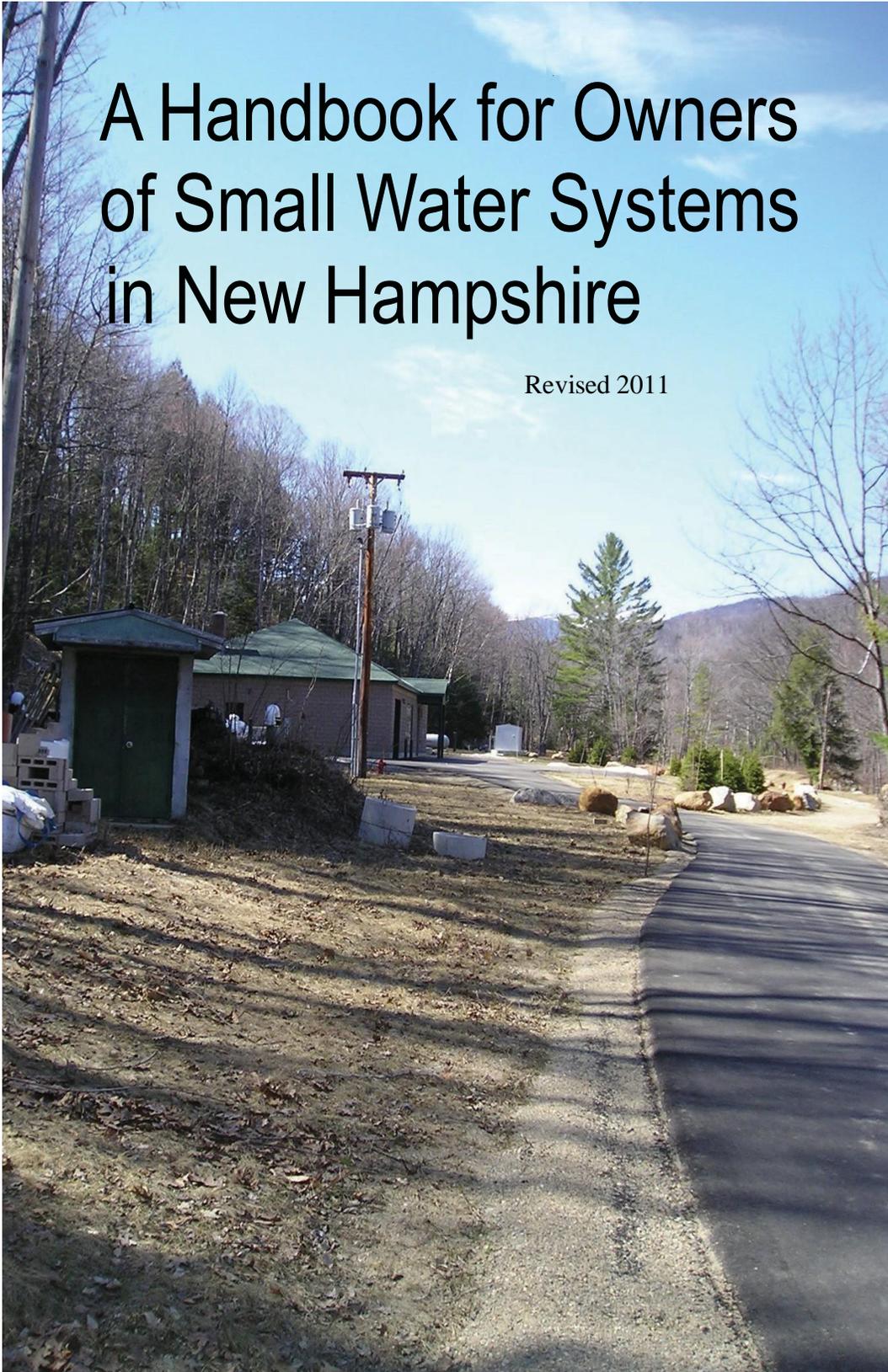


# A Handbook for Owners of Small Water Systems in New Hampshire

Revised 2011



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# A Handbook for Owners of Small Water Systems in New Hampshire

Revised 2011

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The New Hampshire

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*Cover Photo*

Jackson Water Precinct's filtration plant is located on the banks of the Ellis River, in Jackson, NH. It was dedicated on September 28, 2003. The small building in the foreground is the former entrance to the old pump house, which was replaced by a new state-of-the-art facility, seen in the background. The new facility is a shining example of a partnership among the public, Jackson Water Precinct Commission, US EPA, NHDES, USDA Rural Development, Wright-Pierce, and RCAP Solutions, Inc.





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# Foreword

## **FOREWORD**

There is a newly recognized need for bringing information to citizens who sit on the governing boards of New Hampshire's drinking water systems. More and more complexity has been introduced into the rules and regulations that have been promulgated to implement the Safe Drinking Water Act (SDWA) Amendments of 1996.

The approach to ensure that the SDWA requirements are met has been to train a licensed workforce of certified operators. This is intended to provide a minimum competency level to protect the public health. A system of continuing education is in place, so that certified operators are trained on an on-going basis, and kept abreast of current issues in the industry.

Because most governing boards are made up of citizen volunteers, and because the functions of operators and governing boards are different, this Handbook was prepared to address several areas of unique interest to governing boards. Although the information is available, it sometimes involves a considerable effort to gather it. We thought it worthwhile to compile some of the information in one place in order to assist governing boards to fulfill their service in the public interest.



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# Foreword

While primarily written for governing boards, much of the information contained in this Handbook will be useful to owners and managers of water systems not governed by boards.

We hope that you find it useful and that the information herein helps you to keep your water system functioning for future generations.

## **ACKNOWLEDGMENTS**

RCAP Solutions, Inc., the Northeast Rural Community Assistance Partnership, extends a special thanks to the NH Department of Environmental Services Drinking Water and Groundwater Bureau for their generous financial and editorial support in its preparation, and other activities related to our efforts to educate board members in SWDA requirements, as well as in general board responsibilities.

Also, a special thanks goes to the National Environmental Services Center of West Virginia University, in Morgantown, WVA, for permission to use information from their publication, *The Water Board Bible*. Website: [www.nesc.wvu.edu](http://www.nesc.wvu.edu).



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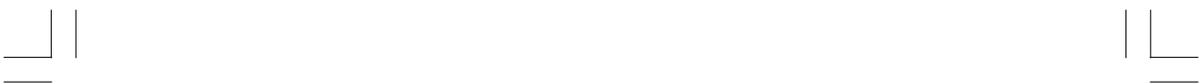


# Chapter 1

## INTRODUCTION

*Public drinking water systems play an important role in protecting the public health. Here in the United States, we enjoy one of the best drinking water supplies in the world. While drinking water that meets state and federal standards is safe to drink, threats to our drinking water are increasing. Disease outbreaks, water restrictions due to drought, increased or competing uses, security concerns, and aging infrastructure have shown that we can no longer take our drinking water for granted. Managers and operators of public water systems play key roles in protecting the public from the many risks associated with drinking water.*

The purpose of the *Handbook for Owners of Small Water Systems in New Hampshire* is to bring together managerial and financial information relevant to the owners of public water systems. Our intention is to help you **distinguish the role of a board from that of a certified operator**. If you are both an operator and a board member, this information can help you see the differences in the two roles. Two key points made within this handbook are that water supply management systems which allow for ***either the failure to oversee and plan for the future, or the micromanagement of your water system, especially by a single board member acting on his-or-her own, are sure ways to create problems.*** The ideal management of a system strikes a balance between these two extremes. As in any



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# Safe Drinking Water Act

relationship, mutual trust, fostered by good communications between the ownership (*the Board*) and the operator, is the key to a happy and successful experience.

## **The Safe Drinking Water Act (SDWA)**

The Safe Drinking Water Act (SDWA) is a federal law that regulates the quality of water that a municipality, district, business or organization serves to the public. The SDWA allows states to administer the provisions of the Act, provided the State's regulations are at least as stringent as federal regulations.

In New Hampshire, Title L, *Water Management and Protection*, Chapter 485, is known as the New Hampshire Safe Drinking Water Act. The NH Safe Drinking Water Act gives authority to the Commissioner of the New Hampshire Department of Environmental Services (NH DES) to adopt drinking water rules and standards to protect the public health and welfare.

*New Hampshire's Safe Drinking Water Act helps to protect public health and welfare through the development of water regulations that do the following:*

- a. Monitor the water quality of public water supplies.
- b. Provide technical assistance to water operators and the general public.



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# Safe Drinking Water Act

- c.** Review the design of proposed public water systems and alterations for existing systems.
- d.** Periodically conduct sanitary surveys of public water systems to ensure proper safety and operation.
- e.** Require that public water supplies comply with all pertinent federal and state statutes and rules.
- f.** Educate citizens for the need and methods of providing safe and adequate drinking water.
- g.** Approve sources of water used in the manufacture of bottled water.  
*(Reference: RSA 485:1).*

A very important provision of the 1996 Amendments to the SDWA is to support “Capacity Development.” This assures that the provisions of the SDWA are carried out. Building the *technical, managerial and financial capabilities* of water systems is most important if a system is to remain self-sustaining. It takes not only technical expertise to deliver safe drinking water, but managerial and financial capability, as well.

Thus, this emphasis on lending assistance to water system owners and operators to help them better run



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# Legal and fiduciary responsibilities

their systems is in keeping with the notion that there is great benefit to a community if the community itself becomes capable of maintaining its own facilities.

## **Legal and Fiduciary Responsibilities of Water Boards**

As a Board you are entrusted with managing the water system and have the power to act on behalf of and for the benefit of your constituents. *Your basic legal responsibilities are to:*

1. Carry out your Rules and Regulations (*by-laws and ordinances*);
2. Ensure that your system is being operated in compliance with all of the applicable federal, state and local laws and ordinances;
3. Conduct business only as a board. Individual board members cannot enter into contracts or other legal agreements unless authorized by the Board to do so;
4. See that all records, minutes and notices are created, maintained and made available according to federal, state, and local laws. (*Source: The Water Board Bible, p.2*)





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## Legal and fiduciary responsibilities

**Other** responsibilities that fall under the category of “fiduciary responsibilities” *include*:

1. exercising rights and powers for and on behalf of others with diligence and care.
2. ensuring that your water system handles funds in accordance with up-to-date accounting principles.
3. ensuring that the revenue covers the operation of the system, plus service on debt, plus reserve funds.

Fiduciary responsibilities are part of the trust that the public is placing in you, as their representative, to handle the affairs of their utility. Unless your actions are negligent, or you fail to take the steps to keep the system in compliance with the NH Safe Drinking Water Act, you are probably meeting the minimum requirements of your fiduciary role.

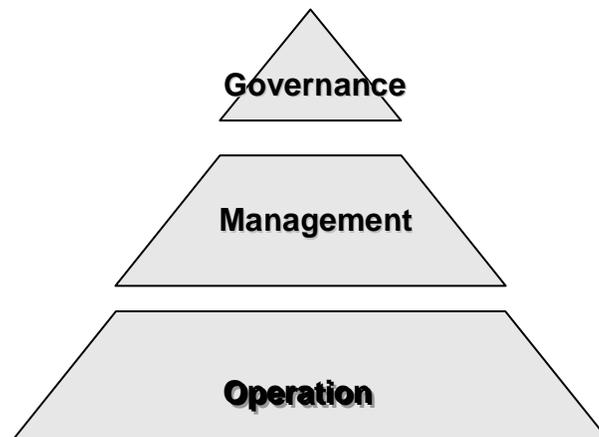
*(Source: The Water Board Bible, p.3)*



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# Legal and fiduciary responsibilities

## Hierarchy of Responsibility



In general, daily operations are best conducted by a certified operator, who is trained to maintain, monitor, sample and adjust the system. Financial and managerial oversight, planning, and setting policy are the functions of the board. By regarding the operator as the employee of the board, there is a clear chain of accountability. By virtue of the board taking a strong hand in setting policy and being the overseeing body, the operator will have clear guidance as to how to make decisions about day-to-day issues.



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# The mission statement

## **The Mission Statement**

Why are you sitting around a table together with a few other concerned people making decisions about your community's drinking water? There is a purpose: You all have an interest in *providing high-quality, affordable, plentiful and dependable drinking water, which meets or exceeds state and federal standards for quality and quantity to all of your customers.* This is an example of a mission statement, which simply states your organization's purpose, and mission.

Although it's tempting to view the concept of the mission statement as some sort of "touchy-feely" waste of time, a governing board should take the initiative to formalize a mission statement, which can be a guidepost to future decisions. For instance, what if there is a choice between installing a new state-of-the-art SCADA (remote control) system and a project designed to improve water pressure in a part of the system where it has been inadequate?

A clear mission statement can guide you toward the right choice, by having made an earlier commitment to provide good quantity and quality to all your customers. Even though SCADA might be a boon to the operator, and a wonderful aid to monitoring the system, if you haven't fulfilled your mission by serving



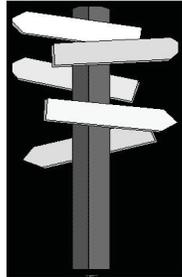
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# The mission statement

all your customers with the same level of basic services, then the choice may become clearer.

A good mission statement will guide your work, and that of future boards, in setting policy and direction to the endeavor of running a utility.





## Chapter 2

### **GOVERNMENTAL OVERSIGHT AND ASSISTANCE**

*A detailed treatment of each and every Statute and Administrative Rule is beyond the scope of this handbook. We want to present an overview and references to which an interested person can go to obtain guidance on a question. This is not meant to be legal training or advice.*

#### **New Hampshire Laws and Administrative Rules**

The best place to begin is New Hampshire's DES Drinking Water and Groundwater Bureau (DWGB) website  
<http://www.des.nh.gov/organization/divisions/water/dwgb/index.htm>

If you don't have access to the Internet, the Drinking Water and Groundwater Bureau at the NH DES can be reached at 603-271-3503. Describe your question, and the receptionist will connect you to someone who is knowledgeable on that subject.

#### **Revised Statutes Annotated (RSA)**

"RSA" means "Revised Statutes Annotated." A reference to an RSA by a number refers to that Chapter of New Hampshire's laws. The laws are arranged in "Titles," which are broad topic headings.



# New Hampshire laws and administrative rules

RSA's are available online at: [www.gencourt.state.nh.us/rsa/html/indexes/default.asp](http://www.gencourt.state.nh.us/rsa/html/indexes/default.asp). They are usually available at any Town Hall, as well.

The RSA authorizing the Administrative Rules for Public Water Systems is in Title L (*Watershed Management and Protection*), Chapter 485 (*New Hampshire Safe Drinking Water Act*). Other Chapters that apply to directly to Water Systems are

- Title L Chapter 486 (*Financial Aid to Public Water Systems*)
- Title XXX, Chapter 332-E (*Water Treatment Plant Operators and Water System Distribution Personnel*)
- Title III, Chapter 35, Capital Reserve Funds; and Chapter 38, Municipal Electric Gas or Water Systems
- Title XXXIV (*Public Utilities*), Chapter 362, Section 4, Water Companies, When Public Utilities

## **Env-Ws Rules**

On the NHDES website, the following page contains a copy of the Administrative Rules that are guideposts to all other rules, as well as citations from the RSA that authorizes the Rules:

<http://des.nh.gov/organization/divisions/water/dwgb/categories/rules.htm>



# New Hampshire laws and administrative rules

**Table 1** is a representative sample of the Administrative Rules that address some of the issues relevant to the operation and maintenance of public water systems. Rules that pertain to water systems are have the prefixed “Env-Ws,” “Env-Dw,” or “Env-Wq.”

## **Table 1. Administrative Rules by Number with Description of Issue**

### **Env-Ws**

- 301-308 Introduction to Drinking Water Rules
- 341-347 Variance, Exemption, BAT
- 360-362 General Operational Requirements for PWS
- 364 Backflow Prevention
- 370 General Design Standards: Systems Serving 1000  
or More People
- 372 Design Standards for Small Community Public  
Water Systems
- 373 Design Standards for Non-Community Public  
Water Systems
- 374-377 Design Standards for Large Public Water Systems

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# New Hampshire laws and administrative rules

**Table 1.**  
**Administrative Rules by Number with  
Description of Issue** *(cont.)*

**Env-Ws** *(cont.)*

386 Protecting the Purity of Regulated Watersheds

Env-Dw

301 Small Production Wells for Small Community  
Water Systems

302 Large Production Wells for Community  
Water Systems

303 Groundwater Sources of Bottled Water

304 Emergency Bulk Water For Public  
Water Supplies

501 Permit to Operate

502 Certification of Water Works Operators

601 Capacity Assurance for PWS

602 Capacity Assurance for Proposed PWS

700 Water Quality: Standards, Monitoring,  
Treatment, Compliance and Reporting -  
Complete Table of Contents, OLS  
Revision Notes, Appendices.

701 Purpose and Applicability: Units of Measure

702-706 MCLs and MCLGs

707 General Monitoring Requirements  
Laboratory Analytical Methods

708 Sampling Schedules

709 Monitoring for Specific Contaminants

714 Control of Lead and Copper



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# New Hampshire laws and administrative rules

**Table 1.  
Administrative Rules by Number with  
Description of Issues (cont.)**

Env-Dw

- 715 Disinfection Residuals, By Products and  
Byproduct Precursors
- 716 Filtration, Disinfection, and Waste Recycling
- 717 Groundwater Monitoring and Treatment
- 719 Reporting
- 720 Inspections; Significant Deficiencies
- 800 Public Notification by Public Water Systems
- 901 Groundwater Reclassification Rules
- 1001 Grants for Surface Water Treatment, Regional  
Water Systems, and Groundwater Investigations
- 1002 Water Supply Land Protection Grants
- 1100 Drinking Water State Revolving Fund
- 1200 Privately Owned Redistribution Systems

Env-Wq

- 401 Best Management Practices for Groundwater Protection
- 402 Groundwater Discharge Permits and Registrations
- 403 Large Groundwater Withdrawals
- 2101 Water Conservation



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# New Hampshire laws and administrative rules

**Table 2** is a representative sample of the issues that are most relevant to the Owners of public water systems, and the Administrative Rules that describe The regulation of those issues.

**Table 2.**  
**Administrative Rules by Description of  
Issue, with Rules by Number**

- Capacity Assurance for Proposed (Env-Dw 602)  
or Existing (Env-Dw 602) Public Water Systems
- Certification of Water Works Operators, Env-Dw 502
- Design Standards for Small Community Water Systems,  
Env-Ws 372
- Drinking Water Quality Standards, Env-Dw-701-706
- Emergency Bulk Water for Public Water Supplies,  
Env-Dw 304
- Introduction to Drinking Water Rules, Env-Ws 301-308
- Operation and Maintenance Responsibilities,  
Env-Ws 360-362
- Public Notification by Public Water Systems,  
Env-Dw 800
- State Revolving Loan Fund, Env-Dw 1100
- Rules for Protecting the Purity of Regulated  
Watersheds, Env-Ws 386



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## New Hampshire laws and administrative rules

### **NH DES Public Water Systems Fact Sheets**

The New Hampshire Department of Environmental Services has published a number of Fact Sheets, all of which are available online at:

<http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/index.htm>

The Fact Sheets provide technical information on nearly every aspect of operating and owning a drinking water system.

*Among the Fact Sheet topics are:*

- Capacity Development
- Drinking Water Quality
- Municipal Water System Design and Operations,
- Operator Certification,
- Small System Design and Operations,
- Source Water Protection,
- Water Efficiency Practices
- Water Supply Sources

Many more topics are available.

Each fact sheet is an excellent resource — the series is one of the best in the Nation for information on public water issues.



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# PWS information

## **Additional Public Water System Resources**

NH DES One Stop Data Retrieval  
[www.des.nh.gov/OneStop/index.html](http://www.des.nh.gov/OneStop/index.html)

The NH DES One Stop Data Retrieval system can be used to check on data (system contacts and sampling schedules) and results of samples analyzed by the New Hampshire State Laboratory. *The website for this information is:*

[www.des.nh.gov/OneStop/BasicSearch.aspx](http://www.des.nh.gov/OneStop/BasicSearch.aspx)

You can log on to this site and retrieve information about compliance, contacts, results and schedules for all public water systems.

## **GRANIT**

The New Hampshire Geographically Referenced Analysis and Information Transfer System, (GRANIT) Web Site, [www.granit.sr.unh.edu/](http://www.granit.sr.unh.edu/), provides access to New Hampshire's statewide Geographic Information System (GIS). For those who are not familiar with using GIS, the NHDES One Stop Data Retrieval system also has mapping on its site, based on GRANIT, which some users might find easier to access.



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## PWS information

### **Public Utilities Commission**

The Gas & Water Division of the Public Utilities Commission (PUC) assists the Commission in regulating 20 water utilities in New Hampshire. The 20 water utilities own approximately 100 separate systems, ranging in size from 26 customers to about 22,000. A change in state law in 2002, which now permits a rate premium of up to 15% over “core” rates without PUC oversight, led the City of Manchester to recently seek and receive an exemption from regulation from the Commission.

The 20 water utilities regulated by the PUC only serve around 15% of all of New Hampshire’s residents. The large majority of residents are served by either a municipal utility or by private wells. An estimated 38% of New Hampshire residents receive their water from private, on-site wells.

*Information on the PUC and its regulations can be found at its website:*

[www.puc.state.nh.us/Water-Sewer/water-sewer.htm](http://www.puc.state.nh.us/Water-Sewer/water-sewer.htm).



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# State water testing laboratory

## **State Laboratory Services Unit**

The NH Department of Public Health (DPH) Laboratory is the primacy lab in our state for the U.S. Environmental Protection Agency (EPA). This designation requires the laboratory to maintain the capability and capacity to carry out specific methods for all the Safe Drinking Water Act parameters for enforcement cases and emergency situations.

The DPH Laboratory is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory. DPH Laboratory has maintained full accreditation for drinking water and wastewater parameters. Information on the analytical parameters that are of most interest to public water systems can be found at:

<http://www.des.nh.gov/organization/commissioner/index.htm>

*The DPH Laboratory is a full service laboratory offering testing for*

- microbiology,
- organic chemistry,
- inorganic chemistry and
- radiochemistry.



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## State water testing laboratory

The microbiology section checks for bacterial organisms that can be found primarily in water. Total Coliform and *E. Coli* are the primary bacterial indicators.

The organic chemistry section conducts analyses on chemicals containing the element carbon. Volatile Organic Compounds (VOCs) - including the gasoline constituent methyl tertiary butyl ether (MtBE), - other petroleum products, industrial solvents, pesticides and herbicides are common tests. The inorganic chemistry section analyzes for the non-carbon elements and associated compounds found in our environment.

These tests include metals such as Arsenic and Lead, nutrient compounds containing Nitrogen and Phosphorus, and physical measurements such as pH and specific conductance. The radiochemistry section conducts analyses of those inorganic elements, primarily Uranium and Radon, which are radioactive.

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## Chapter 3

### BOARD MEETINGS

*Regular meetings of a governing board are necessary to ensure that problems are addressed in a timely manner, and that communications between the board and the operator are maintained. The board should be able to strike a balance between taking little or no interest in the running of the system (hire an operator, and that's that), or becoming too involved in day-to-day operations.*

*Having regular meetings and making an effort to keep communications open with the operator (who may have several systems under his care) are essential. The character of your meetings is a good indication of how effective you are as a board. We'll discuss some aspects of what kind of indicators you might want to pay attention to.*

#### **Preparation**

Written agendas should be distributed to all parties as many days as possible in advance of the regular meeting. Having an agenda allows the members the opportunity to come to the meeting prepared. Preparedness of members is vital in ensuring the effectiveness of the board.

Input from the public about such matters as water quality, water pressure, taste and color, as well as any



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# Board meetings

problems that might be due to treatment processes should be available in writing to members for their attention.

To assure that your system is in compliance, you have to assure that the operator is communicating with the board regularly. The operator should be prepared to give the board a written report on any preventative maintenance, test results, customer complaints, and the system's performance. Any unusual occurrences, such as a power spike, a drift in power usage, or a repair, should be reported and critiqued. This information is useful to the board for one of its prime duties: *planning for future needs*.

## **Notification**

Notification of meetings is required for all publicly-owned water systems. Privately-owned systems should check with the by-laws of the organization to determine if meetings have to be notified, and at what terms.

Annual meetings of towns and districts must be warned, in at least two public places for 14 days, in advance of the meeting not counting the day of the posting, or the day of the meeting. Weekends and holidays are included in the 14-day count.





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# Board meetings

Monthly meetings are generally notified 24-hours in advance, either in a local paper or in two public places in the town or district. Appendix E contains the full text of RSA 91-A, Section 2, which describes the whole process.

## **Open Meeting Law**

New Hampshire's Open Meeting Law is described in Title VI, Public Officers and Employees, Chapter 91-A, Section 2. (*Included in this Handbook as Appendix E.*)

The law states that if a quorum of a membership of a public body convenes to discuss or act upon a matter over which the body has authority, it is considered a public meeting, and must conform to the law. It makes exceptions for chance meetings and social gatherings. The rule of thumb is that public business should only be conducted in public, not in a closed setting.

The Open Meeting Law makes exceptions for chance meetings and social gatherings. The rule of thumb is that public business should only be conducted in public, not in a closed setting.



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# Board meetings

## **Executive Session**

New Hampshire's Open Meeting Law allows for non-public sessions to be held for a number of different reasons. Title VI Chapter 91-A, Section 3 describes the reasons.

*Non-public meetings are limited to:*

- personnel issues (hiring-firing, promotion, discipline, compensation);
- any matter relating to someone's reputation;
- real estate negotiations; security-related issues;
- discussion of pending litigation;
- emergency planning.

Executive sessions are sometimes used inappropriately (i.e., for reasons other than those stated above). Boards can exclude visitors and the media from Executive Sessions. There should be an open session before and after an executive session. Following the closed session, the minutes must be made available to the public unless a 2/3 vote of the committee excludes these minutes.



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# Board meetings

## **Participation**

Without high quality participation by members of the board, the board won't be able to make sound decisions. Committee members should be ready to participate in meetings, keeping the following ground rules in mind:

## **DO**

- read agendas
- participate in discussions
- help with time management
- stay focused
- take by-laws seriously
- vote thoughtfully
- keep board business confidential
- review draft of minutes.





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# Board meetings

## **DON'T**

- come unprepared
- arrive late and/or leave early
- distract others
- ignore by-laws
- put down other board members or staff
- gossip about board business

*(Source: The Water Board Bible, p.21)*

## **PARTICIPATION**

**Signs that all is not well in the participation area include:**

- Sporadic attendance at meetings. *Cure – adopt a bylaw saying that more than three unexcused absences in a year constitute resignation.*
- Being unprepared. *Cure - board members inform the offender that they are a burden on the system, and is wasting time at meetings*

# Board meetings

- Put-downs, wisecracks, distractions. *Cure – Committee chair stops this behavior as it happens, and re-focuses attention to the agenda.*
- Dominating personality. *Cure – Chair thanks the dominator for their opinion, then moves around and solicits other input. Later, alone, the Chair alerts the person that everyone’s opinion is valued, and that the committee can be more effective when all can be heard.*
- Unethical behavior. *Cure – Address this as soon as a hint appears. Annually, review the by-laws concerning conflicts of interest. Encourage abstaining from votes where there is a potential conflict of interest.*
- Conflict (results from disagreements). *Cure – Disagree diplomatically (“I hear and respect your opinion.” “I don’t agree, but value your opinion.” Reach or create a compromise. Seek more information, ask additional questions. Communicate and seek a win- win solution.*

*(Source: The Water Board Bible, p.22)*

**It’s not easy to bring a bothersome behavior to someone’s attention, especially if you’ve developed a bond, by virtue of being on a water board together. However, the board is only as good as its members. The job of the board is to see that the mission statement is carried out. To do this everyone has to be pulling together.**



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# Board meetings

## **Follow-up**

After meetings, board members should review the minutes and keep the business of the board confidential. Review minutes because they are the official record of decisions that the board has made. In case of litigation or personnel grievances, these are the records of the board's actions. The few minutes it takes to confirm the minutes with your notes and/or memory is a necessary part of the job.

Confidentiality is more difficult, because it takes self-discipline. The line between natural pride in the work of the system, and talking about plans and achievements, and giving up information that should not be discussed, is easily crossed during normal conversation. Breaking confidentiality is often viewed as a break in trust. Since trust is basic to building a team, it follows that breaking confidentiality quickly can lead to breaking up the team.





## Chapter 4

### OPERATIONS

*The board guides and sets the direction for the utility, while the operator runs conducts the day-to-day operations the utility. Health and safety of the public, the operator's license and livelihood are at risk if the utility and water quality are not in compliance with the Safe Drinking Water Act.*

### The Water Operator

The operator is responsible for the proper operation of the water system. He or she has been trained and licensed for these duties. The operator should understand all aspects of operation and maintenance of the water treatment and distribution systems.

Boards rely on the operators to run the utility properly and to keep the board informed of issues present and projected. The operators need the board's cooperation with adjusting rates and establishing Capital Improvement Funds to maintain system capacity.

Operators are the board's greatest asset, as the operator is the key to a safe, adequate supply of drinking water to the public. He or she keeps the equipment functional and current and maintains the proper water chemistry to assure compliance and quality. The operator is also a major contact with the consumers.



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# Your water operator

## *Hiring an Operator*

Before advertising for an operator, a detailed job description needs to be produced. Included in this description are the responsibilities and expectations of the position, the work schedule, and any physical requirements. *An accurate job description describes the following:*

- job requirements;
- minimum qualifications;
- work schedule;
- responsibilities; and
- the size of the system.

## *Compensation*

To attract good employees, the compensation must be adequate. Experience shows that a well paid, competent employee is more affordable than a poorly paid incompetent employee. Fines, asset losses, and loss of consumer confidence may more than offset the difference. Polling other systems of similar size and complexity is a good way of judging the level of compensation your system is offering

## *Expectations*

The board should expect regular reports from the operator on the condition of the utility. He or she



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## Your water operator

should keep the board informed of equipment replacement needs, system expansion, and/or facility upgrade needs. The board should expect copies of the monthly State Water Quality reports and Lab results. The board should be immediately informed of violations or emergency situations within the utility. The sample operator job description, included as Appendix C, is a guide to what are the day-to-day duties of an operator.

Regular meetings with the operator to discuss new regulations, compliance monitoring results, status of the system, and issues with the public and the water system will inform the board as a basis for board decision and actions.

### *Personnel Policies*

The board should have an established Personnel Policy and Procedures Manual. This Manual should be revisited annually and amended to reflect labor law changes and Town or District changes. *The Personnel Policy and Procedures Manual should contain the following as a minimum content:*

- Listing of employee benefits such as vacations, sick leave, leave of absence, jury duty, and related benefits;
- Policies and procedures on work hours, time



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# Your water operator

accounting, attendance monitoring, overtime, holidays, safety and health, etc.;

- Employment practices of the organization such as equal employment opportunities, outside hiring, termination procedures, retirement, benefit programs, absenteeism and tardiness controls, employee complaints, and problems and appeals procedures;
- Policies and procedures for professional development, training, and continuing education; and
- Policies and procedures governing disciplinary actions.

## *Supervising*

An individual member of the board does not have the power to direct the Operator. It takes a majority vote to institute a directive. The Operator is answerable to the board as a whole. If the utility has multiple employees, then the board should set the chain of command such that the supervisor or manager is answerable to the board and the remaining employees fall under the supervision of the supervisor or manager.



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# Your water operator

## *Evaluating*

The employee (supervisor/manager) should be evaluated within six months of employment. This evaluation gives the board an opportunity to explain performance issues, such as areas that may need improvement as well as those areas where the board is satisfied.

A six month evaluation also gives the employee a chance to improve performance before the annual review. The performance evaluation should be an open discussion between the operator and the board. The employee should be allowed to address his/her perspective and to lay out a plan to improve performance, if needed.

Appendix D includes three options for employee evaluations. Employees should receive a written evaluation annually that contains an assessment of the previous year's performance, conduct, and recommended developmental or corrective actions for the following year. At this time, employees should receive a recommendation as to the annual adjustment in pay.

The evaluation should be an open discussion and reviewed with the employee. The employee should be



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# Your water operator

given an opportunity to provide a written comment on the evaluation and both the Evaluator and the Employee should sign the review upon completion. Annual evaluations should be maintained in the Employee's permanent file.

### *Conflict Resolution*

Employee disciplinary policies and procedures should be part of the Personnel Policy and Procedures Manual and should include escalating disciplinary steps. The board should train all employees in the disciplinary procedures and make sure that they understand personnel performance expectations and disciplinary procedures. Discipline should be administered evenly and respectfully. All investigations, notices, and hearings must occur in a timely fashion. All personnel evaluations and disciplinary measures must be documented.

*Typical disciplinary actions, listed in progression, are:*

- Oral Warning
- Written Warning
- Suspension
- Discharge



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# Your water operator

## **The Physical Plant**

### *The Board's Role*

Board members are responsible for ensuring compliance with federal and state laws governing safety, drinking water quality, waste streams, roads and highways, wetlands and labor. The NH DES is a good resource for understanding some of the required regulations that must be met.

It is the Board's responsibility to hire and retain a certified operator to maintain and operate the water system. The board must allow the operator to run the water system and give him/her the tools to do the job. These tools consist of Capital Reserves, enforceable Rules and Regulations, Personnel Policies, an adequate budget, and the support of the board members.

Approving an annual budget is a board responsibility and spending the approved budget is the operator's responsibility. Budgets should be based on meeting the needs of the water system (both long and short-term), not on the water rates. Once the budget has been set, the rate structure should be reviewed annually and adjusted to meet the budget.



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## Contract water operators

Supporting the operator may be one of the most important roles of the board, as this is the major link between the board and system compliance. If an operator is discouraged from bringing “bad news” to the board, it may lead to a cover-up of non-compliance and customer complaints. This can lead to loss of consumer confidence and regulatory action that can be more costly than if the issue were corrected earlier.

### *The Role of Contract Operators*

Owners of small water systems should seriously consider the benefits and simplicity of hiring a firm that offers the part-time services of a professional certified operator on a contractual basis. As part of this consideration, it is suggested that a few of these firms be contacted to discuss different levels of service and cost.

A listing of firms offering contract operation services can be found on the NH DES website, at [www.des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-7-2.pdf](http://www.des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-7-2.pdf)

*According to the NH DES, the operational duties of a primary water system operator are:*

1. Conduct routine inspections of the water system in accordance with Env-Ws 360.12;



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## Contract water operators

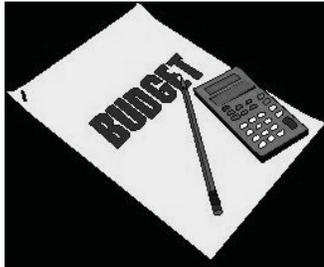
2. Oversee operation and maintenance to maintain the safety and reliability of water service by ensuring that repairs and improvements are performed properly and in a timely manner, or, in the alternative, notifying the owner in writing of the need for such repairs and improvements;
3. Be knowledgeable in all operational aspects of the water system;
4. Have supervisory authority, including supervision of operating personnel, where applicable;
5. Oversee all chemical monitoring, bacterial monitoring, and other monitoring required pursuant to Env-Dw 700;
6. Attend any sanitary surveys conducted by state personnel;
7. Oversee wellhead protection, watershed protection, and other activities associated with chemical monitoring waivers or otherwise required by Env-Wq 401;
8. Conduct all reporting necessary in order for the water system to comply with the requirements of Env-Dw 700;
9. Keep complete and accurate water system records as required by Env-Ws 304.



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More specific day-to-day duties are described in Appendix C. In addition, the primary water system operator shall communicate any regulatory non-compliance issues to the owner or manager of the water system.

The primary operator may designate other person(s) to perform any duties specified above, provided that the responsibility for execution of these duties remains with the primary operator.



## Chapter 5

### BUDGETS

*A budget is the major tool for tracking all necessary and authorized expenditures to ensure that the water system is operated and maintained in order to deliver safe and pleasant-tasting drinking water at a proper pressure to the consumer's tap 100% of the time.*

#### **Purpose**

A budget helps to determine the true cost of water so that billing will be fair and irrefutable. *A budget can help*

1. reduce unnecessary costs,
  2. determine if actual costs are being incurred as projected, and
  3. improve ability to anticipate costs.
- Budgeting is a process to assist the commissioners to anticipate impacts to revenue of costs, any long-term debt, and/or projected capital repairs and improvements.
  - A projected budget will help establish and defend the proper amount of savings in accounts for emergencies, debt payment, and future repairs and improvements.



# Budgets

- Budgeting will alert the commissioners to an imbalance of expenses to revenue.
- Budgets are a tool to ensure that the system can live within its means and sustain water quantity and quality.

## **Elements of a budget**

*Major elements of a budget include:*

1. Revenue
2. Operating Expenses
3. Debt Service Payments
4. Reserves
  - a. *Emergency Operating Expenses*
  - b. *Debt Service Reserves*
  - c. *Reserves for Asset Replacement*

## **Example**

Table 2 contains examples of what items should be considered as you plan a budget.

The example utility budget demonstrates how the parts of an expense budget are compiled. The revenue side represents the minimum amount of revenue that must be recovered to keep the system solvent. Note that Capital Improvement is included here as an expense. Thinking of recovering Capital Improvements through water rates is a recognition



# Budgets

that components are in the process of wearing down during any given year, incurring an expense.

The example also shows how to calculate an annual flow charge, based upon the number of gallons pumped (*or metered*) and the amount of expense that must be recovered. In this example, the debt service is distributed evenly among all the users. This is considered “fixed” because it is due annually, regardless of the amount of water produced.

The flow charge is considered variable, because it does vary from year-to-year. These variable costs are tied to the amount of water consumed by metered customers.

In an un-metered system, the flow charge could be distributed according to some other criteria, such as fixtures, or anticipated design flow. A more comprehensive discussion of water rates can be found in Chapter 6 of this Handbook.

See Chapter 6, Table 3.

# Budgets

## **Table 2. Major Parts of a Water Utility Budget**

### **Revenues**

- Residential
- Commercial
- Agricultural
- Industrial
- Public Authorities
- Charities
- Fire Protection
  - Hydrant maintenance*
  - Refill Fire Truck Pumper*

### **Reserves**

- Deprecation
- Interest Income
- Capital Improvement
- Contingency

### **Debt Service Payments**

- Long Term Debt Escrow

### **Taxes**

- Payroll Tax
- State Tax
- Sales Tax

# Budgets

## **Expenses**

### **Payroll**

- Operator (*Primary*)
- Operator (*Backup*)
- Administration
- Trustee Fees
- Outside Contractors

### **General Expenses**

- Legal
- Accounting (*Audit Fees*)
- Office Lease/Rent
- Newspaper Notices
- Postage (*POB & Stamps*)
- Memberships
- Training
- Transportation
- Licenses **Regulatory**

### **Assessment Compliance Testing / Lab Fees Utilities**

- Electrical
- Heating
- Phone
- Cell
- Pager
- expenses continued . . .*

# Budgets

**Table 2.**  
**Major Parts of a Water Utility**  
**Budget (cont.)**

**Expenses (cont.)**

**Insurance**

- Workman's Comp
- Liability
- Director/Officer Policy
- Bond
- Property

**Operation and Maintenance**

- Water Treatment Chemicals
- Hardware
- Repair Parts
- Material Supplies charts/pens
- Plowing & Grading
- Equipment Rental
- Repair Work
- Instrument Calibration
- Special Services
- Leak Detection
- Well Screen Cleaning
- Engineering Services

# Budgets

**Example** *(system using a volunteer operator)*  
**Small Water System Annual Budget**

<b>Expense Items</b>	
<b>Administration</b>	\$1700.00
<i>(salaries/ stipends of commissioners, treasure, clerk; auditor fee)</i>	
<b>Postage</b>	\$400.00
<i>(billing, Consumer Confidence Report)</i>	
<b>Insurance</b>	\$500.00
<i>(structure/ equipment; workman's comp.)</i>	
<b>Permit to Operate</b>	\$200.00
<b>Licenses</b> <i>(for certified operator)</i>	\$100.00
<b>Memberships</b> <i>(Water Works Association)</i>	\$100.00
<b>Operator Certification Training</b>	\$800.00
<i>(including continuing education)</i>	
<b>Source Operation</b>	\$3600.00
<i>(electricity, fuel for emergency generator)</i>	
<b>Compliance Testing</b>	\$900.00
<i>(bacteria, lead/ copper, nitrate/ nitrite, VOC, SVO,C inorganics, etc.)</i>	
<b>Water Treatment</b>	\$2000.00
<i>(chlorine, misc. supplies and maintenance)</i>	
<b>Maintenance of Distribution System</b>	\$1000.00
<i>(curb stop and valve exercising, hydrant flushing, tank inspection)</i>	
<b>Meter Reading</b> <i>(semi annual)</i>	\$1500.00
<b>Services</b>	\$1248.00
<i>(leak detection, well screen cleaning, snow plowing, lawn mowing)</i>	
<b>Supplies</b>	\$300.00
<i>(bleach, paint, fuel, etc.)</i>	
<b>SUBTOTAL Operating Expenses</b>	<b>\$14,348.00</b>
<b>Debt Repayment</b>	\$44,000.00
<b>SUBTOTAL Fixed Expenses</b>	<b>\$44,000.00</b>
<b>Capital Improvement Fund</b>	\$8500.00
<b>SUBTOTAL Capital Improvement</b>	<b>\$8500.00</b>
<b>GRAND TOTAL EXPENSES</b>	<b>\$66,848.00</b>

# Revenue sources

## EXAMPLE OF WATER REVENUE SOURCES

*(for 200 customers)*

### A. Fixed Charge

*(debt retirement) adjusted per customer based upon rate structure*

**Base Charge** (includes 12,000 gallons)  
200 Customers @ \$220.00 per year **\$44,000.00**

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### B. VARIABLE CHARGE

*(based upon use; system pumps 45,000 gallons per day)*

#### Flow Charge

1. Multiply the number of gallons used per day by the number of days water is used throughout the year.

EXAMPLE:

45,000 gallons of water used per day x 365 days =  
16,425,000 gallons per year  
- 2,400,000 gallons (now, subtract base allotment)  

---

= 14,025,000 gallons used per year

#### 2. To calculate the flow charge, divide

\$22,848 *(operating expenses plus capital improvement)*, by 14,025,000 gallons.

EXAMPLE:

\$22,848 / 14,025,000 *(gallons used per year)*  
*This equals 0.001629 dollars per gallon*  
or \$1.63 per thousand gallons.

#### 3. Revenue from Water Production

Multiply 14,025,000 *(the gallons used per year)*  
by \$1.63 per thousand gallons.

**Revenue from Water Production = \$22,860**

# Revenue sources

## C. Other Revenue

Interest on Deposits	\$ 700.00
Hook-up Fees	\$2,500.00

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## D. Grand Total Revenue

Fixed Charge	\$44,000.00
+	
Variable Charge	\$22,860.00
+	
Other Revenue	\$ 3,200.00

## Grand Total Water Revenue

**\$70,060.00**

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## SIMPLE RATIOS TO ASSESS PROPER TRACK TO FINANCIAL HEALTH

**Operating Ratio** = Revenue divided by Expenses  
= \$70,060/\$66,848  
= 1.04 (>1 = good financial health)  
(if <1 system needs more revenue)

### Debt Service Coverage =

Annual Gross Revenue minus O&M expenses divided by  
Annual Principal and Interest Charges  
= (70,060-14348)/\$44,000  
= 1.26

### NOTE:

*1.5 or greater is very good*

*1.0 to 1.5 is acceptable*

*<1.0 means inadequate revenue to cover debt service*





## Chapter 6

### SETTING WATER RATES

*Water bills are usually made up of two equally important parts, Fixed Costs and Variable Costs, which are meant to pay for separate items of the expense budget. These reflect two entirely separate parts of the budget expenses of the system.*

#### **Fixed Costs**

Fixed costs typically affect the capital expense portion of the budget. This borrowed money must be repaid on some kind of schedule, either annually, semi-annually, monthly, depending on the lending agency. Users can be charged for these costs based upon the taxing authority vested in the district's charter.

Normally, fixed costs are allocated on a flat rate, based upon the size of the connection. The larger-sized connections are typically commercial, requiring more water and a higher flow, and therefore, pay a higher rate. If there are a wide variety of commercial users, it may be desirable to use a formula based upon Table 1, of the NH Administrative Rule Env-WS 372, titled "Anticipated Design Flows." These values are listed in Table 3. This is an estimate of the number of gallons used by each type of user, and can be used as a guide to estimate water use by any given customer.

# Setting water rates

**Table 3**  
**Anticipated Demand**

Type of Use	Design Flow gpd = gallons per day
<b>Single family home</b> <i>(typically 3 bedrooms)</i> 150 gallons per day per bedroom	450 gpd
<b>Recreational vacation home</b> <i>(typically 3 bedrooms)</i> 150 gallons per day per bedroom	450 gpd
<b>Mobile homes</b> <i>(typically 2 bedrooms)</i> 150 gallons per day per bedroom	300 gpd
<b>Apartment/Condominium</b>	150 gpd <i>per bedroom</i>
<b>Efficiency apartment</b>	225 gpd <i>per unit</i>
<b>Campground</b> <i>(sewered)</i>	90 gpd <i>per site</i>
<b>Campground w/central comfort station</b>	75 gpd <i>per site</i>

# Setting water rates

Type of Use	Design Flow gpd = gallons per day
<b>Motel</b> ( <i>typically 4 persons/per room</i> )	50 gpd <i>per person</i>
<b>School with gym and cafeteria</b>	25 gpd <i>per student</i>
<b>Factory</b> ( <i>sanitary use only</i> )	20 gpd <i>per worker</i>
<b>Restaurant</b>	40 gpd <i>per seat</i>
<b>Lounge</b>	20 gpd <i>per seat</i>
<b>Office space</b>	15 gpd or 15 gpd/100 sq. ft.

(b) If the specific type of use is not listed above or in Env-Ws 372.10, the division shall be contacted to determine appropriate design flow on a case by case basis.



# Setting water rates

## *Calculating usage and costs*

Another approach is to perform a fixture-unit analysis on each connection. A fixture-unit calculation is usually based upon knowledge of numbers and types of fixtures in a facility. For example, the number of washing machines in a laundromat may indicate how much water is likely to be used.

It is possible to calculate fixed costs based upon actual or historical water consumption, using water meter readings. The booklet “Small System Guide to Rate Setting,” published by the Rural Community Assistance Program, Inc., (see Appendix F) clearly describes how to perform this calculation. User’s fixed rates are directly proportional to water system demand, assuring that heavy water users pay their fair share of the capital expenses needed to supply the water.

Clearly, it is important to have water rates that are fair and equitable. The percentage-of-use calculation, although most accurate, is complicated and difficult for the average residential user to understand. Usually small rural systems with mostly residential users prefer the flat rate for capital (fixed) costs, because it’s easier to understand and relatively fair.



# Setting water rates

A final type of rate, often selected by small communities, is a “category type.” For example, a single-family home could be a standard category. There could be any number of categories for users, including, commercial, industrial, municipal and residences of varying sizes. Often times, in this structure, a district allows a reduced residential rate category for retired single persons or couples on a fixed income living in a relatively large home.

## **Variable Costs**

Variable costs are the actual expenses of providing water to the customers. This charge is optimally a function of a meter reading, although any of the above rate structures are often used.

The most popular variable cost rate is shown in the sample budget in the previous chapter of this handbook. In this example, a fixed amount of water at an agreed upon rate is automatically purchased on a quarterly or annual basis. Additional amounts may be purchased based on meter readings and charged at an agreed upon rate. This can be a flat rate, or a community may choose to adopt an increasing block rate. This rate charges a higher price for increasing amounts of water, and is designed to discourage excess consumption. It is often used in communities where



# Setting water rates

there is a limited amount of water at the source. It is also possible to adopt a declining block rate. A declining block rate is often used by systems that are adding more customers, (*the economy of scale*), and reducing the cost of production.

Many systems have other rate adjustments to adapt for individual needs. For example, a seasonal community might wish to adopt a different set of rates for winter and summer.

Districts may sell water to other districts, towns, or customers. Under these circumstances, an inter-municipal agreement may be a desirable legal solution to communities with regional issues. This sort of document, usually drawn up by an attorney, makes it possible for each district's powers and rights to be protected, giving them a tool to design a legal management plan for their system.



## Chapter 7

### COMMUNICATION

*Communication is necessary for the public to understand the proper use of their funds and operation of their public water system. Communication also helps the board understand the public's concerns and perspective. A utility's good image can be communicated through public meetings, public announcements, tours, open houses, bill stuffers, customer surveys, and newsletters. The Consumer Confidence Report, required yearly, is also an excellent time to inform the public (see below).*

### Image

Determined communication policies can positively influence public opinion. Good management is a sign of a quality organization. The public may quickly realize there is a lack of good service and will correctly equate this to poor management. It is critically important that all aspects of water utility service, including management, provide the highest quality service to the public.

The public may observe the manner in which a community manages its water utility through its regular use of the water. A professional impression of utility management begins with reliable service and will create the perception that there is value to the service.

Always relay the status and condition of your system



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# Communication

to the public. Do not make the mistake of assuring the public that all is well for years and then present them with a bond article for financing a major project.

Listen and respond to consumer complaints as they may indicate an undetected problem in the system. Communicating with customers and investigating complaints will improve the water utility's image.

Managing the media is another way to promote your utility. Educate the local media about your system and its issues. Submitting public informational articles to the media for publication on such issues as proper household waste disposal, and water conservation, can do wonders with the utility's public image. *Never consider communications with the media as being off-the-record.*

## **Consumer Confidence Reports**

The SDWA requires public water systems to annually report on water quality in a Consumer Confidence Report. These reports must present information on source water, levels of any detected contaminants, health effects of any contaminants found, and any unregulated contaminants. The reports must include definitions of "maximum contaminant levels" (MCLs), and "maximum contaminant level goals" (MCLGs), as well as explanations of health concerns associated with contaminants. All definitions and





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# Communication

explanations must be in plain, easy to understand language. Templates for these reports can be obtained from the NH-DES website

<http://www.des.nh.gov/organization/divisions/water/dwgb/capacity/consumer.htm>

No small system should have to pay for this service. Free technical assistance is available from the NHDES, RCAP Solutions or the Granite State Rural Water Association.

*Consumer Confidence Report Rule: A Quick Reference Guide* can be downloaded from the EPA website, **[www.water.epa.gov/drink/index.cfm](http://www.water.epa.gov/drink/index.cfm)** and clicking on Quick Links – Consumer Information.

## **Public Notification**

Public notification helps to ensure that consumers will always know if there is a problem with the drinking water. *The SDWA Act requires water systems to notify consumers for the following violations:*

- Failure to comply with an applicable maximum contaminant level.
- Failure to comply with a prescribed treatment technique.
- Failure to perform required water quality monitoring.
- Failure to comply with prescribed testing protocols.



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# Communication

- Issuance to the utility of a variance or exemption.
- Failure to comply with an upgrading or process improvement schedule required by a variance or exemption.

Guidance for the NH Public Notification rules and sample notice templates for several situations can be found at:

<http://www.des.nh.gov/organization/divisions/water/dwgb/forms/index.htm>

Most critical are acute violations with a potential for immediate negative impacts on human health which include bacteria, nitrates, nitrites, and boil orders. Public notification for these violations must be made immediately and include radio and television announcements. Mandatory negative health effects language to be included in public notifications is provided in federal regulation (see CFR Part 141).

*The Public Notification Rule: A Quick Reference Guide* can be downloaded from the EPA website, [www.water.epa.gov/lawsregs/rulesregs/sdwa/publicnotification/index.cfm](http://www.water.epa.gov/lawsregs/rulesregs/sdwa/publicnotification/index.cfm)





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# Communication

## **Crisis Communication**

Consumers often fear the worst during a crisis. Public officials should remain calm and relay the facts of the situation, whether it is an interrupted supply or public notification of a SDWA violation. Avoid rumors or speculation and try to convey that the public safety is of uppermost importance to the utility.

Emergency Communication Policies and Procedures should be stated in the Emergency Response Plan (ERP) that that each community system has had to submit to the NHDES (see Chapter 8, Planning: *Emergency Response*). These policies and procedures should state (and show, using an organizational chart) that there is a single person designated to release information to the public, to avoid conflicting information and confusion.





## Chapter 8

### PLANNING

*One of the most important duties of a board is planning for the future. Think about it. If the board is not looking toward the future, who is?*

#### Introduction to Asset Management

The subject known as Asset Management is a planning process intended to get the maximum value from each asset (system component), in part by analyzing their age, life expectancy, and condition and by reserving financial resources for rehabilitation and/or replacement of these assets.

Much has been written recently about Asset Management as perhaps the most important tool in the way that water systems can manage their overall risk (Risk Management). Sustainable water utilities invest time in planning to benefit themselves by:

- Having focused and efficient operations;
- Wisely scheduling capital improvements;
- Reducing compliance violations; and
- Improving the overall operating conditions.

#### Key Considerations

These questions need to be considered in any planning process:

- What are the assets, and what is their condition?
- Which assets are most critical to the system?
- What are the replacement costs?
- How do we raise funds for replacement?

# Planning

## Methods

*There are five steps to the Asset Management Process:*

- 1. Inventory Assets:** This step is an inventory of all assets (i.e., pumps, treatment equipment, distribution lines, storage tanks; including make, model, date of installation, and repair history).
- 2. Prioritize Assets:** Assets should be rated according to criticality and expected life, so that a repair/replacement schedule can be developed.
- 3. Develop the Asset Management Plan:** Schedule the repair/replacement of assets, obtain repair/replacement costs for each asset, develop a budget, and calculate required reserves.
- 4. Implementation:** Begin with Public Education/Notification to gain support for maintaining the necessary reserves for the plan. Next, begin making the required annual installments - if allowed - to the reserve funds and implement the repair replacement schedule.
- 5. Annually Review and Revise Your Plan:** Costs will likely increase over time and some assets may exceed or fall short of the useful life expectancy. Therefore, adjustments may need to be made to the reserve deposit and repair /replacement schedule.

# Planning

*Things to consider during such assessment include:*

- Does the asset have sufficient design capacity for existing and future needs?
- Would replacement improve performance?
- Can the employee(s) work safely with the asset?
- Does the asset conform to current codes?

The EPA has published a guide to the process for small systems. The guide is available for download at: [www.water.epa.gov/type/drink/pws/smallsystems/managementhelp.cfm](http://www.water.epa.gov/type/drink/pws/smallsystems/managementhelp.cfm)

For the more ambitious, EPA has developed the *Check Up Program for Small Systems (CUPSS)*, software designed to implement an Asset Management Plan. For further information, see: [www.water.epa.gov/infrastructure/drinkingwater/pws/cupss/index.cfm](http://www.water.epa.gov/infrastructure/drinkingwater/pws/cupss/index.cfm)

## **Emergency Response**

Emergency Response Plans are required by the New Hampshire Department of Environmental Services Water Supply Engineering Bureau and must meet the basic standard set forth in Env-Ws 360.15

Once an emergency plan is prepared, staff and officials should practice scenarios presented in this plan so that they are ready in the event of an actual emergency.



# Planning

By performing a Vulnerability Assessment of the water system, officials and personnel can identify events and situations that will require an emergency plan.

*At a minimum, the emergency plan should include:*

1. system identification
2. chain-of-command
3. notification list
4. system components
5. potential emergency scenarios and planned action
6. alternate water source(s)
7. boil order
8. water conservation
9. return to normal operation
10. plan readiness
11. signatures
12. emergency plan requirements (Env-Ws 360.15)

The plan should be reviewed annually and revised as needed. A copy of the initial plan needs to be submitted the DES. An updated plan will need to be resubmitted every 6 years.

## **Vulnerability Assessment**

Vulnerability Assessment is an assessment of a water system's vulnerability to an adverse event. An adverse event might include a terrorist attack, natural disaster or any emergency caused by reasons beyond the control of the water system. Any of these might



## Source Water Protection

substantially disrupt the ability of the system to provide a safe and reliable supply of drinking water. Vulnerability Assessments were required to be completed by every community water system serving a population of greater than 3,300 persons by June 30, 2004, but any community water system can benefit from performing such an assessment.

The assessment requires community officials and employees to envision the impacts of a long-term power outage or loss of source water or the damage of a distribution main or any possible emergency condition that may significantly degrade the water system performance. Once possible system needs are identified through this process, a list of alternatives, emergency actions and necessary equipment should be produced. A system can then generate an Emergency Response Plan for these scenarios. (*See Emergency Response above for more on these Plans*).

### **Source Water Protection**

Implementing source water protection measures in order to maintain the quality of source water is less costly than treating for preventable contamination. For the vast majority of systems, source protection measures can be implemented with a modest investment of staff time, and little to no additional expenses.



## Source Water Protection

A good starting point for source water protection is the *Source Assessment Report* prepared by NH DES between 2000 - 2003 for New Hampshire public water systems.

**A NH DES Source Assessment Report includes:**

1. a map of the source protection area (*for groundwater sources, this is the wellhead protection area*);
2. an inventory of potential sources of contamination within that area;
3. a high, medium, or low rating for each of approximately 10 vulnerability criteria; and a description of possible protection measures.

Owners of a water system should use the *Source Assessment Report* as a point of departure to determine which source water protection measures are appropriate. It is also advisable to inventory all properties within the drainage area or protective radius of their source water protection area.

**Document and map:**

- septic systems
- landfills
- underground fuel tanks
- industries, animal wastes (*both wild and domestic*)
- mining operations, and
- potentials for spills of fuels or toxic wastes.



## Source Water Protection

After completing the inventory, a list of *potential contaminant sources* (PCS's) should be compiled. A listing of these in the vicinity of your well can be obtained from the NH DES Drinking Water and Groundwater Bureau. A visit to each of the PCS sites should be scheduled so one can evaluate the potential threat to the source water quality. Suggestions to diminish the risks can be made to the owner(s) of the property and educational material should be provided for the property owner's review.

Public Education pamphlets available from the NH DES provide a variety of guidance materials and training opportunities to help water suppliers plan and implement source water protection programs.

NH DES also provides a variety of public education materials that can be used in source water protection programs. Simple behavioral changes, such as proper maintenance of an on-lot septic system, proper application of fertilizers, or taking waste oil to a recycling center or proper maintenance will remove some threats. More information is available at (603) 271-0657 or:

<http://des.nh.gov/organization/divisions/water.dwgb/dwspp/index.htm>





## Chapter 9

### CAPACITY DEVELOPMENT

*Well-run water systems are considered to have adequate “capacity.” The terms “capacity development” and “capacity assurance” as used in the drinking water industry, are not related to volume or competence, but rather toward ability and sustainability.*

#### **The NH Public Water Supply Capacity Program**

“Capacity development” can be thought of as a process through which a system voluntarily plans for and implements activities to ensure that a water system can meet both its immediate and long term obligations to provide safe and reliable drinking water to its customers.

**Capacity activities have been categorized into the following three groups:**

- **Technical capacity** *refers to the physical infrastructure of the water system, including but not limited to the adequacy of the source water, infrastructure (source, treatment, storage, and distribution), and the ability of system personnel to implement the requisite technical knowledge.*
- **Managerial capacity** *refers to the management structure of the water system, including but not limited to ownership accountability, staffing and organization, and effective linkages to customers and regulatory agencies.*



# Capacity development

**Financial capacity** refers to the financial resources of the water system, including, but not limited to, revenue sufficiency, credit worthiness, and fiscal controls.

New Hampshire's Public Water Supply Capacity Program was established in 1999 with the adoption of Administrative Rules Env-Dw 601 "Capacity Assurance for Public Water Systems."

The New Hampshire Department of Environmental Services' capacity development program strives to help drinking water systems improve their finances, management, infrastructure, and operations, so they can provide safe drinking water consistently, reliably, and cost-effectively.

What this means to the decision makers of a small water utility in New Hampshire is that the NH DES is aware of the challenges that are being imposed by the increase of regulations, and that they have available technical assistance to any water system in the state. This assistance takes many forms. Printed material is available both in hard copy form and online. Technical assistance is also provided by the Drinking Water and Groundwater Bureau itself, or by contractors, such as RCAP Solutions and the Granite State Rural Water Association. Seminars, workshops, and trade shows, such as the NH Drinking Water Exposition, are held every year in Manchester, NH.



# Capacity development

While the emphasis has always been on building the technical capacity of water systems (*mostly through continuing education for operators*), workshops and on-site technical assistance in the managerial and financial capacity areas are now being offered. *For more information, contact RCAP Solutions, Inc. at 1.800.488.1969 or the New Hampshire Department of Environmental Services at 603.271.3503.*

## **Financial Security**

We have been emphasizing communications in this handbook, and this also extends to the financial aspect of capacity. A Water Board needs to have an ongoing dialogue with the person who keeps the books. Monthly meetings should include a review of expenditures and revenues, and how the actual numbers compare to the budgets that you projected. This includes monitoring the cash flow, and consideration of adjusting the billing period (*more frequent billing smoothes out cash flow*) if this is a problem. It is a good idea to set up a system of checks and balances, such as requiring internal controls on how money is received expended.

Several staff could be involved:

1. **One staff person** (*or board member*) might be charged with receiving and recording payments, and another with verifying that all items received are recorded.



# Capacity development

2. **A second staff person** would prepare deposit slips.
3. **A third staff member** would record the amount in the accounting system, and verify that the deposit was made.
4. **A fourth staff member** would be charged with reconciling the bank statement, verifying that the bank statement matches the deposits that were supposed to have been made.

Likewise, expenditures can be handled so that one person writes checks, while another signs them, and yet another does the bank statement reconciliation. This system may sound ponderous, but with a clerk/secretary, and a well-managed three-member board, it is possible to implement some sort of control.

Longer-term financial security depends on good budgeting, which is the basis of any planning and monitoring process for your system. One of the keys to planning is to use the results of the annual review of the budget situation, and either adjust the expenditures or the revenues. Since expenditures are usually mandated by regulations, debt service, utility costs, etc., and are usually scrutinized carefully; often, the only way to balance the budget is to raise rates. The rate setting process is painful for boards who often take great pride in having the lowest rates around. From the point of view of those who see the results of this attitude, it is the most frequent of runaway problems.



# Capacity development

The challenge to small water systems due to the passage of the 1996 Amendments to the Safe Drinking Water Act has been to meet the regulatory requirements and find the means to finance needed improvements to remain in long-term compliance. Achieving and maintaining capacity (*originally called “viability”*) is the ability to have the commitment to the technical, managerial and financial requirements necessary to meet state and federal requirements.

The most important concept is *commitment*. If a water board is not committed to their mission, then the system is in for a rocky future. Water systems need attention, which means planning for future regulations, replacement of components, planning for growth, and attention to the customers’ needs.

## **The Next Generation**

### *Suggestions for Recruitment*

Boards often consist of an average of 3 citizens, usually having some experience in business, or some other facet of volunteer civic service (school board, planning board, town council, etc.). More often than not, they are of the same generation. Seniors and those of middle age seem to be the predominant age group serving on water boards.

## **Access the Makeup of Your Water Board**

Taking into consideration that one of a board’s



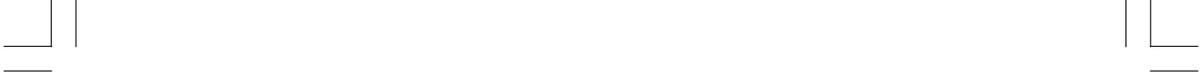
# Recruiting the next generation

primary functions is planning, any board should look at itself from time to time to assess its own makeup, especially in terms of the age of its members. Do this at the very least as a measure of how the system will be managed into the future.

What kind of qualities, besides age should you look for in recruiting new members? It's tempting to want to bring people on board who look, think and act as you do, but this may not always be wise. *Instead, when considering new water board members, consider those who have traits such as*

- commitment,
- understanding,
- experience,
- the ability to be available, and
- tolerance in respecting other points of view.

Skills that are transferable might include experience as a business manager, or financial officer or previous experience as a board member. People with technical skills, such as plumbers, fire fighters bring a valuable perspective when decisions need to be made from a list of options from a consultant. *Keep in mind that the board is a governing, planning, and policy making body, where teamwork is the key.*



# Recruiting the next generation

## **Consider Forming Sub-Committees**

Consider forming sub-committees to explore issues such as project planning. Using constituents in addition to board members on these committees can result in very positive results, in terms of gaining public support for infrastructure improvement projects. Sub-committees can serve as a training ground for good people who otherwise might view board membership as beyond their abilities and commitment level.

## **The Bottom Line**

In the final analysis, our view of the role of a governing board is that board members are individuals who have come together to work toward a common purpose. In the case of drinking water systems, this is to carry out a mission that will ensure that the public has safe, affordable, and plentiful water. The mission will consist of making decisions that, in some cases, will involve some technical, managerial and financial information that may not always be within the grasp of all members. Therefore, the members of the board must be open to listening to information and recommendations from experts (including the certified operator), regulators, and the public. In order to ensure that decisions in the best interest of the public are being made, anyone sitting on a water board must keep in mind that they are keepers of the public's trust. *It is up to each governing board to make sure that their successors are persons of integrity, and that they will act in the best interest of the public while they are serving on the board.*

# Appendix A

examples of contents for by-laws

## APPENDIX A

### Sample By-Law (Policy Manual) Table of Contents

*Source: The Water Board Bible*

<b>Section</b>	<b>Topic</b>
<b>A</b>	<b>Legal Authority, Applicable Statutes</b> Governing body legal status Authority Powers and Duties Board/Council members: number, qualifications, terms of Office, selection/election, resignation, removal from office. Meetings
<b>B</b>	<b>Code of Ethics</b>
<b>C</b>	<b>Personnel</b> Superintendent/operator/manager Legal status Hiring Promoting Evaluating Terminating Daily operations: work week, tasks assigned, etc.



# Appendix A

## Examples of contents for by-laws

- D**            **Customer Relations** Ongoing communications Reporting and handling problems
- E**            **Finance**  
Funds  
Budgets  
Purchasing  
Contracts  
Accounting  
Audits
- F**            **External Relationships**  
Community relations  
Organizational memberships
- G**            **Facilities, Buildings**  
Standards: rounds, smoking, etc.  
Accessibility to the disabled
- H**            **Equipment**  
Staff use; vehicles, telephones, etc.

# Appendix B

## Sample water ordinance contents

### APPENDIX B

#### Sample Water Ordinance (Rules and Regulations) Table of Contents

*Source: The Water Board Bible*

<b>Section</b>	<b>Topic</b>
1	<b>Purpose</b> To set out the manner in which service will be provided to customers
2	<b>Definitions, such as:</b> Applicant Board Consumer Point of Service
3	<b>Operations (the “how to’s”), such as:</b> Applications for service Right of access by the utility Continuity of service Control equipment and location Notices prior to disconnection Meter tests Changes in occupancy Extensions to the system Costs for service



# Appendix B

## Sample water ordinance contents

- 4 **Customer relations,**
  - such as:*
  - Paying bills: where, when
  - Disconnecting service
  - Restoration charge
  - Reading meters
  - Security deposits
  - Delinquent accounts
  - Adjustments
  - Reporting problems and emergencies



# Appendix C

## Sample operator job description

### **APPENDIX C**

#### **Sample Operator Job Description**

(Source: New England Water Works Association  
[www.newwa.org](http://www.newwa.org))

#### **WATER SYSTEM OPERATION**

- Be responsible for the day to day operation of the public water system.
- Conduct routine visual inspections of the system's source, source water protection area, storage facilities and chemical addition systems.
- Have familiarity with all aspects of the treatment and distributions operation of the water system.
- Review the sample monitoring schedule and locations quarterly.
- Oversee and monitor all repairs performed on the system.
- Record quantity of water pumped from source daily.
- Be responsible for eliminating or protecting the distribution system against cross connections.



# Appendix C

## Sample operator job description

### **WRITTEN PLANS, RECORDS AND REPORTS**

- Develop and maintain an accurate site plan showing the water source and distributions system.
- Maintain a complaint log.
- Carry out all required reporting requirements including submitting a complete monthly report to the regulatory agency.
- Keep complete and accurate water system records.
- Develop and maintain a public water system Operational and Maintenance (O&M) Manual.
- Prepare an annual consumer confidence report.

### **MEETING AND INSPECTION ATTENDANCE**

- Regularly attend scheduled Water Board meetings.
- Attend all inspections conducted by regulatory agency personnel.



# Appendix C

## Sample operator job description

### **WATER QUALITY ASSURANCE**

- Be responsible for setting, measuring and recording of all chemical additions.
- Be responsible for monitoring, operating, and maintaining process control to meet specified water quality standards.
- Order chemical and fill chemical feed tanks as necessary.
- Calculate and test disinfectant levels.
- Clean, flush, disinfect and test the water distribution system and storage tanks as needed.
- Investigate water quality and quantity problems and take corrective measures as needed.
- Collect or oversee the collection of water samples as specified by the state regulatory agency.
- Ensure that all samples are analyzed by a certified laboratory for the appropriate contaminant(s) and delivered to the laboratory to allow sufficient time for testing.
- Inspect system within 24 hours of fecal or second Total Coliform positive results or other water system failures.



# Appendix C

## Sample operator job description

- Ensure the accuracy of water meters and other flow measuring devices.
- Have oversight of source water protection, watershed protection, and other activities associated with chemical waivers or otherwise required by regulatory agency.

### **REGULATORY RESPONSIBILITIES AND COMMUNICATION**

- Notify the state regulatory agency and public water system owner or responsible person of a violation within specified time frames.
- Notify owner or responsible person of any violation of the state regulations and issue public notices when necessary.
- Respond to consumer complaints promptly.

### **CONTINUING EDUCATION/PROFESSIONAL DEVELOPMENT**

- Attend training programs for certification renewal.
- Keep abreast of changes in the drinking water regulations and safety regulations.



# Appendix D

## Employee performance evaluations

### **Appendix D** **Employee Performance Evaluation**

*The goals of an employee performance evaluation should be to:*

- continuously improve the effectiveness and efficiency of position;
- provide an opportunity for communication and planning;
- assist employees in increasing the effectiveness of their job performance;
- provide a mechanism for the establishment of individual and Board goals;
- serve as the basis of acknowledging employee accomplishments and recognizing employee potential need for support and/or training,
- provide documentation of employee performance to serve as the basis for salary adjustments and personnel actions.

The following points, developed by the League of Kansas Municipalities, can be used as a guide as you prepare an employee evaluation. (as included in the *Water Board Bible*). Source: *The Water Board Bible*.

#### **Definitions.**

A *goal or objective* is a predetermined level of production on the job; a goal should be expected to be accomplished within some identifiable time frame.

# Appendix D

## Employee performance evaluations

An *essential function* is what the employee is expected to do; it is non-negotiable between the supervisor and the employee.

*Job tasks* refer to the mechanics of doing an essential function. A *performance standard* is a measurable basis for determining or judging what an employee actually accomplishes by doing an essential function.

### **Supervisor concerns.**

Often supervisors are uncomfortable with employee evaluations, because they:

- dislike criticizing an employee and then perhaps being placed in a debate about his/her evaluative comments;
- feel they lack the skills needed to handle the evaluation process;
- dislike new procedures and the forced changes in the way they operate;
- question the measures and the validity of the evaluation tool.



# Appendix D

## Employee performance evaluations

### **Successful performance appraisals.**

*Take these steps to ensure that your performance evaluations help all participants:*

1. Regularly inform employees about their performance, not just at an annual performance appraisal. Try a biweekly or monthly private meeting.
2. Make sure you have clear, specific performance standards.
3. Train supervisors so that they can be objective and fair. Show them how to keep notes throughout the appraisal period, not just remembering what happened during the past few days.
4. Create and/or update your evaluation system with input from employees.
5. Make sure the goals and objectives are consistent with those for other departments or nearby water utilities.
6. Keep the performance evaluation system flexible. Systems are made to be changed.



# Appendix D

## Employee performance evaluations

7. Schedule the performance review meeting with the employee several days in advance.
8. Reserve a private room for the meeting where you will be undisturbed.
9. Review the employee's job description and note any changes which need to be discussed.
10. Provide the employee with a copy of the performance review form prior to the meeting.
11. Review any notes from regular supervisory sessions with the employee, any incident file, any special achievements or problem areas, and obtain input from other departments if needed.
12. Honestly critique your own performance as a supervisor during the review period.
13. Specifically define any problem areas and possible solutions prior to presenting them to the employee.
14. Outline the meeting format beginning with positive recognition for areas of strength.
15. Focus on job performance, not personality. It is your job to be fair and equitable, and to listen to the employee's point of view.

# Appendix D

## Employee performance evaluations

*Pp. 98-99 information provided by the Town of Needham, Massachusetts, Personnel Policies, Publication #419, [www.town.needham.ma.us/](http://www.town.needham.ma.us/)*

### **The Performance Review Meeting**

1. Be on time and devote your complete attention to this meeting.
2. Share with the employee the outline of the meeting, noting areas for discussion.
3. Ask the employee if there are any specific questions/problems that he/she would like to discuss and set these items into the agenda.
4. Review the previous year's Performance Evaluation Form, any mid-year discussions or special achievements, or other unique circumstances with the employee.
5. Compliment the employee on specific job accomplishments and strengths.
6. Review the completed Evaluation Form with the employee. If you provide the form after the meeting, you should allow the employee an opportunity to respond in writing to the comments on the form.
7. Present specific areas for improvement and discuss them with the employee. Listen carefully to the employee's point of view and his/her suggestions for how the problem could be resolved.

Also ask how you may assist him/her in this process.

# Appendix D

## Employee performance evaluations

8. Mutually agree on goals for improving problem areas and schedule a follow-up meeting to discuss progress within one month (if applicable).
9. Discuss any changes in job responsibility/career plans with the employee and consider advancement opportunities and training needs of the employee.
10. Have the employee sign the Performance Evaluation Form and comment as needed.

### **Thoughts On Performance Evaluation Forms**

Performance Evaluation Forms might include 2 to 4 criteria for each job duty. The criteria should be observable, clear, specific, realistic, and easy to follow. Be careful of identifying performance criteria which are absolute and therefore unachievable.

*An example of a job duty using performance criteria:*

#### **Duty #1**

Conduct water quality tests and adjust chemical dosages following NH DES guidelines to maintain appropriate level of water quality.

*Performance Criteria (Performance is successful if...):*

- water treatment plant is tested once per day between 7:00 a.m. and 9:00 a.m.
- water quality is maintained within prescribed standards

# Appendix D

## Employee performance evaluation forms

### Three Sample Employee Evaluation Formats

*(Source: The Water Board Bible)*

#### EXAMPLE 1. GENERAL

Employee Name \_\_\_\_\_

Position \_\_\_\_\_

Frequency of Evaluation (*annual, twice yearly, other*)  
\_\_\_\_\_

Date \_\_\_\_\_

Strengths

- 1.
- 2.
- 3.
- 4.



# Appendix D

## Employee performance evaluation forms

### **Needs Improvement**

Areas needing improvement, and how the board will support that effort:

1.

2.

3.

etc.

Overall potential assuming continued satisfactory performance. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### **SIGNATURES**

Supervisor \_\_\_\_\_

Employee \_\_\_\_\_

Date \_\_\_\_\_



# Appendix D

## Employee performance evaluation forms

### Example 2. SPECIFIC AREAS

Employee Name \_\_\_\_\_

Position \_\_\_\_\_

Frequency of Evaluation (*annual, twice yearly, other*) \_\_\_\_\_

Date \_\_\_\_\_

Performance	Strengths	Needs Improvement
1. Water/ wastewater quality		
2. Protection of		
3. Financial		
4. Employee		
5. Customer		
6. Cost-effective operations		



# Appendix D

## Employee performance evaluation forms

**Other comments**

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**SIGNATURES**

Supervisor \_\_\_\_\_

Employee \_\_\_\_\_

Date \_\_\_\_\_



# Appendix D

## Employee performance evaluation forms

### Example 3. LINKED TO PAY RAISE

#### RATING PROCESS

**Step 1** Decide a value for each category; then multiply it by the number of boxes checked.  
*Sample values for each category are:*  
-2.0 to -.9      0 to 2.5      2.6 to 3.5      3.6 to 4.0

**Step 2** Divide the total points by the total boxes to get the rating number: \_\_\_\_\_

**Step 3** Match the rating number with a pre-determined salary raise percentage.  
*For example, a 2.1 rating gets a 1% raise.*

#### Discussion

1. How can this employee correct any areas which require improvement?
2. How can this employee contribute more to this department?

#### SIGNATURES

Supervisor \_\_\_\_\_

Employee \_\_\_\_\_

Date \_\_\_\_\_

Employee name: \_\_\_\_\_ Evaluation period: \_\_\_\_\_ to \_\_\_\_\_

This employee's performance during this evaluation period can best be described as:

	Requires improvement	Satisfactory	Above average	Outstanding
1.	Insufficient knowledge of position. Such as	Adequate knowledge of position. Such as	Understanding all phases of position. Such as	Demonstrating a comprehensive knowledge of position. Such as
2.	Showing little regard for equipment and other employer resources. Such as	Usually careful with equipment and other employer resources. Such as	Attentive and careful of equipment and other employer resources. Such as	Demonstrating a comprehensive knowledge of all job phases. Such as
3.	etc.			
4.	etc.			

*(as many questions as required.)*

# Appendix E

## NH Open Meeting Law

**New Hampshire's Open Meeting Law**  
**TITLE VI**  
**PUBLIC OFFICERS AND EMPLOYEES**  
**CHAPTER 91-A**  
**ACCESS TO PUBLIC RECORDS AND MEETINGS**  
**Section 91-A:2**

**91-A:2 Meetings Open to Public. –**

I. For the purpose of this section, a “meeting” shall mean the convening of a quorum of the membership of a public body, as provided in RSA 91-A:1-a, to discuss or act upon a matter or matters over which the public body has supervision, control, jurisdiction or advisory power. “Meeting” shall not include:

(a) Any chance meeting or a social meeting neither planned nor intended for the purpose of discussing matters relating to official business and at which no decisions are made; however, no such chance or social meeting shall be used to circumvent the spirit of this chapter;

(b) Strategy or negotiations with respect to collective bargaining;

(c) Consultation with legal counsel; or

(d) A caucus consisting of elected members of a public body of the same political party who were elected on a partisan basis at a state general election or elected on a partisan basis by a town or city which has adopted a partisan ballot system pursuant to RSA 669:12 or RSA 44:2.



# Appendix E

## NH Open Meeting Law

II. All public proceedings shall be open to the public, and all persons shall be permitted to attend any meetings of those bodies or agencies. Except for town meetings, school district meetings and elections, no vote while in open session may be taken by secret ballot. Any person shall be permitted to use recording devices, including, but not limited to, tape recorders, cameras and videotape equipment, at such meetings.

Minutes of all such meetings, including names of members, persons appearing before the bodies or agencies, and a brief description of the subject matter discussed and final decisions, shall be promptly recorded and open to public inspection within 144 hours of the public meeting, except as provided in RSA 91-A:6, and shall be treated as permanent records of any body or agency, or any subordinate body thereof, without exception.

Except in an emergency or when there is a meeting of a legislative committee, a notice of the time and place of each such meeting, including a nonpublic session, shall be posted in 2 appropriate places or shall be printed in a newspaper of general circulation in the city or town at least 24 hours, excluding Sundays and legal holidays, prior to such meetings. An emergency shall mean a situation where



# Appendix E

## NH Open Meeting Law

immediate undelayed action is deemed to be imperative by the chairman or presiding officer of the body or agency who shall employ whatever means are available to inform the public that a meeting is to be held. The minutes of the meeting shall clearly spell out the need for the emergency meeting. When a meeting of a legislative committee is held, publication made pursuant to the rules of the house of representatives or the senate, whichever rules are appropriate, shall be sufficient notice.

If the charter of any city or guidelines or rules of order of any body or agency described in RSA 91-A:1-a require a broader public access to official meetings and records than herein described, such charter provisions or guidelines or rules of order shall take precedence over the requirements of this chapter.

**Source.** 1967, 251:1. 1969, 482:1. 1971, 327:2. 1975, 383:1. 1977, 540:3. 1983, 279:1. 1986, 83:3. 1991, 217:2, eff. Jan. 1, 1992. 2003, 287:7, eff. July 18, 2003.



# Appendix F

## References and web sites

### Selected References

#### MANAGEMENT

1. *The Water Board Bible, The Handbook of Modern Water Utility Management*, Ellen G. Miller and Elmer Ronnebaum, Available from the National Drinking Water Clearinghouse, West Virginia University, Morgantown, WV 26506. [www.ndwc.wvu.edu](http://www.ndwc.wvu.edu)
2. *Small System Guide to Financial Management* RCAP Community Resource Group, ATTN: Publications, 2705 Chapman, Springdale, AR 72762. Phone: 501.756.2900. [www.crg.org](http://www.crg.org)
3. *Managing a Small Drinking Water System* National Environmental Training Center For Small Communities, West Virginia University. Phone: 1.800.624-8301. [www.netc.wvu.edu](http://www.netc.wvu.edu)
4. *Running Your System Like a (Good) Business* Special Issue of *On Tap*: Summer, 2004, Volume 4, Issue 2, The National Environmental Services Center, PO Box 6064, Morgantown, WV, 26506-6064. Phone: 1.800 624-8301. [www.nesc.wvu.edu](http://www.nesc.wvu.edu)
5. *Asset Management: A Handbook for Small Water Systems*; Published by the US EPA [www.epa.gov/safewater/smallsys/pdfs/guide.smallsystems.asset.mgmt.pdf](http://www.epa.gov/safewater/smallsys/pdfs/guide.smallsystems.asset.mgmt.pdf)



# Appendix F

## References and web sites

### **FUNDING**

#### **New Hampshire Drinking Water State Revolving Loan Fund (DWSRF)**

For more information on Drinking Water SRF, contact the Drinking Water and Groundwater Bureau at 603 271.2513

#### **New Hampshire Municipal Bond Bank**

25 Triangle Park Drive, Suite 102

Concord, NH 03301

Phone: 603.271.2595

Fax: 603.271.3937

Toll-free in NH: 1.800.393.6422

[nhmbb@aol.com](mailto:nhmbb@aol.com)

#### **USDA – Rural Utilities Service Vermont/New Hampshire Rural Development**

Water and Environmental Programs Staff,

89 Main Street, City Center, 3rd Floor

Montpelier, VT 05602

#### **NH Area Office**

10 Ferry Street, Suite 218, Concord, NH 03301

Phone: 603.223.6045





# Appendix F

## References and web sites

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**Community Development Block Grant Program**  
**NH Community Development Finance Authority**  
(CDFA) - CDBG Program  
14 Dixon Ave., Suite 102, Concord, NH 03301  
Phone: 603.226.2170 Fax: 603.226.2816

**Local Government Guide to the Internet Chapter**

**17: Funding Resources**

[http://rural.org/lgg/Ch17\\_FundResource.html](http://rural.org/lgg/Ch17_FundResource.html)

**VULNERABILITY ASSESSMENTS and**  
**EMERGENCY RESPONSE PLANS**

VA/ERP Templates and Information

[www.des.nh.gov/organization/EmergencyPlanning/divisions/water/dwgb/wseps/index.htm](http://www.des.nh.gov/organization/EmergencyPlanning/divisions/water/dwgb/wseps/index.htm)

**FINANCIAL PLANNING**

Environmental Finance Center, Boise State

<http://efc.boisestate.edu/Tools/tabid/58/Default.aspx>

# Appendix F

## References and web sites

### **WATER WORKS ASSOCIATIONS**

For keeping up with water regulations, training opportunities, industry trends, and contacts visit: the American Water Works Association website [www.awwa.org](http://www.awwa.org) and the New England Water Works Association website [www.newwa.org](http://www.newwa.org)

*The following sites are courtesy of the US Environmental Protection Agency*

### **US EPA Web Sites**

Home Page [www.epa.gov/](http://www.epa.gov/)

Office of Water [www.water.epa.gov/](http://www.water.epa.gov/)

Office of Wastewater Management

[www.epa.gov/owm/](http://www.epa.gov/owm/)

Office of Science and Technology

[www.epa.gov/stpc/](http://www.epa.gov/stpc/)

Onsite/Decentralized Treatment Site

[www.epa.gov/owm/septic/index.htm](http://www.epa.gov/owm/septic/index.htm)

Environmental Technology Verification

[www.epa.gov/etv](http://www.epa.gov/etv)

Non-point Source Pollution

[www.epa.gov/owow/nps/](http://www.epa.gov/owow/nps/)



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# Appendix F

## References and web sites

### Source Water Protection

[www.water.epa.gov/infrastructure/  
drinkingwater/sourcewater/protection/index.cfm](http://www.water.epa.gov/infrastructure/drinkingwater/sourcewater/protection/index.cfm)

### Surf Your Watershed -

[www.cfpub.epa.gov/surf/locate/index.cfm](http://www.cfpub.epa.gov/surf/locate/index.cfm)

### Underground Injection Control Program (UIC)

[www.water.epa.gov/type/groundwater  
/uic/index.cfm](http://www.water.epa.gov/type/groundwater/uic/index.cfm)

### Safe Drinking Water Act

[www.water.epa.gov/lawsregs/rulesregs/sdwa](http://www.water.epa.gov/lawsregs/rulesregs/sdwa)

### **US EPA Documents/Booklets**

#### Management Help

[water.epa.gov/type/drink/pws/smallsystems  
managementhelp.cfm](http://water.epa.gov/type/drink/pws/smallsystems/managementhelp.cfm)

#### Asset Management and Planning

*Asset Management: A Best Practices Guide*

[www.epa.gov/ogdw/smallsystems/pdfs/  
guide\\_smallsystems\\_assetmanagement\\_bestpractices.pdf](http://www.epa.gov/ogdw/smallsystems/pdfs/guide_smallsystems_assetmanagement_bestpractices.pdf)

*Strategic Planning: A Handbook for Small Water Systems*

[www.epa.gov/ogdw/smallsystems/pdfs/  
guide\\_smallsystems\\_stratplan.pdf](http://www.epa.gov/ogdw/smallsystems/pdfs/guide_smallsystems_stratplan.pdf)



# Appendix F

## References and web sites

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### **Other Links of Interest**

American Society of Agricultural Engineers  
<http://asae.org/>

American Water Works Association [www.awwa.org/](http://www.awwa.org/)

American Society of Civil Engineers [www.asce.org/](http://www.asce.org/)

Association of State and Interstate Water Pollution  
Control Administrators [www.asiwpca.org/](http://www.asiwpca.org/)

Clean Water Network – [www.cwn.org/](http://www.cwn.org/)

Conservation Technology Information Center  
[www.ctic.purdue.edu/CTICHOME](http://www.ctic.purdue.edu/CTICHOME)

Consortium of Institutions for Onsite/Decentralized  
Wastewater Management  
[www.onsiteconsortium.org/links.cfm](http://www.onsiteconsortium.org/links.cfm)

New England Interstate Water Pollution Control  
Commission (NEWIEPCC) [www.NEWIPCC.org](http://www.NEWIPCC.org)

Association of State Drinking Water Administrators  
(ASDWA) [www.asdwa.org](http://www.asdwa.org)

Granite State Rural Water Association (GSRWA)  
[gsrwa.com](http://gsrwa.com)

Safe Drinking Water Trust  
[www.watertrust.org](http://www.watertrust.org)

Rural Community Assistance Partnership RCAP  
[www.rcap.org/](http://www.rcap.org/)

RCAP Solutions [www.rcapsolutions.org](http://www.rcapsolutions.org)

# Appendix F

## References and web sites

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Council of State Governments [www.statesnews.org/](http://www.statesnews.org/)

Environmental Council of the States [www.sso.org/ecos/](http://www.sso.org/ecos/)

Groundwater Foundation [www.groundwater.org/](http://www.groundwater.org/)

Environmental Council of the States  
[www.sso.org/ecos/](http://www.sso.org/ecos/)

National Association of Counties (NACo)  
[www.naco.org/](http://www.naco.org/)

National Association of County and City Health  
Officials (NACCHO)  
[www.naccho.org/](http://www.naccho.org/)

National Association of Home Builders  
[www.nahb.com/](http://www.nahb.com/)

National Association of Regional Councils  
[www.narc.org/](http://www.narc.org/)

National Association of Towns and Townships  
(NAtaT) – <http://natat.org/natat/>



# Notes





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PO Box 159  
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[www.rcapsolutions.org](http://www.rcapsolutions.org)



**The New Hampshire  
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