

**THE REMARKS OF E. CHARLES WUNZ, P.E., DEE, BEFORE THE  
SUSTAINABLE INFRASTRUCTURE TASK FORCE**

**MAY 8, 2008**

Thank you, Madam Secretary, elected officials, and members of the Sustainable Infrastructure Task Force for this opportunity to offer testimony today. I am most pleased to have been invited.

As many of you know, I have been asked to chair the Innovative Measures Work Group. I am a native of North East, PA, in Erie County and reside in Lewisburg. I am a registered professional engineer in 9 states and the District of Columbia. I am a Diplomat of the American Academy of Environmental Engineers. Over my 36-year long professional engineering career, I have had the opportunity to be associated with and to observe many innovative solutions to water and wastewater infrastructure needs, first in my employment with the U. S. Environmental Protection Agency in the Construction Grants and NPDES programs and later with two consulting engineering firms.

I have worked primarily in Pennsylvania and have a wide range of experience from such innovative water reuse projects as University Area Joint Authority's beneficial reuse project which protects Spring Creek and the wonderfully named Fisherman's Paradise in Centre County and the Cranberry Highlands Golf Course which irrigates with water from the Cranberry Township wastewater treatment plant located in southwestern Butler County. I have extensive regionalization experience, for example, abating the discharge of polluting wastewater to Lake Edinboro through developing a regionalization agreement between Washington Township and the Borough of Edinboro and in work with the Central Clinton County Water Filtration Authority which allowed the construction of a single water filtration plant to serve the water supply needs of two water systems, the City of Lock Haven and the Suburban Lock Haven Water Authority systems which collectively serve about 60 percent of the population of Clinton County. I worked Rich Marcincavage, a Task Force member in that effort.

I was also involved in the Saxonburg Area Authority project which provided sewer service to numerous municipalities in southern Butler County astride the Route 8 corridor. That Saxonburg project received the largest financial support of any PennVest funded project.

And with this experience comes knowledge, the knowledge of one of the biggest issues this Task Force and all Pennsylvanians face in achieving the status of sustainable infrastructure. Borrowing the famous line for Pogo, the comic strip character, “We have met the enemy and he is us.”, because, very clearly now in hindsight I can certainly say that we have enjoyed user fees for water and wastewater systems that are well below those required to assure the sustainability of our infrastructure. The fact is that most, almost all, municipal and municipal authority systems do not budget a capital reserve or depreciation account sufficient to fund future infrastructure needs.

As a result of the year after year rate schedules based on cash flow accounting without consideration of the needs of aging infrastructure the great weight of inadequate resource allocation to fund future infrastructure needs has settled on all of us. It is easy to see the phenomenon occur because it is just like a few of us, especially me, who can gain a pound or two each year after high school and wind up twenty years later with the accumulation of many excess pounds. So it is too with the failure to fund a capital reserve account. One or two years of that failure remains unnoticed, but after twenty years, the local municipalities and municipal authorities with aging infrastructure and empty pockets are faced with only one solution and that is to rely on the good efforts and best wishes of their elected state officials and state agencies to provide outside funding from tax based sources.

I was glad to hear the comment of the Task Force representative from Alcosan who just a few minutes ago confirmed for his own authority what I have just said.

This failure to fund capital reserve accounts is understandable at the local level where there is a never-ending effort to keep rates as low as possible and the issue itself is

complicated by the question of whether existing or future customers should pay for new infrastructure through the investment of either debt or equity into infrastructure needs. To some extent this latter question is moot because the old infrastructure was largely paid for by federal or state grants and never really paid for through the rates paid by the existing customers.

One very negative side-effect of the failure to budget capital reserves is the often heard critique voiced by many: that is, the most financially wise systems have the least chance of receiving outside funding because they have less need than a system that may have been less financially well managed. The constant or repeat awarding of grants to those of greatest needs without the simultaneous requirement for responsible rate making assures a continuation of the problem of sustainable infrastructure that we now all face. It is interesting that of all the many “strings” associated with the U.S. EPA Construction grants funding in the 1970’s and 1980’s, there was never one that assured the local funding of a capital reserve.

As the leader of the Innovative Measures Work Group, I see everything as fair game. I hope we are able to cast a wide net in the ocean and to seek the best thoughts and experience of those in Pennsylvania and other states. Some of the ideas we develop may be passed on to the other Work Groups as certain ideas may lie more with them than us.

Many innovative concepts are obvious. Numerous regionalization concepts have the ability to cut costs. Water and wastewater systems are very capital intensive with many high fixed costs. Spreading those costs on a wider customer base results in a lower cost per customer. But regionalization is not just building major transmission mains or interceptors between different towns. I use the term in a very wide sense to incorporate such concepts at MOM, management, operations and maintenance agreements; sharing of lab resources, billing systems, spare parts inventories, safety training, leak detector equipment, and sludge processing facilities; sharing of staff, for example, one executive director for two systems; satellite system concepts like the one near here in Derry Township where the main wastewater treatment plant in Hershey monitors via electronic

link the operation of the plant located along I-83; standardization of design components and administrative procedures; and consolidation of septage and trucked in waste hauling receiving facilities.

Other innovative concepts include addressing the current state minimums that require bidding of very small contracts thereby adding an enormous overhead burden on contractors who must in turn pass those costs on to the infrastructure systems.

Regarding design and operations, the issue of right sizing is critical. Many of us have seen Act 537 plans that state that the size of a town will double in the next twenty years, so the wastewater treatment plant needs to be twice as big as the current need, when, in fact, the town has not doubled in size for the last 200 years. Efficiency and energy use audits can also cut costs especially in a time of forecast huge increases in the cost of electricity.

Some well-accepted paradigms may need to shift. Aerobic treatment of wastewater consumes 3 to 5 times the energy of anaerobic treatment and produces 4-5 times more sludge. Aerobic digestion of waste biosolids is very common, but that process ignores the opportunity to harvest the biogas that might be generated in an anaerobic reactor.

Finally, the concept of trading, much to the credit of the Department of Environmental Protection in its development of the Chesapeake Bay Tributary Strategy (and agreed not yeat a perfect program) should be extended at every opportunity throughout the state.

And one other issue, perhaps not exactly consistent with the charge of the Task Force, but very important nonetheless, is the issue of aging operations staff and the need to attract more young people into the industry.

Thank you very much for the opportunity to speak. I will be glad to answer any questions you may have at the appropriate time.

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