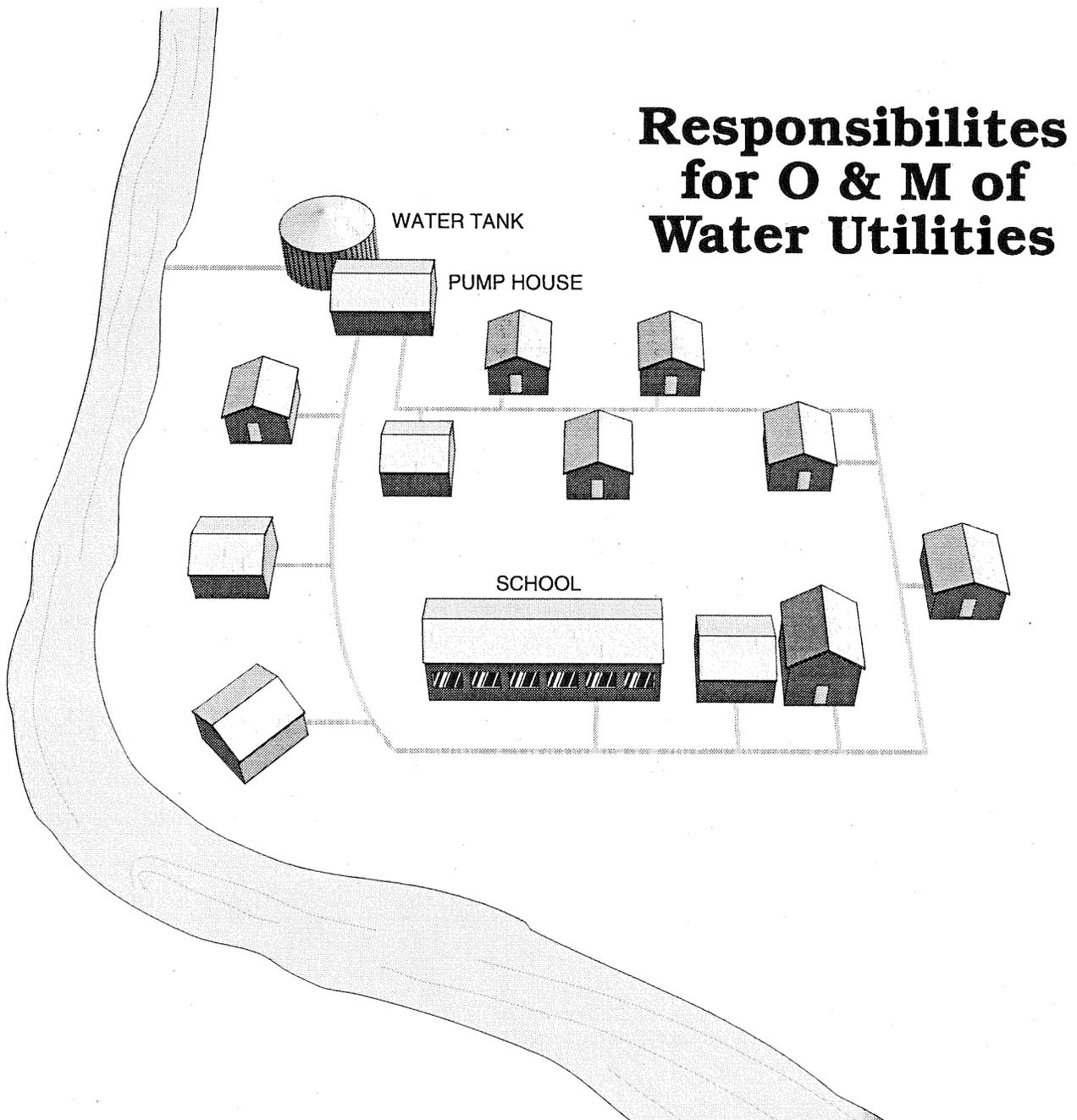


# O & M of Small Water Systems



## Responsibilities for O & M of Water Utilities

## **O & M of Small Water Systems**

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ACR Publications, Inc.  
1298 Elm Street SW  
Albany, Oregon  
(503) 928-5211

# TABLE OF CONTENTS

## Responsibilities for Management, Operations and Maintenance of a Water Utility

Introduction .....	2
Preface.....	2
How Does a Small City Water Organization Work?.....	3
Types of Small City Organizations in Alaska.....	4
Responsibilities of a City Council.....	7
Establishes Goals .....	7
Sets Policy .....	7
Commits to Achieving Its Goals.....	8
Develops Plans and Programs .....	8
Assigns Responsibility.....	10
Communicates with Customers and Employees .....	10
Obtains and Develops Resources.....	10
Operates the Utility Effectively .....	11
Prepares for Emergencies .....	11
Monitors the Performance of the Utility .....	11
Water Utility Manager Responsibilities .....	12
Prepare Assessments and Plans .....	12
Responsibilities of a Water Utility Operator.....	15
Responsibilities of Customers.....	16
Role of State and Federal Organizations.....	17
Regulatory Agencies .....	17
Assistance Agencies .....	17
Worksheet.....	19

# RESPONSIBILITIES FOR MANAGEMENT, OPERATIONS AND MAINTENANCE OF A WATER UTILITY

## WHAT IS IN THIS MODULE?

1. What are organizations and why do we need them?
2. An overview of how an organization accomplishes its goals.
3. The main responsibilities of a water utility's governing body.
4. The water utility superintendent's responsibilities.
5. Responsibilities of the water operations and maintenance workers.
6. Customer responsibilities.
7. The roles of the Alaska Department of Environmental Conservation and other state and federal agencies.

## KEY WORDS

- Accountability System
- City Administrator
- Council - Manager Form of Local Government
- First Class City
- Operating Budget
- Prioritize
- Resources
- Strong - Mayor Form of Local Government
- Capital Improvements Program
- City Manager
- Enterprise
- Inviting Nuisance
- Plan
- Program
- Second Class City
- Utility

# RESPONSIBILITIES FOR MANAGEMENT, OPERATIONS AND MAINTENANCE OF A WATER UTILITY

## INTRODUCTION

### PREFACE

Any water utility system is more than the source, treatment and distribution components to which you have been introduced. Without an organization of people who have the knowledge and skills to properly govern, operate and maintain the physical system, a water utility cannot consistently deliver safe potable water. Nor can such a water utility keep itself in good repair, prepare for emergencies and be financially self-supporting.

### FOCUS OF THIS LESSON

To coordinate the operation and maintenance activities and to ensure that water quality and work safety standards are met, municipal water utilities are organized into three levels of responsibility:

#### Governing Body

The governing body sets the policy and rates, and is responsible for overseeing the entire water utility. The governing body is responsible and liable for:

- The quality of the service;
- Fair treatment of customers;
- Employees and vendors, including contractors; and
- The financial solvency and physical well being of the utility.

#### Utility Manager

The utility manager is responsible for the day-to-day operation, preventive maintenance and emergency repairs. In small cities, the city manager, **strong mayor**<sup>1</sup> or city administrator may fill the utility manager role.

#### Field Operations

Field operations workers maintain and operate the system. They are directly accountable to the utility manager. In this module we look at the different responsibilities of each group within the water utility. We also look at several groups outside the utility: customers and regional, state and local regulatory and assistance agencies.

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<sup>1</sup> **Strong-Mayor Form of Government** - The mayor is the chief executive of the city with the power to appoint all administrative staff; the strong mayor has general responsibility for administering the daily operation of the city, in addition to being the ceremonial head of the city and the chair of the council.

## WHY THIS IS IMPORTANT

This module provides you with the background to know what to expect of both the governing body that employs you and the utility manager who supervises you. You will understand the general responsibilities of a water utility operations and maintenance workers.

## HOW DOES A SMALL CITY WATER ORGANIZATION WORK?

### Sets Goals and Establishes Policies

The governing board, usually the city council, with advice from the manager of the water **utility**<sup>2</sup> are responsible for the following:

- Sets Rates for services.
- Establishes Regulations for obtaining utility service and for the use of the utility.
- Determines Customer Needs to be served such as adding fire protection, which could require additional storage and fire hydrants.
- Addresses the Problems to be solved, such as balancing the operating budget by increasing rates and reducing the hours that employees work.
- Identifies Risks to be avoided or controlled, such as risk of customer non payment or the risk to employees from work place hazards.
- **Prioritizes**<sup>3</sup> Improvements to address the organization's weaknesses, such as training, or to address plant deficiency, such as no supply of backup parts.

### Commits to Achieving Its Goals

The Council and management commit themselves to making necessary improvements to service levels, service quality, facilities and staff.

### Plans Ahead

The utility makes **plans**<sup>4</sup>, such as **operating budgets**<sup>5</sup> and **capital improvements programs**<sup>6</sup> with drawings, costs and schedules. The utility should also develop worker safety **programs**<sup>7</sup> and preventive maintenance programs.

<sup>2</sup> **Utility** - A self financed public service, such as water, waste water, storm sewer, airports, ports, electricity, telephone, and cable television.

<sup>3</sup> **Prioritize** - To list projects and needs in order of their importance, beginning with the most important. Utility managers recognize that those projects identified as most important must be financed and completed before projects or tasks of lesser importance.

<sup>4</sup> **Plan** - An outline of how a goal will be accomplished, including objectives, steps required to achieve each objective, costs and methods of financing and a schedule of when each step will be completed.

<sup>5</sup> **Operating Budgets** - An itemized estimate of revenues and expense required to operate and maintain a service for a year.

<sup>6</sup> **Capital Improvements Program** - The Capital Improvements Program is essentially a five-year plan for extending the distribution system, making improvements to the central facilities (Source, Treatment, and Storage) and rehabilitating worn out equipment and system components, such as a well and its pump. The CIP includes: identification of the improvement, a schedule of when it is to be constructed or purchased and the method of financing the improvement.

<sup>7</sup> **Program** - A systematic implementation of policies and procedures to address an area of problems or services, for example, worker safety or emergency preparedness.

<b>Assigns Responsibility</b>	The Council assigns general and routine responsibilities to the utility manager and field staff through job descriptions. Projects and special responsibilities are typically assigned by the utility manager to any other utility employees.
<b>Communicates</b>	Council and management communicate plans, policies and results to employees and customers.
<b>Gets the Resources<sup>8</sup> to do the Job</b>	They obtain financing for design and construction of water system, hire qualified personnel, purchase the proper equipment, tools and supplies. They collect and safely retain operational data.
<b>Operates Water System Efficiently</b>	The utility management and staff operate and maintain the utility plant to provide services at a level of quality that meets the expectations of the customers and the requirements of regulators.
<b>Prepares for Emergencies</b>	The utility and its employees practice a backup means of providing limited services, in case of an emergency and interruption of normal service.
<b>Monitors Its Performance</b>	The governing body is responsible for <b>monitoring<sup>9</sup></b> the management and ensuring that the utility complies with external water quality and safety regulations, as well as, its own ordinances and policies. The council should annually evaluate the finances, operation and physical condition of the utility.

## TYPES OF SMALL CITY ORGANIZATIONS IN ALASKA FORMS OF LOCAL GOVERNMENT

### Council-Manager Form<sup>10</sup>

The city council, in this form of government, is collectively responsible for overseeing the city's business. In larger communities, the council focuses on setting policy while a professional manager oversees the day-to-day operations of the city. All administrative authority of the city is vested in the **city manager<sup>11</sup>** who is appointed and directed by the city council. The manager may only be removed by the city council.

The city manager typically appoints the other city officers such as clerk, treasurer and police chief with the consent of city council. City managers usually serve as the state required personnel officer, hiring and evaluating employees. The city manager also supervises local law enforcement.

Among the managers' responsibilities are the preparation of the annual budget and capital improvement

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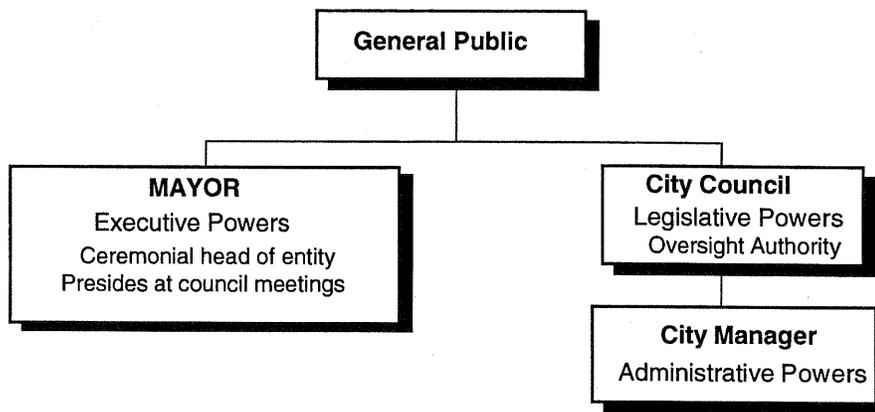
<sup>8</sup> **Resources** - The people, money, information and physical facilities necessary to accomplish the goal of providing safe potable water to the community.

<sup>9</sup> **Monitoring** - To measure and keep track of the performance of the water utility and its employees.

<sup>10</sup> **Council-Manager Form of Government** - The city council appoints a qualified professional manager, who serves at the pleasure of the council to supervise the daily operation of the city.

<sup>11</sup> **City Manager** - Professional Manager who is hired and authorized by the City Council to administer the day to day operations of the City. The City Manager is directly answerable to the City Council.

program for council consideration. Upon adoption by the council, the city manager carries them out and then reports monthly to the council on operations and finances.

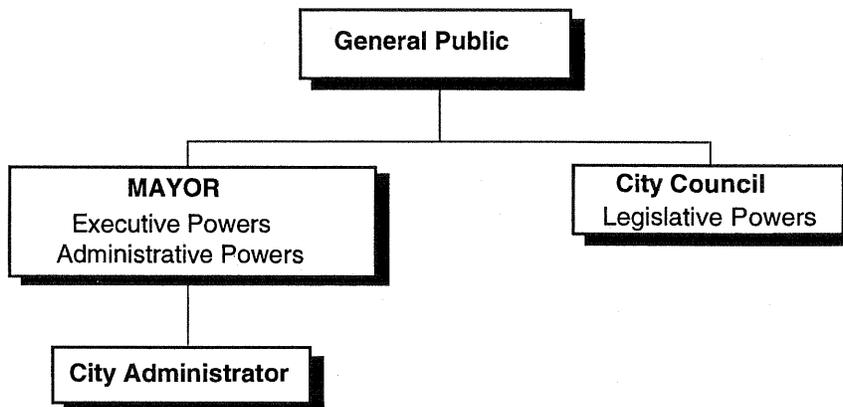


**Strong-Mayor Form<sup>12</sup>**

In this form of local government, the strong mayor is the chief administrative officer as well as the chief executive of the city and its ceremonial head.

A strong mayor may appoint a **city administrator**<sup>13</sup> to whom the mayor may delegate any administrative duties. The city administrator serves at the pleasure of the mayor, and may be terminated at any time by the mayor. The strong mayor has the power to appoint all administrative personnel and employees of the city and is responsible for the administration of all city business.

Among the mayor's responsibilities are the preparation of the annual budget and capital improvement program for the council's consideration. Upon adoption by the council, the strong mayor carries out the annual plan and stays within the adopted budget. The mayor then reports monthly to the council on operations and finances.



<sup>12</sup> **Strong-Mayor Form of Government** - The mayor is the chief executive of the city with the power to appoint all administrative staff; the strong mayor has general responsibility for administering the daily operation of the city, in addition to being the ceremonial head of the city and the chair of the council.

<sup>13</sup> **City Administrator** - Professional manager appointed by a Strong Mayor to assist the Mayor in administering the day to day operations of the City. The City Administrator serves at the pleasure of the Mayor.

## CITY GOVERNMENT STRUCTURE

### First Class City<sup>14</sup>

At the time of its incorporation, a first class city must have at least 400 permanent residents. The citizens elect six council members and a mayor. The mayor presides over council meetings, but only votes to break a tie. The mayor may veto council actions, but the council can override the veto by a two-thirds vote. Typically, a first class city adopts the council-manager form of government wherein the mayor is the ceremonial head of government and the city manager is the administrative head. If a first class city does not choose the council-manager form, the strong-mayor form prevails.

### Second Class City<sup>15</sup>

Second class cities are incorporated under authority of Title 29 of Alaska Statutes as are first class cities. The citizens elect a seven member council. In second class cities, the mayor is selected from among the seven council members by the council itself, and the mayor continues to serve as a member of the City Council. A second class city operates under the strong mayor form of government, unless the city has chosen the council-manager form of government.

### Comparison of the Classes of Cities

First class cities in the unorganized borough, i.e. outside of any incorporated borough, must provide for planning, platting and land use regulation as well as for public education. If the first class city is within an organized borough, the city typically does not provide for land use regulation or public education.

Second class cities may not provide for public education. If located in the unorganized borough, second class cities may, at their option, exercise planning, platting and land use powers.

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<sup>14</sup> **First Class City** - A city in which the citizens directly elect six council members and a mayor. The mayor presides over council meetings, but only votes to break a tie. In the unorganized borough, first class cities must provide planning and planing services, land use regulation and public education.

<sup>15</sup> **Second Class City** - A city in which the citizens directly elect a seven member council, which then selects one of its members to be the mayor. Second class cities may, if they so choose, provide planning and platting services and regulate land use. Second class cities may **not** provide for public education.

## **RESPONSIBILITIES OF A CITY COUNCIL**

### **ESTABLISHES GOALS**

#### **Annual Objectives**

The council should establish clear annual objectives for improved employee performance and for improvements to the water system.

The council, as governing board of the water utility, should review, discuss and take action on assessments prepared by its own staff or by contract consultants including:

#### **Future Capacity**

Studies of future capacity requirements based upon a forecast of changes in consumption due to changes in the local economy, population or per capita consumption.

#### **Additional Services**

Studies of additional services needed (e.g., add fire protection or change from a central watering point to a full distribution system).

#### **Reduce System Vulnerability**

Assessment of vulnerability to contamination of water source, flooding, damage from severe winters and loss of electricity.

#### **Control of Safety Hazards**

Identification, elimination or control of safety hazards.

#### **Operational Improvements**

Identification of needed operational improvements to address the organization's weaknesses, such as training, or to address plant deficiency, such as no supply of backup parts.

### **SETS POLICY**

#### **Water Utility Ordinance**

The city council enacts a water utility ordinance establishing rules and regulations for the operation and expansion of the water utility. Such an ordinance typically contains provisions for defining the service area; extending distribution mains, application for service; making service connections; customer plumbing; required inspection thereof before connection is made; process for collecting overdue accounts receivable, termination of service for failure to pay; limitation on the waste of water; process for handling customer complaints and authorization for the council to set rates through a fee schedule.

#### **Fee Schedule**

The council periodically revises its fee schedule, establishing the amount users are charged for water service and administrative fees, such as late fees.

Ideally, the council and utility management develop strong policy statements establishing the water utility's commitment to customer service, safety, cost controls and product quality.

## COMMITTS TO ACHIEVING ITS GOALS

The Council and management should commit themselves to making necessary improvements to service levels, service quality, facilities and staff. This requires a council that has a clear vision of how a well-run water utility will improve the community.

The governing body must be willing and able to solve problems, not put them off until a new council is elected. Its members must be willing to work together. Strictly personal agendas are best put aside in the interest of the whole community.

Individual council members, to be effective, must be willing to devote the personal time to acquire a basic understanding of the water system and its operation and maintenance. Effective councilors must also be willing to take the political heat that comes with addressing and resolving water system issues, such as setting rates and planning for emergencies.

## DEVELOPS PLANS AND PROGRAMS

The council reviews, amends and authorizes plans and programs proposed by management and consultants.

### Water Enterprise Plan

A long range water **enterprise**<sup>16</sup> plan shows how the city plans to finance utility operation, maintenance, equipment replacement, system rehabilitation, and system expansion out of user charges and connection fees. The basic purpose of such planning is to match the complexity and cost of construction, operation and maintenance with the ability of the community to financially support the system throughout its roughly 40-year life and to finance the replacement of system components as they wear out. For example, a community might wish to include fire protection in the reconstruction of its water system, but the enterprise model might show the rate payers that they could not afford the maintenance and eventual replacement cost of the increased capacity of distribution mains and storage as well as the fire hydrants, even if a grant paid for the initial construction.

### Annual Operating Plan

The annual operating plan and budget identifies what results the rate payers are purchasing with the dollars they pay to water utility employees. For example, how many water samples are taken monthly, how many

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<sup>16</sup> **Enterprise** - In municipal government an enterprise is a public service, usually a utility, that is budgeted and operated as though it were a separate business. Typically most of the cost of providing the utility's services is recovered through user charges rather than subsidies from the General Fund. Utility management emphasizes net income (profit/loss) by focusing on accumulating the total costs of providing a specific service, including: depreciation and payments to the host government for office rent, in lieu of franchise fees, and management fees. Other funds are properly charged for services, such as water or sewer, delivered. Interfund transfers are priced as if the transactions were with vendors outside the City.

pumps are rebuilt annually? Could positions be combined? Could the work be contracted to the private sector for less cost to the rate payer?

**Operation and Maintenance Program** Council and management must establish an operation and preventive maintenance program to identify operational duties and to schedule service of equipment and system components before they fall into disrepair. Such a program can provide hard data to complete the operating plan and budget, such as the number of operator hours and actual costs of operation and maintenance. The data can also be used to determine the replacement schedule for the replacement reserve program mentioned below. The program can also be an oversight tool for the city management to track the cost, time and completion date of the operator's assigned work.

**Capital Improvements Program** The Capital Improvements Program is essentially a five-year plan for extending the distribution system, making improvements to the central facilities (Source, Treatment, and Storage) and rehabilitating worn out equipment and system components, such as a well and its pump. The CIP includes: identification of the improvement, a schedule of when it is to be constructed or purchased and the method of financing the improvement.

**R and R Reserve Program** The replacement reserve program is a disciplined approach to identifying when equipment and facilities are to be overhauled or replaced and how much it will cost at that future time. The utility then sets aside an annual amount out of the total user charges and if necessary a subsidy from the City's General Fund. In theory, this annual set aside will accumulate and be available to pay for the replacement of equipment or the rehabilitation of a facility when its scheduled useful life ends.

**Safety Programs** The utility must develop and maintain a series of federal and state mandated worker safety programs, covering safety committees, excavation safety, confined space entry, hazard communication, fire prevention, and personal protective equipment, as well as accident reporting and investigation.

**Emergency Plans** Every utility should prepare and practice emergency plans for responding to: substandard water quality, contamination of the source, fire, power outage, failure of crucial equipment such as pumps, or a spill of fuel or chlorine.

## ASSIGNS RESPONSIBILITY

The council should involve customers and employees in setting policy such as user regulations and safety.

The council and the designated personnel officer are responsible for establishing a **system of accountability**<sup>17</sup> for the utility and its employees including, job descriptions and annual performance reviews.

The various levels of responsibility and authority for utility planning, operations and maintenance are formally assigned to the water utility manager and line employees respectively. Project and special responsibilities are typically assigned solely by utility management.

The city council and its manager or mayor are ultimately responsible for relations with regulators and the other external organizations.

## COMMUNICATES WITH CUSTOMERS AND EMPLOYEES

The council must make all policies and regulations readily available to customers and employees. It should establish systematic procedures to notify consumers and employees of health or safety deficiencies.

## OBTAINS AND DEVELOPS RESOURCES

### Finances

The council obtains financing for design and construction of water system improvements. The council controls operating costs and sets rates sufficient to recover the full cost of providing service, including depreciation, debt service, fire protection, and operations and maintenance.

### Personnel

The city manager, administrator or strong mayor hires qualified personnel whose skills are matched to the requirements of the job, including state certification requirements. Management ensures that all employees know and practice safe behavior and work practices.

### Facilities

The utility manager oversees the acquisition of equipment, tools and supplies and ensures that operational data is collected and safely retained.

### Information

Council and management ensure that all construction related documents are accurately updated, catalogued and preserved, including as-built maps, plans, engineering studies, submittals, inspection logs and contract documents. Council is ultimately responsible for the accuracy and retention of accounting information, including budgets, customer accounts and fixed assets.

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<sup>17</sup>**Accountability System** - Identifies the responsibilities of each position in the utility, indicates to whom each position reports and from whom each position receives orders.

## **OPERATES THE UTILITY EFFECTIVELY**

The council is responsible for the oversight of water utility operations. This does NOT mean that the council ought to make every decision regarding the daily operation of the water utility. Having established goals and policies and then secured the necessary resources, the council should step back and let the utility manager and any staff handle the daily operations and details without meddling.

The council ensures that the utility management and staff operate and maintain the utility plant resources to provide services at a level of quality that meets the expectations of the customers and the requirements of regulators. The council does not perform the daily tasks, except in the smallest of cities.

## **PREPARES FOR EMERGENCIES**

The utility and its employees practice a backup means of providing limited services, in case of interruption to normal service due to freezing, fire, fuel shortage, chemical or fuel spills or other emergencies.

## **MONITORS THE PERFORMANCE OF THE UTILITY**

The governing body is responsible for timely monitoring of the management and safe operations of the utility, including ensuring that the utility complies with outside regulations as well as its own ordinances and policies.

Utilities pay special attention to worker safety and environmental health regulations, especially, safe drinking water regulations, well head protection and surface water treatment rules.

The council should annually evaluate the finances, operation and physical condition of the utility through self inspection, financial audit and an operational audit by outside consultants.

## WATER UTILITY MANAGER RESPONSIBILITIES

1. In larger communities the Water Superintendent or Public Works Director carries out the responsibilities of the water utility manager.
2. In small communities one of the following positions performs the administrative functions of the water utility manager, as most small system operators do not have the administrative and financial management training and skills to be the utility manager.

- City Manager
- City Administrator
- Strong Mayor

The smaller the community, the more likely that the city administrator or even a strong mayor will perform the administrative functions of the utility manager, while the operational functions would be performed by the field operations personnel.

To be effective, whoever acts as the utility manager must know the components of the water utility and understand water utility operation and maintenance issues. However, it is not necessary that the manager be a certified operator, if the city already employs a certified operator.

## PREPARE ASSESSMENTS AND PLANS

- Prepares estimates of future customer and regulatory demands on the water utility.
- Identifies risks such as **inviting nuisances**<sup>18</sup> and hazards in system facilities and operations.
- Analyzes the vulnerability of the system to natural disasters, hazardous spills and operational mishaps.
- Prepares an employee Safety and Health program.
- Sampling Site Plan.
- Emergency Plans .
- Personal Protective Equipment purchasing and maintenance plan.
- Operation Preventive Maintenance Plan.
- Operating Plan and Budget.
- Capital Improvements Plan.

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<sup>18</sup> **Inviting Nuisance** - Any feature of the water system that attracts a person, lacking in sound judgment due to age of defect, to attempt an act that could result in personal injury to themselves or others. Example: A steel reservoir, sporting a ladder extending from the ground to the roof, that is not isolated by a security fence that cannot be scaled by an unassisted climber.

**ACCEPTS AND DELEGATES RESPONSIBILITY**

- Carries out responsibilities as assigned and takes responsibility for consequences.
- Organizes and schedules the work to be done. Assigns duties and tasks; oversees without micro managing each employee.

**COMMUNICATES HAZARDS AND UPDATED PLANS**

- OSHA hazard communication program.
- Updated O & M procedures manual.
- Updated employee handbook (include safety procedures).
- Establishes a process for immediate notification and response to safety hazards.
- Maintains a process for alerting the public when water samples fail to meet quality standards.

**PUBLIC RELATIONS**

- Communicates customer concerns to the council.
- Maintains the good appearance of all water facilities.
- Organizes scheduled and emergency work such that employees do not appear idle or incompetent.

**DEVELOP AND MAINTAIN RESOURCES**

**Personnel**

Supervises utility employees and provides the following training:

- Safe work practices training.
- Operations and maintenance procedures training.
- Training in use and care of protective equipment.

**Information**

Develops methods to update maps and other as-built documentation. Oversees the collection, filing, summarizing and retention of the following:

- Maps and as-built archives.
- Maintenance records including parts and labor costs.
- Fuel and chemical supply consumption with costs.
- Production and unaccounted water loss records.
- Treatment facility records.
- Sampling and test results.
- Costs per unit of water production.

**Facilities**

- Oversees line extensions and other improvements to the water system.
- Oversees, distribution maintenance, including proper cleaning and disinfection of storage reservoirs, hydrant maintenance, line flushing and exercising and maintenance of valves and other appurtenances.

**Equipment**

- Responsible for planning and implementing a preventive maintenance program for pumps, motors and other fixed and portable equipment.

**Inventory**

- Responsible for identifying the necessary fuel, spare parts, operating supplies and repair materials that must the utility must have on hand before the winter season.

**MANAGES OPERATIONS EFFICIENTLY**

- Oversees office operations, including billing and collections, budgeting, scheduling and system record keeping.
- Oversees proper operation of source, water treatment and distribution.
- Ensures that employees practice good housekeeping and that all waste handling meets safety and environmental regulations.
- Coordinates with contractors.

**LEADS THE SAFETY PROGRAM**

- The water utility manager should be a role model for staff. He should exhibit a proactive attitude toward safety, practice safe work habits, exhibit knowledge of safety issues and procedures, actively involve themselves in the safety program and consistently reinforce safe work practices by acknowledging good performance and by sanctioning those who jeopardize themselves and others through unsafe behavior.
- The utility manager will be able to IDENTIFY hazards, take corrective measures and provide worker orientation as well as supervise and evaluate workers and their work practices.

**PREPARES AND PRACTICES EMERGENCY PLANS**

- Develops and practices emergency response procedures and ensures that an inventory of critical spare parts and supplies is always on hand.

**ENSURES TIMELY MONITORING AND APPRAISAL**

- Compliance with Drinking Water Regulations.
- System Condition.
- Employees Safety performance is a part of the written evaluation of all employees, especially supervisors.

## **RESPONSIBILITIES OF A WATER UTILITY OPERATOR**

### **Accepts Responsibility**

- Carries out responsibilities as assigned and takes responsibility for consequences.

### **Assists in Planning**

- Assists utility manager to assess needs, risks and system vulnerability through accurate weekly record keeping.
- Assists utility manager to development plans and programs for proposal to the governing body.

### **Communicates Well**

- Communicates customer concerns, equipment deficiencies, workplace hazards and any unusual events to the water utility superintendent.

### **Maintains the Water System**

- Maintains facilities, equipment and spare parts per the written Preventive Maintenance Plan.
- Inspects equipment according to preventive maintenance schedule .
- Performs scheduled maintenance including servicing well and booster pumps, exercising valves and flushing lines.
- Cleans reservoirs and storage tanks.
- Extends water mains and makes service connections.
- Performs emergency repair on plant equipment and distribution system.

### **Operates the Water System**

- Operates the system according to the Operations Manual provided by the engineering firm at the time the facility was constructed or updated.
- Maintains correct water temperatures in treatment process.
- Performs any scheduled backwashing.
- Keeps plant clean and organized .
  - Manually operates well and booster pumps when necessary.

### **Controls Inventory**

- Keeps sufficient inventory of chemicals and spare parts on hand.
- Prevents obsolescence by rotating stock, using oldest first and where cost effective returning unneeded items.
- Keeps an accurate inventory of quantities on hand, their cost and how old the items are.
- Does not tie up cash in excess inventory.

### **Collects and Preserves Information**

- Accurately records operational information, including test results, chemical consumption and pump and motor history.

**Works Safely**

- Updates as-built drawings after every service tap, line extension or other system improvement.
- Safely handles chemical including gaseous chlorine.
- Establishes safe work zones, and cave-in protection at excavation sites.
- Controls potentially hazardous atmospheres before entering confined spaces.
- Controls the release of potentially hazardous energy, such as water under pressure, steam or electricity.

**Prepares for emergencies**

- Practices emergency response procedures and maintains inventory of critical spare parts and supplies.

**Monitors system condition, operations and product quality**

- Monitors automatic controls.
- Collect samples for routine and non-routine sampling.
- Regularly collects and tests water samples for chlorine residual, fluoride, turbidity and pH to control treatment plant processes.

## **RESPONSIBILITIES OF CUSTOMERS**

Pay bills promptly.

Participate in planning improvements.

Refrain from abusing the water system.

Participate in annual evaluation of water service.

Report unusual occurrences, such as leaks, sound or running water or changes in the appearance of the drinking water.

## **ROLE OF STATE AND FEDERAL ORGANIZATIONS**

### **REGULATORY AGENCIES**

#### **ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC)**

##### **DRINKING WATER PROGRAM**

This state program enforces the water quality regulations that apply to public water systems. In addition to enforcing the state and federal drinking water regulations, this program provides water utilities with compliance training and seminars regarding regulations and treatment techniques.

##### **ALASKA DEPARTMENT OF NATURAL RESOURCES**

This program is responsible for ground water allocation and water rights in Alaska.

##### **UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA)**

This federal agency must enforce federal regulations in those situations where the state has not yet adopted its own rules, or where the water utility is in significant non-compliance. The EPA may fine the water utility or levy other penalties.

### **ASSISTANCE AGENCIES**

#### **ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

##### **MUNICIPAL GRANTS**

This section of ADEC may help finance the design and construction of eligible water, wastewater and solid waste facilities in first class cities, through a combination 50/50 state grant and state loan program.

##### **VILLAGE SAFE WATER**

This section provides design and plan review services as well as construction management assistance to first class cities less than 600 in population, second class cities and unincorporated communities whose water, wastewater or solid waste facilities have been directly funded by the legislature.

##### **OPERATIONS ASSISTANCE PROGRAM**

This technical assistance section provides the following services:

- Water and wastewater operator and utility management training and certification.
- Training and reference publications, library, newsletter, training calendar, and resource directory
- Overall management of the Remote Maintenance Worker program.
- Assist the Department of Community and Regional Affairs with utility management training.

##### **ALASKA DEPARTMENT OF COMMUNITY AND REGIONAL AFFAIRS (DCRA)**

The DCRA provides technical assistance to local governments in the subjects of financial management, payroll and other record keeping, site control, land use management and planning.

**REGIONAL HEALTH CORPORATIONS (NON-PROFIT NATIVE CORPORATIONS)  
REMOTE MAINTENANCE WORKERS**

The regional health corporations administer the Remote Maintenance Worker program that provides assistance to water and wastewater operators in rural native villages that lie within the boundaries of a health corporation. The Remote Maintenance Workers provide on-site training and technical assistance covering all aspects of operation, maintenance, sampling and monitoring.

**PUBLIC HEALTH SERVICE  
FACILITY DESIGN AND CONSTRUCTION**

Under Public Law 86-122 the Indian Health Service of the US. Public Health Service is responsible for the design and construction of sanitation facilities, including water and wastewater facilities for eligible native communities in Alaska.

**TRAINING AND TECHNICAL ASSISTANCE**

The Planning and Training Branch provides training workshops and technical assistance seminars.

**IHS SANITARIANS**

The Indian Health Service Sanitarians assist in water quality monitoring. They also perform sanitary surveys.

# WATER UTILITY RESPONSIBILITIES

# WORKSHEET

1. What are the three levels of responsibility in an organization?

\_\_\_\_\_

2. What are the nine steps an organization takes to achieve its goals?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_
- g. \_\_\_\_\_
- h. \_\_\_\_\_
- i. \_\_\_\_\_

3. The two forms of local government in Alaska are \_\_\_\_\_ and \_\_\_\_\_ .

4. A \_\_\_\_\_ class city usually adopts the city-manager form of government.

5. A \_\_\_\_\_ class city typically adopts the strong-mayor form of government.

6. List three of the seven plans and programs the City Council must develop for its water utility.

\_\_\_\_\_

7. Describe a replacement and renewal reserve program.

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

## O & M of Small Water Systems

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8. List six of the ten responsibility areas of water utility operators.

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_

9. What are the five types of resources that utility managers should develop and maintain?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_

10. List six maintenance tasks which are the responsibility of the utility operator.

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_

11. List six operations tasks which are the responsibility of the utility operator.

- a. \_\_\_\_\_ b. \_\_\_\_\_
- c. \_\_\_\_\_ d. \_\_\_\_\_
- e. \_\_\_\_\_ f. \_\_\_\_\_