

The Case for Environmental Regulatory Reform

Clean Water Act NPDES Permitting

A White Paper

Prepared By

The Massachusetts Coalition for Water Resources Stewardship

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Purpose

To bring the attention of state and federal elected officials and the general public to a seriously flawed approach to implementation of the Clean Water Act currently employed by federal and state regulatory agencies and to begin the creation of a new process that:

- ◆ takes a holistic approach to water resources management
- ◆ identifies and prioritizes the most cost effective measures to achieve realistic water quality goals within appropriate timeframes
- ◆ gives full consideration to the cumulative regulatory financial burden on communities
- ◆ leads to a true partnership between regulators and the regulated community of publicly owned wastewater treatment facilities, municipal, regional and district sewerage systems and stormwater utilities

Background

Throughout the Commonwealth of Massachusetts cities, towns and wastewater districts and authorities are grappling with the need to repair and upgrade old, failing infrastructure. The system of pipes, pumps, manholes and treatment facilities that convey and treat wastewater and stormwater have long been neglected and are in desperate need of modernization. Nationally, the cost to rehabilitate existing sewer infrastructure has been tabbed at \$390 billion. With federal and state financial assistance limited to 2% interest loans through the federal/state SRF program, wastewater and stormwater utilities are forced to fund these vital improvements through rate hikes that place the financial burden fully on the shoulders of today's ratepayers.

While utilities struggle to find the resources to keep their existing systems operating, regulatory agencies are adding to the burden. Using the Clean Water Act as their mandate, and with a supportive push from internal and external environmental advocates, the USEPA and MassDEP are tightening the regulatory noose around the necks of wastewater and stormwater utilities. NPDES permits, which are issued every five years to every wastewater discharger and stormwater manager, contain increasingly stringent conditions and effluent limits designed to further reduce pollutant loads on receiving waters. The most recent limits focus on nutrients, nitrogen and phosphorous in particular, which USEPA has clearly stated are the key targets for improvement of water resources.

The regulatory agencies have aggressively and unilaterally imposed effluent limits on wastewater discharges without regard to cost or discernable results. These new demands on wastewater utilities and their ratepayers are made in the total absence of financial assistance from state or federal government. This is unlike the past when, in the 1970's after passage of the Clean Water Act, federal dollars flowed to cities, towns and districts to help make wastewater treatment improvements a reality. These early

years of the Clean Water Act, characterized by a true partnership between regulatory agencies and wastewater utilities, were arguably the period of greatest environmental improvements to the water resources of the nation. Federal dollars assured that wastewater treatment would be brought up to a level that would lead to noticeable improvements in the quality of our rivers, lakes and bays and the results were spectacular. Equally important was the fact that this environmental progress was not borne solely by the local ratepayer but by the nation as a whole. The financial burden to the individual or business was minimal and thus the entire effort was cheered on and encouraged by the general public.

Today's climate of environmental regulation is wholly different. Any sense of partnership is long gone. The push for stricter regulatory limits is applauded by environmental special interests and advocates while the ratepayer struggles to pay sewer costs that have often doubled in just two or three years with more increases to come. Ratepayers become even more displeased when their questions to wastewater dischargers regarding the expected environmental benefits go unanswered. There are no replies to these inquiries because no one, regulators included, has produced any documented evidence to show what specific benefits will be derived. Ratepayers spending hundreds of dollars more on sewer bills do not want to hear that their hard-earned money will make the river somewhat better.

It is under this cloud of regulatory excess that the Massachusetts Coalition for Water Resources Stewardship came together to bring much needed attention to an overly burdensome, often illogical, inconsistent and financially ruinous Clean Water Act NPDES permitting program. The goal of the Coalition and intent of this White Paper is to highlight the major failings of the current way the Clean Water Act is implemented and to recommend a new path that will restore a partnership between federal/state regulators and the regulated community of wastewater and stormwater utilities. A true partnership could then focus on solutions to major problems and do so in a manner that recognizes costs, benefits and reality.

Undoubtedly, there are those who will criticize this Coalition and its White Paper as being "anti-environment" and trying to undo the progress made under the Clean Water Act. Such comments are blind to the fact that the current approach, in the very near future, is likely to lead to a ratepayer revolt that will indeed have a chilling impact on environmental progress. When ratepayers decide they have had enough, a situation that is already playing out in some Massachusetts communities, and their elected officials hear their pleas the results will be devastating for wastewater and stormwater utilities and the waters of the Commonwealth. The scenario likely to play out will be utilities channeling all available funds to comply with NPDES dictates while staffs are cut and investment in needed non-treatment infrastructure upgrades are dropped altogether.

Current Issues

There are many reasons why the current approach employed by regulators is both ineffective and unacceptable. These reasons can be grouped into three categories: Poor process, Failure to consider cost impacts and Lack of meaningful benefits.

Poor Process

In most endeavors the key to success is communication. There are few more telling examples of how communication failure leads to distrust and unacceptable results than the process by which wastewater NPDES permits are issued. Simply put, there is no dialogue between the regulator and the regulated. Prior to issuing a draft permit the key issues and thoughts on effective mitigation are closely guarded secrets held by USEPA. It is only through “back door” channels that the permittee garners any knowledge of what to expect in their forthcoming permit. Once the draft permit is issued the “official” timelines and procedures take over. Dialogue takes the form of public comments presented at public hearings where there is no opportunity to debate but simply a forum to make statements. From the issuance of the draft permit to the final decision of the appeals court all discussions about the permit are held under the umbrella of legal posturing. Words used by all parties are carefully chosen. Questions may or may not be answered and discussion is hampered by all parties calculating how their message may be used in future legal wrangling. So at what point do the regulators, permittees and other stakeholders come together to discuss the problem and potential solutions? The answer appears to be never. This process does not lend itself to planning, holistic thinking or constructive dialogue.

Another example of the poor process used in NPDES permitting is the lack of consideration given to permittees’ ongoing projects and higher priority needs. The five-year term of NPDES permits can result in issuance of new permits with stricter limits or even revised direction while capital projects to comply with the previous permit are still underway. Such an approach can be financially unrealistic and does not lend itself to long-term planning. A permittee may also be undertaking significant projects that have real environmental benefits only to be hit with new permit conditions that require major expenditures lacking in appreciable benefits. The new permit requirements then siphon funds away from more pressing and effective projects. Without knowledge of the utility’s overall plans, regulators cannot make informed permit decisions. Given the lack of communication and fact that Massachusetts does not have primacy on Clean Water Act implementation, the ultimate decision on permit conditions rests with the absentee federal USEPA; an agency furthest removed from local issues and economic conditions.

An additional process failure is USEPA’s “Do it now, do it all” approach coupled with its predilection to push the limits of treatment technology. Unrealistic demands based in large part on untested technology can prove to be financially

disastrous. For instance, with the present regulatory focus on nutrient removal, regulators have an opportunity to require utilities to improve control of nitrogen or phosphorous. Which nutrient should be given the most attention should depend on the receiving waters and a thorough scientific analysis of specific nutrient impacts. Instead, USEPA has decided that both nutrients should be controlled and has demanded that some utilities, which previously had no nutrient limits, meet very stringent limits for both nitrogen and phosphorous. A more reasonable approach, and one that could lead to a greater level of cooperation, would be to require reasonable limits on either N or P but not both at the same time. Regulators are also prone to push any treatment technology that purports to achieve the lowest possible limits, regardless of the specific circumstances under which this “successful” technology has been applied. It is another example of a recurring regulatory theme which maintains that if someone can meet a given permit standard then everyone should be able to do the same.

Finally, from a process perspective, the regulatory silo mode continues to be problematic. Watershed issues need to be dealt with using a watershed approach, yet NPDES permitting is not done holistically. While the Clean Water Act has components dealing with treated wastewater discharge, combined sewer overflows, wastewater conveyance systems, stormwater management and non-point pollution there is little interaction between these disciplines where permit issuance is concerned. A comprehensive approach that takes all of these facets and brings them into a discussion on permit requirements is desperately needed.

Failure to Consider Cost Impacts

While regulators insist that costs to utilities and their ratepayers are considered in their permitting decisions, cost impacts are in fact given only cursory attention. Most troubling is that regulatory compliance costs are evaluated independently for each regulatory decision.

Utilities and communities obtain their revenue from the same source: their ratepayers. In most cases the ratepayers shouldering the burden of wastewater treatment compliance are the same as those funding wastewater conveyance, stormwater management and drinking water systems. It is totally inadequate to assess the cost impact for a wastewater treatment initiative and proclaim it to be reasonable without first looking at the current and future *total* regulatory load. Such an analysis is lacking at this time.

An analysis of the cost of environmental compliance needs to also consider the role that water resource regulatory compliance may have on supporting or inhibiting economic growth. Every municipality in Massachusetts is clamoring to attract some level of growth needed to maintain an adequate tax base. While the lack of viable water infrastructure can be an impediment to growth, so too can water and wastewater utility rates that increase exponentially. Massachusetts is in competition with many other states to attract growth especially in the

commercial/industrial sector. While there are many factors behind a decision on where to locate, water and wastewater utility rates are among them. When the Federal Government is inconsistent in its regulatory approach, some states are at a disadvantage when it comes to controlling water related rates simply because they are in a region with the strictest interpretation and application of the most severe rules. Other states benefit by having a more reasonable application of the rules applied.

Finally, no discussion of cost impacts would be complete without mention of the failure of state and federal governments to adequately fund the water resources regulatory mandates they enforce. It was mentioned previously that some of the greatest successes in environmental improvements came about in the early days of the Clean Water Act when the federal government not only demanded better protection of the nation's waters but backed up the orders with the funds to accomplish the task. Today, assistance is limited to 2% loan programs like the SRF or earmarked funding through efforts of powerful and influential elected officials. The federal and state governments talk a good game about water resources management but with the paltry sums allocated to this endeavor one must wonder if there is anything more to this than talk.

Lack of Meaningful Benefits

The single most troubling aspect of the current approach to implementation of the Clean Water Act is the lack of meaningful, measurable benefits that will be derived through compliance with mandated rules. Many of the numerical discharge limits are based on generalities, not site specific scientific principles. Terms like "cultural eutrophication" are tossed about as if they were accurate measures of aquatic systems when they are nothing more than concepts.

The benefits of permit conditions are typically vague and generalized. As such they are difficult to quantify and even more difficult to assign a monetary benefit value. Therefore, any thoughts of performing a true cost/benefit analysis are hopeless. The costs can be clearly derived but the benefits are subjective and nebulous. The regulatory philosophy generally follows the rules that "less is better", "try it and see what happens" and "do it because you can".

Even when the weight of evidence is clear that other factors are a more significant part of the pollutant load, a permit will only focus on its intended audience. A wastewater discharge permit will further limit the discharger while ignoring impacts caused by the wastewater conveyance system. A stormwater permit will focus squarely on stormwater management while ignoring the impacts of the wastewater treatment facility. This again speaks to the lack of a comprehensive, holistic watershed approach and points to the regulatory silo mentality. Meaningful benefits will not be recognized or advocated for when approached independently.

The lack of meaningful benefits is further highlighted by permitting approaches that first fail to understand the dynamics of the receiving water. Each water resource is unique and must be understood in order for proper management decisions to be made. Regulators, however, lack the time and resources to perform the necessary studies to understand the resource. Worse yet, they may cling to older, outdated and discredited resource models and reject improved versions for reasons that seem to defy any logic or rationale.

Lastly, permit conditions are often at odds with the stated goals of other environmental programs. If a permit condition is achieved but that compliance is contrary to other environmental objectives has there actually been a net environmental benefit? Meeting mandated nutrient limits from a wastewater treatment discharge may be done so at an increased energy cost and may produce more sludge byproduct. Using more energy is contrary to efforts to curb climate change by minimizing carbon footprints. Creating more sludge also uses more energy and requires more land disposal sites. When deriving new permit limits and conditions does anyone look at the global environmental picture to determine whether compliance with these permits actually has an overall benefit? Are energy-efficient designs and sustainable treatment practices considered when permits are written? Do these permit conditions and their related costs to the ratepayer encourage or discourage “smart growth” initiatives which seek to locate development in areas that already have adequate infrastructure? Do these permits lend themselves to the “Fix-It-First” philosophy which seeks to repair and upgrade existing infrastructure before moving on to new initiatives? Sadly, there is little evidence that any of these questions are being asked by the very agencies that push the Clean Water agenda along with these other environmental mandates.



Recommendations

Moving away from the status quo to an enlightened permitting approach that results in a fair and constructive process which produces meaningful, cost effective environmental benefits is possible, as long as all parties desire to make that change. Even with agreement that a “better way” needs to be found it is recognized that change will come slowly. The Coalition offers a number of recommendations that it believes will start the process of change toward a sensible and reasonable new paradigm for Clean Water permitting. These include:

1. Open dialogue with regulators and stakeholders

It is essential that those who are expected to fix a problem first understand the nature of the problem, possible causes, potential solutions and desired outcomes. Such understanding can only come about through open discussion between regulators and the regulated. But “open” discussions do not occur once the permitting process officially gets underway with issuance of a draft permit. At that point all “talk” takes place under a veil of legal overtones that does not lend itself to finding solutions. It is recommended that at least two years prior to issuance of a draft permit, the regulatory agencies convene meetings with the permittees to explain what environmental issues are present, discuss data that supports their viewpoints and what other data is needed, establish realistic goals and to, most importantly, focus on possible solutions. These meetings are intended to be among technical, managerial and financial representatives of the regulatory agencies and permittees. They are not intended to provide a platform for political grandstanding, legal threats and posturing.

2. Coordinated permitting by watershed

Watershed solutions need to be found on a watershed basis, not by approaching each individual permittee as though they exist independently of other issues. It is recommended that permits be coordinated across a watershed (or a sub-watershed in some cases) so that all parties affecting a receiving water are on the same permit schedule, are addressing the same environmental issues and are given the opportunity to find a group solution to a problem. Coordinated permitting would also further aid in the facilitation of pre-permit meetings as suggested in recommendation #1. The meetings convened by regulators would then include all permittees in the watershed, an approach that could lend itself to very creative and effective solutions.

The idea of a watershed approach to water resource quality management is not new. Section 208 of the Clean Water Act, Area-wide Waste Treatment Management, envisioned regional water quality management planning that would today be referred to as a “watershed approach.” Under this part of the Clean Water Act, each state must identify the boundaries of areas with substantial water quality control problems and designate a single representative organization

to formulate a management plan for the area. Section 208 states that the plan should include, but not be limited to, identification of treatment works needed for municipal and industrial waste; identification and control of agricultural, mine-related, and construction activity-related sources of pollution; identification and control of salt water intrusion into rivers, lakes, and estuaries; and control of the disposal of wastes on land or in excavations. Watersheds that span political boundaries are recognized, and it provides for cooperation with the U.S. Department of Agriculture (USDA) to establish programs for “installing and maintaining best management practices to control non-point source pollution for improved water quality.”

While Section 208 planning has not been fully utilized or implemented, it does lay the initial framework for implementation of a watershed approach. Facilitated watershed planning that includes all stakeholders would go a long way toward identification of effective water quality management.

3. Longer permit terms

Given the complexity, cost and time required to plan, design and achieve new standards and measure results, it is unreasonable to expect progress when permits are issued for five year terms. It is recommended that NPDES permit terms be increased to 20 years with regulatory review every five years. A major benefit of such an approach is that it would promote true long-term planning, contrary to the current reactionary mechanism. A 20 year permit effectively becomes a facility master plan and, if formulated on a watershed basis involving all permit holders, becomes a river basin master plan. A 20 year term also better aligns the permit with facility service life and debt service requirements of the utility. Less frequent permits also relieves some of the burden on regulators and the regulated who must dedicate large allotments of time going through the permitting process. It is understood that over a 20 year term new insights, improved technology and changing priorities need to be considered and included in revised permits. The five year review process would present an opportunity to bring new ideas forward but within limits, such that new ideas do not cause a permit holder to make drastic infrastructure changes over what was previously approved. Minor changes, up to some predetermined percentage of project costs, could be included during the five year review but wholesale new requirements or new limits could not be added until the 20 year term expired.

4. Commonwealth to assume primacy for Clean Water permitting

It is apparent that the USEPA is too far removed and insulated from local issues to administer a fair and equitable approach to NPDES permitting. It is recommended that the Commonwealth of Massachusetts, through its Department of Environmental Protection, take over primacy for Clean Water Act implementation. This is the model used in the majority of states so there is more than sufficient data available to show that it can work. The biggest hurdle to

overcome is one of financing MassDEP's program. It is thought that a Clean Water Assessment Fee paid by permit holders, similar to the Safe Drinking Water Act Assessment Fee paid by water suppliers, would be an acceptable approach. The Coalition would be supportive of such a fee provided that the terms under which such a fee is created are negotiated and clearly identified in the statutory language creating the fee. Furthermore, the statutory language should identify penalties that would be incurred by the Commonwealth should it fail to abide by these terms.

5. Costs must be considered

Under the current process, compliance costs to the utility and its ratepayers are given very little weight. This lack of consideration is compounded by the absence of defined, measurable benefits. It is recommended that a true cost benefit analysis be a prerequisite of any NPDES permit. The analysis should begin with a clearly defined goal and scientifically valid, measurable assessment of the desired and expected benefits. This would be followed by an evaluation of options for achieving that goal with realistic associated costs. The most cost-effective means for achieving the goal would then be selected as a preferred option. All of this pre-permitting analysis needs to be done as a cooperative venture between regulator and regulated so that there is agreement on the methodology and assumptions used.

Another cost-related factor that is lacking in the current process is an assessment of long range needs and associated costs. The longer permit terms suggested in recommendation #2 lends itself to long range planning and thus to long range financing.

Greater opportunities for financial assistance must also be devised. It is recommended that regulatory agencies provide innovative and alternative technology grants as in years past to encourage the development of new solutions for wastewater and stormwater treatment.

6. Better science in decision making based on a holistic watershed approach

Solutions to water quality problems encountered in rivers must be approached from a watershed perspective that looks at the entire watershed and all impacts on the river. Generic science is simply inadequate to assess the needs of complex and unique water resources and aquatic habitats. It is recommended that the necessary federal and state funding be appropriated for studies, analysis and modeling of all major river basins in the Commonwealth. Further, all such studies must be conducted in an open forum such that the scope, methods and results are subject to scrutiny by qualified persons outside of the agencies and their consultants. Creation of science advisory teams for each river basin may serve to achieve a balanced and equitable peer review process if the advisory

teams include fair representation of qualified scientists and engineers from the agencies, the regulated community and other stakeholders.

7. Focus on biggest problems not easiest regulatory targets

Meaningful improvements to rivers will only occur by addressing the major problems faced by each waterway. Oftentimes it seems that regulatory solutions to water resources issues are based on what is easiest for the regulator to implement. The Clean Water Act is intended to restore the nation's waters, not to make the regulator's responsibilities less difficult. It is recommended that scientifically valid assessments of the causes of and solutions to river water quality problems be documented and that the major problems identified be the focus of regulatory and non-regulatory efforts. The major problems need to be addressed before minor issues are tackled even if the major problems fall outside of standard regulatory tools. This is where collaborative efforts of regulators, regulated and all stakeholders need to be brought together to find creative solutions.

8. Numerical limits based on valid science and pragmatic watershed needs

Numerical discharge limits on contaminants are preferred by many river advocates and regulators. However, determining what those limits should be is problematic and generally unscientific. The concept of less is always better assures that limited financial resources will be squandered with no appreciable environmental benefit. Likewise, it is not prudent to set limits based on untested claims of the latest technological breakthrough. Ratepayers demand and should expect that their money will be spent wisely and this begins with setting reasonable goals for a given river. It is recommended that any recommended numerical limit and its associated supporting documentation be peer reviewed by qualified and unbiased experts before being included in a permit. This may be another role for a river basin science advisory team.

9. Realistic expectations

Not all rivers are the same and no one should expect that a waterway in a heavily urbanized area should be restorable to the degree that it resembles a river situated in the wilderness. Expectations have to be tempered with reality. A proper context needs to be applied to the goals of fishable and swimmable. Rivers should have fish but not necessarily cold water trout and salmon. Should we seek to make a river swimmable when no one has any intent or desire to swim there? It is recommended that goals for river "restoration" consider the history and setting of the river. One approach may be to classify rivers as working rivers, pristine rivers, etc. The degradation of any river beyond its current condition should not be permissible but the restoration of a river should be limited by its classification, history and setting. It makes little sense to spend

hundred of millions of dollars to restore water quality to near perfect conditions in a river whose sediment is so laden with toxins that its use will always be limited.

10. Creative Permitting

Solutions to problems ailing our waterways are not always easy to find. Just as each river is unique so too are the potential solutions. A permitting program that constrains the range of solutions is ineffective. It is recommended that all opportunities be considered in the realm of water quality solutions including pollutant trading, flow-based permitting and other “out of the box” ideas that can be validated.

Regulators and their supporters must recognize that the 6 million residents of Massachusetts have left a large footprint on the State’s environment. It is unrealistic to expect that application of ever more stringent regulations will erase all signs of human impact on the natural world. In the recent past great strides have been made in reducing major impacts but it should be recognized that as in any technology-driven process, incremental results beyond a certain threshold or plateau get exponentially more expensive and therefore need to be justified and documented to a greater extent. It is imperative that as we move forward, we do so within the constraints of reality, cost being a significant factor in this world, and we prioritize our efforts to achieve the most meaningful improvements while being fully cognizant of cost impacts.