AMERICAN SOCIETY OF CIVIL ENGINEERS

25 Massachusetts Ave NW, Suite 500
Washington D.C., 20001
(202) 789.7850 *main* ■ www.ASCE.org

October 16, 2020

Andrew Wheeler, Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Attn: Docket ID No. EPA-HQ-OW-2020-0426

The American Society of Civil Engineers (ASCE) is pleased to offer the following comments on the *Proposed 2020 Financial Capability Assessment for Clean Water Act Obligations*. The U.S. Environmental Protection Agency (EPA) announced the guidance on September 15, 2020 and published the guidance in the Federal Register for comment on September 18, 2020, with the comment period closing on October 19, 2020. This is the first major update to the document in over 20 years. This letter contains the comments of ASCE for the record.

Introduction

Founded in 1852, ASCE is the country's oldest civil engineering organization. Representing more than 150,000 civil engineers from private practice, government, industry, and academia, ASCE is dedicated to the advancement of the science and practice of engineering. ASCE members represent the profession that plans, designs, and builds much of the nation's infrastructure. As a result, civil engineers are keenly aware of and often most affected by regulations that either facilitate or impede expeditious, cost efficient, and environmentally effective infrastructure development to support our modern society.

Every four years, ASCE publishes the *Infrastructure Report Card,* which grades the nation's 16 major infrastructure categories using a simple A to F school report card format. The Report Card examines the current infrastructure needs and conditions, assigning grades and making recommendations to raise them. ASCE's *2017 Infrastructure Report Card* gave our nation's drinking water infrastructure a grade of "D," while our nation's wastewater infrastructure grade did not fare much better with a grade of "D+." Early next year, ASCE will be releasing its updated *2021 Infrastructure Report Card*, which will – for the first time ever – include a stormwater chapter.

Part of the challenge facing the drinking water sector is its fragmentation. There are more than 148,000 active drinking water systems in the nation. Nearly 310 million people, or 94% of the nation's population, receive their water from one of over 50,000 community water systems. Just 9% of all community water systems serve over 257 million people, or about 80% of the population that uses a community water system. The bulk of community water systems – 91%, or nearly 46,000 in total – are very small systems that serve communities with populations under 10,000 people.

The nation's more than 16,000 wastewater treatments plants (WWTPs) are functioning, on average, at 81% of their design capacities, while 15% have reached or exceeded it.

In 2019, the total capital spending on water infrastructure at all levels was approximately $48 billion, while capital investment needs were $129 billion, creating an $81 billion gap. This underscores a chronic trend of underinvestment in critical water-related infrastructure—drinking water and wastewater systems. With this gap, only 37% of the nation's total water infrastructure capital needs were met. If funding needs and infrastructure investments trends continue, the annual investment gap will grow to $136 billion by 2039, and over 20 years, the cumulative drinking water and wastewater capital investment need will soar to $3.27 trillion, while the cumulative capital investment gap will total $2.2 trillion – nearly $6,000 for every adult and child expected to be living in the nation in 2039.[1]

While the *Proposed 2020 Financial Capability Assessment for Clean Water Act Obligations* focuses on "clean water," which is wastewater, ASCE recognizes that drinking water, wastewater, and stormwater utilities are separate and distinct enterprise funds, each with their own rates, fees, and charges providing specific services and infrastructure funding for a community, and each requires its own assessment of current and future costs to understand affordability concerns for an individual community.

ASCE Comments on Proposed 2020 Financial Capability Assessment for Clean Water Act Obligations Guidance

Question for Public Comment #1: Should EPA's previous FCA documents be consolidated into the 2020 FCA, as proposed, or should EPA continue to use the 1997 FCA Guidance as the controlling guidance with the 2020 revisions serving as a supplement?

ASCE recommends that the previous FCA documents be consolidated into the 2020 FCA as proposed. ASCE also wants to point out that while the new proposed methodologies are not affordability "standards," utilities will end up adopting the new FCA methodologies as a new national standard of determining affordability for rate making and benchmarking purposes whether there is an EPA enforcement or not. It is also important to note that every community will struggle with defining affordability and equity and that these proposed methodologies do provide guidance and a framework in which affordability issues can be examined.

Question for Public Comment #3: What additional resources are publicly available that can be used to assess financial capability (e.g., the ALICE Essentials Index4)?

ASCE recommends using the Census Tract Reference maps for detailed demographic information by County (https://www.census.gov/geographies/reference-maps/2010/geo/2010-census-tract-maps.html). Additionally, the EPA should consider allowing communities to do specific purpose census/surveys to more accurately reflect local socioeconomic conditions at levels more detailed than census tract.

[1] American Society of Civil Engineers and the Value of Water Campaign, "The Economic Benefits of Investing in Water Infrastructure: How a Failure to Act Would Affect the U.S. Economic Recovery," 2020.

Additional resources for consideration relating to drinking water affordability includes the federal requirements of "Drinking Water System Risk Assessments and Emergency Response Plans Required Under America's Water Infrastructure Act (AWIA)" for all water systems serving greater than 3,300 people.[2]

Drinking water systems have to conduct risk and resilience assessments and revise emergency response plans (ERPs) under the newly enacted America's Water Infrastructure Act every five years, which ASCE supports as a means of assessing future needs in a changing world. The new law also directs EPA to produce baseline information about malicious acts that could substantially disrupt operations or otherwise present significant public health or economic concerns to the community served.

Question for Public Comment #4: What additional examples, calculations, or templates would you like EPA to develop to assist with assessing financial capability?

ASCE recommends determining the following to assist with financial capability:

- How many households that are repeatedly disconnected from drinking water/wastewater services are related to affordability?
- Are affordability issues more common in rental properties?

ASCE supports efforts by industry and agencies to reduce the overall life cycle cost of infrastructure and foster the optimization of infrastructure through the use of life cycle cost analysis. ASCE recommends the EPA develop a unit cost template and a metrics template for utilities to have a common standard of important unit costs and metrics, including formulas which can provide a source of benchmarking data and the ability to perform life cycle cost analysis to reduce infrastructure costs. Advanced infrastructure asset management practices include life cycle cost and comparative analysis for business process improvements and cost reduction strategies.

The development of unit costs can also help separate operations cost factors from maintenance costs. Traditional budgeting has combined the two, which has been a barrier to transparency and innovation. Maintenance costs and deferred maintenance costs directly influence the condition of an asset, the costs to manage the remaining useful life of an asset, and the resulting capital costs to repair and replace the asset.

The American Water Works Association lists a great number of Performance Indicators (metrics) for drinking water and wastewater utilities in the AWWA Utility Benchmarking publication for performance management.[3]

[2] https://www.epa.gov/sites/production/files/2019-04/documents/awia_factsheet_04-16-2019_v2-508.pdf
[3] https://www.awwa.org/Portals/0/Awwa/Publishing/Books/2019BenchmarkingLookInside.pdf?ver=2020-01-13-141640-207

Question for Public Comment #10: EPA is seeking comment on whether the same benchmarks for assessing the MHI Residential Indicator should be used for assessing the Lowest Quintile Residential Indicator (LQRI), as proposed, or if different benchmarks should be used.

ASCE recommends that the EPA provide regional or state specific calculations for the poverty indicator score. Poverty level varies greatly throughout the country, and using a federal poverty level could disproportionally effect the results based on the area it is applied.

Question for Public Comment #12: EPA is seeking public comment on the proposed schedule benchmarks in Exhibit 6.

ASCE recommends that additional description and information be provided on the proposed schedule benchmarks section to help the user understand the implications and actions needing to be taken with the result of the low, medium, and high burdens.

Question for Public Comment #13: What other resources, in addition to those listed in Section IV, are available to assist communities related to water infrastructure financing?

In addition to the EPA's Clean Water State Revolving Fund, Drinking Water State Revolving Fund, and Water Infrastructure Financing & Innovation Act, the U.S. Department of Agriculture's (USDA) Rural Development has over 40 programs in place to support drinking water needs in rural communities across the nation. This includes its Water & Environmental Programs (WEP), which provide direct and guaranteed loans, grants, technical assistance, and training to build critical infrastructure for populations of 10,000 or less.

If the issue is affordability, and yet the environmental regulation's public health benefits are to apply, then the only solution to meeting those goals in a timely manner is to create a grant program. A grant program, based on affordability, would allow all communities to meet our environmental goals and public health benefits.

The 2020 proposal states "While useful, financial and rate models may be complicated or costly to develop, particularly for mid-size or small communities, and may be difficult for a regulator to evaluate. For this reason, EPA proposes that submission of this information is at the discretion of a community." ASCE recommends that financial (cash flow models) and "cost of service" (AWWA M1 Manual Principles of Water Rates, Fees and Charges) rate studies and models (required for determining when and how much rates and fees should be charged) are imperative and should be included as a requirement of determining affordability considerations. A "cost of service" rate study informs both internally and publicly what drinking water, wastewater, and stormwater rates should be necessary to maintain the services and how future rates need to be adjusted to continue the level of service for a community.

While the "EPA recognizes that both clean water and drinking water costs are often covered through charges on a single rate base" of existing customers, new growth – including developer fees – should be able to pay for system expansion and also pay for "buying into" the existing system value which can help offset the costs burden of existing customers. While the EPA

requests audited financial documents, it is important to note that the use of straight-lined depreciation of assets in the fixed asset database (versus the GASB 34 modified approach) creates valuation inaccuracies considering the asset service life used by accounting is never adjusted or aligned to the actual remaining useful life as determined by asset management and condition assessment practices. As an example, underground infrastructure such as pipes generally last longer while accounting fully depreciates the asset to zero. This creates a loss of value/equity to a utility, and undercharges the calculations used for developer "buy in" fees putting more affordability pressure on existing users and misrepresents the worth or value of a utility for privatization, consolidation, or regionalization efforts. Mitigating affordability challenges for existing customers should review "growth pays for growth" policies and practices and determine if there are assets which can be sold or leased. This affordability effort should also include a review and modification of governance and management options including privatization, municipalization, consolidation, and regionalization.

Question for Public Comment #15: Should drinking water costs be considered as part of scheduling considerations and are there appropriate benchmarks for considering the contribution of drinking water costs to household burdens, such as a specific percentage of income?

Water rates have increased 31% in recent years[4], yet only 21% of all U.S. utilities report being able to fully cover the cost of providing drinking water services[5]. As rates increase, the issue of affordability and equity looms large; although 88% of Americans pay drinking water rates that are lower than the EPA's standard of affordability, it is estimated that up to 36% of households will not be able to afford the cost of drinking water by 2024.[6]

While there has been a significant effort to raise public awareness of the true cost of water, most utility customers are probably more focused on other financial obligations. When they pay their bills, they see the drinking water and wastewater costs as a single cost, often combined with other costs, such as sanitation services and stormwater costs. Therefore, for these drinking water and wastewater utility systems, drinking water costs should be considered as part of the scheduling considerations. Absent a grant program, then the schedule must be extended and is the way to spread out the costs and make the projects affordable. The tradeoff is that the environmental benefits take longer to achieve and public health is put at risk for a longer period.

Many communities operate their drinking water and wastewater systems as a single entity. The utility customers often receive a single bill, reflecting water, wastewater, and sometimes, stormwater charges. With tightening potable water regulations, both on federal and state levels, many of these communities are already having to make significant operational and/or capital expenditures. Replacement of lead service lines for example, will impose a significant cost on many utilities over the next decade. These costs then are in addition to those that a community must make to meet the environmental requirements for their wastewater system. At the same

[4] Arcadis and Bluefield Research, "Demystifying Intelligent Water: Realizing the Value of Change with Advanced Asset Management," 2019.
[5] American Water Works Association, "2019 State of the Water Industry Report."
[6] Arcadis and Bluefield Research, "Demystifying Intelligent Water: Realizing the Value of Change with Advanced Asset Management," 2019.

time water drinking rates are increasing, it can be expected that wastewater utilities will face increasing pressures to increase revenues. Aging infrastructure for both drinking water and wastewater will require replacement, and new systems will be required to meet changes in regulations. As to benchmarks, there have historically been benchmarks for drinking water (and wastewater) rates utilized in determining grant/principal forgiveness levels for utility funding programs through either State Revolving Funds or through other agencies such as Community Development Block Grants (CDBG) or USDA/Rural Development. These benchmarks may serve as one potential guideline for considering utility costs to a household. The percentage of household income is a reasonable measure, although it should be tied to the community's specific data and not regional data.

Climate change mitigation may be another factor that could be considered as part of an implementation plan schedule of a 25-year period. Sea level rise, drought hardening, and flood prone facilities are cost issues which may not be on a normal capital plan or included in a rate model. Reserve levels also may not be set in a way to offset asset condition risk, pandemics, and other events natural or manmade.

Other compliance issues, emerging contaminants such as per- and polyfluoroalkyl substances (PFAS) and lead and copper in drinking water, and community standards such as lead pipe service line replacements, also need to be considered in affordability and implementation schedules.

Finally, grey infrastructure "brick and mortar" projects cannot be the sole option. Digital technologies which did not exist in 1997 or 2014, as well as lower-cost green infrastructure solutions, need to be included. The use of SCADA, GIS, sensors, IoT, wireless and secure connectivity, data collection and cloud storage, advanced analytics, the use of AI and machine learning and the development of digital twins for water quality and infrastructure asset operations and monitoring for water distribution systems, water treatment plants, wastewater collection systems and wastewater treatment, stormwater and re-use should be included in the requirements, project plans, and implementation schedules. Digital technologies and real-time decision systems assist with not only a point event, but can provide network-wide and watershed wide strategies to meet compliance and capacity issues. A community should be required to apply all available options to reduce the costs in order to sustainably address affordability issues now and into the future.

Conclusion

ASCE congratulates the EPA for its efforts to update the nation's clean water affordability guidance. Defining affordability for a community is a complex task and requires assessing and understanding what all of the costs and risks are today for drinking water, wastewater, and stormwater and then projecting those costs (regulatory, operations, maintenance, capital) into the future in order to provide a sustainable level of service. These costs then need to be evaluated against a community socio-economic profile to determine the available mix of funding and mitigating risk options at the local, regional, state, and federal levels.

The engineers ASCE represents work daily to ensure our nation's infrastructure protects the public health and welfare. We urge the agency to take our recommendations and concerns into consideration, and we ask that you do not hesitate to contact us if we can be of any assistance to you.