|---|
| Enabling legislation | H.B. No. 3542 |
| Year passed | 2019 |
| Major provisions | • An acquiring utility (class A or Class B) and a selling utility may agree to determine the fair market value of the selling utility.<br>• The utility valuation experts shall perform an appraisal in compliance with Uniform Standards of Professional Appraisal Practice to determine the fair market value.<br>• The FMV is the average of the three utility valuation expert appraisals<br>• The three utility valuation experts shall jointly retain a licensed engineer to conduct an assessment of the tangible assets of the selling utility or the facilities to be sold (this assessment shall be incorporated into the appraisals).<br>• The ratemaking rate base of the selling utility is the lesser of the purchase price or the FMV, the rate base of the selling utility shall be incorporated into the rate base of the acquiring utility during the utility's next rate base case.<br>• An acquiring utility's post acquisition improvements shall accrue an allowance of funds used during construction after the date the cost was incurred until the earlier of the 4th anniversary of the date the asset entered into service or the inclusion of the asset in the acquiring utility's next rate base case.<br>• Depreciation on an acquiring utility's post acquisition improvements shall be deferred for book and ratemaking purposes. |
| Consumer protections | • After receiving notice of a utility's intention to acquire another system, the utility commission shall select three utility valuation experts from a list maintained by the PUC. |
| Issues/commentary | • If a utility providing service through fewer than 10,000 taps or connections fails to provide the Utility Commission a report of the utility's financial, managerial, and technical capacity to provide continuous and adequate service to its customers not later than the third anniversary of the date that the utility violates a final order of the commission related to providing adequate service.<br>• A utility valuation expert must not derive material financial benefit from the sale other than fees for service rendered, or have been within the year preceding the date of the contract executed an immediate family member of a director, officer, or employee of the acquiring or selling utility.<br>• A fee paid to a utility valuation expert may be included in the transaction and closing costs associated with the acquisition by the acquiring utility, and must not exceed the lesser of 5% of the FMV, or a fee amount approved by the utility commission. |

**Virginia**

| **Rule citation** | **§ 56-88 of the Virginia Code** |
|---|---|
| Enabling legislation | Senate Bill No. 831 |
| Year passed | 2020 |
| Major provisions | • The average of three appraisals shall be deemed the fair market value of a system being acquired. These appraisers shall represent the acquiring company, the selling company and an appraisal sponsored by the commission staff.<br>• The appraisers representing the buying and selling companies shall be independent and impartial and comply with the uniform standards of professional appraisal practices, and the qualifications of each appraisal shall be clearly identified in the application before the commission.<br>• The appraisals shall only quantify the fair market value associated with assets that are to be currently used and useful in utility service.<br>• Commissioner staff and other intervenors may seek discovery to confirm the reasonableness of such appraisals and may provide testimony and recommendations regarding such.<br>• The application shall include the submission of an assessment performed by a professional engineer licensed in Virginia, jointly retained by the acquiring and selling utilities, regarding tangible assets of the utility system to be acquired. Such assessment shall be used by the valuation experts as a basis for their valuations in determining fair market value. Commission staff and other intervenors may seek discovery to confirm the reasonableness of the assessment.<br>• The acquiring utility shall submit an analysis identifying the qualitative and quantitative benefits and estimated customer rate impacts for the next five years as a result of the proposed acquisition for customers of the acquired system and customers of the legacy system.<br>• If depreciation rates for the acquired system are not based on a depreciation study, the acquiring utility may apply a 3% composite depreciation rate to the fair market value of the utility system assets acquired, and a depreciation study on the acquired system shall be performed within five years of acquisition and provided for review by Commission staff. An exception shall be made if the acquired system would quality as a small system—in this case assets may be exempt from the requirement of performing a depreciation study.<br>• Reasonable transaction costs and fees of the utility valuation experts in addition to reasonable transaction and closing costs may be included when establishing a rate base.<br>• The rate base value of the acquired system assess shall be the lesser of the purchase price negotiated or the FMV for subsequent ratemaking purposes. |
| Consumer protections | • Appraisers shall be independent and impartial, and comply with the uniform standards of professional appraisal practices. |

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| | • Commissioner staff and other intervenors may seek discovery to confirm the reasonableness of such appraisals and may provide testimony and recommendations regarding such.<br>• The acquiring utility shall submit an analysis identifying the qualitative and quantitative benefits and estimated customer rate impacts for the next five years as a result of the proposed acquisition for customers of the acquired system and customers of the legacy system. |
| Issues/commentary | |

# VIII. Appendix B—Review of FMV Acquisitions

| | state | year | acquiring system | sold system | # of water customers | # of ww customers | total | purchase price (in millions) | Commission Case No | cost/ customer | FMV appraisal | ratemaking rate base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | IN | 2020 | In American Water | Town of Riley | | 430 | 430 | $ 1,545,000 | 45290 | $3,593.02 | | $ 2,764,000 |
| 3 | IN | 2018 | Ninestar/Cur | GEM Water Service | 675 | | 675 | $ 4,000,000 | 45138 | $5,925.93 | | $ 4,170,000 |
| 4 | IN | 2018 | IN AWC | Charlestown Water Utilit | 2,898 | | 2,898 | $13,403,711 | 44976 | $4,625.16 | | $ 13,583,711 |
| 5 | IN | 2018 | IN AWC | Lake Station Water Utility | 3,443 | | 3,443 | $20,199,470 | 45041 | $5,866.82 | | $ 20,199,470 |
| 6 | IN | 2018 | IN AWC | Sheridan Water and Was | 1,261 | 1,233 | 2,494 | $10,750,000 | 45050 | $8,524.98 | | $ 10,950,000 |
| 7 | IN | 2017 | IN AWC | Georgetown Water Utility | 1,309 | | 1,309 | $6,426,000 | 44915 | $4,909 | | $ 6,529,000 |
| 8 | IL | 2015 | Aqua IL | North Maine Utilites | 4,724 | 2,494 | 7,218 | $ 22,000,000 | 14-0396 | $ 3,048 | $ 26,833,333 | $ 22,500,000 |
| 9 | IL | 2015 | Aqua IL | LaSalle and Livingston, ar | 135 | | 135 | $ 1,075,000 | 15-0374 | $ 7,963 | $ 1,275,000 | $ 1,138,750 |
| 10 | IL | 2016 | Aqua IL | Eastwood Manor & Nund | 530 | | 530 | 1,500,000 | 15-0384 | $ 2,830 | $ 1,776,466 | $ 1,630,000 |
| 11 | IL | 2016 | Aqua IL | Crystal Clear Water Comp | 293 | | 293 | $ 795,000 | 15-0596 | $ 2,713 | $ 795,000 | $ 844,889 |
| 12 | IL | 2016 | IL AWC | Village of Ransom | 170 | | 170 | $ 175,000 | 15-0544 | $ 1,029 | $ 404,167 | $ 195,208 |
| 13 | IL | 2018 | IL AWC | City of Farmington | 1,125 | | 1,125 | $ 3,750,000 | 17-0246 | $ 3,333 | $ 3,816,667 | $ 3,840,025 |
| 14 | IL | 2018 | IL AWC | City of Fisher | 850 | 850 | 1,700 | $ 6,800,000 | 17-0339 | $ 4,000 | $ 7,066,666 | $ 6,927,747 |
| 15 | IL | 2018 | Aqua IL | Village of Peotone | 3,000 | 3,000 | 6,000 | $ 12,300,000 | 17-0314 | $ 2,050 | $ 12,716,667 | $ 12,500,000 |
| 16 | IL | 2018 | Aqua IL | Village of Manteno | 3,800 | | 3,800 | $ 25,000,000 | 17-0813 | $ 6,579 | $ 25,518,000 | $ 25,100,000 |
| 17 | IL | 2018 | IL AWC | Sundale Utilities Inc | 475 | 1,415 | 1,890 | $ 2,000,000 | 18-0241 | $ 1,058 | $ 2,750,000 | $ 2,052,495 |
| 18 | IL | 2017 | IL AWC | Village of Sadorus | 185 | | 185 | $ 240,000 | 16-0341 | $ 1,297 | $ 409,000 | $ 260,450 |
| 19 | IL | 2017 | IL AWC | Forest Homes-Maple Park | 500 | | 500 | $ 900,000 | 16-0581 | $ 1,800 | $ 1,293,333 | $ 947,920 |
| 20 | IL | 2019 | IL AWC | Village of Leonore | 68 | | 68 | $ 100,000 | 19-0854 | $ 1,471 | $ 145,000 | $ 162,150 |
| 21 | IL | 2019 | Aqua IL | Fox River Water Reclama | 376 | | 376 | $ 3,550,000 | 18-0785 | $ 9,441 | $ 4,657,333 | $ 3,700,000 |
| 22 | IL | 2019 | Aqua IL | Villiage of Grant Park | | 540 | 540 | $ 2,300,000 | 18-1093 | $ 4,259 | $ 2,590,000 | $ 2,425,000 |
| 23 | IL | 2019 | IL AWC | Village of Glasford | 492 | 482 | 974 | $ 1,900,000 | 18-1498 | $ 1,951 | $ 2,711,667 | $ 2,016,500 |
| 24 | IL | 2019 | IL AWC | Village of Godfrey | | 6,200 | 6,200 | $ 13,550,000 | 18-1830 | $ 2,185 | $ 17,600,000 | $ 13,787,482 |
| 25 | IL | 2019 | IL AWC | City of Alton in Madison county | | 23,000 | 23,000 | $ 54,491,387 | 18-0879 | $ 2,369 | $ 55,000,000 | $ 54,852,527 |
| 26 | IL | 2019 | IL AWC | Village of Sidney | 560 | | 560 | $ 2,300,000 | 19-0653 | $ 4,107 | $ 2,291,667 | $ 2,411,917 |
| 27 | PA | 2017 | PA AWC | McKeesport Authority | | 22,000 | 22,000 | $159,000,000 | A-2017-2606103 | $ 7,227 | $ 190,840,000 | $ 158,000,000 |
| 28 | PA | 2018 | Aqua PA | East Bradford Township | | 1,250 | 1,250 | $ 5,000,000 | A-2018-3001582 | $ 4,000 | $ 8,665,566 | $ 5,000,000 |
| 29 | PA | 2019 | PA AWC | Sadsbury Township | | 1,000 | 1,000 | $ 8,600,000 | A-2018-3002437 | $ 8,600 | $ 9,250,000 | $ 8,300,000 |
| 30 | PA | 2019 | PA AWC | Steelton Borough | 2,400 | | 2,400 | $ 21,750,000 | A-2019-3006880 | $ 9,063 | | $ 20,500,000 |
| 31 | PA | 2019 | Aqua PA | Cheltenham Township | | 10,200 | 10,200 | $ 50,250,000 | A-2019-3008491 | $ 4,926 | $ 44,558,258 | $ 44,558,258 |
| 32 | PA | 2019 | PA AWC | Exter Township | | 9,015 | 9,015 | $ 93,500,000 | A-2018-3004933 | $ 10,372 | $ 101,576,000 | $ 92,000,000 |
| 33 | PA | 2018 | aqua PA | East Norriton Township | | 4,952 | 4,952 | 20,750,000 | A-2019-3009052 | $ 4,190 | $ 24,674,297 | $ 20,750,000 |
| 34 | PA | 2018 | Aqua PA | Limerick | | 5,400 | 5,400 | $ 75,100,000 | A-2017-2605434 | $ 13,907 | $ 78,493,970 | $ 64,373,378 |
| 35 | PA | 2019 | Suez | Mohoning Township | 1200 | 1200 | 2,400 | 9,500,000 | A-2018-3003519 | $ 3,958 | $ 11,081,110 | $ 9,500,000 |