

The Politics of Utility Management

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Introductory Remarks

Any discussion of trends effecting public utilities and the rising cost of clean would be incomplete without consideration of how policy and politics have led us to where we are and will continue to shape our future.

I am somewhat amazed that there has been so little discussion of some of the issues I will discuss today because they are, in my opinion, the most significant factors effecting the cost of clean.

I suspect we spend so little time discussing them because we have concluded they cannot be changed—that we must simply accept them and move on. I reject that kind of thinking.

I believe it is our duty to do our utmost to change those things that do not allow us to deliver the best possible service at the least possible cost and to ensure that the rules we operate under will, in fact, produce the environmental improvement the public expects and is paying for.

With almost 40 years of experience in water quality management I have had the opportunity to experience first-hand the things I will describe for you. I hope you will find them helpful.

How were beneficial uses originally defined?

I am confident everyone in this room today knows what the term “beneficial use” means since they are the basic water quality goals underpinning the state and federal regulatory program. However, I dare say, very few are aware how these uses were initially defined within their states. I can only describe how the process of use designation occurred in Virginia, but I have little doubt the process was much different throughout the Nation.

In Virginia, a very small group of engineers gathered around USGS topo maps and decided what use designation the various water bodies would receive.

This group was very small and contained no biologists or water quality specialists, no fisheries experts, no toxicologists, no representatives of the public—just this small group of engineers. They had not even seen many of the smaller water bodies they were assigning use designations.

Almost no water quality data existed at the time. The state had just gotten its first atomic absorption unit and a nutrients auto analyzer—I don’t think a single pesticide analysis had ever been conducted.

There were very few water quality criteria anywhere in the country.

There were no scientific tools available such as models. All we had at the state at that time was the ability to do dissolved oxygen sag analyses using a slide rule and many, many assumptions due to the lack of data previously mentioned.

The emphasis of this group was placed on protecting existing important uses such as domestic and industrial water supply, beaches and shell-fishing areas.

No one on that group had a clue that these designations would become the basis for the entire regulatory program. It is also why all waters in

Virginia and most around the Nation were designated fishable/swimmable. Besides, if the states had not designated all waters fishable/swimmable, they would have had to conduct a Use Attainability Analysis (UAA) on each such waterbody. Therefore, the only practical solution was to simply adopt the fishable/swimmable designation.

Note, if you will, there was no assessment of whether the designated use existed at the time or if it ever had or ever would. Yet, unbeknownst to them these use designations would become essentially cast in concrete and almost impossible to change using the UAA process. I trust the irony is obvious to you, what took no data to initially define has become essentially impossible to change with any amount of data.

But wait, there's more...

How were the water quality criteria originally developed?

The water quality criteria were developed to provide specific numerical instream limits which, if met, would be protective of aquatic life and/or human health depending on the designated use or uses.

The criteria were based on a collection of various and sundry research efforts which were, in most cases, never contemplated by the researchers as becoming the basis for regulatory measures.

In addition, EPA used extremely conservative assumptions in their use of the database which generally drove the criteria toward the more conservative data available.

A review of the original criteria documents conducted by my staff several years ago for some of the metals criteria showed that essentially none of the bioassay procedures used by the researchers would meet contemporary testing protocols and data quality requirements. We ourselves were not aware of the need for clean and ultraclean sampling

and analytical procedures needed to do this type of work. Thus it should be evident to all that most, if not all, of the sampling and analytical work involved in these early studies was inadequate.

Some of the researchers whose data were used in development of those criteria actually annotated their work with remarks such as, “These data should not be used”. Nevertheless the data were included in the database used in developing the criteria.

Since the criteria were considered “guidelines” with general nation-wide utility at that time there was no public participation and no peer review of the process. The obvious intent was that more specific criteria would be needed for the Nation’s highly varied waterbodies and ecosystems.

However the day came when the states were required to adopt their own criteria. They were given the option of adopting the EPA criteria or developing their own—almost all adopted the EPA criteria. Thus, the EPA criteria, which were designed to be universally applicable guidance became criteria with site specific applicability in almost all cases.

It gets worse...

Somewhere in this torturous process the criteria became the basis for determining whether or not a designated use was being attained. That is, uses are not defined by whether or not the use actually exists but whether or not the criteria are being met! Just to jog the memory of the more senior of us, myself included, recall if you will that no data were used in initially designating the use!

Thus, today we have dry weather ditches designated fishable/swimmable and required to meet the criteria for such waters despite the fact that no such use ever existed nor will it ever exist.

Waters designated “fishable” are required to meet the criteria applicable to that use whether or not a fish has ever lived in it. Remember, the criteria define the use and not the actual use itself.

The fallacy of this process should be obvious to all.

The beneficial use designations were never defined in practical terms nor were they scientifically based thus there is no linkage between meeting the criteria and whether or not a use is now or ever has been attained.

Another critical weakness in the use designations is an assessment of factors other than water quality that may be impairing the use, for example, overfishing, elimination of wetlands, construction of dams and other man-made barriers, atmospheric deposition, introduction of foreign species, diseases, loss of habitat, etc.

This has led to a program based on incremental improvement to water quality decoupled from the primary objective of use attainment. In other words, it is widely held that progress toward meeting an individual criterion is a good thing despite the fact that this approach may never restore the use. Consequently, we are investing huge amounts of money in a program that is not outcome based.

I repeat, we are investing huge amounts of money in a program that is not outcome based.

Some will argue that there is a partial solution to the dilemma of incorrect/improper use designations—that is, UAAs.

Those of you who have done a UAA know that it is almost impossible to use because of its level of complexity and the ease with which some can characterize it as an attempt to avoid protecting a use.

A use that may have never existed and may never exist in the future.

A use defined not by scientific analysis, perhaps not by qualified people, perhaps with a cup of coffee while peering over a USGS map.

A use defined by criteria that, even though they may be met, may not create and/or restore the use.

A use and criteria that were given little or no public review and, almost certainly, no peer review.

A use which does not take into account non water quality related factors affecting its attainability.

If this process makes sense to you, I have some property for sale in which you might be interested!

What is the solution?

The only solution to this problem is to amend the Clean Water Act.

Require outcomes based on attainment of designated uses not simplistically on compliance with the water quality criteria.

Simply meeting a criterion or perhaps all the criteria applicable to a use will not necessarily restore a use.

Require watershed-based planning and permitting.

Authorize permitting of all sources of pollution (point, nonpoint and atmospheric) which contribute significantly to the impairment of any designated use.

Authorize control of activities, for example, habitat restoration, over fishing, excessive withdrawals, dams, etc. that contribute significantly to the impairment of any designated use.

Sounds scary doesn't it? I suspect that if the public is fully engaged in such a process there will be more UAA's. Don't you? In any case, such a process would focus on genuine outcomes not some numbers game and everyone will know what the cost will be in dollars and cents and trade-off's in liberties.

Note that this would provide regulatory control over agricultural nonpoint sources which is absolutely essential if designated uses are to be restored.

Another fundamental problem with the Clean Water Act which needs addressing is the universal requirement of secondary treatment.

Although the universal minimum requirement of secondary treatment has resulted in the most significant improvement in water quality resulting from the Clean Water Act it has created other unanticipated and unaddressed problems.

Although not necessary to meet use designations on all water bodies, one has to conclude that it quickly and efficiently improved the Nation's overall water quality.

As a biologist working for the state I recall all too vividly rats, cats and dogs carcasses floating in the James River after a rainstorm. I recall stepping in a ditch that appeared to a couple of inches deep below a tannery and sinking up to my armpits in cow hair. I recall a stream filled with chicken feathers and leeches. I recall streams devoid of aquatic life for miles.

However, the universal application of secondary treatment has been both wasteful and unproductive where many small communities are concerned.

Many small communities once employed simple technology such as lagoons. With the passage of the Clean Water Act many of these same communities found themselves having to operate and maintain highly sophisticated, small wastewater plants—many with advanced waste treatment requirements because they were located on small receiving waters.

These plants are extremely difficult to operate compared to large plants.

Accidentally leaving a waste sludge pump on can, for example, result in all the activated sludge quickly being wasted.

Likewise, small operational changes can produce undesirable consequences.

Most of these plants are of the package variety, made of steel and above ground. Those of you with operational experience surely realize what happens to performance in these plants during extremely cold weather.

Initially, these plants were affordable to small communities because they were funded with substantial construction grant assistance.

However, everyone failed to understand that neither the expertise nor the funds to operate and maintain these plants would exist.

I have personally witnessed a small community appearing before the state regulatory agency pleading to have its weekend sampling requirements suspended because they couldn't afford them!

The need for even a pump replacement can result in a rate increase; the location of a new McDonald's can result in the need for plant expansion.

State water quality and public health regulatory agencies once offered extensive technical assistance to these communities. Now, they offer little or no assistance and act exclusively in their regulatory role although they generally take no substantial regulatory action because, I believe, they are fully aware that few, if any, solutions exist.

Consequently, within the wastewater industry, the most severe water quality, public health and safety problems remaining in the Nation exist in these small communities.

Several years ago I led an effort to assume responsibility for several of these small plants located adjacent to our then existing service area. I did so out of the conviction that there was no other solution available to meet the unique problems they faced.

What did we find?

All of the facilities all were in non-compliance with their permits.

We found that essentially nothing had been maintained.

Severe safety problems existed. For example, personnel walked over clarifiers on boards.

Power to pumps was delivered by electrical cords lying in puddles of water.

Raw sewage was in streets and front yards.

Overflows were commonplace.

I think you get the picture.

This problem is, I believe, widespread. It is not universal, but my discussions with the state and EPA confirm that the problem is huge, and it is not being addressed because there are no apparent solutions.

Throwing more capital at the problem will not fix it. neither will regulatory action.

What is the solution then?

Again, the need is to amend the Clean Water Act.

Fund EPA research to identify and develop low maintenance technologies for small communities.

Authorize redefinition of secondary treatment requirements for small communities where water quality based permitting does not require it.

Provide financial assistance to small communities for capital, operational and maintenance expenses to ensure affordability.

And here is the one that should get your attention, encourage large wastewater utilities to assume ownership and operation of these small utilities by covering the differential expense between the large utility's rates and those needed to cover the expenses associated with operation and maintenance of the small utilities.

This eliminates the problems that arise when the large utility subsidizes the small utilities or when the rates for the small utilities rise to unacceptable levels.

Why is funding important in meeting the cost of clean?

The most successful program in the history of the water quality improvement effort, in my opinion, was the construction grants program.

Today, that program has been supplanted with a federal loan program, the State Revolving Loan Fund (SRF), which itself has not been funded at a level sufficient to meet demand.

By their abandonment of the construction grants program and underfunding the SRF, Congress and EPA have sent a clear signal that funding for clean water is not a high priority.

Likewise, communities, which must set their own internal funding priorities have frequently concluded that clean water is not as important as education, public safety, roads and police and fire protection just to name a few.

Personally, I find it ironic that Congress has eliminated the construction grant program and has insisted that local government pick up the tab. Whoever funds the cost of clean, be it local government or the federal government, the money is ours, the taxpayers!

I find it also ironic that Congress and EPA disparage local government for not funding this effort when that is precisely what they have done!

Finally, I find it the ultimate irony that the federal government funds an expensive space exploration program but declines funding the single most important effort vital to our very survival—clean water!

During the construction grants program, communities “stood in line” to get their “fair share” of the funds or run the risk of missing out. Thus, locally, infrastructure needs once considered low priority were elevated to high priority.

For years I have argued that the construction grants program needs to be restored.

Not only would that reinvigorate water quality improvement, it would compel Congress to face the tough budgetary decisions relative to priority.

Otherwise, Congress and EPA have the ability to promulgate requirement after requirement and transfer their financial and political impact to local government.

NACWA and others have chosen to advocate a Trust Fund as a means of financing the cost of clean.

Such a fund would address the industry's funding needs and reinvigorate water quality improvement.

What about local policies and politics?

None of you have to deal with politics/policy on the local level. Right?

I am acutely aware that many of you are accountable to politicians. I am also aware that that can make it difficult or impossible to provide the excellent services you might otherwise be able to provide.

In that context I contend that the operational model may be as important or more important than any other single factor in determining an organization's success or failure.

If you cannot hire fully qualified personnel.

If you are inadequately funded.

If you are compelled to make decisions that no prudent scientist, engineer or manager would make.

If you are compelled to make decisions that do not protect the environment or do not provide the best possible service at the least cost to the ratepayers.

If you are required to find clever ways to shift revenues from your revenue stream into the local government's general fund.

If you are required to receive and treat excess I&I from satellite systems when that is neither the most environmentally or economically sound solution.

If your organization is “managed” by your governing body.

If these are true for your organization, there is almost a certainty that it is not optimally delivering services.

What is the best organizational model?

This leads me to probably the most important point I will make today. Our industry, Congress and the regulators need to begin giving thought and study to identification of the governance and operating models necessary to produce success in delivering quality services and optimal permit compliance.

I realize this is analogous to “touching the third rail”, but I submit to you that this factor is probably the most significant adversely affecting success in our industry today.

Wastewater collection and treatment is a business, and it needs governance models that enable it to operate in that manner.

I suspect some of you are thinking “how do you provide public accountability in such a model”?. To which I would respond, how do we have public accountability in the successful delivery of other utility services, such as electricity, cable and telephone services?

There will be no single “silver bullet” to solve this problem, but the industry must begin addressing this issue and stop simply ignoring it.

What is the importance of NACWA’s role in all of this?

What made NACWA most important to me and the organization I represented was its emphasis on ensuring that the science underlying the regulatory process was robust and sufficient to justify the public expense to comply.

In that regard, NACWA’s technical committees have been its heart. NACWA must never lose sight of the fact that sound science buttressed with public education ultimately win the day.

I acknowledge that NACWA must also be actively involved in the political/legislative process but always with sound science shaping its involvement.

I believe the wastewater industry has the responsibility to deliver affordable services but also to do its best to ensure that the requirements under which the industry operates produce the water quality improvements the public expects as a result of their investment.

I believe NACWA is the premier organization representing the industry in its efforts to meet those expectations.

I encourage you to continue your support of NACWA, not just with your membership but also with your active participation.

The technical committees, in particular, are only as strong as your participation.

In times of economic difficulty I have witnessed organizations drop their memberships and/or their active participation. I submit to you that is penny-wise and pound foolish.

The promulgation of only one unscientifically-based regulatory requirement or one unnecessary permit requirement could pay more than your NACWA-related expenses over a lifetime.

Summary

I thank you for the privilege to address you today.

I hope I have left you with a clearer understanding of how just some of the most basic regulatory requirements have evolved more from policy and politics than from hard science.

I also hope I have convinced you that the current regulatory process is almost totally decoupled from protection of designated uses.

Lack of a comprehensive approach to water quality management will result in failure to protect many of these uses despite the expenditure of enormous amounts of money.

A case must be made for Congress to address these deficiencies through an amended Clean Water Act and restoration of funding.

The challenges are immense.

For example, Congress has repeatedly refused to take on the agricultural nonpoint source problem or to address tough issues such as habitat restoration, over fishing, excessive withdrawals, dams and the like.

The tendency has instead been to place a disproportionate share of the cost of clean on the wastewater industry. Even that has its limits and the result in many, many cases will be failure to protect the designated use. I believe we can make that message clear to the American people and to Congress.

Finally, the industry needs to engage in a serious analysis of operational and governance models. Unless this is addressed, no amount of money, no amount of sound science and rules, no amount of qualified personnel will produce the results needed to meet future needs.

I wish all of you the best as you strive to protect the Nation's waters. Yours is a noble profession.

Perhaps some day society will fully realize just how important your service to them is.