

# **Impairments to the Technical, Financial and Management Capacity of Community and Non-Community Non-Transient Public Water Systems in Five States**

William Jarocki<sup>1</sup> and Symantha Zeimet<sup>2</sup>

## INTRODUCTION

The amendments to the Safe Drinking Water Act (SDWA or "the Act") that were enacted into law on August 6, 1996 require all states to examine the technical, financial and management (TFM) capabilities of community and non-community non-transient public water systems. In 1997 states implemented systems for examining the TFM capacities of public water systems seeking Drinking Water State Revolving Fund (DWSRF) loans. By October 1, 1999 nearly all states will have rules in place requiring new water systems to meet TFM capacity standards. All other water systems will eventually be reviewed for TFM capabilities. Unless a system is not in compliance with state standards, these capacities will most likely be checked during a system's sanitary survey. Information collected from the surveys of systems is expected to be used strategically by a state's drinking water protection program with the goal of improving the TFM capabilities of as many systems as possible over the long term.

The Environmental Finance Center is assisting several states in crafting their strategies for improving the TFM capabilities of community and non-community non-transient (CNCNT) public water systems. The 1996 amendments require states to implement their strategies within four years (August 6, 2000). In fashioning their strategies states must identify the impairments and enhancements to the TFM capabilities of public water systems. To date, the Center has completed its work with Oregon and Idaho and is continuing to assist the state drinking water programs in Iowa, Kansas, Missouri, Nebraska, and Alaska. This paper highlights the findings to date of the process of identifying enhancements and impairments to TFM capacity in five states. These findings may provide ideas for drinking water stakeholders to consider in states that have yet to undertake this process.

## SDWA SECTION 1420C2(B)

States are generally expected to address five elements of the SDWA amendments as they proceed to develop TFM capacity-building strategies. The elements, found in SDWA Section 1420C2, include the requirement [1420C2(B)] to identify those things that enhance or impair the TFM capacities of CNCNT water systems. In part, Congress' intent in including this task was to learn more about what factors impact the ability of water systems to both serve the public safe water and remain in compliance with drinking water protection standards. Discovery of impairments and enhancements to capacity generally lead to a set of programmatic responses designed to either strengthen those existing programs that help make water systems viable or to implement ideas to overcome impairments to system capacity.

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<sup>1</sup>Director, Environmental Finance Center, 1910 University Drive, Boise State University, Boise ID 83725-1935.

<sup>2</sup>Research Assistant, Environmental Finance Center.

Subsection 1420C2B of the Act is repeated here:

*(2) Content.--In preparing the capacity development strategy, the State shall consider, solicit public comment on, and include as appropriate--...  
...(B) a description of the institutional, regulatory, financial, tax, or legal factors at the Federal, State, or local level that encourage or impair capacity development;[.]*<sup>3</sup>

The text of this subsection, while brief, is in application fairly complex. States are directed to consider five categorical factors that enhance or impair TFM capacity; institutional, regulatory, financial, tax or legal. In addition, the states are asked to discern enhancements or impairments to capacity relative to three general levels of government; federal, state or local.

## STAKEHOLDER/CITIZENS GROUPS IDENTIFY FACTORS

### Stakeholder/Citizen Groups

In all of the states where the Center is facilitating the strategy process, citizens or stakeholder groups have played an important role. Oregon's Health Division (OHD) relied on the broad perspectives of its Drinking Water Advisory Committee, which was supplemented by other water professionals and stakeholders. Idaho created a broad Citizens Advisory Committee separate from its Drinking Water Advisory Committee to take on the strategy tasks. This latter approach to stakeholder involvement has been followed in Alaska, Iowa, Kansas, Missouri and Nebraska. In either case, drinking water stakeholders have been able to identify a number of organizations and individuals who, whether they are aware of the strategy development process or not, should be invited to share their views on what is needed to improve water systems in their respective state.

Congress' directive to the states in SDWA § 1420C2B can best be accomplished when there is a healthy variety of representation on the citizen/stakeholder committee. Since factors that enhance or impair capacity must be identified at each level of governance (federal, state, local), the perspectives of the regulated community, the regulators, customers, and other affected by the provision (or not) of safe drinking water are all valuable.

The process of identifying enhancements and impairments to TFM capacity begins with a definition of factor categories. This helps explain the SDWA § 1420C2B language:

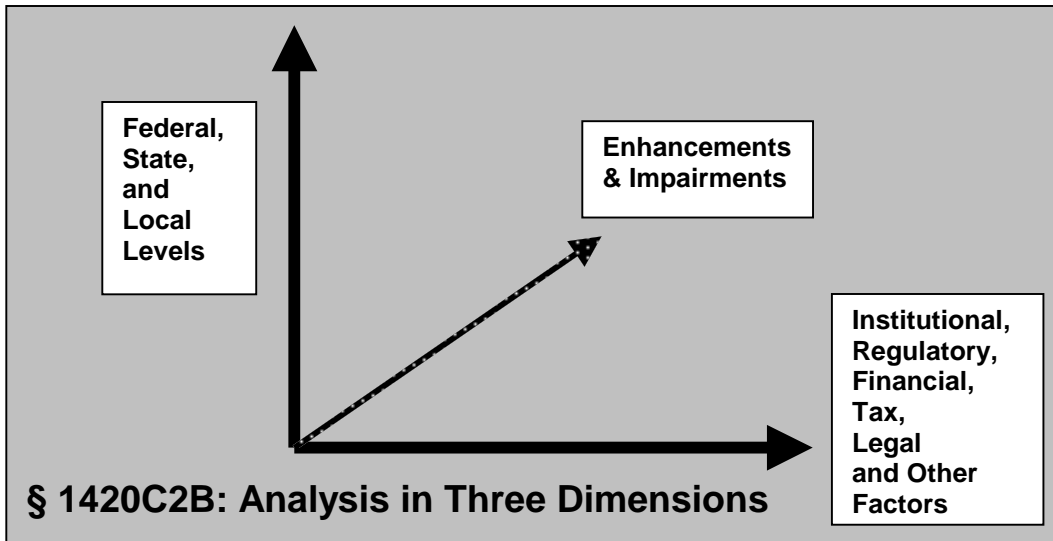
- **Institutional** – Intergovernmental, cultural, procedural or relationship issues that either enhance or impair the ability of water systems to acquire and/or maintain TFM capabilities
- **Regulatory** – Federal, State or local rules and regulations that affect TFM capacity
- **Financial** – Financial practices, policies or conditions that affect TFM capacity
- **Tax** – Federal, State or local taxation practices, policies or attitudes that affect TFM capacity
- **Legal** – Federal, State or local statutes, interpretations of laws and court decisions that affect TFM capacity

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<sup>3</sup>Section 1420C2, "Safe Drinking Water Act Amendments of 1996," Public Law 104-182

Several states have also included an additional factor category; *Other*. This has been helpful in allowing other factors to be included for consideration. For example, more than one state has identified how naturally occurring geological conditions can promote the detection of contaminants in drinking water supplies.

The second step in the process is to have each stakeholder offer ideas for TFM capacity enhancements and impairments by completing a "homework assignment" that solicits comments for each of the thirty to thirty-six permutations of factors of the three dimensional grid:



The third step is to have the stakeholder/citizen committee discuss and digest the factors to eliminate duplication and to focus on TFM enhancements and impairments that can be best addressed in the state's TFM strategy. The committees have been comfortable in agreeing on a final set of impairments seem to be realistic targets for future stakeholder actions. It follows that if impairments are the result of specific problems or conditions, then the state drinking water programs and other stakeholders can consider devoting new resources or redirecting existing resources to try to overcome those problems or conditions.

#### TFM Impairment Factors: State Summaries

For the purposes of this paper, a simple digest of factors is helpful. An analysis of work to date clearly shows that three of the factor categories are predominant. Table 1 itemizes the *impairment* factors by major category for five states; Table 2 indicates the percentage breakdown of each factor category against the total. While institutional, regulatory and financial factors make up the majority of impairments to TFM capacity, a closer look at the data for the five states in Table 2 reveals that these three factors require different programmatic emphasis.

**Table 1: TFM Impairment Factors**

<b>Factors</b>	<b>Idaho*</b>	<b>Iowa</b>	<b>Missouri</b>	<b>Nebraska</b>	<b>Oregon*</b>
Institutional	19	18	22	20	17
Regulatory	19	11	12	26	11
Financial	21	15	12	18	15
Tax	4	4	4	11	4
Legal	3	3	8	7	8
Other	8	2	5	5	3
<b>Total</b>	<b>74</b>	<b>53</b>	<b>63</b>	<b>87</b>	<b>58</b>

\*Findings Reports completed

**Table 2: TFM Impairment Factors (as % of Total)**

<b>Factors</b>	<b>Idaho*</b>	<b>Iowa</b>	<b>Missouri</b>	<b>Nebraska</b>	<b>Oregon*</b>
Institutional	25.7%	34.0%	34.9%	23.0%	29.3%
Regulatory	25.7%	20.8%	19.0%	29.9%	19.0%
Financial	28.4%	28.3%	19.0%	20.7%	25.9%
Tax	5.4%	7.5%	6.3%	12.6%	6.9%
Legal	4.1%	5.7%	12.7%	8.0%	13.8%
Other	10.8%	3.8%	7.9%	5.7%	5.2%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

\*Findings Reports completed

For comparison purposes, look at *Institutional Factors* as a percentage of the total for Iowa, compared to Nebraska. Although the reasons for emphasis are as varied as are the type of factors that could be emphasized at the federal, state or local levels, institutional issues will attract more attention in Iowa. Another example is the emphasis of *Financial Factors* in Idaho (28.4%) compared to Missouri (19%). We know from the discussions that Missouri's Drinking Water Program provides financial management technical assistance to water systems and that Idaho does not. Thus financial factors are a comparatively lesser concern in Missouri. Finally, *Regulatory Factors* are considered impairments in Nebraska one-third more (29.9%) than in Oregon (19%).

## A CLOSER LOOK AT OREGON'S TFM FACTORS

### Enhancements and Impairments in Oregon

In Oregon, factors operating at the federal, state, and local level that impair or enhance water system capacity were drawn from national studies, from the experience of Committee members, and from knowledge gained by the OHD in administering the drinking water program over the years. The Committee identified 135 factors at the federal, state and local levels that are either enhancements or impairments to public water system TFM capacity.

Capacity enhancement or impairment factors were identified for each of the key levels of government: federal, state and local. The purpose of this work was to point out for each level of government the issues that require the attention of intergovernmental partners. In some cases, the Committee recommended that actions be taken at each level of government in order to improve the overall capacity of public water systems. Some recommendations are policy measures offered for consideration of the drinking water program's governmental partners.

### Factors That Impair or Enhance TFM Capacity in Oregon.

The following are a sample of issues described by the Oregon Drinking Water Advisory Committee. Specific recommendations to address impairments to capacity that would be best implemented at the federal level through statutory, regulatory or other changes are noted in italic type. Enhancements at all levels are noted first, impairments are noted after.

#### **Federal Institutional Enhancements:**

- Significant benefits are received by systems from the EPA's investment in training, technical assistance and education programs offered to water systems through the OHD, and EPA's various contractors, grantees, and partners. EPA's sponsorship of operator and system management training and education is a key enhancement to TFM capacity.

#### **State Institutional Enhancements:**

- Public water systems in Oregon benefit from the information, education and technical assistance programs established by organizations such as the American Water Works Association, the Oregon Rural Water Association, the EPA's Environmental Finance Center, the Rural Community Assistance Corporation, the Public Utility Commission and the OHD. The commitment of these organizations to providing service and information to public water systems has created a strong matrix of assistance for regulated systems and a forum for partnerships between service providers.
- The OHD has assisted in the promotion of voluntary operator certification programs for public water system operators. With these voluntary certification mechanisms in place, Oregon is in an excellent position for a transition to mandatory certification program requirements (by the year 2002), which will help ensure that all water systems have the personnel necessary to provide safe drinking water to the public.

#### **Local Institutional Enhancements:**

- Public education campaigns, including provision of Consumer Confidence Reports, could serve as catalysts for greater public involvement in water system issues. Citizen and customer awareness of TFM benchmarks and challenges could have the indirect benefit of creating broader acceptance of requests for financial resources necessary to maintain adequate TFM capabilities. Increasing general public awareness of the cost of providing safe drinking water is an institutional enhancement.

#### **Federal Financial Enhancements:**

- The establishment of the DWSRF, created to assist in the financing of capital improvements to public water systems, is an important new resource for building TFM capacity. Federal resources are authorized and appropriated by Congress for the establishment and enhancement of the DWSRF programs administered by the States.
- The DWSRF allows states to set-aside portions of the state capitalization grants for TFM capacity building. This is a significant source of resources for the states to fund programs for improving the capacity of public water systems.

**State Financial Enhancements:**

- The State of Oregon has provided significant financial and administrative resources for the establishment of important sources of capital financing for water system improvements. The Drinking Water State Revolving Fund would not exist without the capitalization grant matching funds appropriated by the Legislature. Administration of the DWSRF is provided by the OHD. Financial resources for water systems are also provided through programs administered by the Oregon Department of Commerce and the Oregon Department of Water Resources.

**State Regulatory Enhancements:**

- The traditional regulatory oversight activities of the Oregon Public Utility Commission (PUC) help to ensure that PUC-supervised public water systems (PWSs) have the TFM capacities to operate. This is because the PUC includes comprehensive review of financial capacity when evaluating the requests for rate increases by investor owned water utilities. The OHD, in partnership with the PUC provides oversight of the technical and management capabilities of these public water systems.

**Other State Enhancements:**

- The provision of general information and education regarding TFM capacity and the relationship of capacity to compliance is an important enhancement. For example, organizations such as the Rural Community Assistance Corporation, the Oregon Rural Water Association and the Boise State University Environmental Finance Center provide statewide services for technical assistance, training and education. By emphasizing the need for TFM capacity, organizations such as these and others reinforce the relationship of TFM and successful operation of public water systems.

*The following is a list and description of impairments to water system capacity.*

**State Institutional Impairments:**

- Multiple state agencies are involved in various aspects of the TFM affairs of public water systems. For example, both the Oregon Public Utility Commission and the Department of Water Resources are concerned with the financial, management and source water supply issues of public water systems. Another example is that information transfer relies upon informal rather than formal channels. The Department of Commerce is involved with infrastructure financing issues. Within the OHD, different programs impact the technical and management capabilities of regulated water systems. While informal working relationships exist currently, the lack of formal cooperation agreements and linkages between programs detracts from the optimal use of public resources for building TFM capacity in water systems.
- Improving TFM capabilities of public water systems will require additional resources for information, education and technical assistance programs. There is a lack of adequate funding for oversight activities in the financial and management capacity areas; the drinking water program does not have the resources and methods in place to adequately measure and assess the financial and management capabilities of public water systems subject to the TFM provisions of the SDWA. Current program resources and personnel are limited in this regard.

- The OHD is responsible for assisting in the development of TFM capabilities and is also the enforcement agency. This dual role inhibits cooperation on the part of regulated systems. Modifications in OHD interaction with water systems to reflect the agency's desire to build capacity through partnerships with the regulated systems could overcome this barrier.

#### **Local Institutional Impairments:**

- Water system customers seem to "take for granted" that safe drinking water is simple and inexpensive to produce. Generally, since service rates have been low traditionally, safe drinking water is both under-priced and under-valued. Recent surveys of the customer costs of drinking water indicate that Oregonians pay a low proportion of their household incomes for water. This institutional water-pricing situation makes it ever difficult for water systems to meet their full cost financing requirements when total costs of sustaining the water system are truly identified. Oregonians expect water to be provided at low cost regardless of system demands or regulatory requirements.
- For a variety of reasons, the majority of small public water systems employ flat rate pricing structures. Flat rate pricing is inherently inequitable where costs for serving different customer groups can be identified. While simple to administer, flat rate pricing can prevent customers from knowing the true cost of providing safe water and create consumption habits that strain the technical capabilities of aging or expanding water systems.
- Along with flat rate pricing structures, the lack of information about water usage, in effect an "unmetered supply" situation impairs water pricing and overall system management while straining the technical capacity of the system. This institutional impairment as with the other two above, create the impression that "running the water system" does not require rigorous attention to TFM capabilities.

#### **Federal Regulatory Impairments:**

- The growing body of federal regulations and requirements present public water systems with compliance obstacles and challenges that may impair capacity. In addition, the prescriptive nature of drinking water regulations -- the "one-size-fits-all" nature of the regulations -- is an impairment to public water system capacity.

*Recommendation: In the promulgation of statutes, administrative rules and guidance, the federal government should continue efforts to streamline, condense and simplify rules and regulations to facilitate incorporation into state programs.*

#### **State Regulatory Impairments:**

- Due to the complexity of drinking water system requirements, water systems have incomplete information about the body of regulations regarding the provision of safe drinking water. The current volume of rules, regulations, requirements and guidance relative to public water systems is difficult to master, especially by the limited staff of small systems. Because of this fact, the information to be monitored by systems, and the fact this information is dynamic, systems with limited TFM capacity have trouble keeping up with regulatory changes.

- Historically, the impression of the regulated community, service providers and stakeholders has been that there is irregular and inconsistent review of public water systems, including enforcement proceedings when necessary. It is important to note that *this has not been the case* where clear public health emergencies exist. Capacity development is impaired when regulated systems believe that corrective actions on their part are not absolutely required. *OHD's recent implementation of its compliance and enforcement strategy has already resulted in improvements in this regard.*
- Public water systems face regulatory oversight from multiple agencies. For example, "for-profit" water systems are regulated by the Public Utility Commission, the Oregon State Tax Commission and the OHD (or the District Health Departments as contractors for the OHD). Current lack of formal coordination between these regulatory agencies is an impairment to capacity development.
- In the case of PUC-regulated public water systems, traditional rate making practices may have the unintended effect of discouraging long-term financial capacity in favor of short-term financial management and planning practices. Rate base regulation, a presumption of contribution of capital, general disallowance for reserve accounts, and the costs involved in filing rate cases may negatively affect the long-term financial and technical viability of regulated water systems.
- Current drinking water regulations are generally prescriptive. This is an impairment to the extent that they restrict the use of alternative processes for meeting the goals of public health protection. The establishment of performance based regulations for meeting drinking water rule requirements would be an enhancement to TFM capacity. Performance based standards would allow for lower cost technical solutions (when appropriate) to overcome compliance problems. Prescriptive, process-oriented standards are an impairment to achieving technical capability.

**Local Regulatory Impairments:**

- There is a general failure of small public water systems to know and understand the complete body of statutes, rules and regulations governing their operations. General lack of technical and management capacity at the small system level translates into inability to understand and adjust to the myriad of changes in the regulatory framework governing the provision of safe drinking water.
- Current limitations in training opportunities in the area of SDWA statutes, rules, regulations and guidance are an impairment to the ability of public water systems to maintain management capacity necessary for continued compliance with drinking water requirements.
- Planning authorities are not currently required to specifically consider water system TFM capacities when planning for growth. This means that development decisions can be made without knowledge of the water service providers' TFM capabilities. In many cases, development decisions are completely independent of public water system information due to the separate operations of local planning authorities and private, not-for-profit, or municipal water systems. Land use statutes should be modified to reflect the need for consideration of TFM capabilities of all public water systems directly affected by potential (probable) land use decisions.

**Federal Tax Impairments:**

- The current federal tax code is a disincentive to the consolidation of public water systems.

*Recommendation: Modification of federal tax code to permit the benefit of limiting tax liability by capturing accelerated depreciation expense for system(s) taken over through privatization or consolidation.*

**State Tax Impairments:**

- The current statutory restrictions on local government budgeting (i.e., property tax and budget limitations) have a direct effect on public water system finances. Revenue raising limitations negatively affect the successful administration of municipal fee and rate supported activities. State limitations on local budgets force an overall cap on municipal revenues, to the extent that water utility finances are in effect "commingled" with the balance of municipal government activities, instead of being allowed to be presented separately in accordance to municipal accounting standards. Local government taxation limitations have a direct and potentially negative effect on the long-term financial health of public water systems.
- The absence of production tax credits for water provision could be viewed as an impairment. Production tax credits, similar to those available to agricultural producers, would reduce the taxation liability of non-governmental water systems. The reduction in the tax liability would result in an enhancement of financial capacity by allowing taxes to be retained by the water system for capital projects, system upgrades or to lower the need for rate revenue.

**Federal Legal Impairments:**

- Consolidation or privatization opportunities are limited in some cases because of pending enforcement actions against a system or systems being purchased.

*Recommendation: Resolution of enforcement actions or negotiation of compliance penalties could enhance opportunities for attaining compliance by removing disincentives to capable entities interested in taking over incapable ones.*

**Federal Financial Impairments:**

- Public water systems in rural areas (such as Oregon) are burdened by Federal Davis-Bacon Act requirements for payment of prevailing wage rates on construction projects financed by federal resources.

*Recommendation: In order to reduce project construction costs, and to maximize DWSRF resources, federal Davis-Bacon Act requirements should be waived for construction projects financed in whole — or in part — by the DWSRF.*

**State Financial Impairments:**

- Except for those regulated by the PUC, public water systems are financially "self-regulated." For example, municipal water system operations are enterprise fund (fee and rate supported or "private business-like") activities regulated by elected officials. Constituent pressure often leads to rate structures incapable of sustaining long-term financial stability. Self-regulated systems generally receive no additional review and advice regarding the financing of operations, capital improvements, etc.

**Local Financial Impairments:**

- The lack of planning for current and future capital facilities is a significant impairment. Capital facilities planning have a direct effect on the TFM capabilities of smaller public water systems. The failure to recognize necessary future improvements to the technical facilities due to expansion or regulatory requirements often results in water systems being ill prepared to react to the need for financial resources necessary to construct and operate their facilities.
- Financial management capabilities are limited in many small public water systems. Staff and management teams need specific training and technical assistance to manage their financial resources and to protect the integrity of their water systems.
- The sheer number of small public water systems implies that many lack the economies of scale necessary to efficiently operate. Numerous systems would be in a better position to achieve compliance and to improve TFM capabilities if their customer bases were large enough to sufficiently finance current operations and fund future operations on a sustainable basis.
- Financial capacity of private and not-for-profit public water systems is compromised when the supply of capital resources necessary for system improvements is limited. There is a lack of capital financing resources for non-municipal water systems.

**SUMMARY AND CONCLUSIONS: CONSIDERATIONS FOR OTHER STATES**

States in the process of formulating strategies for improving the technical, financial and management capabilities of community and non-community non-transient public water systems are learning about the specific factors that either impair or enhance system viability. The Environmental Finance Center has completed its preliminary work in Oregon and Idaho and is working in five other states, including all four states in EPA Region 7. The factors identified in Oregon and Idaho played an important role in formulating the suggestions for programs to “enhance” the enhancements and to overcome the impairments.

While many of the factors identified in Oregon might be applicable in other states (certainly, these are one set of issues to consider), water system professionals and stakeholders need to express specific issues and factors that are inherent to their state. Each state has unique challenges that are faced by the regulated community, the regulators and service providers.

Improving the TFM capabilities of public water systems will depend upon an integrated approach that requires technical and financial/management specialists sharing their expertise in diagnosing system compliance problems, and in fashioning solutions to those problems. The preliminary work of the states involved in this study demonstrates that the factors most likely to impair TFM capabilities of water systems are institutional, regulatory, and financial. For the most part, these factors translate as primarily non-technical (or physical plant related); factors involving *who* is involved in both overseeing and/or delivering safe drinking water, factors involving *why* drinking water must be protected to certain levels, and factors involving *how much* it costs to provide it.