Draft July 21, 2008

Needs Assessment Workgroup Overview

Problem Statement

The Needs Assessment Subcommittee was created because statewide information on water and wastewater infrastructure needs is limited, and because the information that is available is not well known or understood. An up-to-date clarification on needs information is essential to well-informed decision-making.

With that in mind, the Subcommittee was specifically directed to:

- Examine the current and projected costs for the construction, upgrade, repair, and operation and maintenance of Pennsylvania's drinking water and sewage infrastructure;
- Examine the actual costs of water and sewer service, including recommendations for allocating the costs of capital investment, asset management, operation and maintenance among customers and state or federal assistance programs, including the costs for the installation maintenance and operation of on-lot systems;
- Examine user rates and affordability;
- Consideration should be given to related studies that have been or will be completed on the topic of water and wastewater needs.

Workgroup Membership

The Subcommittee was supported by notable experts in the field, who brought to the effort a variety of backgrounds. Members included:

Chair: John Schombert, 3 Rivers Wet Weather, Inc.

Mark Ryan	Office of Senator Vance
Pam Witmer	Pennsylvania Chemical Industry Council
Paul Marchetti	Pennsylvania Infrastructure Investment Authority
Bill Ross	Aqua Pennsylvania
James Brucker	Franklin Township Municipal Authority
Ed Knittel	Pennsylvania State Association of Boroughs
Mike Kyle	Lancaster Area Sewer Authority
Debbie Lippert	Pennsylvania American Water
Mike Salvo	Pennsylvania American Water
Robert Walker	Uni-Bell PVC Pipe Association
Jeffrey Wendle	CET Engineering Services
Robert Softcheck	North Fayette County Municipal Authority

Mark Shaffer	Municipal Authority of Westmoreland County
John Klinedinst	C. S. Davidson, Inc.
Joe Bluge	Glace Associates
Jeff Wheeland	Lycoming County Commissioner
Scott Burford	Dauphin County
Ted Stevenson	Spott, Stevens, McCoy
Gene Koontz	Gannett Fleming
David McIntyre	Gannett Fleming
Cory Miller	University Area Joint Authority
Don Grell	House Local Government Committee

Action Agenda

Following needs data and refined thinking…

The workgroup found that needs are extremely high when compared to currently available resources…..data….Needs: capital and O&M…briefly touch on sources of info, EPA NS, Gap Study, Bay RFP, HR88. Discuss available resources in terms of local user charges, state and fed subsidies. Identify and discuss the apparent gap between needs and resources.

Describe the timing of when w & ww infra was commonly built. Piping systems in the late 1800's through early 1900's, most of which should be replaced in the coming 20 years. And treatment systems which were built post WWII through the 1990's that will need rehab, replacement, and upgrade thru the coming 20 years.

Discuss local user charges…Data…MHI…surely many are low. Discuss the entitlement mentality…so-called unfunded mandate…which creates a sense of denial and a hesitation on the part of local government to accept responsibility self-sufficiency despite state law which assigns responsibility to local govt (reference to particular state law?). Describe how this came to pass…WW fed constr grants program of the 70's and 80's…Common result is a long-term failure to invest, which results in old infra with high maint costs, potential for high cost avoidable catastrophic failures.

Discuss affordability. What is affordable, anyhow? Compare what we typically spend…data…with other countries?, considering the benefits of safe drinking water and clean streams on public health, the environment, and economic vitality. Discuss 2% MHI "high cost." Discuss issues with low income households and communities, and methods to deal with that (communities- stretch available funding by providing only as much as is needed to make projects affordable…households- encourage metering and changes to user charge system structure to reduce impacts on low income households.

Compare the statewide gap with the available subsidies (include SB2, HB1341). With the resulting

Describe how some communities have bucked the trend by making the investments at the needed time and charging what is needed to properly maintain systems…resulting in minimal backlog of local needs now and in the foreseeable future.

On-lot systems. Discuss various forms of community on-lot management to ensure adequate maint, reduced overall cost and reduced health hazards.

Explain the need to continue to gather more needs data, update the sense of gap and use that info to continue to adjust the expectations of what must be considered affordable, use that info to generate a greater sense of expectation on the local level and to adjust subsidies.

Short-Term Recommendations

- Affordability Guidelines-Communities

  Definition of Issue: (Establish standard?)

  Overview of Public Input:

  Options Considered (with pros and cons):

- Affordability Guidelines-Households

  Definition of Issue: (Establish standard, and encourage specific customer assistance programs to be applied by systems-PUC input?)

  Overview of Public Input:

  Options Considered (with pros and cons):

- Refine State/Fed Subsidy Programs to Stretch Funding

  Definition of Issue: (apply affordability guidelines from above to funding programs to provide only as much subsidy as is needed to make projects affordable)

  Overview of Public Input:

  Options Considered (with pros and cons):

- Evaluation of issues which tend to increase construction costs

  Definition of Issue: (A series of issues were identified which cause higher costs, including the state prevailing wage law, bonding requirements, the separations act, and state design standards. Each of those issues should be analyzed and changes should be considered)

  Overview of Public Input:

  Options Considered (with pros and cons):

- Collect More Needs/Affordability Data and Refine Analyses

  Definition of Issue: (include study of commercial/industrial user charges, the effect of those charges on the local/state economy, and whether the size of infrastructure subsidies should be influenced by commercial/industrial rates)

  Overview of Public Input:

  Options Considered (with pros and cons):

Long-Term Recommendations

- Customer Assistance Programs for Low-Income Households (Local, State and/or Federal)

  Definition of Issue:

  Overview of Public Input:

  Options Considered (with pros and cons):

- Review and Make Adjustments to Local W & WW System User Rate Structures and Rates

  Definition of Issue: (locals have to plan for asset improvements, create long-term budgets, adjust systems and annually adjust rates)

  Overview of Public Input:

  Options Considered (with pros and cons):

- Local Governments Promote Improved On-Lot System Maintenance

  Definition of Issue: (Goal is to improve maintenance and fix on-lot failures. Locals meet this goal by creating locally-acceptable mechanisms which deal with the responsibility. DEP clarifies that the obligation is part of Act 537 responsibilities)

  Overview of Public Input:

  Options Considered (with pros and cons):

Issues

Traditional U. S. Environmental Protection Agency (EPA) Needs Surveys (NS) attempt to capture 20-year capital needs at water and wastewater facilities. It is generally conceded however that the data collected represents a subset of the total 20-year capital needs. The latest NS totals for Pennsylvania are $7.2 Billion for wastewater and $11 Billion for drinking water. Experts have agreed for years that the "real" numbers are probably much higher. The NS numbers tend to be low because of EPA's strict requirements for documentation of needs, which typically restrict identified needs to those that are in capital improvement plans. This has been understandable and acceptable, nationally, because the most critical purpose of the NS has been to create a fair method of allocating national funding between states. It did not matter that some needs were missed as long as the numbers were collected using consistent methods in all states.

A clear idea of total capital needs, as well as the cost to operate and maintain (O&M), is necessary for the Governor's Task Force. In addition, it needs to know what proportion of the total need (capital plus O&M) can

affordably be paid for by local communities. The NS data alone is therefore inadequate for this report.

EPA did a study in 2002 which concluded in a report called *The Clean Water and Drinking Water Infrastructure Gap Analysis.* (http://www.epa.gov/owm/gapreport.pdf). That study was the first to grapple with total needs and the degree to which those needs could be satisfied by local communities on their own. It estimated how much money communities would need to pay all their necessary expenses over a 20-year period, and compared it to the total cash that is now estimated to be available over the same period. The difference between the two numbers was presented as the "gap."

The report showed that the gap (nationally) at then current user rates was $271 Billion (B) for wastewater and $263 B for drinking water (total $534 B). The study also explained that the gap would be reduced to an estimated $76 B ($31 B wastewater, and $45 B drinking water) if user rates annually increased 3% per year (over the rate of inflation) through the 20-year period. The message was that the problem is huge, but nevertheless manageable.

It is understood that improved management techniques (like regionalization/consolidation, use of Asset Management, etc.) should also provide cost-saving efficiencies. That expectation is however tempered with the fact that utilities will likely also be expected to meet heretofore unknown requirements, with associated costs.

The data used to generate the national gap study is not sufficiently detailed to allow analysis of the gap associated with individual states. Because of that, EPA proposed the idea of individual state gap studies. Pennsylvania DEP agreed to have that work done in Pennsylvania as a pilot.

That study has been underway since mid 2007. It is now beginning to provide insightful information about capital and O&M needs, local ability to meet those needs, and much more. The specific type of information that was to be collected in the study was developed in a joint EPA/DEP/PennVest effort, and placed in a computerized questionnaire by an EPA contractor. EPA continues to provide staff time to assist. EPA believes that the approach used in the Pennsylvania effort may be applied nationally in future NS's. The work is therefore state-of-the-art.

The original intent was that the work would result in a PA Gap Study Report, to be provided to the public in the form similar to the EPA 2002 study. An outline of the study was prepared, and general plans were

developed for data analysis and report generation. That idea was abandoned in favor of the work being absorbed by the Task Force.

The sampling of water and wastewater systems to be interviewed for the study was designed by EPA and its contractor to satisfy a statistical significance test. The sample includes 190 wastewater and 156 drinking water systems, distributed by size of system and river basin.

The data includes general information on the utility; local contact information, service area size and jurisdiction(s), population served, type of ownership, river basin, facility size, and operational problems. It also inquires on the degree of asset management being applied. Annual revenue is collected by line item, as well as the current user charge and reserve account(s). The operating budget is collected. It establishes the average rate of unpaid bills and shows how the utility deals with low income customers. It asks for a listing of all borrowing for the past 10 years and all debt service payments. A general description of needed future capital expenses is collected, as well as an estimate of the O&M cost associated with that new capital. The PennVest target user charge rate is recorded for the utility, as well as the median household income in the community. The questionnaire also documents any suggestions offered by the utility manager.

A listing of all major existing assets owned by the utility is then collected. The objective is to paint a picture of what the utility owns; its age, description, condition, planned service life and ultimate replacement date. If the utility has estimates of replacement costs it is also captured.

This information allows the study to predict needed infrastructure replacements which have not yet progressed to the capital improvement plan stage. Assets which need to be replaced in the coming 20 years are identified, and the cost of that work is estimated. The estimating process uses a web-based construction cost estimating tool (R. S. Means). The utility-supplied data is used to confirm the accuracy of the Means data. The philosophy being applied is that the dollar values should be uniformly established and conservatively low.

The data is collected on-site rather than through a mailed survey. This approach was used because so many of the systems are small, and there was a concern that return rates would be poor and the data would be suspect. The majority of the people who are collecting the data are utility operators who work part-time for DEP in the Operator Outreach program. They were used because of their knowledge, their natural rapport with the system managers, their availability across the state and their reasonable cost. They were each trained by a single individual to promote a consistent approach.

The data which is currently collected, reviewed and stored in the data management system is 35% of the total planned sample. That data is in the latter stages of quality assurance and analysis, and is expected to result in graphs and tables by July 25. Additional data (collected in July 2008) is planned to be added to the database in early August to improve the statistical reliability of the results. DEP and EPA intend to continue to collect data in the future for future use.

A subgroup of the Needs Assessment Subcommittee evaluated the gap study data elements, and proposed the graphs and tables that they needed to evaluate the data. Some of those graphs and tables will be included in this report.

(PROVIDE MORE DETAIL ON THE TOPICS BELOW THAN WAS INCLUDED ABOVE)

Short-Term Recommendations

- Affordability Guidelines-Communities

  Definition of Issue: (Create standard?)

  Overview of Public Input:

  Options Considered (with pros and cons):

- Affordability Guidelines-Households

  Definition of Issue: (Create standard, and encourage specific customer assistance programs to be applied by systems-PUC input?)

  Overview of Public Input:

  Options Considered (with pros and cons):

- Refine State/Fed Subsidy Programs to Stretch Funding

  Definition of Issue: (apply affordability guidelines from above to funding programs to provide only as much subsidy as is needed to make projects affordable)

  Overview of Public Input:

  Options Considered (with pros and cons):

- Evaluation of issues which tend to increase construction costs

  Definition of Issue: (A series of issues were identified which cause higher costs, including the state prevailing wage law, bonding requirements, the separations act, and state design standards. Each of those issues should be analyzed by DEP and changes should be considered)

  Overview of Public Input:

  Options Considered (with pros and cons):

- Collect More Needs/Affordability Data and Refine Analyses

  Definition of Issue: (include study of commercial/industrial user charges, the effect of those charges on the local/state economy, and whether the size of infrastructure subsidies should be influenced by commercial/industrial rates)

  Overview of Public Input:

  Options Considered (with pros and cons):

Long-Term Recommendations

- Customer Assistance Programs for Low-Income Households (Local, State and/or Federal)

  Definition of Issue:

  Overview of Public Input:

Options Considered (with pros and cons):

- Review and Make Adjustments to Local W & WW System User Rate Structures and Rates

  Definition of Issue: (locals have to plan for asset improvements, create long-term budgets, adjust systems and annually adjust rates)

  Overview of Public Input:

  Options Considered (with pros and cons):

- Local Governments Promote Improved On-Lot System Maintenance

  Definition of Issue: (Goal is to improve maintenance and fix on-lot failures. Locals meet this goal by creating locally-acceptable mechanisms which deal with the responsibility. DEP clarifies that the obligation is part of Act 537 responsibilities)

  Overview of Public Input:

  Options Considered (with pros and cons):