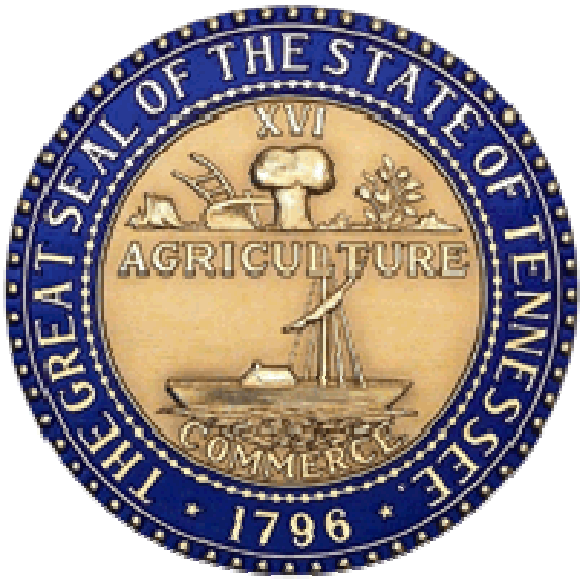
Triennial Capacity Development Report to the Governor



Prepared by the
Tennessee Department of Environment and Conservation
Division of Water Supply

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Report to the Governor

Executive Summary

The Federal Safe Drinking Water Act (SDWA), Section 1420(c)(3), 42 U.S.C. § 300g-9(a), requires that not later than two years after the date on which a State first adopts a capacity development strategy, and every three years thereafter, the head of the State agency that has primary responsibility to carry out this title shall submit to the Governor a report that shall also be available to the public on the efficacy of the strategy and progress made toward improving the technical, managerial, and financial capacity of public water systems in the state. This report is intended to fulfill the requirement of Section 1420(c)(3).

In response to Federal requirements Tennessee's Drinking Water Rules were amended and now require all new public water systems to demonstrate technical, managerial and financial capacity or in other words show that they are "viable" when they begin serving water to the public. All new water systems are required to develop a "capacity development plan" including a business plan that demonstrates the system can be in compliance with the SDWA on the day they begin serving water. Water system capacity is the ability to achieve and maintain compliance with all applicable drinking water standards. Systems that cannot demonstrate capacity are not approved.

To address the viability of existing water systems, Tennessee has adopted a Capacity Development Strategy, which focuses on issues of viability for all existing water systems. Tennessee's Capacity Development Strategy requires all existing public water systems in "significant non-compliance" (as defined by the Environmental Protection Agency or EPA) to develop plans showing that sufficient revenue is available and that the water system has adequate management and technical capability to operate in compliance with the SDWA. Requiring water systems to demonstrate capacity has prevented marginally funded water systems from starting operation, accelerated the compliance of existing systems in significant non-compliance (SNC) and has encouraged potentially significant non-compliers to make extra efforts to achieve a satisfactory compliance status. The strategy has encouraged regional approaches to supply water to potential customers and encourages system operators to better network among themselves; take advantage of economies of scale where possible; focus on serving larger numbers of customers and finally, make multiple kinds of training, education and technical assistance available to operators, board members, and other water system personnel.

This report provides an evaluative assessment on the success and effectiveness of the state's continuing efforts to ensure capacity development of public water systems in Tennessee and the state's Capacity Development Strategy.

The Need for a Capacity Development Strategy

The 1974 SDWA requires that all states ensure that providers of drinking water meet minimum national standards. Initially, it was envisioned by the EPA that public notification requirements, coupled with citizen pressure and potential litigation would make enforcement of the provisions of the act "largely unnecessary." In the years that followed the initial act, the EPA has come to recognize that states must assume primary enforcement responsibility for compliance with the Act. Further, the EPA and the states have come to realize that full compliance can only be achieved through capacity development, that is, the improved financial, technical and managerial ability of a water system to comply with ever-changing and increasingly complex public water system regulations.

To address the capacity development needs of public water systems, the federal Safe Drinking Water Act Amendments of 1996 mandate that states ensure that all new community water systems (CWSs) and all new non-transient, non-community water systems (NTNCWS) demonstrate capacity to implement each drinking water regulation in effect. Section 1420(a) of the federal SDWA requires that a State obtain the legal authority or other means to ensure that all new community water systems and new non-transient, non-community water systems commencing operation after October 1, 1999 demonstrate technical, managerial and financial capacity, or lose a portion (20%) of the monies allotted for the State's drinking water revolving loan fund (SRF). The intent behind the amendment is that a community water system and certain non-community systems not be created or allowed to operate if they do not have the ability or "capacity" to comply with Safe Drinking Water regulations.

In addition, the 1996 amendments require states to prepare a "capacity development strategy" to identify and prioritize water systems lacking capacity to comply consistently with drinking water regulations. Although states may have undertaken efforts prior to 1996 to improve the viability of public water systems to comply with SDWA provisions, states must now focus on the broad issue of system capacity and formally develop plans with initiatives designed to improve the overall compliance of water systems under their preview. A Capacity Development Strategy is an important state perspective, not taken by all states until passage of the amendments. It is an oversight responsibility whereby states are compelled to make a systematic review of water system capacities and undertake strategic and proactive initiatives in building system capacities.

To determine the effectiveness of Tennessee's Capacity Development Strategy, the Division of Water Supply has compared the list of public water systems with a history of significant non-compliance in 1997 to those systems with a current history of violations (See Attachment 5, Tennessee PWSs with a History of Violations). The results reflect an improved capacity of many water systems to comply with established SDWA requirements, as most non-compliance violations are the result of newly adopted rules. The sections that follow summarize Tennessee's Capacity Development Strategy,

implementation of the strategy, and an evaluation of the strategy, including an identification of the barriers that may hamper the strategy's effectiveness.

The Division of Water Supply (DWS) uses its SNC list (submitted in August 1997 to EPA) as a baseline and according to EPA guidance adjusts the baseline to incorporate systems that become SNCs as new rules are promulgated. Decreases in the number of systems on that historical SNC list provide a measure of the improvement in capacity among public water systems (PWSs) in Tennessee. Improved sanitary survey scores and increases in the number and technical classification of certified operators also indicate improved capacity.

State Objectives and Strategy

In order to identify the technical, managerial, and financial factors in Tennessee which contribute to federal drinking water program non-compliance, the DWS engaged in a dialogue with stakeholders, generally referred to as the Capacity Development Committee, composed of technical assistance providers, public water systems, consulting engineers, certified water treatment operators, and environmental groups. In addition, meetings were also held with the Tennessee Association of Utility Districts (TAUD), the Municipal Technical Advisory Service (MTAS) and the Small Community Outreach and Education Committee. Citizens and water customers were encouraged to comment via telephone, e-mail and letter. With their insights and suggestions, the Division of Water Supply developed a strategy. A major objective to emerge from the meetings was that the strategy should recognize the many technical capacity development assistance activities already in place, e.g. operator certification, plans approval, system sanitary survey assessments, technical and managerial assistance from TAUD, AWWA, etc. which contribute to the capacity of a water system. The strategy itself compels regulators to take a holistic view of the drinking water industry and its partnership in Tennessee. With that view in mind, it is the task of the Strategy to look for ways to identify areas for improved coordination, which better integrates capacity developing elements.

Tennessee's Capacity Development Strategy process made a comprehensive assessment of available capacity developing resources, bringing together and looking at the sum of seemingly disparate programs intended to help water systems become healthy, viable systems and finding ways to improve each program's effectiveness and then focusing attention and resources on those systems in order to achieve the goal of viable water systems. The benefit of the Capacity Development Strategy is that the State is able to review the broad range of efforts (programs and activities) currently offered and undertaken to maintain or develop or improve capacity and in a comprehensive way identify any gaps and areas of weakness available to various types of systems. The Capacity Development Committee, recognizing Tennessee's previous efforts and its strengths, determined that the driving mechanism to an effective state strategy overarching an array of resources is the State's enforcement capability. The State is served well by the consistent, even-handed application of enforcement with respect to the development of

capacity by public water systems when other avenues such as education, training and technical assistance do not achieve compliance with the SDWA.

Over the years, operator training was targeted for water systems lacking qualified technical personnel, grants and loans were made available to systems needing infrastructure improvements, procedures were developed creating enforcement programs, and third party operator training programs were offered by TAUD, MTAS and others. Other technical and financial controls were developed, including design standards, on-site inspections and on-site technical assistance, the Utility Management Review Board (UMRB), the Water and Wastewater Financing Board (WWFB) and the Division of Municipal Audit, all of which conduct financial reviews of water systems. These and other mechanisms have been applied to improve or develop water system capacity and have been in place in Tennessee for many years. More recently however, financial and managerial resources have been developed and applied in order to improve capacity. These resources include management training for commissioners and/or system managers lacking operational water system management knowledge and/or experience.

Underlying these separate approaches or tools is the State's regulatory foundation. It is a power not available to agencies that offer technical, managerial and financial assistance alone or outside of government. The point is enforcement is a viable and legitimate tool in helping public water systems acquire, maintain, or improve their capacity and become viable water systems. Compliance reports are the indicator and guiding mechanism to Tennessee's state capacity development strategy. Compliance reports provide a continuous means by which capacity development issues are identified and addressed. As water systems incur violations, Tennessee is able to focus on the specific issues of the system and open the door to a world of assistance possibilities and corrective actions. While Tennessee has an on-going program of loans, boards to review rates and a variety of agencies providing technical assistance and training to promote compliance, not all water systems take advantage of the resources and the opportunities.

Existing water systems identified as "significant non-compliers" are targeted and directed to further develop and improve their technical, managerial and financial abilities to operate a public water system. Through the enforcement process, Tennessee has been able to bring considerable attention to systems needing to address and correct violations. This intense attention typically includes technical assistance, if appropriate, and directives that require a corresponding action to address the system's specific capacity development needs. The enforcement process compels noncompliant systems to address capacity issues or face continuing and escalating enforcement action.

Specifically, to this end Tennessee compliments the marketplace of resources and capacity development activities by issuing Notices of Violations (NOVs), court actions, scheduling Compliance Review Meetings (CRMs), issuing Commissioner's Orders (COs) and Director's Orders (DOs) to target systems needing technical, managerial, and/or financial capacity. Initial enforcement efforts simply make systems aware of specific compliance

needs and state requirements with rules. If compliance is not obtained and systems fail to acquire technical, managerial and/or financial capacity they face penalties and possibly additional enforcement action. The approach is outlined in detail in its State Capacity Development Strategy as submitted to the EPA.

As part of capacity development, the Division of Water Supply requires existing water systems that have become significant non-compliers and those who have the potential for becoming significant non-compliers to submit a capacity development plan identifying specific actions leading to the development of capacity. The plan must document and/or address all compliance issues faced by the system, including issues pertaining to organizational structure, emergency operations plan, microbiological sampling plan, source water protection or wellhead protection plan, cross connection policy and program, business plan, a record keeping plan, and certified operator. The Division uses the Capacity Development Plan Guidance Document (Attachment 1) and the Capacity Development - Business Plan, Financial Self-Assessment Manual (Attachment 9) to insure that PWSs develop capacity.

As mentioned earlier, many capacity development tools were already in place prior to the development of Tennessee's strategy. The Division's Sanitary Survey Manual, plan document reviews, the Utility Management Review Board (reviewing the financial capability of systems), the Water and Wastewater Finance Board and Fleming Training Center (providing operator training workshops) have been in existence and very effective for many years. Similarly, other mechanisms have been identified and resources have been created within the past several years. These include the board and commission member training programs established by the Tennessee Association of Utility Districts (TAUD) and the University of Tennessee's Municipal Technical Advisory Service (MTAS). In 2007 the State Comptroller entered into a contractual arrangement with TAUD to provide financial technical assistance to financially distressed utility districts. It is believed the coordination among State agencies and partnerships with stakeholders prove to be very beneficial in assisting systems achieve and sustain capacity requirements in the future. Other resources that have emerged within the past year include several "distance learning" programs for operators and a renewed emphasis on evaluating and updating utility rates.

In summary, Tennessee's capacity development strategy targets community and non-community systems in non-compliance with whatever appropriate tool is needed to obtain compliance. All public water systems receive technical, financial and managerial assistance where appropriate and whatever level of enforcement is necessary.

Attachment 3 (PWSs with a History of Significance Non-Compliance in Tennessee), Attachment 4 (Tennessee PWSs with a History of Violations, Compliance Status), and Attachment 5 (Tennessee PWSs with a More Recent History of Violations) reflects the accomplishments of Tennessee's Capacity Development Program and a complete evaluation of the program begins on page 14.

Implementation of the Strategy – New Systems

The Tennessee Division of Water Supply's legal authority remains unchanged since the Attorney General and Reporter for the State certified on July 15, 1999 that the laws of Tennessee provided adequate authority to carry out the capacity development requirements of the SDWA Section 1420(a), 42 U.S.C. § 300g-9(a).

TDEC has for more than 50 years reviewed construction projects to ensure that new water systems have the technical capacity to comply with State drinking water requirements. Regulation 1200-5-1-.05 outlines the procedures that an applicant must follow for obtaining approval to construct a water system. Regulation 1200-5-1-.05(3) refers to minimum design standards for the construction of groundwater and surface water sources, treatment facilities, storage facilities, and distribution facilities (sources, treatment, storage and piping) to comply with the water quality standards and treatment technique standards specified in Regulations.

Section 68-221-704(2)(E) grants the Water Quality Control Board the authority to adopt rules to ensure that all new community water systems and non-transient, non-community water systems commencing operation after October 1, 1999 demonstrate technical, managerial, and financial capacity to comply with the requirements of the Safe Drinking Water Act.

On June 15, 1999 the State Drinking Water Regulations were amended to require the applicant for a new public water system to demonstrate to the satisfaction of the Department that the new system will be a viable water system. Those rules became effective on August 29, 1999. Section 1200-5-1-.17(37) of the Drinking Water Regulations outlines the required information that must be submitted with the engineering documentation for approval to construct a new system. The regulations were amended to also include the definition of a "Business Plan" and "Capacity Development Plan." The definition of each of these plans can be found in Rule 1200-5-1-.04.

TCA 68-221-701 et seq. and the associated regulations 1200-5-1-.01 grants the Division of Water Supply the authority to consider whether a new system will be a "viable water system." If the Department determines that a new public water system will not be a "viable water system," the approval to proceed is denied. This authority remains in effect and is being implemented as part of TDEC's approval program for new water systems.

Control Points. Tennessee's control points remain the same. Tennessee Department of Environment and Conservation (TDEC) has two control points in ensuring that new community and new non-transient, non-community water systems demonstrate the technical, managerial and financial capacity to comply with the Safe Drinking Water Act (SDWA).

1.) The first control point is the submission of engineering documents for approval to construct a new water system. TDEC's engineering staff reviews the engineering documents for compliance with the procedures outlined in the regulation and the design standards. A staff accountant with the Division's SRF Loan program assists engineers, as needed, in reviewing the financial capacity of a proposed system. The proposal must demonstrate that the system will have the technical, managerial and financial capacity to meet the requirements of the SDWA. If the information contained in the engineering report is satisfactory to the Department, it is approved and the system can proceed with development plans and specifications. Before final approval is granted to begin construction of a new water system, it must develop and submit a Capacity Development Plan to document to the State that the system is a "viable water system." If at any time during this process the State determines the system is not a "viable water system," approval to proceed can be withheld and the project denied.

2.) The second control point is final construction approval. Section 1200-5-1-.17(19) of the State Drinking Water Regulations requires that once construction has been completed, arrangements must be made for an inspection and approval before operations can begin. All new public water systems are required to submit an engineering report summarizing the need for a new system, a summary of alternative solutions, and recommendations regarding sources of water, proposed treatment processes, project sites, distribution system, financing (rates, debt, etc.) and management. State regulations require water systems to obtain written approval from the Tennessee Department of Environment and Conservation to begin operation after construction is completed.

New System Compliance

From 2005 to 2008, 35 Community and Non-Transient Non-Community Water Systems were created in Tennessee (See Attachment 2, "New CWSs and NTNCWSs in Tennessee, 2005-2008"). Of this number, there were 33 community water systems, 28 of which are apartment or condominium complexes that purchase water and sub-meter to tenants. Two non-transient non-community water systems were created. All 28 of the apartment and condominium complex systems which were created have been deactivated under the department's submetering policy (Attachment 10, "Tennessee's Submetering Policy"). Many of these PWSs initially became regulated CWSs because they installed meters to recover expenses associated with providing water to tenants. None of them constructed any infrastructure and are not 'new systems' for the purpose of section 1420(a) of the SDWA as amended" (refer to EPA guidance).

Three (Ridgewood Park MHP, Metro Lynchburg/Moore County UD #2 and Lexington–Rascaltown Community) of the five (5) community water systems existed prior to the Capacity Development Rule becoming effective and are not required to submit a Capacity Development Plan. The Lexington (Alabama) Water Authority was created in 1965 and

extended lines into Tennessee serving the Rascaltown Community in 1993. The Tennessee portion of the system became regulated by Tennessee in August 2006. As of December 2006 that portion of the system is also able to obtain water from the Loretto Water Department (PWSID No. 0000408). Ridgewood Park has been in existence since 1991.

Two water systems are "new" as defined by EPA. They are Flat Creek Co Op #2 (PWSID No. 0008272) and Watts Bar @ Loudon (PWSID No. 0008273). Flat Creek Co-Op #2 has submitted a Capacity Development Plan to the DWS. Watts Bar @ Loudon has been created prior to actually requiring regulatory oversight. The system consists of a sales office and anticipated the extension of a water line from Watts Bar Utility (PWSID No. 0000872). In the interim, the DWS wanted the system (which is utilizing a water well until they obtain from Watts Bar) to begin meeting regulatory requirements, obtaining a certified operator and collecting microbiological samples. The housing-mortgage crisis and the resulting lack of development has eliminated the need to establish this system. No homes have been built. Neither system has had any compliance issues.

The non-transient non-community water systems, ETZC – Immel (PWSID 4674, Knox County) and Franklin Industrial Minerals (PWSID 0005124, Franklin County) were activated. ETZC – Immel was previously an active system, deactivating in November 1990. Franklin Industrial Minerals has been in operation for many years, and because of its increasing number of employees only now requires regulatory oversight. The system also maintains other facilities in Tennessee and is a large, well established company, with an environmental staff.

In a number of instances, division staff have been able to discuss public water system requirements with apartment complex managers prior to the installation of meters, thereby avoiding the creation of new, regulated systems. In other instances, many new community water systems (CWSs) and non-transient, non-community water systems (NTNCWSs) have not been created because of the requirement to demonstrate capacity prior to operational start-up. Instead, many potential new systems elected to construct lines to existing water systems to serve the businesses and residents where there was a need for water. Finally, even though 19 community water systems were created during the period, the number of community water systems declined from 685 systems in 2005 (July 1) to 485 community water systems in 2008 (June 30). In addition, there were 44 non-transient non-community systems in 2008 (June 30), an overall increase of one system from 2005 (July 1). The changes reflect both the number of submetered apartment and condominium complexes that have been deactivated as a result of EPA's policy regarding submetered systems and water systems that have consolidated and/or ceased operation.

Implementation of the Strategy – Existing Systems Strategy

As discussed earlier, Tennessee has many programs and tools available to help public water systems acquire technical, managerial and financial capacity. These include training offered by the Department's Fleming Training Center (FTC), third party operator and

board member management training offered by TAUD, MTAS, and others; Division on-site inspections and on-site technical assistance; assessments made by financial review boards, including the Utility Management Review Board (UMRB-Comptroller's Office), the Water and Wastewater Financing Board and the State's Division of Municipal Audit. A financial self-assessment tool is also offered by the DWS. Managerial training is offered by Tennessee Association of Utility Districts (TAUD) and Municipal Technical Advisory Service (MTAS). Consulting engineers and design standards also provide direction. Finally, enforcement of state rules provide definitive guidance relative to "capacity" needs.

More specifically, programs and tools used to help water systems acquire capacity are offered in various formats and venues. These include:

- Rule workshop updates provided to operators and system management by TAUD and DWS staff
- Operator Training at TDEC's Fleming Training Center (FTC)
- Rulemaking Hearings open to the public and staff of PWSs conducted by DWS staff
- Continuing Education Sessions for certified operators provided at AWWA Conferences
- On-site and off-site technical assistance (TA) given to system operators and water system staff by DWS Environmental Field Office (EFO) staff
- On-site and off-site technical assistance (TA) given to system operators and water system staff by TAUD's three "circuit riders"
- Financial Reviews of Municipal and Utility Districts by the WWFB, UMRB (now in the Comptroller's Office) and Division of Municipal Audit
- Elected Officials Training by MTAS (Municipal Technical Advisory Service)
- Commissioner and Board Member Training by TAUD
- DWS's Financial Self-Assessment Manual
- Small Water System Operator Guide
- The DWS' Sanitary Survey Manual for Community Water Systems (CWSs) and Non-transient Non-community Water Systems (NTNCWSs), Revised Draft February 2008
- Published Safe Drinking Water (SDW) Rules
- Standard Operating Procedures (SOP) Requirements and Guidance
- TDEC Website Resources (Forms, Manuals, Videos, Lists and Links)
- Certified Laboratory Lists (available from the DWS and the State's Website)
- Certified Operator Lists (available from the DWS and the FTC)
- Sanitary Surveys providing comprehensive assessments of all PWSs
- State Revolving Loan Funds and staff technical assistance to eligible systems
- Emergency Operations Plan (EOP) Guidance (a/k/a Venerability and Security Plans) for all CWSs
- Significant Non-complier (SNS) Lists
- Enforcement Actions and Proceedings against all PWSs in non-compliance (Notices of Violation, Notices of Non-compliance, Show Cause Meetings,

Compliance Review Meetings, Commissioner's Orders, Directors Orders, Civil Penalty Assessments, and Contingent Civil Penalty Assessments)

The list is by no means definitive and several of the above listed programs and tools deserve additional attention.

Standard Operating Procedures (SOPs) – The DWS has encouraged all PWSs to develop and adopt SOPs for operations, maintenance, and troubleshooting. Systems with a history of non-compliance are required to develop and adopt SOPs and systems whose certified operator(s) cannot be on-site while the system is producing water must have SOPs in-place for use by those individuals designated to operate for the certified operator in direct charge. These documents establish procedures, which if followed ensure the health and safety of those consuming the water.

Drinking Water rules require all public water systems (meeting the definition of a public water system) to be operated by a certified operator in direct control. This is perhaps the single most important rule pertaining to water systems and their compliance with state drinking water rules.

Complimenting these rules are Tennessee's continuing education requirements and the State's Operator Training Center (Fleming Training Center or FTC) which provides initial and on-going training for water and wastewater operators. The FTC offers 5-day classes to operators seeking grade 1 and grade 2 water treatment certification which prepare operators on how to properly treat water under changing conditions.

Continuing Education Seminars have been provided in Knoxville, Jackson and Murfreesboro. The seminars focus on well maintenance, well disinfection, and wellhead protection.

In addition, the FTC has begun a Small Water System Outreach Program (SWSOP) targeting small community water systems that serve 3,300 persons or less, Transient (TNCWSs) and Non-Transient Non-community water systems (NTNCWSs). The program began in January 2007 and staff has visited approximately 65 small water systems since start-up. The small water systems visited were either referred by the Division of Water Supply field offices' staff or responded to a mail–out. Assistance has covered applying for certification, new regulations, recordkeeping and document maintenance, water quality sampling, planning, and treatment techniques. The SWSOP is funded by an expense reimbursement grant from the EPA.

Public water systems with knowledgeable operators are essential to having viable water systems. Additional information regarding the FTC and the Operator Certification Program in Tennessee is available on Tennessee Department of Environment and Conservation's website (http://state.tn.us/environment/fleming/). Other operator resources available on the State's website include training clips, revised manuals and forms, links to resources,

annual violations lists, certified lab lists, construction design criteria, and the current sanitary survey manual (http://state.tn.us/environment/dws/DWprogram.shtml#videos).

It should be mentioned that State requirements for systems to have certified operators to comply with increasingly complex and expensive rules has led to fewer public water systems being created. This is due in part to creating a climate, which encourages systems to consolidate or merge. New complex rules have also led to the development of partnerships between PWSs, sometimes involving the State, to understand the impact of a particular rule and the means to achieve compliance. Partnerships have emerged with respect to developing effective cross connection control programs, mutual aid, and compliance with the disinfection/disinfection by-products rule. Tennessee statues, regulations, and policies do not require capital improvements planning or regionalization studies, but many systems share certified operators. Several regional and statewide "management" groups have emerged in Tennessee, which offer their services to water systems that by themselves are not capable of retaining certified operators, nor is it feasible for them to interconnect. The environment for the creation of smaller, stand-alone water districts is unfavorable. They must now consider all of their alternatives. These sometimes demand a reliance on "management" services, sometimes closure, or where funding can be obtained, the extension of lines and service areas from existing water systems. Tennessee Rules (Rule 1200-5-1-.05 (9)) "require" systems to consider regionalization insofar as feasible. Where disincentives exist for regionalization of systems or even the extension of lines, the DWS will continue to support policies that try to address these issues and to clarify and strengthen the regulatory language that encourages consolidation "insofar as feasible."

Finally, the state's Emergency Operations Plan (EOP) requirement has added a source water assessment and protection plan element that helps systems develop capacity. This requirement allows systems to proactively examine themselves holistically, including a consideration of source. In the case of Huntsville Utility District, the system is attempting to control development around its new lake, an abandoned old strip mine. Many public water systems in Tennessee are now diligently working to protect vital drinking water sources from potential sources of contamination.

Identifying Systems in Need of Capacity

Tennessee continues to identify systems in need of capacity by monitoring water system compliance with rules. Water systems which incur violations are systems that "lack capacity." When those systems become EPA SNCs (Significant Non-Compliers) they become Tennessee's Capacity Development "target audience." Tennessee also addresses potential SNC systems. Systems within the target audience face a strategy of programs, actions and enforcement designed to develop system capacity and attain compliance. The strategy has not changed since it was adopted. The programs and activities used to reach that target audience remain the same and the way Tennessee has assisted systems has remained the same. Tennessee continues to use construction approvals, continuing

education for operators, DWS State Revolving Fund (DWSRF) loan applications, municipal financial audit reports, reviews by the Water and Wastewater Financing Board and Utility Management Review Board, rule workshops, operator and board member training, sanitary survey assessments, compliance data (including SNC and Potential Significant Non-Complier lists), and enforcement activities (Notice of Violations, Letters of Agreement, Compliance Review Meetings, Commissioner's Orders, Director's Orders, Agreed Orders, etc.) to reach systems lacking capacity. DWS also gives high priority to DWSRF applicants who must meet TMF capacity requirements in order to obtain funding. It appears to staff to be an effective strategy in targeting systems for capacity development assistance.

Statewide Capacity Needs, Concerns and Trends

Challenges to carrying out an effective Capacity Development Strategy involve the compliance of very small water systems. Certain categories of small water systems are difficult to regulate and thereby obtain full compliance. Many of the systems are rural churches, open to the public only one-day a week that do not have a certified operator. Maintaining a water system is not their primary purpose, nor are church members knowledgeable about drinking water rules or trained in sampling techniques. Often, financial resources to obtain these services are extremely limited.

Another challenge is assisting small community water systems in addressing identified security issues. Although smaller systems are not at the same level of risk for a terrorist event, they are at risk for disruption by disgruntled employees and local vandals. Improved security against potential terrorism and the more likely threat of sabotage must be addressed if normal operations are to be maintained. Improving the security and resiliency of water systems better ensures the consistent and uniform provision of services across the state. Limited funding compounds addressing many security issues adequately.

Perhaps the greatest challenge to capacity development are the 1996 Amendments to the State Drinking Water Act. The amendments resulted in a proliferation of new regulations. The department has adopted 8 new federal regulations in the past 5 years in order to maintain primacy. The accelerated and continuing promulgation of these new rules has affected the state's ability to provide the needed training to public water supplies. In addition, the science relating to drinking water is evolving and new problems are continually being discovered that previously have not been investigated; resulting in resources being diverted to address whatever new problems demand the public's attention. These lead to the adoption and implementation of new, complex rules. The following new Federal Safe Drinking Water Act rules and now being implemented by the Division:

RULE	State Effective Date
Filter Backwash Rule	June 26, 2002
Radionuclide Rule	June 26, 2002

Arsenic Rule	September 29, 2002
LT1ESWTR (Long Term 1 Enhanced SWTR)	March 15, 2003
Revised Arsenic Rule	July 3, 2004
Revised LT1ESWTR	July 3, 2004
Stage 2 DBPR (State 2 Disinfection By-Products Rule)	October 14, 2006
LT2ESWTR (Long Term 1 Enhances SWTR)	October 14, 2006
GWR (Ground Water Rule)	August 26, 2008

And the following Rules are anticipated to be adopted by the US Environmental Protection Agency and/or the DWS in the future:

- Revised Lead and Copper Rule
- TCRDS (Total Coliform/Distribution System Rule)
- Radon Rule
- CCL (Contaminant Candidate List)
- MTBE (Methyl-t-butyl ether) Rule
- CROMMERRR (Cross-media Electronic Reporting and Record-Keeping Rule)
- Aeromonas
- Sulfate
- PPCP (Pharmaceutical and Personal Care Products)

To address the challenge of new rules, DWS staff will continue to provide on-site visits and technical assistance to systems that appear to be struggling or have in the past struggled to implement them. In addition, the DWS makes available web training clips, revised manuals and forms, links to resources, annual violations lists, certified lab lists, construction design criteria, and sanitary survey manuals.

Related to the capacity issue is EPA's prescribed laboratory methods used by certified labs to determine compliance of public water systems. The haloacetic acid method is inexact in accurately determining the level of compounds used for compliance purposes. To date, several water systems in Tennessee may be classified as SNCs that are suspected to be caused by questionable analytical methodology and unrelated to capacity. Specifically, some of EPA's currently approved methods allow labs to become certified if they obtain results which are plus or minus 50 percent of the known level. Laboratories are allowed wide margins of error in conducting laboratory analyses while water systems are required to meet exacting standards. To comply with disinfection byproducts standards water systems may have to spend tremendous amounts of money when the data is inconsistent and unreliable. Systems with disinfection byproduct MCL violations that purchase water from wholesalers are also at a distinct disadvantage when it come to returning to compliance.

Finally, Tennessee is currently experiencing a drought which has affected many PWSs. In addition to conducting sanitary surveys and providing technical assistance related to the

implementation of new rules, staff has been pressed to provide assistance to systems impacted by drought. In some cases, CWSs have had otherwise reliable sources decline in streamflow, reservoir level, spring or water well output. In other cases, systems have experienced record levels of demand, exceeding the capacity of their treatment facilities, water mains to deliver adequate amounts of water, and depleting needed storage. Water quality issues have also needed to be addressed. Unusually hot weather has increased water temperatures, dissipating chlorine residuals. Taste and odor complaints are widespread as well. Tennesseans concerns regarding aquatic life have also made withdrawals by water systems an issue. Public policy concerns over drought related issues also require staff attention.

Review of Capacity Development Strategy

The Division of Water Supply has not undertaken a formal review or issued a report (other than this review and report) of its Capacity Development Strategy as it appears to Division staff to be an effective strategy in targeting systems for assistance.

Modifications to Existing Strategy

Tennessee's strategy remains essentially the same since it was developed and adopted. Additional resources have been identified and some have been modified, but Tennessee continues to follow its capacity development plan, initially assisting systems to develop capacity, and when systems resist orchestrate capacity development through more direct means, escalating to enforcement. Thus, no significant changes to the strategy are anticipated.

Water systems receiving a Drinking Water State Revolving Fund (DWSRF) loan are required to demonstrate that they have or will have the financial, managerial, and technical capacity to comply with Safe Drinking Water requirements as a result of the loan or before final approval of the loan application.

Finally, the state's Capacity Development Strategy, through emphasizing capacity and viability has effectively prevented the creation of many nonviable public water systems.

Evaluation of the State's Capacity Development Strategy

In order to identify water system needs as well as potentially effective compliance mechanisms, the state has established a water system baseline as required by Section 1420(c)(2)(D) the SDWA to measure improvements in system capacity. The baseline uses the initial list of community water systems and non-transient, non-community water systems with a history of non-compliance, which was sent to EPA on August 1, 1997 (see Attachment 3, "PWSs with a History of Significant Non-compliance in Tennessee, Systems Meeting Definition of SNC During FY1994 – FY1996").

Attachment 4, "Tennessee PWSs with a History of Violations, Compliance Status (1997-June 30, 2004)" shows many of the PWSs that have been identified as SNCs between 1997 and 2004. This cumulative list provides an effective measure of capacity development by public water systems with a history of non-compliance and is used to guide any changes in the state's capacity development strategy. In addition, Attachment 4 also provides information as to the means whereby compliance was achieved for those systems on the list of public water systems in significant non-compliance. It clearly shows that enforcement through the issuance of an administrative order (Commissioner's Orders and Director's Orders) has been effective. Thirty-four of the 64 systems were either involved in a court action or issued one of 36 administrative orders (DOs and COs). In ten instances, enforcement resulted in the system connecting to another system or closing down and thereby becoming deactivated. In at least 19 situations, enforcement resulted in giving the system sufficient time to obtain an engineer, obtain funding, construct and ultimately comply with a newly adopted rule. In at least two cases, the DWS and State Revolving Fund Program (SRF) provided technical assistance, and compliance was obtained.

Twenty-nine public water systems have a current history of significant non-compliance (Attachment 5, "Tennessee PWSs with a More Recent History of Violations, July 1, 2005 – June 30, 2008"). Eighteen (18) of these systems have had TTHM and/or HAA5 violations. Thirteen (13) public water systems incurred Surface Water Treatment Rule and/or Interim Enhanced Surface Water Treatment Rule violations. Two (2) systems, one a college and one apartment complex had Total Coliform Rule violations.

Enforcement actions have directed noncompliant water systems to make needed facility improvements, acquire and retain certified operators, and improve financial positions. With some situations, the enforcement action was initiated by the Division of Water Supply (DWS); in other situations compliance with a financial, managerial or technical capacity requirement involved an action by another agency or board of the state.

For community water systems, the Division of Municipal Audit (DMA) in the Office of the Comptroller of the Treasury, examines annually the financial statements of all municipally owned and utility district owned public community water systems. Local government water systems and utility districts found to be "financially distressed" are referred to one of two regulatory boards, depending upon the type of system. Financially distressed municipal (governmental) systems are referred to the Water and Wastewater Financing Board; utility districts are referred to the Utility Management Review Board. Both boards were administratively attached to the State's Comptroller's Office (Comptroller of the Treasury) in May 2007.

The Utility Management Review Board advises and assists financially distressed utility districts in the area of utility management, and it has the authority to prescribe a user rate structure that will allow the utility to be self-sufficient. In addition, the board must review the creation of a utility district, and the board may undertake a study leading to the consolidation and regionalization of a utility district with another to achieve compliance.

Similarly, the Water and Wastewater Financing Board reviews user rates necessary for water systems to be self-sufficient in their operation. Such reviews may also consider the consolidation of systems. There are three attachments to this report that provide a list of systems receiving loans as well as benefiting from state managerial-financial oversight. These attachments are the "DWSRF Loans in Tennessee" (Attachment 6), "Water and Wastewater Systems Currently under Review by the Water and Wastewater Financing Board" (Attachment 7) and "Utility Districts Currently under the Jurisdiction of the Utility Management Review Board" (Attachment 8).

The Utility Management Review Board and the Water and Wastewater Financing Board have reviewed many water systems, and it is believed many of these systems have avoided becoming significant non-compliers (SNCs) because of this review.

Unlike community water systems, the financial condition of non-community water systems is not addressed by these review boards. To address the financial situation of non-community water systems, the DWS with assistance from the SRF program developed a "Capacity Development – Business Plan, Financial Self-Assessment Manual" (Attachment 9). The purpose of the manual is to help non-community water systems understand the financial obligations of operating a viable water system. To comply with the financial requirements of the state's Capacity Development Strategy, a non-community water system must show revenues sufficient to cover anticipated and realistic water system costs.

Another benefit to Tennessee's capacity development program has been the state's source water assessment and protection plan requirement. This requirement allows systems to proactively examine themselves holistically, including a consideration of source, thereby reducing potential adverse impacts to the provision of drinking water by public water systems.

A less dramatic approach to developing capacity (in terms of immediate and noticeable results) include: the referral of board members to water system management training. TAUD has offered a variety of training classed specifically designed for utility board members and commissioners. Over the past three years, TAUD has sponsored the TAUD Utility Leadership Conference. Conference attendance leads to a "Leadership Basics" certification. The Leadership Basics curriculum includes such topics as: Basic Board Duties and Responsibilities; Board Meetings-Conducting the Public's Business; The Art of Writing Policies; Setting Fees for Services; Budgeting for Growth; and Short-term and Long-range Planning. In addition, TAUD has held another conference, The Business of Running a Utility, which has sessions specifically designed for utility boards and commissioners. Sessions cover: Financial Reporting Requirements; Budgeting; Common Audit Findings; Fee and Rate Setting; A Job Description for Board Members; Board and Staff Relations; Commissioners, Rates and Budgets. Finally, within the last year, TAUD begun a new NRWA Training program focusing on technical assistance and managerial training to increase "capacity," beyond just compliance with the SDWA.

TAUD has also conducted on-site board training over the past several years. The following topics were covered at these on-site training workshops: The Basics of Taking Office; Policy Creation; and Budgeting and Rate Setting. These on-site training workshops included attendees from numerous utilities. These efforts reflect a long-term proactive approach, which over time have shown utilities receiving fewer complaints and fewer customers and/or elected officials complaining about utilities that conduct business inconsistently. Most of Tennessee's utilities have implemented policies and procedures that provide consistent service for all of the utilities' customers. Although we have seen an improvement with the overall operations of Tennessee's utilities, there is still more work to be done.

Similarly, The University of Tennessee's Municipal Technical Advisory Service (MTAS) has developed a Training and Manual for Water and Wastewater System Board Members, *Water and Wastewater Management: A Training Manual for Board Members* available at: http://www.mtas.tennessee.edu/public/web.nsf/Web/Read+pubs.

MTAS also offers classroom training to elected officials called Elected Official Academy. The Level I classes cover the essentials of municipal government in Tennessee. Average attendance is 100 per year. The topics covered are:

- Foundation and Structure of Municipal Government
- Charter and Codes and Open Records
- Economic Development
- Finance for the Elected Official
- Ethics and Open Meetings

Level II Elected Official Academy includes specific utility training. At a minimum three sections are offered each year. During the 2008 year there were 66 city officials trained in three classes. The topics covered are:

- Water and Wastewater Responsibilities for Elected Officials
- Water System Capacity Development
- Directing and leading Utility Operations

Municipal Administrative Program classes are offered throughout the year in seven locations to train municipal staff and officials in the soft skills of administering and managing municipal operations including utilities.

Specialty Classes for utility managers and operators are held in various locations throughout the state covering several topics in the technical areas. Annual attendance ranges from 100-300 depending upon the year.

In addition to the classroom training, MTAS will provide on-site technical training/assistance for water and sewer system staff per the request of a utility.

MTAS provides water and sewer rate reviews for municipal departments. These reviews are at the request from the city either due to being placed on the Water and Wastewater Financing Board's control or some internal financial trigger. During the past eighteen months MTAS has provided or is working on approximately twenty-eight rate reviews for municipal water systems.

Foreseeable Challenges and Barriers

Although there are many needs, concerns and challenges to the progress of developing viable water systems, perhaps the greatest challenge to an effective capacity development strategy is the state's ability to carry out its program responsibilities effectively. This issue can be highlighted by the past introduction of legislation having the potential to change state laws that could interfere in the regulation of public water systems as defined by federal law and incorporated by EPA in rule.

Another challenge to the State's program of capacity development is the retention of trained and knowledgeable Division staff. Within the past several years the State's Lab Certification Officer retired, his successor has moved out-of-state and three existing DWS employees have been certified. It is hoped that at least the state's drinking water laboratory certification program will now stabilize. On the other hand, within the next 2-5 years many additional senior and other key staff members could retire, many of whom are already eligible to retire in terms of years-of-service. The retirement of senior and middle management staff could have a devastating impact on the program.

Coupled with the issue of staff retirement is the state's limited available financial resources and ability to recruit qualified, experienced staff and to provide meaningful professional development, which would provide career incentives to remain. Over the past few years, extremely limited state general revenues have restricted the availability of state general funds that must be provided as the state's matching share to obtain available federal funds. Although the state's drinking water program is primarily funded by facility maintenance fees (State EPF) and EPA monies, the loss of the relatively small amount of state general funds used to match fees paid by the regulated community and EPA funds, in effect, could reduce the effectiveness of the drinking water program. The continuing loss of staff positions in the drinking water program and the tremendous increase in new federal regulations have hampered the division's ability to provide essential technical support to assist public water systems in complying with new federal rules. Salaries for technical staff are improving but still less than the average salary of technical staff of surrounding states, and the state continues to encounter problems in recruiting and retaining knowledgeable, experienced technical staff. It is essential that highly trained drinking water professionals be compensated in a comparable manner with the industry.

With the lab certification officer and state budgeting issues in other departments as well, the lab certification program has been transferred to the TDEC. With that three Division of Water Supply employees were sent for training and the program assimilated into the division. Lab certification files were also transferred. These changes have increased amounts of data to be maintained by the division and further squeezed already limited space for files. Other elements of the drinking water program continue to require space for records and other documents, in part due to new drinking water rules. Conversion of documents and record to electronic forms has been discussed but to date such conversion is unresolved and unimplemented. The issue of record keeping due to new rule requirements is also encountered by public water systems and DWS staff reviews of that data.

Conclusion

Despite the challenges facing the water systems and Tennessee's Drinking Water Program, the success of the State's Capacity Development Strategy is encouraging. In fact, the drought and some of the other challenges encourages systems to merge efforts, take regional approaches to water supply issues and collaborate on compliance issues and new rules. At the heart of these activities is State oversight and assistance. Undoubtedly, these represent opportunities for enhancing the capacity of systems to comply with the Safe Drinking Water Act.

Attachments:

1 – Capacity Development Plan, Guidance Document
2 – New Community (CWSs) and Non-Transient Non-Community Systems (NTNCWSs) in Tennessee, 2005-2008
3 – PWSs with a History of Significant Non-Compliance in Tennessee, Systems Meeting Definition of SNC During FY1994 – FY1996
4 – PWSs with a History of Violations, Compliance Status (1997 – June 30, 2004)
5 – PWSs with a More Recent History of Violations, July 1, 2005-June 30, 2008
6 – State Revolving Fund Loan Program in Tennessee
7 – Water and Wastewater Systems Currently Under Review by the Water and Wastewater Financing Board
8 – Utility Districts Currently Under the Jurisdiction of the Utility Management Review Board
9 – Capacity Development – Business Plan (Financial Self-Assessment Manual)
10 – Tennessee's Submetering Policy, 2007 January 5

Glossary:

Community water systems (CWSs) are public water systems which serve at least fifteen (15) service connections used by year-round residents or regularly serve at least twenty-five (25) round-round residents.

Environmental Protection Fund (EPF) Act authorizes the department to assess fees (facility maintenance fees) for services provided.

Non-community water systems (NCWSs) are public water systems that are not community water systems.

Non-transient, non-community water systems (NTNCWs) are non-community water systems that regularly serve at least twenty-five (25) of the same persons over six (6) months per year.

Transient, non-community water systems (TNCWSs) are non-community water systems that serve transient populations such as hotels, restaurants, camps, service stations, and churches.

Attachment 1
Capacity Development Plan
Guidance Document

Pursuant to Tennessee Code Annotated Sections 68-221-706 and 68-221-707 the Department shall exercise general supervision over the construction, operation and maintenance of public water systems throughout the State of Tennessee. As one aspect of such general supervision, all new community public water systems shall submit a **Capacity Development Plan** for review and approval by the Department. Components of the Capacity Development Plan include an **Operation and Maintenance Plan**, an **Emergency Operations Plan**, a **Bacteriological Site Sampling Plan,** a **Business Plan**, etc. Together, these plans when followed assure continuous satisfactory operation of a water system. The submittal should be submitted to the Department's Division of Water Supply (DWS) and shall include, at minimum, the following information:

- Name, address and telephone number of the owner(s) or ultimate responsible party of the facility or public water system. Leaseholders or business owners may be responsible for managing and operating the facility on a day-to-day basis and included in list to obtain correspondence, but they are not the ultimate responsible party. The ultimate responsible party is (are) the **property owners**.

- Agreement to retain the services of a properly certified operator.

- Proof of retention of certified operator (copy of signed Operator Agreement).

- Name, address and telephone number of the **certified operator** in direct charge of the public water system. The certified operator also may be held responsible for violations incurred as a result of his/her oversight.

- An **Operation and Maintenance Plan** must be developed. The plan shall include information on staffing and organizational structure, accountability; and the system's fiscal management and controls. The plan shall identify Environmental Assistance Center (EAC) contacts, certified labs and lab contacts, the location of all operational component plans and the names and phone numbers of those responsible for implementing those plans, data management systems used, routine activity and facility maintenance schedules, training programs, and safety procedures and guidelines in effect.

- Agreement and statement of understanding indicating that **Plans and Specifications** shall be prepared and submitted for approval for any change, alteration or construction regarding the public water system. These include changes in process that affect water quality, hydraulic conditions, or the function of a process. These must be submitted and approved by the DWS. Projects that are being funded

with Drinking Water State Revolving Funds (DWSRF) are submitted to the State Revolving Fund Loan Progam (formerly the Division of Community Assistance or DCA). Such approval shall be obtained prior to initiation of the proposed project. “As-Builts” shall be submitted on completion of a project. A long-range system plan, including capital improvements plan is not required by the DWS, but may be desirable to the system.

- A **Source Water Assessment and Protection Plan** and/or **Wellhead Protection Plan** must be developed and submitted to the DWS for approval.

- Prepare and submit for review and approval a **Monitoring Plan** to the Division of Water Supply based on rules, and guidelines provided by the Division. Such plan will identify all parameters to be monitored (including Benzo(a)pyrene and asbestos) and a schedule for conducting that monitoring. Such plan will include all bacteriological contaminants and chemical parameters required by and in accordance with Division rules. One component of the Monitoring Plan will be a **Bacteriological Site Sampling Plan** (Information and guidance material is available upon request. The plan should address the number and location of follow-up sampling, public notification, etc. The Monitoring Plan should include (or execute) a **consolidation agreement** with parent water systems (where applicable) for the monitoring of lead and copper tap water. The Monitoring Plan should also note any parameters waived and when a parameter waiver expires.

- Establish and submit an **Emergency Operations Plan** (and Drought Management Plan if appropriate) for review and approval by the Division. The system may enter into an agreement indicating the intent to cooperate with the parent water system in the event of an emergency that interrupts water service and conveying its willingness to supply alternative potable water during a state of emergency if needed. (information and guidance material available upon request). An Emergency Operations Plan will outline system options, responses, conservation plans and other provisions in case of flooding, power outage, major fire, contamination, major line break, source contamination, drought, chemical release, etc.

- Develop a **Customer Complaint File** regarding water related issues to be maintained on site. Customer complaints with CWSs which relate to financial and/or managerial issues should have a UMRB or SRF number assigned. The file must contain customer name and address, date of complaint, nature of complaint, and action(s) taken to resolve the complaint. A Customer Relations plan is not required by the DWS, but may be desirable to the system.

- Agreement and statement of understanding indicating that **Monthly Operation Reports** (MORs) shall be submitted to the Division no later than ten (10) days following the end of the month being reported. The MOR shall accurately reveal the operation and performance of the water system during the reporting period.

- A **Cross Connection Control Program Plan** for the detection and elimination of cross connections must be submitted and approved by the Division of Water Supply (Information and guidance material is available upon request).

- A **Record Keeping Plan** shall be developed and maintained. Records kept shall include storage tank inspection and maintenance reports, Individual facility maintenance records, flushing records with beginning and ending chlorine residuals, chlorine residuals at new taps, facility security records (including vandalism, break-in, theft, and trespass), equipment maintenance and repair records (maintenance, calibrations, dates out-of-service, and repairs of pumps, meters, feeders and alarms), line breaks - maintenance and repair, distribution maps. Other records that must be kept include: bacteriological sample analyses, cross connection plans and inspection records, chemical analysis, sanitary surveys, actions to correct violations, turbidity records, daily worksheets and shift logs used to produce MORs, lead and copper related records, and public notices.

- A **Public Notifications and Public Education File** should be maintained. Efforts to inform customers of violations, Boil Water Advisories, and community education should be kept in a file. Further, Community Water Systems (CWSs) must prepare and submit a Consumer Confidence Report (CCR) annually.

- Agreement to remit annual **Facility Maintenance Fees** to the Division plus any penalties and interest charges which have accrued due to late or non-payment of the annual facility maintenance fee. Public water systems must also submit a **Business Plan**. The plan shall identify source(s) of income or revenue sufficient to meet expenses over a three (3) year period. The business plan will identify costs related to retaining a certified operator, estimated annual infrastructure repair cost, depreciation, facility maintenance fees, estimated annual monitoring costs, estimated costs of providing public notices, estimated administrative costs, and any other operational, treatment, and related costs (e.g. chemicals and other supplies used to treat water, etc.). The business plan must include the re-payment of borrowed and amortized funds.

- Agreement to comply with any and all laws, rules and/or regulations which are necessary or applicable to the public water system.

Attachment 2
New CWSs and NTNCSWs in Tennessee

2005-2008

PWSID	SYSTEM NAME	COUNTY	SOURCE TYPE	SYSTEM TYPE	POP	STATUS	BEGIN DATE
TN0008228	LONE OAK UTILITY DISTRICT	SEQUATCHIE	SWP	C	234	A	01/01/04
TN0008007	JEFFERSON SQUARE CONDO	DAVIDSON	SWP	C	186	I	02/01/04
TN0008226	HOLIDAY MOBILE VILLAGE	DAVIDSON	SWP	C	616	I	02/01/04
TN0008231	INDIAN PARK APARTMENTS	RUTHERFORD	SWP	C	848	I	02/01/04
TN0008230	BRISTOL ON UNION APARTMENTS	SHELBY	GWP	C	572	I	03/01/04
TN0008232	WHITE OAKS APARTMENTS	DAVIDSON	SWP	C	552	I	03/01/04
TN0008233	WARREN COUNTY U.D. #2	WARREN	SWP	C	889	**A**	03/01/04
TN0008234	BAILEY CREEK APARTMENTS	SHELBY	GWP	C	603	I	05/01/04
TN0008235	SHALLOWFORD TRACE APTS.	HAMILTON	SWP	C	607	I	10/01/04
TN0008236	SUNSET LANDING	HAMILTON	GW	C	50	I	10/06/04
TN0008237	ORCHARD PARK II APARTMENTS	MONTGOMERY	SWP	C	302	I	12/01/04
TN0008239	AVERY PARK APARTMENTS	SHELBY	GWP	C	598	**A**	04/01/05
TN0008240	CLEARBROOK VILLAGE APTS	SHELBY	GWP	C	458	I	04/01/05
TN0008241	WATERFORD POINTE APTS	SHELBY	GWP	C	1560	I	04/01/05
TN0008242	CARRINGTON MANOR APTS	SHELBY	GWP	C	658	I	04/01/05
TN0008243	PRESTON RUN @ NORTH CREEK	DAVIDSON	SWP	C	550	I	04/15/05
TN0008244	WOODGATE FARMS APARTMENTS	RUTHERFORD	SWP	C	912	I	05/01/05
TN0008238	STONERIDGE PARK APARTMENTS	HAMILTON	SWP	C	174	I	05/09/05
TN0008245	ALARA RIVER OAKS APARTMENTS	WILLIAMSON	SWP	C	565	I	06/01/05
TN0008246	GREENWOOD PLACE APTS	MONTGOMERY	SWP	C	186	I	08/01/05
TN0008248	PEACHERS MILL POINTE	MONTGOMERY	SWP	C	416	I	08/01/05
TN0008249	CRESTVIEW APARTMENTS	DAVIDSON	SWP	C	288	I	08/01/05
TN0008247	OAK GROVE APARTMENTS	LAWRENCE	SWP	C	144	I	08/15/05
TN0008250	LEVI LANDINGS SUBDIVISION	SHELBY	GWP	C	478	I	09/01/05
TN0008251	WALLACE GLENN APARTMENT	MONTGOMERY	SWP	C	605	I	09/01/05
TN0008252	SHANNON WOODS APARTMENTS	MONTGOMERY	SWP	C	459	I	09/01/05
TN0008253	MILLER GLEN APARTMENTS	MONTGOMERY	SWP	C	297	I	09/01/05
TN0008254	SOUTH WIND APARTMENTS	WILLIAMSON	SWP	C	759	I	09/15/05
TN0008255	PINE PARK APARTMENTS	RUTHERFORD	SWP	C	302	I	09/15/05
TN0008258	METRO LYNCHBURG/MOORE CO UT #2	MOORE	SWP	C	510	**A**	05/01/06
TN0008259	HICKORY LAKE APARTMENTS	DAVIDSON	SWP	C	736	I	05/01/06
TN0005111	THREE SPRINGS TREATMENT CTR	HICKMAN	GU	C	100	I	06/01/06
TN0008257	CANYON APARTMENTS, THE	KNOX	SWP	C	265	I	06/15/06
TN0008261	STATESVIEW APARTMENTS	KNOX	SWP	C	358	I	06/15/06
TN0008264	LOFTS AT 160 APARTMENTS	DAVIDSON	SWP	C	73	I	07/01/06
TN0008260	TARA HILLS APARTMENTS	ANDERSON	SWP	C	507	I	07/07/06
TN0008262	HIGHLAND TERRACE APARTMENTS	KNOX	SWP	C	660	I	07/13/06
TN0008267	LEXINGTON - RASCALTOWN COMM	LAWRENCE	GUP	C	123	**A**	08/01/06
TN0008269	COLONIAL GRAND AT SHELBY FARMS	SHELBY	GWP	C	770	I	09/01/06
TN0008265	ST. MARTIN SQUARE CONDOS	DAVIDSON	SWP	C	101	I	10/01/06
TN0008271	GATEWAY VILLAGE DEVELOPMENT	WILLIAMSON	SWP	C	93	I	04/01/07
TN0008268	RIDGEWOOD PARK	GILES	GU	C	104	**A**	04/16/07
TN0008272	FLAT CREEK CO OP #2	BEDFORD	SWP	C	25	**A**	05/01/07
TN0004674	ETZC-IMMEL	KNOX	GW	NTNC	50	A	05/21/07
TN0005124	FRANKLIN INDUSTRIAL MINERALS	FRANKLIN	GU	NTNC	51	A	07/01/07

COMMUNITY WATER SYSTEMS	43 (39 apartment or condominium complexes)
NTNC WATER SYSTEMS	2 (Reactivated # TN0004674 after being inactivated in 1990 and added # TN0005124)
TOTAL NEW “CWS” AND “NTNCWS” SYSTEMS	45

SWP- Surface Water Purchase
GW – Ground Water
SW – Surface Water
I – Inactive System

GWP – Ground Water Purchase
GU – Ground Water Under the Influence of Surface Water
GUP – Ground Water Under Influence Purchase
A – Active System

2008 Sep 05

Attachment 3

PWSs with a History of Significant Non-Compliance in Tennessee Systems Meeting Definition of SNC During FY1994 - FY1996

PWSID	Name	Contaminate	Reason
0000046	Belvidere	S	Time Frame
0000061	Bluff City	S, C	Time Frame, Funding, Operational
0000062	Chinqupin Grove UD	S	Time Frame
0000078	Jacob's Creek Job	S	Operational
0000083	Loon Bay Property Owners	C, N	Operational
0000101	Center Grove Winchester Springs	S	Time Frame
0000104	Chapel Hill	S	Time Frame
0000127	Collinwood	S	Time Frame
0000180	Oak Shadow MHP	S	Time Frame
0000183	Decatur	S	Time Frame
0000187	Decherd	S	Time Frame
0000221	Elizabethton	S	Operational
0000230	Erin	S	Time Frame
0000231	Erwin	S	Time Frame
0000317	Huntland	S	Time Frame
0000410	Piney UD	S	Time Frame
0000426	Hiwassee College	S	Operational
0000472	Mooresburg UD	S	Operational
0000479	Mountain City	S	Time Frame
0000485	Cold Spring UD	S	Time Frame
0000525	Ocoee UD	S	Time Frame
0000572	Red Boiling Springs	S	Time Frame
0000616	Sequatchie Water Works	L	Management, Funding
0000640	Sneedville UD	S	Time Frame
0000656	Spring City	S	Time Frame
0000706	Tracy City	S	Time Frame, Funding
0000888	Midway Tr Ct	L	Management
0000899	Hickory Star Marina	S	Time Frame, Funding
0000916	Leatherwood Water District	L	Management
0000921	Seven Hawks Wild Program	S	Time Frame, Funding
0000958	Wildwood Estates	C	Management
0000961	Gabbard's TP	C	Management
0002645	Kyles Ford School	C	Management
0004441	H&H Wholesale	C, L	Management
0004725	Little Tyke's Daycare	C	Management
0004726	Collinwood Head Start	C	Management
0004800	Little People University	C	Management
Total	37 PWSs		

S = Surface Water Treatment Rule (SWTR)
C = TCR
N = Nitrate
L = Lead and Copper Rule

Attachment 4
Tennessee PWSs with a History of Violations
Compliance Status (1997- June 30, 2004)

0000023	ASHLAND CITY WATER DEPT	HAA5 & TTHM violations. (Cumberland River Source) RTC Aug 05
0000044	BELL BUCKLE WS	TTHM and HAA5 Jul 02-Jun03 RTC Jul 03. DWS-03017 issued Nov 03
0000046	BELVIDERE RURAL UD	CO 94-0378 issued Sep 94, RTC Dec 94
0000061	BLUFF CITY WATER DEPT	Construct filter for Underwood Spring source, RTC 18 Feb 96 **Disinfection MN Violation Apr-Jun 06** **Bact MN Violation Apr 06**
0000062	CHINQUAPIN GROVE UD	CO 96-0080 issued May 96, RTC 9 Jul 1997, **Deactivated Jun 05**
0000078	JACOBS CREEK JOB CORPS - USFS	Technical Assistance ca Aug 96
0000083	LOON BAY PROP. OWNERS ASSOC	System gave PN for Nitrate MN violation (Dec 97), RTC 16 Dec 96
0000085	CARDERVIEW UD	SWTR Jun-sep 99, RTC Oct 99Pb and Cu Jul 98-Jun 99, RTC Oct 99
0000101	CENTER GROVE-WINCHESTER SPGS	CO 94-0373 issued Nov 94, RTC Dec 95
0000104	CHAPEL HILL WS	CO 96-0105 issued Jul 96, RTC 17 Jun 98 **IESWTR Record Keeping Violation Nov 05** **SWTR Treatment Technique Violation Dec 05**
0000115	CLARKSBURG UD	DWS-0038 issued Nov 00, RTC Oct 00
0000127	COLLINWOOD WATER DEPT	CO 96-02010 issued Sep 96 and DO DWS-0032 Jan 01, RTC Jun 001 **SWTR Treatment Technique Violation Apr 06**
0000180	OAK SHADOWS MHP	CO 96-0333 issued Nov 96 and deactivated Jan 97
0000183	DECATUR WATER DEPT	CO 96-0181 issued Sep 96, RTC 31 Aug 97
0000187	DECHERD WATER DEPT	CO 91-3216 issued Oct 91, RTC 1 Feb 95
0000221	ELIZABETHTON WATER DEPT	Technical Assistance ca Feb 96
0000230	ERIN WTP	CO 96-0119 issued Jun 96, inactivated source
0000231	ERWIN UTILITIES	CO 96-0453 issued Mar 97, RTC 20 Dec 96 **BACT MCL Feb 06**
0000232 *	ESTILL SPRINGS WATER DEPT	Failure to Filter Jul 1996 through May 00, RTC June 00
0000274	NORTH GREENE UD	TTHM MCL violations (Lick Creek Source) RTC May 05
0000291	HARTSVILLE WATER DEPT	HAA5 and TTHM MCL violations (Cumberland River Source) RTC Dec 05
0000294 *	HENDERSONVILLE UD	IESWTR Recordkeeping, Jan through Dec 02, IESWTR Exceedance Jan 2003, RTC
0000317	HUNTLAND WS	CO 96-0058 issued Apr 96, RTC 9 Jul 97
0000389	NORTHEAST LAWRENCE UD	HAA5 & TTHM MCL violations (Lawrenceburg Source) RTC Aug 05
0000391	NEW PROSPECT UD	HAA5 & TTHM MCL violations, (Lawrenceburg Source) RTC Aug 05
0000405 *	LIVINGSTON WATER DEPT	HAA5 MCL Oct 02 through Jun 03, RTC Jul 03
0000410	PINEY UTILITY DIST	CO 95-0122 issued Jul 95, RTC 20 Apr 96, deactivated Nov 99
0000426	HIWASSEE COLLEGE WS	**DWS-06003 issued Aug 06**
0000455	MIDDLETON WATER DEPT	DWS-0037 issued Nov 00. RTC Jan 01
0000472	MOORESBURG UD	Construct new filter plant (in-service Jan 97)
0000479	MOUNTAIN CITY WATER DEPT.	CO 96-0116 issued Aug 96, RTC 31 May 99
0000485	COLD SPRINGS UD	CO 96-0182 issued Aug 96, RTC 1 Feb 98
0000517	BEDFORD COUNTY UD	HAA5 Violations, (Duck River Source) RTC Sep 05
0000520	BRUSHY MTN PRISON	IESWTR monitoring violations, RTC Jul 06
0000525	OCOEE UTILITY DIST	CO 96-0195 issued Sep 96, RTC 16 Sep 98
0000559 *	PORTLAND WATER SYSTEM	IESWTR Records and Exceedances Feb through Sep 02, RTC Oct 02
0000572	RED BOILING SPRINGS WS	CO 93-0587 issued Dec 93, DWS-0005 issued Feb 00, RTC 1 Nov 96
0000616	SEQUATCHIE WATER WORKS	Deactivated Aug 96
0000640	SNEEDVILLE UD	CO 96-0319 issued Nov 96, GUDI inactivated **Bact MN Violations Dec 05 and Jan 06**
0000656	SPRING CITY WATER SYSTEM	CO 94-0374 issued Nov 94, GUDI inactivated

0000706	TRACY CITY WATER SYSTEM	Addressed in CO 84-0222 issued Aug 84, sources abandoned 1 Nov 96
0000724	VANLEER WATER DEPT	Chem SNC, RTC Jul 99
0000738	WESTMORELAND WS	HAA5 and TTHM MCL violations (Gallatin Source) RTC Aug 05
0000743 *	WEST WILSON UD	IESWTR monitoring and exceedances, Jan through Aug 02, RTC Sep 02
0000745	WHITE HOUSE UD	Equip repaired, RTC 1 Mar 99. No SWTR violations, RTC Oct 00
0000749	WHITWELL WATER DEPT	SWTR and IESWTR violations (RTC Jan 06)
0000754	WINCHESTER WS	THM MCL Oct 02-Dec 02 RTC Jan 03; Apr 03-Sep 03 RTC Dec 03
0000768	ANDERSON COUNTY UB	TOC MN Jan-Mar 02 and HAA5 MN Jan-Mar 02, RTC Apr 02
0000790	WILSON CO WATER & WASTEWATER	HAA5 MCL violations (Lebanon Source) RTC Apr 05
0000848	CUMBERLAND MTN RETREAT	DWS-9931 issued Dec 99, RTC Mar 99. Nitrate viol FY00, RTC May 01
0000888	MIDWAY TRAILER COURT	MN and Pn for PB and CU - Nov 96, RTC 11 May 96, **Deactivated Jan 06**
0000899	HICKORY STAR MARINA	CO 96-0072 issued May 96, system to achieve compliance 1 Sep 01
0000916	LEATHERWOOD WATER DIST, INC	CO 97-0107 issued Aug 97, RTC 19 Sep 96
0000921	NATCHEZ TRACE YOUTH ACADEMY (formerly Seven Hawks Wilderness Program)	CO 96-0151 issued Jul 96, RTC 28 Feb 95 **Bact MN Violations Nov and Dec 05**
0000958	BLUEBIRD HILLS MOBILE HOME formerly Wildwood MHP)	DWS-9702 issued Jul 97 and DWS-9906 issued Apr 99
0000961	ACORN VILLAGE MHP (formerly Gabbard's MHP)	Court Injunction (Case 96-0471) and deactivated Mar 01
0000962	DOALNARA RESTORATION SOC USA (formerly Elijah Gospel Mission)	DWS-9901 issued 27 Jan 99, RTC 8 Feb 99 **Bact MN Violation Apr 06**
0002645	KYLES FORD SCHOOL Deactivated May 01	DWS-9802 in Feb 98 and DWS-0006 in Feb 00, RTC 9 Jan 95,
0004441	H & H WHOLESALE, PRO-LINE	CO 96-0148 issued Nov 96, deactivated Aug 96
0004725	LITTLE TYKE'S DAYCARE	Deactivated Oct 00
0004726	COLLINWOOD HEAD START	Deactivated Aug 95
0004800	LITTLE PEOPLE UNIVERSITY	CO 97-0116 issued Jul 97, deactivated Aug 97
0008033	COLD SPRINGS II WS	DWS-0003 issued Jan 01, deactivated Jun 00
0009940	BEECHVIEW CORPORATION	**System Deactivated Mar 06**

***** Denotes system added for this reporting period.

Total 64 PWSs

CO – Commissioner's Order
DWS-### – Director's Order
DWS – Division of Water Supply
GUDI – Ground Water Under Direct Influence of Surface Water
MN – Monitoring
PN – Public Notification
PWS – Public Water System
RTC – Return to Compliance
SS – Sanitary Survey
TA – Technical Assistance

Attachment 5

Tennessee PWSs with a More Recent History of Violations (July 1, 2005 – June 30, 2008)

0000010	ALLARDT WATER WORKS	HAA5 MCL from Apr 05 – Dec 06, RTC Jan 07
0000094	FIRST U D OF CARTER CO	IESWTR Tx Tech and Mon, Nov 05 – Jan 06, RTC Feb 06
0000099	CELINA WATER SYSTEM	IESWTR Mon, Mar 06 – Nov 06, RTC Dec 06
0000103	CENTERVILLE WATER SYSTEM	SWTR Tx Tech Jan 04 – Dec 05, RTC Jan 06 IESWTR Mon, Jan 06 – Aug 06, RTC Sep 06
0000104	CHAPEL HILL WATER SYSTEM	SWTR Tx Tech, Nov 04 – Dec 05, RTC Jan 06
0000119	CLIFTON WATER DEPT	IESWTR Mon, May 05 – Feb 07, Order Apr 07
0000149	CROSS ANCHOR UTILITY DISTRICT	HAA5 MCL, Jan 06 – Dec 06, RTC Mar 07
0000244	FENTRESS COUNTY U.D.	HAA5 MCL, Jul 05 – Jun 06, RTC Jul 06
0000274	NORTH GREENE U D	HAA5 MCL, Jul 05 – Jun 07 TTHM MCL, Oct 04 – Jun 07
0000278	GRIFFITH CREEK UTILITY DIST	TTHM MCL and Mon, Jul 04 – Jun 07
0000286	HARPETH VALLEY U D	IESWTR Mon, Aug 04 – Mar 06, RTC Apr 06
0000291	HARTSVILLE WATER DEPT	HAA5 MCL, Jul 04 – Sep 05, RTC Dec 05
0000324	JAMESTOWN WATER DEPT	HAA5 MCL, Jul 05 – Sep 06, RTC Nov 06
0000392	LAWRENCEBURG WATER SYSTEM	IESWTR Tx Tech and Mon, Sep 04 – Oct 05, RTC Nov 05
0000426	HIWASSEE COLLEGE WATER SYSTEM	SWTR Tx Tech, Feb 06 – Feb 07, RTC Mar 07, Order Jul 06 IESWTR Mon, Jul 05 – Nov 06, RTC Dec 06, Order Jul 06 TCR Mon, May 06 – Oct 06, RTC Nov 06, Order Jul 06
0000520	BRUSHY MTN PRISON	IESWTR Mon, Jan 05 – Jul 06, RTC Aug 06,
0000533	TURNEY CENTER	HAA5 MCL, Jul 06 – Jun 07,
0000535	ORME WATER SYSTEM	IESWTR Mon, Feb 05 – Jun 05, RTC Jul 05, Order Feb 06
0000552	FALL CREEK FALLS UTILITY DIST	HAA5 MCL, Jan 05 – Jun 07, RTC Jul 07
0000593	ROGERSVILLE WATER SYSTEM	HAA5 MCL, Jul 04 – Jun 07,
0000649	SOUTH GILES UTILITY DISTRICT	HAA5 MCL, Apr 05 – Jun 06, RTC Aug 06
0000652	SPARTA WATER SYSTEM	IESWTR MCL and Mon, Nov 06 – Feb 07, RTC Mar 07
0000657	NEWPORT RESORT WATER SYSTEM	THM and HAA5 monitoring, Jan 04 through Dec 05, Will remain SNC
0000748	WHITEVILLE WATER DEPT	THM and HAA5 monitoring, Jan 04 through Sep 05, RTC Oct 05
0000802	PETERS' HOLLOW WATER SYSTEM	THM and HAA5 monitoring, Jan 04 through Dec 06
0000817	JACKSON COUNTY UD #2	HAA5 MCL, Oct 05 – Sep 06, RTC Dec 06
0004300	E.I. DUPONT, OLD HICKORY	HAA5 MCL, Jan 05 – Dec 05, RTC Jan 06
0008124	WYNDRIDGE APARTMENTS	TCR and CL2, Jan 07 – Jun 07
0008233	WARREN COUNTY U.D. #2	TTHM MCL, Jan 06 – Jun 07,

Notes:

Systems are included if during the period identified, they incurred: 6 or more monthly violations, or 4 or more quarterly violations.

TCR and operational violations may occur over several compliance periods. EPA considers a system as having RTC when a system successfully monitors TC the following period.

TTHM (Total Trihalomethanes) and HAA5 (Haloacetic acids (five))

Attachment 6
DWSRF Loans in Tennessee
(List of CWSs receiving a State Revolving Loan by Fiscal Year)

FY1997-1998
Jackson UD
Kingsport
McMinnville
McKenzie
Greenfield

FY1998-1999
Collinwood
Elizabethton
Troy
Greenfield
Eastview UD

FY1999-2000
Bradford
McMinnville
Moore County/Lynchburg
West Overton UD
Crossville
Loudon
Ocoee UD

FY2000-2001
Gladeville UD
Laguardo UD
Oakland
Mt. Pleasant
Watts Bar UD
Lenoir City
Loudon
Loudon

FY2001-2002
Clarksville
Clarksville
Crossville
Cumberland UD
DeKalb UD
Gladeville UD (Increase)
Lebanon
Loudon (Increase)
McMinnville (Increase)
Morristown

Cont (FY2001-2002)
Union Fork - Bakewell UD
Union Fork - Bakewell UD
West Warren – Viola UD
West Warren – Viola UD (Increase)

FY2002-2003
Chattanooga
Mountain City
Oak Ridge
Shelbyville
Sweetwater
Loudon (Increase)
Nashville
Cumberland UD
McMinnville
Ocoee UD
West Overton
Lafollette
Loudon (2 Increases on 2 loans)
Morristown

FY2003-2004
Lawrenceburg
Clarksburg
Lebanon
Ripley
Chattanooga
West Warren Viola UD
Benton County
Decatur County
Bolivar
Hendersonville UD
Sweetwater
Nashville
Hallsdale Powell UD
Livingston

FY2004-2005
Hendersonville UD
Lawrenceburg (Increase)
Rockwood
Ocoee UD (2) loans
Hallsdale Powell UD
McMinnville
Mt. Pleasant
Wartburg

Shelbyville

FY2005-2006
Lebanon
Hallsdale Powell UD (2)
Rogersville
Reelfoot
Jefferson City
Livingston
Maynardville
Maury County
Ocoee UD
West Cumberland UD

FY2006-2007
Watauga River Regional Water Authority
Newport
Maury County (2)
Bon-Aqua Lyles U.D. (2)
Sewanee U. D.
Lebanon
Reelfoot U.D.

FY 2007-2008
Livingston (loan increase)
Lebanon
Lafayette
Loudon (2 loans)
Ocoee UD

Attachment 7

WATER AND WASTEWATER SYSTEMS CURRENTLY UNDER REVIEW BY THE WATER AND WASTEWATER FINANCING BOARD
June 30, 2008

Local Government	County
Bells	Crockett
Copper Basin	Polk
Duck River Utility Commission	Coffee
Friendship	Crockett
Kenton	Gibson & Obion
Millington	Shelby
Morristown	Hamblen
Petersburg	Lincoln & Marshall
Whitwell	Marion

Attachment 8

UTILITY DISTRICTS CURRENTLY UNDER THE JURISDICTION OF THE UTILITY MANAGEMENT REVIEW BOARD
June 30, 2008

Utility District	County
Arthur Shawanee Utility District	Claiborne
Bedford County Utility District	Bedford
Clay Gas Utility District	Clay
Gibson County Municipal Water District	Gibson
Hornbeak Utility District	Obion
Humphreys County Utility District	Humphreys
Iron City Utility District	Lawrence
Lake County Utility District	Lake
Lakeview Utility District	Hawkins
Lone Oak Utility District	Sequatchie
Mooresburg Utility District	Bledsoe
Northwest Clay County Utility District	Clay
Riceville Utility District	McMinn
Sale Creek Utility District	Hamilton
Samburg Utility District	Obion
Second South Cheatham Utility District	Cheatham
South Elizabethton Utility District	Carter
Sunbright Utility District	Morgan
Sylvia-Tennessee City-Pond Utility District	Dickson
Upper Cumberland Gas Utility District	Cumberland
Webb Creek Utility District	Sevier
West Point Utility District	Lawrence

Attachment 9

Capacity Development - Business Plan
(Financial Self-Assessment Manual)

The purpose of a business plan for a water system is to show that the proposed or continued operation of a water system will be viable from a financial standpoint. Business Plans can be/are a means of determining/assuring the viability of water systems from a financial standpoint. Operating a water system is like operating any business, and for any business to be successful, it needs to have a "business plan." The attached worksheet (or Financial Self-Assessment Manual) provides a framework to summarize and evaluate your business. Three columns are provided in order to show anticipated income and expenses over the next three years. "Year One" should cover the system's current business year. Columns are provided for listing "Income" and "Expenses" for the second and third years, if different, otherwise the figures shown in "Year One" will be assumed as intended. The "Total" or bottom line of the plan should combine "Total of all Expenses" and the "Total of all Income." If "Expenses" exceeds "Income" then rates, fees and/or other income must be increased or expenses must decrease in order for the system to be viable. If the cost of operating the water system is unacceptable, the water system may want to consider what alternatives are available. If drinking water, which meets Safe Drinking Water Act requirements is available or can be made available from another public water system at a reasonable cost it may be possible to deactivate the water system. Other options may exist if the water system is extremely small and water use is minimal. Your Environmental Assistance Center (EAC) must be consulted in this event (1-888-891-8332).

In addition, operating a water system requires two additional plans: a facility and specifications plan (technical), **and** an operation and maintenance plan (technical and managerial capacity), in addition to a business (financial) plan. In summary, a viable water system is "a public water system which has the commitment and the financial, managerial and technical capacity to consistently comply with the Tennessee Safe Drinking Water Act and these regulations." A water system is determined to be "non-viable" if it cannot meet state requirements.

Definitions:

Sales of Water (Conn x Rate x Min Mo Water Use) – The amount of income derived from water revenues. Such revenue typically is based on the number of connections, the rate or cost of water, and the minimum amount an account is allowed to be charged.

Tap Fees, Reconnect Fees and Bad Check Fees – Fees derived from setting new taps; fees collected after service is discontinued and there is a reconnection; and fees related to checks returned due to insufficient funds, etc.

Interest Earned – Revenue derived from interest accrued from system bank accounts, etc.

Other – Monies earned from rental or sale of equipment, services provided to other agencies or businesses, etc.

Cost of Water – If purchased from a PWS (Public Water System), royalties due to water rights holders, etc.

O&M – Expenses related to Operations and Maintenance. These would include the cost of chemicals (chlorine, lime, etc.), power, fuel (gas, gasoline and diesel fuel), transportation and communication expenses (vehicles and vehicle maintenance, repair equipment, mobile phones, etc.), monitoring costs (sample collection and lab costs), materials and supplies, normal repairs to lines and filters, and salaries and benefits of employees.

Administrative Costs – Insurance, office supplies, postage, legal, accounting, telephone, salaries and benefits for managers, and clerical workers.

Facility Maintenance Fee – Fee payable to the Division of Water Supply (DWS), Tennessee Department of Environment and Conservation (TDEC) on or about October 1 of each year.

A/E & Professional Services, Fees (including Billing Services) – Architectural and Engineering Fees, Professional Service Fees, including the cost of contracted billing services, etc.

Contracts – Backflow Prevention Testing, Certified Operators (on contract), etc.

Taxes or Payments in Lieu of Taxes – Payments of local, state and/or the federal government.

Debt Repayment – Loan Debt Service

Capital Improvements – The cost of physical improvements made to the facility. Capital improvements specifically related to a water system include the addition of filtration equipment, pumps to improve flows, the extension of the piping system.

Other Expenses - Public Notification (PN), public relations costs, employee training, civil penalties, etc.

Operating Cash Reserves – Funds available to meet expenses from a cash flow standpoint. Invariably there will be times when expenses will exceed anticipated revenues, whose obligations must be met prior to receiving additional income.

Emergency Reserves – Funds which are available to replace, repair, or meet unexpected new additional requirements, etc. which are unexpected due to a variety causes, including thief, fire, flood, vandalism, etc.

Business Plan Worksheet

Category	Specific Budget Items	Amount	Amount	Amount
INCOME		Year One	Year Two	Year Three
	Sales of Water (Conn X Rate X Min Mo Water Use)			
	Fees – Tap Fees			
	Fees – Reconnect Fees			
	Fees – Bad Check Fees			
	Interest Earned			
	Other (specify)			
Sub-Total	(Total Of All Income)			
EXPENSES				
	Cost of Water (if purchased from another PWS)			
	Operating and Maintenance Expenses			
	O&M – Chemicals			
	O&M – Electrical Power and other Fuel			
	O&M – Transp and Comm (Vehicle expense)			
	O&M – Monitoring			
	O&M – Materials, Supplies and Parts			
	O&M – Operator Salaries and Benefits			
	Administrative			
	Adm – Insurance			
	Adm – Ofc Supplies, Equipment and Postage			
	Adm – Legal and Accounting			
	Adm – Telephone			
	Adm – Salaries/Benefits - Managerial/Clerical			
	TDEC Facility Maintenance Fee			
	A/E & Prof Services/Fees (incl Billing Service)			
	Contracts (incl Backflow Prevention Testing, etc.)			
	Taxes or Payments in Lieu of Taxes			
	Debt Repayment (Bond/Loan Debt Service) Expense			
	Capital Improvements			
	Depreciation Expense			
	Other Expenses (PN, PR, Employee Training, etc.)			
	Operating Cash Reserves			
	Emergency Reserves			
Sub-Total	(Total Of All Expenses)			
TOTAL [1]	Net Income (or Loss)			

Signature: _____ Date: _____

[1] Note: Subtract “Total of All Expenses” from “Total of All Income.” If “Expenses” exceeds “Income” then Rates and Fees must increase and/or Expenses must decrease. If no “Expenses” and “Income” are shown for the second and third years, figures are the same as shown in “Year One.”

Attachment 10

DEPARTMENT OF ENVIRONMENT & CONSERVATION

Subject: Tennessee's Submetering Policy

Consistent with the policy of the Environmental Protection Agency (EPA) published in the December 23, 2003 Federal Register (Vol. 68, No. 246) the Tennessee Department of Environment and Conservation (hereinafter "the Department") has adopted the following policy with regard to the regulation of submetered properties in Tennessee.

Appearing to meet the definition of a Public Water System as defined by the Federal Safe Drinking Water Act (SDWA) and otherwise requiring regulatory supervision, EPA in its interpretation of Section 1411 as stated in its December 23, 2003 policy holds that submetered properties do not meet the definition of a Public Water System (PWS). The authority to issue such policy was recently upheld by the 4th Circuit Court of Appeals in a lawsuit brought by the Manufactured Housing Institute.

EPA's December 23, 2003 policy states the following:

- The submetered property shall be owned by a single, named entity. The entity may be a single owner, association, corporation or partnership.
- The submetered property shall receive all water from a regulated community water system and shall not change the quality of water provided to customers. (Refer to December 23, 2003 FR regarding the requirement that the system be supplied by a public water system.)
- The scope of the policy is not intended to extend where the property has a large distribution system, serves a large population or serves a mixed (commercial/residential) population (e.g., military installations or large mobile home parks).
- EPA did not automatically include Ratio Utility Billing Systems (RUBS) and Hot Water Hybrids (HWHs) in its definition of "submetered property".
- The policy grants to each state primacy agency the flexibility to determine if RUBS and HWH systems are "selling water" within the meaning of the Safe Drinking Water Act.

The Department has reviewed this issue at length. Both the Safe Drinking Water Act and the Tennessee Safe Drinking Water Act exclude certain public water

systems from coverage. The drinking water rules in Chapter 1200-5-1 apply to all public water systems except those that meet all of the following criteria:

(a) Consist of distribution and storage facilities only and do not have any collection or treatment facilities;
(b) Obtain all water from, but are not owned or operated by, a public water system to which such rules apply;
(c) Do not sell water to any person; and
(d) Are not carriers which convey passengers in interstate commerce.

See Rule 1200-5-1-.03

The Department also notes that:

- The Tennessee Regulatory Authority has determined that submetered properties, RUBS and HWHs are not selling water but are only recovering the cost of water charged by a regulated public water system. Therefore, the Tennessee Regulatory Authority does not regulate the billing practices or the amount charged for water by these systems.

- There is not any substantial difference in recovering the cost of water by including the cost in the rental or lease agreement than in recovering the cost by metering the amount of water used, or using a ratio or hybrid billing system. Each of these methods is a form of cost recovery and does not meet the definition of "selling" under the Safe Drinking Water Act.

- There are many existing properties, some much larger than some of those that currently submeter or use a ratio or hybrid billing system, that are not subject to the requirements of the Safe Drinking Water Act.

Therefore, it is the Department's interpretation of the scope of the exclusion in rule 1200-5-1-.03 that systems that meet all of the following criteria are not required to meet all of the requirements of the rules:

- The water system must receive all of its water from a fully regulated public water system and have no cross connections with another water source;
- The water system must be on land owned entirely by one person, as defined in the rules (1200-5-1-.04(54));
- The system either meters the total water used by each connection or individual unit and bills accordingly or utilizes a RUBS or Hybrid billing system; and
- The system must not do anything to allow the quality of the water to change from that which it receives.

Examples of systems that might qualify for this exemption from the drinking water regulations include apartment complexes, condominiums, mobile home parks,

and shopping malls. Anyone who thinks an operation might be exempt should contact the Division to seek an official determination.

Effective date of policy: January 5, 2007.

W. David Draughon, Jr.
Director
Division of Water Supply