KEYNOTE ADDRESS
CHESAPEAKE WATER ENVIRONMENT ASSOCIATION PLANT
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Good Morning. My name is Gary Gumm, the Interim Chief Operations Officer at the Washington Suburban Sanitary Commission. WSSC is a bi-county water/sewer agency established by the Maryland State Legislature on May 1, 1918. WSSC is entrusted by its community to provide safe and reliable water, life's most precious resource, and return clean water to our environment, all in an ethically and financially responsible manner. We provide these water and wastewater services to 1.8 million residents of Prince George's and Montgomery Counties in Maryland, bordering our nation's capital. The WSSC has a combined operating and capital budget for fiscal year

2015 of $1.2 billion. Thank you for inviting me to join you this morning. It is an honor to be amongst you and talk about issues near and dear to my heart, as well as my pocket book. The subject of your seminar is the utility of the future. What an intriguing topic to ponder.

The Commission has been around since 1918 but the concept of a bi-county water/sewer agency was first suggested in 1912 following strong complaints from the neighboring District of Columbia about the streams within the Nation's Capital being fouled by waste from Montgomery and Prince George's Counties. Communicable diseases remained a heavy cause of death at the beginning of the 20th century. For instance, in the Maryland of 1919, there were

1,616 cases of typhoid fever resulting in 170 deaths. The purpose for creating WSSC was to tackle health problems. So the utility of the past had a fundamental mission to improve the health of its ratepayers. And the utility of the past did its job well.

Over ninety-seven years the WSSC has produced and delivered potable water to its customers while conveying and treating their wastewater before returning it to the environment. And in that period there has never been a violation of national drinking water standards.

And the utility of today? The utility of today is stressed. Competing needs and limited resources comprise a constant struggle. This utility's current infrastructure has a replacement value of about

$41.5B. The list of that infrastructure is a long one and includes, but certainly is not limited to: three dams and reservoirs impounding 14 billion gallons of source water, two water filtration plants, one using the Potomac River and the other the Patuxent River, treating an average of 170 MGD, 5,600 miles of water transmission and distribution mains, seven waste water treatment plants treating an average of 62 MGD, and 5,500 miles of sewer mains. Another 120 MGD of sewage flow is treated at the Blue Plains Wastewater Treatment Plant in Washington, DC. In fact the District and WSSC are about equal in their use of and funding for that plant.

Our business is a very capital-intensive undertaking, perhaps more than most other types of utilities. When

comparing asset to revenue ratios between utilities, the water/wastewater ratio is very high. The ratio is a measure of how much investment it takes to generate revenue. The ratio for an electrical utility is 3.5, telephone utility is 3, but for our industry it is 11. So as this much infrastructure ages, the cost of dealing with that aging will only go up.

Too much treated drinking water is not being used as intended. Our latest water audit found 17% of drinking water produced was lost, much of it due to the increasing number of water main breaks we are experiencing. Several years ago we embarked on a plan to address this issue by increasing the replacement rate of our aging pipelines. We have been diligently working our way toward 55 miles per

year of replacement and have reached that goal. In today's dollars, the cost to replace a mile of distribution main pipeline is approximately $1.4 million. Included within the next six years of our Capital Improvements Program, replacing underground water pipes will cost WSSC ratepayers an estimated $690M... and we will need to keep up that pace **forever**. And that is just the smaller water pipes. Also WSSC increasingly is replacing larger transmission mains. The total cost for the next six years of our Capital Improvements Program is over $1.6B. This places a very large burden on our customers.

So our biggest challenge is funding. Ninety-five per cent of our revenue comes from our customers. For

six years beginning in fiscal year 1999 the WSSC had no rate increases. But in the ensuing ten years the compounded rate increase has been 85%. And there is no end to the need as the demands and costs keep rising.

The costs associated with operating and maintaining an aging system into the future are staggering. The impacts are bad but the impacts are worsened because there are a lot of related but competing demands on the pocketbooks of our customers. The dynamics associated with these independently mandated, resource-competing regulatory demands are such that all the demands must be met … and paid for.

Let me give you an example. As we all know the Chesapeake Bay needs help. We and our customers are currently contributing $37 million annually to the Maryland State Bay Restoration Fund used to help clean-up the Chesapeake Bay. We are in the process of adding Enhanced Nutrient Removal to our five largest wastewater treatment plants as part of the Bay clean-up program, pushing their performance toward the limit of technology. By the time those projects are completed (two to go), the total projected construction cost for these five projects is expected to be $61.4 million. WSSC is receiving approximately $56 million in construction grants for these projects from the Bay Restoration Fund. WSSC ratepayers must also fund nearly 46% of the cost of the ENR upgrade at the Blue Plains Wastewater Treatment plant in the District

of Columbia. The estimated construction cost for WSSC's portion of this regional project is $311 million. WSSC expects to receive approximately $227 million in construction grants from the Bay Restoration Fund for this project. This is additional pressure on our customers as WSSC customers are the largest contributors to the fund.

But our ENR upgrade program is not the only initiative to save the Bay. Both Prince George's and Montgomery Counties have programs well under way to improve the water quality of the Bay by better harnessing storm water runoff. I do not have the figures associated with these programs but I understand they are rather large. And the bill payers are the same folks who are WSSC customers. The

Bay is also under stress from the agricultural activities going on within its drainage basin. Any effort to better control agricultural runoff will also cost money and in some way, if not directly, that cost will be borne by the same customers of WSSC. There is a limit to the ability of these customers to bear these growing burdens. So the question I pose is this. Would not these customers and their environment be better served if the independent silo-type approaches currently underway were dealt with more holistically in an attempt to proverbially “get the best bang for the buck”? And if so is there not a better way to coordinate goals, programs and expenses to obtain that best use of the dollar and not drive customers into an untenable financial situation? If so, it will

necessarily begin with the Regulatory Community taking steps to coordinate their actions.

Let me mention another example. Like many urban communities in this country, including the District of Columbia and Baltimore, WSSC is under a consent decree to repair and improve the sewage collection system. The purpose of this consent decree is to reduce the number of sanitary sewer overflows. A 2004 report from EPA lists a range of values for numbers of sanitary sewer overflows per hundred miles of sewer throughout the United States creating a metric that spans from 2.1 to 6.9. The number for WSSC in fiscal year 2006 (the year the consent decree was entered) was 3.1. Estimated costs for the resulting program are approaching $1.4 billion and up.

The metric last year (ten years into the program) was 3.22. If one looks at the figures for each intervening year there is no apparent pattern indicating any improvement or worsening. Now reducing these overflows is good for the environment and good for the Bay and we expect to see the numbers decrease. But again, is this program really the best way to improve the Bay with the funding available in the region?

Similarly, the City of Houston, Texas also found itself in a consent decree to reduce sanitary sewer overflows in an attempt to improve the quality of Houston's Buffalo Bayou Watershed. The cost to control the sanitary sewer problem was $1.2 billion. By use of monitoring and modeling, Houston showed

that even if they removed 100% of sanitary sewer overflows, the improvement to the bayou during 2 and 5-year design storm events was only 1%, even after removing the sanitary events. So the $1.2 billion spent did very little to improve the bayou when it rained. Perhaps a better way could have been found to spend the $1.2 billion, one that would have allowed the utility to get more done with its available funding. So the utility of today has a lot of challenges. Aging infrastructure, while protecting the environment, is making it increasingly expensive to provide the services initiated by the utility of the past but providing safe and reliable water is still the raison d'être for the utility of today. Now this seminar is about the utility of the future. Just what might that utility be like?

Perhaps the innovative utility of the future will be successful dealing with rising energy costs and increasing pressures to reduce nutrient releases to the environment. Anaerobic digestion and associated treatment processes, coupled with solar and wind power generation will produce the energy needed to supply the treatment plants and more. Nutrient recovery will generate an income stream only imagined by many utilities of today. Maybe utility FOG programs will find ways to utilize the energy locked up in what is often seen as waste today and what now often causes sewer overflows will not even enter the sewerage waste stream of the future because of its revenue-generating properties. Even the water distribution system takes advantage of elevation changes to create energy making the

energy-demanding treatment processes more affordable.

Other conservative, risk averse utilities of the future might be too slow to adopt new technology and may break under the stress of increasing energy costs and regulatory demands. Local populations will be unable to sustain continued rate increases and no relief from others will be provided. Businesses unable to afford the rising costs associated with providing water needed for their industrial processes will leave the service area for more affordable locales putting even more strain on the pocketbooks of those remaining. Pressure on the utility by local government will rise but with no revenue to use and too little time to make

substantive change will mean changing the cycle will be a distant dream.

Demands for potable water use will continue to change as the utility of the future deals with the effects of climate change. Utilities may very well see increasing pressure to use potable water for those intrinsically human needs and nothing else. So it is possible the utility of the future will have the infrastructure to provide treated effluent for water reuse to a widely dispersed, diverse group of customers who need nonpotable water. Programs will exist, supported by the utility, which will provide on-site catchment and treatment of water for nonpotable water use.

Sadly there will be utilities of the future that cannot overcome the dichotomy of increasing water demands and lessening abilities to provide for the demand. And again, without an ability to meet the need, businesses and residents will be forced to seek other places to live and work.

Successful utilities of the future will support stakeholders and ratepayers who are well informed and very knowledgeable of the water cycle and the competing demands associated with meeting the needs of the community. They will be fully aware of the needs of the utility, the costs of providing life sustaining water and replenishing that commodity in the environment as well as the necessary balance of those costs with others in their daily lives.

Businesses know their needs; know how to work with the utility to get those needs met the best way possible for the appropriate cost.

Unsuccessful utilities may find that a foundational aspect of their difficulty lies with an ignorant public. The public does not accept the limitations of the utility to meet its needs, has not come to grips with the financial investment needed, and thus has not provided the funding or the authority necessary to successfully meet the competing needs the utility faces. And the result is a community struggling to function in its economic and regulatory climate.

I think it likely that every utility of the future will lie within a spectrum that spans some of the aspects I have laid out here this morning. There will be strong,

successful utilities with a vibrant community moving forward and there will be others failing to meet the needs of the day with an increasingly difficult ability to change their direction. What will be the difference between utilities and the paths they find themselves on?

The successful ones will be those that provided good leadership, conducted extensive planning, took the time to educate and involve totally their supported public, local government and associated regulators, became very efficient in managing their assets and utilizing their limited resources and utilized innovative approaches to virtually every aspect of their business processes. The less successful ones will be those falling short in one or more of these areas.

Today your program will look at several aspects associated with the utility of the future. Listen to the various speakers today as they cover different technologies, planning, regulations and management, and imagine how the utility of the future will best be able to leverage these topics to create a successful utility in a vibrant community. What are all of the things it will take to provide a successful outcome? And how will you be a part of it? How will your firm help the utility of the future? How will you be a player? It is not too soon to ponder these things. Becoming the utility of the future, like the future itself, begins now.

Thank you for indulging me this morning. I hope you enjoy the seminar today and get a lot out of it. Make your future part of your now.