

Demonstrating Technical, Financial, and Managerial Capacity in New Public Water Systems



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Acronyms

CCC	cross-connection control
CC&R	covenant, condition, and restriction
DEQ	Idaho Department of Environmental Quality
O&M	operation and maintenance
PER	preliminary engineering report
PUC	Public Utility Commission
SDWIS	Safe Drinking Water Information System
TFM	technical, financial, and managerial

1 Introduction

All states participating in the Drinking Water State Revolving Loan Fund Program are required by the 1996 Amendments to the Safe Drinking Water Act to ensure that all new or substantially modified community and non-transient non-community water systems demonstrate adequate technical, financial, and managerial (TFM) capacity before commencing operations. The Department of Environmental Quality (DEQ) adopted rules (IDAPA 58.01.08.500) at that time to fulfill this requirement and developed guidance to assist with meeting the requirements. This guidance document replaces the 1999 *How to Demonstrate Financial, Technical, and Managerial Capacity in New Public Water Systems* guidance document following many years of working with public water system owners, operators, and their consultants.

This guidance is intended to assist owners and operators of public water systems in demonstrating long-term sustainability or capacity to reliably serve safe drinking water. This document describes the elements of water system infrastructure, finances, management, and operations that should be considered to adequately demonstrate TFM capacity. Existing systems may not have to complete full TFM documentation depending on existing TFM documentation for the system and project-specific details. DEQ recommends owners and operators of existing drinking water systems planning substantial modifications contact their local DEQ regional office prior to initiating a substantial modification to determine what information will be required for adequate documentation of TFM capacity for the proposed project.

1.1 Relationship to Rules and Guidance

This document is guidance and does not have the force and effect of rule. Where a requirement is stated, a rule citation is provided for reference.

Capacity is defined as the capabilities required of a public drinking water system to achieve and maintain compliance with IDAPA 58.01.08 and the federal Safe Drinking Water Act (IDAPA 58.01.08.003.11). Capacity is divided into technical, financial, and managerial elements.

IDAPA 58.01.08.500 requires the demonstration of TFM capacity as follows:

No person shall proceed, or cause to proceed, with construction of a new or substantially modified community or non-transient, non-community drinking water system until it has been demonstrated to the Department that the water system will have adequate technical, financial, and managerial capacity, as defined in Section 003 of these rules. With the exception of water sources, demonstration of capacity shall be submitted to the Department prior to or concurrent with the submittal of plans and specifications, as required in Section 39-118, Idaho Code, and Subsection 504.03 of these rules. Plans and specifications for water sources may be submitted to the Department prior to demonstration of capacity for the water system. The Department shall issue its approval of the new system capacity demonstration in writing.

The formal demonstration of TFM is required for new or substantially modified community or non-transient non-community drinking water systems.

New water systems are defined in IDAPA 58.01.08.003.84 as:

Any water system that meets, for the first time, the definition of a public water system provided in Section 1401 of the federal Safe Drinking Water Act. This includes systems that are entirely new construction and previously unregulated systems that are expanding.

Substantially modified water systems are defined in IDAPA 58.01.003.136 as:

The Department shall consider a public water system to be substantially modified when, as the result of one (1) or more projects, there is a combined increase of twenty-five percent (25%) or more above the system's existing configuration in the population served or number of service connections, the total length of transmission and distribution water mains, and the peak or average water demand.

1.2 Using this Guidance

. This guidance has been separated into three sections to address each element of TFM capacity. Relevant rule requirements and citations are provided in each section of this guidance along with examples and recommendations of applicable documentation to allow public water systems considerable flexibility in demonstrating how the rule requirements are addressed. The examples and recommendations are not intended to be all-inclusive as other methods of documentation could be used. Please work with your local DEQ regional office to identify acceptable documentation.

In accordance with IDAPA 58.01.08.500, the TFM capacity requirements must be submitted to DEQ for review prior to or concurrent with the submittal of engineering plans and specifications. Example checklists with suggested items for demonstrating TFM capacity are provided in Appendix A.

2 Technical Capacity

Technical capacity means the system has the physical infrastructure and system operations to consistently meet drinking water quality standards and treatment requirements.

Technical capacity, as defined in IDAPA 58.01.08.003.11.a, includes adequate:

- Source of water,
- Treatment, storage, and distribution system, and
- Trained water system personnel to operate and maintain the system during routine and emergency operations.

Operators must be properly licensed for the system size and complexity as required by IDAPA 58.01.08.554 and the "Rules of the Board of Drinking Water and Wastewater Professionals" (IDAPA 24.05.01). Licensing of drinking water operators is administered by the [Idaho Division of Occupational and Professional Licenses](#)

To demonstrate technical capacity, documentation must cover the following elements as described in IDAPA 58.01.08.500.01:

- Design, construction, and operating requirements meeting the requirements of IDAPA 58.01.08
- Adequacy and consistency of source water
- Source protection and emergency planning
- Asset inventory and capital replacement or improvement planning
- Personnel qualifications and licensure

The technical capacity of a new or substantially modified community or non-transient non-community public water system is demonstrated through engineering submittals which include, but may not be limited to, the facility plan (IDAPA 58.01.08.502), preliminary engineering report (IDAPA 58.01.08.503), and plans and specifications (IDAPA 58.01.08.504) all of which conform to the project-applicable facility and design standards outlined in sections 501, 510-515, 518-525, 529-537, and 540-548 of IDAPA 58.01.08. Any technical capacity requirements demonstrated in prior TFM or engineering submittals should be specifically cited and referenced in any applicable subsequent submittal for demonstration of TFM.

Pertinent information not addressed and detailed in previous and concurrent submittals will need to be submitted to demonstrate technical capacity.

2.1 Technical Operating Requirements

IDAPA 58.01.08.500.01.a requires “The system meets the relevant design, construction, and operating requirements of these rules.”

2.1.1 Demonstration

Public water systems must be designed and constructed to ensure the physical and operational ability can consistently meet drinking water quality standards and associated treatment requirements. This requirement will be demonstrated through the following documents:

- Facility plan (IDAPA 58.01.08.502)
- Preliminary engineering report (PER) (IDAPA 58.01.08.503)
- Operation and maintenance (O&M) manual (IDAPA 58.01.08.501.12)
- Source water quality monitoring (IDAPA 58.01.08.510.01.a, 514, and 518.01)
- Cross-connection control (CCC) program (community water systems only, IDAPA 58.01.08.552.07) or cross-connection control (non-community water systems, IDAPA 58.01.08.552.07)

2.1.1.1 Facility Plan

The facility plan (IDAPA 58.01.08.502) describes the overall system, including water sources, treatment processes and facilities, pumping stations, distribution piping, finished water storage, and waste disposal. It is a comprehensive planning document for infrastructure and addresses the future of the system/facility, including, but is not limited to, hydraulic capacity, treatment capacity, standby power, redundancy, fire flows, project financing, and operations and maintenance. The facility plan is updated on a regular basis to accommodate anticipated or unanticipated growth patterns, regulatory requirements, or other infrastructure needs. A facility plan (or master plan or facilities planning study) is system-wide as opposed to a project-specific plan.

2.1.1.2 Preliminary Engineering Report

The PER (IDAPA 58.01.08.503) addresses specific portions of the system or facility for which modifications are being designed. Modifications may include, but are not limited to, significant changes to existing processes or facilities, system expansion, addition of treatment, or installation of other processes and facilities. The PER addresses specific purpose and scope, design requirements, alternative solutions, costs, operation and maintenance requirements, and other requirements. PERs are generally project-specific as opposed to an overall system-wide plan, such as a facility plan. The PER might also describe modifications to the facility plan that may be required as a result of the proposed project. Project-specific features of the facility plan and PER may still need to be addressed or explained in the TFM capacity documents.

2.1.1.3 Operation and Maintenance Manual

The O&M manual (IDAPA 58.01.08.501.12) ensures the operating requirements for a water system are met. When DEQ receives the TFM capacity documentation, the O&M manual should be in outline or draft form and must be finalized after system construction is completed.

The O&M manual is defined in IDAPA 58.01.08.003.92 as:

An operation and maintenance manual typically covers three main subjects: a water system specific operations plan; maintenance information and checklists; and manufacturer's product information (including trouble shooting information, a parts list and parts order form, special tools, spare parts list, etc.). An operation and maintenance manual may cover every aspect of the water system or any part of the water system, including but not limited to the following: treatment, pump stations, storage reservoirs, distribution system, pressure reducing valve stations, etc.

The O&M manual is typically prepared by the design engineer who develops the system plans and specifications and oversees construction and equipment installation. Additional resources, such as system operators, may also contribute to O&M manual contents. Project-specific revisions or additions to the O&M manual may be prepared by the design engineer for the subject project. O&M manual recommendations are found in Appendix A, Checklist 1.

2.1.1.4 Water Quality Monitoring

Water quality monitoring for new ground water or surface water sources, often referred to as engineering monitoring, is required (IDAPA 58.01.08.510.01, 514, and 518.01) to demonstrate that the potable water meets water quality standards and is safe for human consumption before the source is approved to serve the public. The water quality monitoring results are reviewed by DEQ regional office staff to determine if any treatment will be required before approval. The water quality monitoring may be a part of the well completion report or provided in a separate engineering report submitted during the development of a surface water or spring source.

Water quality monitoring is an ongoing water system responsibility. After the source is approved, the appropriate DEQ regional office or district health department will prepare routine monitoring schedules as required under IDAPA 58.01.08.100. Section 3.2 “Revenue Sufficiency” addresses the cost associated with water quality monitoring. Information about initial monitoring required after the source is in operation and monitoring schedules is found at the [Public Drinking Water Switchboard](#) under “Tools/Data” and at the [Monitoring Schedule](#).

2.1.1.5 Cross-Connection Control

IDAPA 58.01.08.003.26 defines *cross connection* as:

Any actual or potential connection or piping arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable water system used water, water from any source other than an approved public water system, industrial fluid, gas or substance other than the intended potable water with which the system is supplied. Cross connections include bypass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices which, or because of which “backflow” can or may occur.

Cross connections include supplemental irrigation systems interconnected with the potable drinking water system, boiler feed lines, janitorial sinks with flexible hoses, and other piping arrangements.

A new water system must initially be designed and built without cross connections as approved in engineering plans and specifications. All existing community water systems must ensure a proper cross-connection control program is in place to maintain the system free of cross-connections. All water systems are responsible to ensure the system is protected against contamination from cross-connections as outlined in IDAPA 58.01.08.552.06 and 07:

- **Cross-Connection Control—Non-Community Water Systems.** All suppliers of water for non-community water systems shall ensure that cross connections do not exist or are isolated from the potable water system by an approved backflow prevention assembly. Design standards for cross-connection control is described in IDAPA 58.01.08.543. Backflow prevention assemblies shall be inspected and tested annually for functionality by an Idaho-licensed tester, as specified in IDAPA 58.01.08.552.06.c and 552.06.e.
- **Cross-Connection Control Program—Community Water Systems.** All suppliers of water for community water systems shall implement a CCC program to protect the entrance to the

system from materials known to be toxic or hazardous. The water purveyor is responsible to enforce the system's CCC program. Community water systems need to demonstrate that legal authority has been established to implement a CCC program and provide a description of how the public water system will prevent cross connections. Establishing authority to implement a CCC program could include adopting ordinances or covenants, conditions, and restriction (CC&Rs) documents that establish legal authority. The ordinance or CC&R should also describe the potential enforcement actions to be used to ensure customer compliance with the CCC program.

The written program for community water systems must consist of those elements required by IDAPA 58.01.08.552.06:

- An inspection program to locate cross connections and determine required suitable protection. For new connections, suitable protection must be installed before providing services.
- Required installation and operation of adequate and suitable backflow prevention assemblies for identified cross connections. Adequate and suitable assemblies are discussed in IDAPA 58.01.08.543.
- Annual inspections and testing of all installed backflow prevention assemblies by a backflow assembly tester licensed by the Idaho Division of Occupational and Professional Licenses.
- Discontinuance of service to any structure, facility, or premises where suitable backflow prevention has not been provided for a cross connection.
- Assemblies that cannot pass an annual test or are defective shall be repaired, replaced, or isolated within 10 business days. If no action is taken after 10 business days, water service to the failed assembly must be discontinued.

A list of suggested items for cross-connection control is found in Appendix A, Checklist 2.

2.2 Source Water Adequacy and Consistency

IDAPA 58.01.08.500.01.b requires that a system has an adequate and consistent source of water.

2.2.1 Demonstration

To demonstrate an adequate and consistent source of water, the system needs to show the quantity of water will be sufficient to meet projected demand. Required quantity, usage projections, and water rights are demonstrated in the facility plan and PER, outlined in section 2.1, and referenced in the TFM capacity document. The [Guidance for New Source Water Testing Procedures for Public Drinking Water Systems](#) provides suggested aquifer testing methods, data analysis, and projection of long-term production capabilities of new water wells.

Documentation to demonstrate an adequate and consistent source of water may include, but not be limited to:

- Provide DEQ with a copy of the valid water right or a copy of the Idaho Department of Water Resources submitted “Notice of Change in Water Right Ownership” or “Application for Transfer of Water Right.”
- If operation and management consolidation is being pursued, provide DEQ with a detailed evaluation. This evaluation should examine the feasibility of operation and management consolidation by looking at existing systems with potential available capacity. Consolidation can reduce overhead, labor, and operational costs, and may include, but is not limited, to the following:
 - Informal cooperation—work with other systems but without contractual obligations (e.g., sharing equipment or mutual aid arrangements).
 - Contractual assistance—requires a contract, but the contract is under the system owner’s control (e.g., operation and maintenance, engineering, and purchasing water).
 - Joint power agency—creation of a new entity by several systems that continue to exist as independent entities (e.g., shared system management, shared operations, and shared source water).
 - Owner transfer—takeover by an existing or newly created entity (e.g., acquisition and physical interconnection, acquisition and satellite management, and transfer of previously owned system to new or existing public entity).

A list of suggested items for adequacy and consistency of source water is found in Appendix A, Checklist 3.

2.3 Source Water Protection and Emergency Planning

IDAPA 58.01.08.500.01.c requires that a plan is in place to protect the water source and deal with emergencies.

2.3.1 Demonstration

Source protection measures and emergency response capabilities increase the likelihood that water is protected from contaminants, and the system can respond to emergency situations (natural disasters, chemical contamination, mechanical failure, or civil disorder) that could impact the water supply or disrupt normal operations. To satisfy this TFM capacity requirement, documentation may be submitted describing source water protection measures and emergency response planning and capabilities.

2.3.2 Source Water Protection

Source water protection measures identify how the system will protect its drinking water source from potential contamination. At a minimum, the system should address how the immediate area around the source will be protected from potential contaminants, including storm water runoff and other surface waters, livestock, motor vehicles, toxic chemicals, and other contaminant sources. Minimum setback distances that assist with source water

protection are found at IDAPA 58.01.08.510.02 and 900.01 for wells and IDAPA 58.01.08.514.05 for springs.

Once a source is constructed, DEQ completes a source water assessment (as required under Section 1453(a)(1) of the Safe Drinking Water Act) to determine the susceptibility of the source to contamination. Each assessment incorporates a delineation of the water source based on hydrologic considerations, includes information about the presence of potential contaminants in the area that may pose a threat to the source, and identifies the susceptibility of the source to contamination. This assessment is a foundation for public water systems to prepare a more comprehensive source water protection plan that addresses any threats identified in the assessment to protect the quality of the drinking water supplies. DEQ has developed a [Source Water Protection Planning Tool](#) to assist public water systems develop a source water protection plan.

A public water system owner or operator is encouraged to have their source water protection plan certified by DEQ. Contact DEQ's Ground Water Bureau to discuss source water protection plans and DEQ certification. Public water systems with certified source water protection plans are granted additional points when applying for DEQ-administered drinking water grants and loans. Additionally, the US Department of Agriculture Rural Development Program requires a public water system to have a current certified source water protection plan prior to final disbursement of grant or loan funds through the US Department of Agriculture.

For additional information on protecting drinking water sources or developing a source water protection plan, contact your DEQ regional office or visit DEQ's [Source Water](#) website.

2.3.3 Emergency Planning

Emergency response and contingency planning capabilities ensure a water system is prepared to deal with disruption of normal operations. The emergency response plan is a part of the O&M manual and contains accessible information for staff responding to an emergency. Section 2013 of America's Water Infrastructure Act of 2018 (AWIA) required community water systems serving 3,300 or more persons to conduct a risk and resilience assessment and develop or update an emergency response plan to ensure they are prepared to handle emergency disruptions and continue to provide safe and reliable drinking water. Risk and resilience assessments evaluate the vulnerabilities, threats, and consequences from potential hazards including natural hazards and malevolent acts. Documentation to demonstrate an adequate emergency response plan may include, but is not limited to:

- Existing community public water systems >3,300 in population substantially modifying their system—submit the emergency response plan developed or updated under AWIA and updated to include the subject project.
- Existing community public water systems <3,300 in population substantially modifying their system—submit an emergency response plan capable of meeting the requirements for Technical Capacity outlined in IDAPA 58.01.08.500.01.c and 501.07.d.i.

- New community or non-transient, non-community public water systems—submit an emergency response outline in the O&M manual.

Emergency response and contingency plans contain action steps to prevent or manage emergencies such as if a primary source of drinking water becomes contaminated, the flow of water is disrupted, or evidence of accidental or malicious intrusion exists. These plans establish procedures for water system management and staff to follow in case of an emergency and reduce a water system’s vulnerability to emergencies. For most systems, the plan consists of system-specific information such as location of shut-off valves; distribution system map; chain of command with contact lists; public notification templates; response actions for specific events such as depressurization, fires, or floods; system-specific emergency disinfection procedures; system-specific flushing procedures; and identifying alternative water supplies.

A list of suggested items for emergency response is found in Appendix A, Checklist 4.

DEQ’s [Source Water Protection Planning Tool](#) can be used to create a system-specific contingency plan (or emergency response plan), which increases the likelihood that correct and immediate action will be taken under adverse conditions to minimize damage and potential health risk.

Additional information on the AWIA requirements for Risk and Resilience Assessments and Emergency Response Plans may be found at [AWIA Risk Assessments and Emergency Response Plans](#).

2.4 Asset Inventory and Capital Replacement Plan

IDAPA 58.01.08.500.01.d requires that a plan exists for replacement or improvement of infrastructure as necessary.

2.4.1 Demonstration

Asset management is a suggested method water utilities can use to ensure that planned maintenance can be conducted, and capital assets can be repaired, replaced, or upgraded on time and enough money is available to pay for it. Asset management planning is encouraged through funding activities, engineering reviews, and technical assistance.

An asset inventory of system components identifies the remaining useful life and the future replacement cost of each asset and may be used to document a plan for replacement or improvement of infrastructure. The asset inventory and capital replacement plan defines the expected schedule for replacing major system assets and considers expected future replacement cost increases. Separate assets that need to be replaced in the next 5 years to create a capital replacement plan to include in the annual budget.

2.4.2 Asset Inventory

The asset inventory should consider the following items:

- System component list
- Calculated lifespan for replacement timing
- Calculated equity
- Replacement costs

2.4.2.1 System Component List

It is recommended the system component (assets) list include the manufacturer and model or part number for each asset. A list of typical drinking water system assets and the estimated useful life for each is provided in Appendix B. This list is a general recommendation. A public water system or their consultant can evaluate the list for applicability to their existing or planned water system.

2.4.2.2 Calculated Lifespan for Replacement

Identifies the planned year of replacement for each listed asset based on the manufacturer or engineer projected or anticipated service life. Consider the following when calculating the replacement life:

- Installation date of each asset
- Estimated useful life of the asset as provided by the manufacturer or system designer
- How critical the asset is to the system's operation

Based on the information above, calculate the replacement timing of the asset.

2.4.2.3 Calculated Equity

Equity is the value of the investment made by water system customers for a particular asset. The asset's depreciation and condition are accounted for, and connection/hook-up fees are adjusted accordingly. The equity is generally the value of the asset if sold. The equity is zero if the life of the asset is exceeded or more is owed than the equity value.

To help calculate the equity of each asset, consider the following:

- Original cost of the asset
- Replacement cost of the asset
- Inflation rate (1.5% to 2.5% is recommended)
- Accumulated loss of value (depreciation)

Based on the information above, the equity of each asset can be calculated.

2.4.2.4 Replacement Cost

Replacement cost considers the future cost of replacing each asset by using the current replacement cost, the inflation rate, and the calculated remaining life. An [Asset Valuation Tool](#) to estimate the costs to replace assets is available through the [Southwest Environmental Finance Center](#).

2.4.3 Capital Replacement Plan

A capital replacement plan prioritizes the replacement or installation of infrastructure assets. All assets that need to be replaced in the next 5 years (short term) would typically be included in a capital replacement plan.

Expenses to replace the items found in the capital replacement plan should be reflected in the water system's annual budget. Section 3.2 "Revenue Sufficiency" provides more information.

A list of suggested items for an asset inventory and capital replacement plan is provided in Appendix A, Checklist 5.

2.5 Personnel Qualifications and Licensure

IDAPA 58.01.08.500.01.e requires that a system has trained personnel with an understanding of the technical and operational characteristics of the system.

2.5.1 Demonstration

Personnel who operate a public drinking water system or water treatment plant are required to hold an operator license equal to or greater than the classification of their water system (IDAPA 58.01.08.554.02 and 03).

2.5.2 Water System Classification

IDAPA 58.01.08.553 requires DEQ to determine the classification of all community and non-transient non-community public water systems. The water system must complete the [Drinking Water Distribution and Treatment System Classification Worksheet](#) (form works best in Adobe Acrobat) and submit it to DEQ (IDAPA 58.01.08.553.01.a). The worksheet and additional information are found on DEQ's Public Drinking Water Switchboard. Existing public water systems can use the System Classification Worksheet, which auto-populates based on existing information in DEQ's drinking water database (SDWIS).

DEQ will determine the system's classification based on the information provided in the worksheet. This worksheet must be completed and submitted to DEQ every 5 years or when a substantive change or upgrade is made to the treatment or distribution system (IDAPA 58.01.08.553.01.b).

2.5.3 Personnel Qualifications and Licensure

According to IDAPA 58.01.08.554.01, owners of all community, non-transient non-community, and surface water systems must place the direct supervision of their drinking water system, including each treatment facility and distribution system, under the responsible charge of a properly licensed operator. The operator must hold a valid license equal to or greater than the classification of the public water system (IDAPA 58.01.08.554.02 and 03). DEQ recommends public water systems develop a plan for hiring and training operators that includes continuing education, ongoing technical training, and operator safety.

Demonstration of this element should include the following:

- Complete and submit (attach copy) the public water system classification worksheet.
- Identify, based on the system classification, the licensure requirement for the operator.

Operator licensure information is available on the Public Drinking Water Switchboard under [Drinking Water Operator Resources](#) and by contacting the Idaho State Board of Drinking Water and Wastewater Professionals, Idaho Division of Occupational and Professional Licenses at WWP@dopl.idaho.gov or (208) 334-3233.

3 Financial Capacity

Financial capacity means the financial resources of the water system, including an appropriate budget, accurate rate structure, adequate fiscal controls, and cash reserves sufficient for construction, current and future operation, maintenance, future needs, and emergency situations. Financial capacity is a measure of a water system's ability to acquire and manage sufficient financial resources to allow the system to achieve and maintain compliance with primary drinking water regulations. Associated elements include sufficient revenue to cover costs, access to credit through public or private sources, and use of standardized and accepted accounting, budgeting, and planning techniques.

To satisfy the requirement of financial capacity, the public water system may submit documentation to demonstrate the following:

- Adequate construction and operational financial arrangements
- Revenue sufficiency
- Adequate fiscal controls

3.1 Adequate Construction and Operational Financial Arrangements

IDAPA 58.01.08.500.02.a requires documentation that organizational and financial arrangements are adequate to construct and operate the public water system in accordance with the Idaho Rules for Public Drinking Water Systems.

3.1.1 Demonstration

Cost estimates for construction and system operation and maintenance are used to demonstrate this requirement. These early costs are often financially offset by financial resources, including letters of credit and access to financial capital through public or private sources.

Cost estimates for construction should include, but are not limited to, the following:

- Financing
- Equipment, facility, and materials purchases
- Estimated itemized cost of water facilities to be constructed and other construction costs

- Operating costs including personnel compensation, utilities, laboratory analysis for monitoring, and any water treatment materials
- Facility maintenance

3.1.1.1 Financing

Financial documents (e.g., certified financial statement) are typically submitted showing the ability to pay for initial construction of a new or substantially modified water system. The future sales of lots should not be relied upon for financing of initial construction costs.

3.1.1.2 Equipment, Facility, and Materials Purchase

An inventory of components and a capital replacement plan with initial costs, expected life, replacement year and annual costs to operate is recommended.

3.1.1.3 Estimated Itemized Cost of Water Facilities to be Constructed and Other Costs

These estimated costs might include the feasibility study, design costs, facility bids to construct, and distribution system design and construction. These costs would typically be included in a capital improvement plan.

3.1.1.4 Operating Costs including Personnel, Utilities, and Water Treatment Materials

These costs might include an annual operation and capital budget, power and chemical cost estimates, and any applicable personnel costs. A water quality monitoring plan describes how and where sampling will be conducted. The monitoring schedules are based on several dynamic factors such as system size, results of initial monitoring, and drinking water rules in effect at the time the new system proposes to commence operations. Due to this complexity, DEQ or the district health department prepares the public water system's monitoring schedule. Information about initial monitoring and associated schedules required after the source is in operation is found on the [Public Water System Switchboard](#) under "Guidance and Fact Sheets" and "Monitoring Schedule."

3.1.1.5 Facility Maintenance

Estimated annual average maintenance costs include planned preventative maintenance and unplanned or reactive maintenance. Preventative maintenance includes cleaning, lubricating, and replacing minor components. Reactive maintenance follows the failure of a piece of equipment.

A description of the financial resources that will be used to offset cost estimates, may include the following:

- Information demonstrating bond or credit rating
- Description of access to public/private financial capital
- Liquid assets such as cash, bank accounts, approved bank loans, and lines of credit

- Income from billings
- Most recent fiscal audit

3.2 Revenue Sufficiency

IDAPA 58.01.08.500.02.b requires a demonstration of revenue sufficiency, that includes but is not limited to billing and collection procedures; a proposed rate structure which demonstrates the availability of operating funds, revenues for depreciation and reserves, and the ability to accrue a capital replacement fund. A preliminary operating budget shall be provided.

3.2.1 Demonstration

Demonstration of financial capacity can be met by providing an estimated budget that presents all anticipated and projected revenues and expenditures for the first 5 years of new water system operation. Areas for demonstration may include the following:

- Operating budget
- Expenditures
- Billing and collection procedures
- Operating reserve
- Capital replacement and depreciation fund
- Emergency reserve
- Rate structure

3.2.1.1 Operating Budget

The operating budget is recommended to contain, at a minimum, all anticipated and projected revenues and expenditures for the first, or next, 5 years of system operation. Other financial principles may be incorporated into a system's operating budget as necessary. An accurate budget is critical when setting an appropriate rate structure because in most cases the rate structure defines the entire amount of system revenues. To ensure good system management, it is recommended that the operating budget be updated annually at a minimum.

3.2.1.2 Expenditures

The system's expenditures may be determined based on the following, but may not be limited to:

- Operator and other personnel salaries and benefits
- Utility bills
- Water quality monitoring costs
- Anticipated or potential treatment costs (e.g., disinfection and corrosion control)
- Equipment and facility maintenance costs
- Funding for operating reserve
- Funding for capital replacement
- Funding for emergency reserve

3.2.1.3 Billing and Collection Procedures

Billing and collection procedures should be described, including the billing cycle, deposit fees, rate structure, delinquency and shutoff procedures, accounting information, and personnel involved.

3.2.1.4 Operating Reserve

A relatively small operating reserve fund should be available to operate the system for a month or two if revenue shortfalls occur for any reason. This reserve may be used to pay routine expenses, such as power bills and operator salary, and to keep the system in operation until rate adjustments or other fixes are applied to increase revenues.

3.2.1.5 Capital Replacement and Depreciation Fund

A capital replacement and depreciation fund grows through time and receives contributions based on the cost of major components and their expected lifespan and depreciation. These items are a cost of operation and are reflected in the operating budget. The fund is used to replace equipment under risk of failure from wear and tear beyond the projected service life. The basic steps to be considered include:

- Development of an asset inventory and capital replacement plan (section 2.4).
- Prioritization of the assets to decide how best to allocate limited resources. Base priority on the asset's importance to operating the system and protecting public health. Other factors to consider include how soon assets need replaced or whether other equipment can do the same job.
- Determining the cost of asset rehabilitation and replacement and devising a capital replacement and depreciation plan.
- Determining how much additional revenue is needed every year to implement the plan.
- Reviewing and revising the plan to shape the system's future operations.

Additional guidance is available on DEQ's website under STEP Guides, [Asset Management: A Handbook for Small Water Systems](#) and on the Environmental Finance Center [Asset Management Switchboard](#).

3.2.1.6 Emergency Reserve

An emergency reserve is a fund available for dealing with unexpected expenses. The emergency reserve is usually equal to or greater than the most expensive mechanical equipment item, such as a main well pump.

3.2.1.7 Rate Structure

Rate setting is based on the expenses detailed in the operating budget. Setting an accurate and appropriate rate structure involves evaluating the total cost of providing service to customers. This evaluation compiles the costs of production, treatment, storage, distribution, debt service, capital expenditures, regulatory compliance, operation and maintenance, and funding for

operating and emergency reserves. Those overall expenditures are then used to establish system revenues, primarily connection fees and customer billing revenues.

It is recommended this evaluation include the following steps:

1. Determine the full cost of providing potable water by calculating all costs. This will require an overall evaluation of the total operating budget cost and funding for reserves and replacement funds.
2. Determine revenues. This involves setting appropriate connection fees and rate structures and determining other service fees and income.
3. Determine reserve requirements to ensure funds are available to cover the asset rehabilitation and repair costs as well as unexpected costs during the first 5 years of operation. This requires a review of the operating reserve, capital replacement and depreciation fund, and emergency reserve.
4. Calculate how much money needs to be collected from customer charges to cover costs and fully fund the reserve account.
5. Evaluate appropriate rate structures and design an appropriate rate.
6. Implement the rate structure.
7. Review the rates and make changes when appropriate.

Community water systems may voluntarily install metered service connections. These meters can be a critical component to establishing an effective rate structure. The meters should be owned, operated, and maintained by the water system owner. DEQ does not require the meter installation as a condition of a loan but may provide financing if the water system chooses to install them and is approved for DEQ-provided financing.

For additional guidance on rate setting, see the US Environmental Protection Agency's [Setting Small Drinking Water System Rates for a Sustainable Future](#).

To demonstrate financial capacity, DEQ developed a [Smart Management for Small Water Systems](#) tool located on the Public Drinking Water Switchboard. This worksheet can be used to demonstrate the TFM capacity for revenue sufficiency.

Other guidance documents and tools may be available from the Environmental Finance Center, Rural Community Assistance Corporation, US Department of Agriculture Rural Development, and Idaho Rural Water Association.

3.3 Adequate Fiscal Controls

IDAPA 58.01.08.500.02.c states that Adequate fiscal controls must be demonstrated.

3.3.1 Demonstration

Fiscal controls mean managing water system costs and expenditures and following a formal procedure to collect and bank revenues, process loan proceeds (amount a lender gives to the borrower) and other income and making expenditures from the water system accounts. Standard accounting principles and practices should be used.

Demonstration of fiscal controls may include, but is not limited to, the following:

- Description of fiscal controls.
- Identification of financial decision-making procedures and processes.
- Description of the organizational structure of financial management personnel.
- Bylaws should make it clear that funds in dedicated accounts are for water system costs only and not for any unrelated purpose, such as common lot landscaping. It is recommended that the names or positions of persons responsible for system banking and that are authorized to sign checks are included in the bylaws.
- Description of the water system's budget control and reporting procedures.

A third-party financial audit is recommended every 3 to 5 years. If the system is considered a unit of local government (e.g., a water district with expenditures of \$150,000 or more, an annual or biennial audit is required under Idaho Code § 67-450B).

3.3.2 Public Utilities Commission

Idaho's Public Utilities Commission (PUC) supervises and regulates the state's public utilities. A water company is a public utility if it is a private entity that owns, controls, operates, or manages any water system for compensation within the state. Most public water systems are not regulated by the PUC.

The following public entities are specifically exempt from the regulatory oversight of Idaho's PUC: homeowners' associations, cooperative associations, municipalities, and water districts formed by popular vote at a general election and approved by an Idaho District Court.

If eventual system ownership will be an entity regulated by Idaho's PUC, contact the PUC about the procedures for obtaining a "Certification of Public Convenience and Necessity," which DEQ will accept as meeting demonstration requirements for capital reserve, operating budget, and rate information.

4 Managerial Capacity

Managerial capacity is the ability of a water system to conduct its affairs in a manner that ensures the system achieves and maintains compliance with all applicable rules and regulations. Managerial capacity refers to the system's institutional and administrative capabilities and considers accountability of the system ownership, staffing, and organizational structure. Effective communication to external entities including customers, regulators, and assistance sources is an important aspect to consider.

To demonstrate adequate managerial capacity, the public water system must submit at least the following information in accordance with IDAPA 58.01.08.500.03:

- Clear documentation of legal ownership
- Person accountable for compliance with the rules
- Responsible charge operator

- Description of how the water system will be managed
- Staffing qualifications
- Establishment of communication plan
- Evidence of planning for growth

4.1 Clear Documentation of Legal Ownership

IDAPA 58.01.08.500.03.a requires clear documentation of legal ownership and any plans that may exist for transfer of that ownership upon completion of construction or after a period of operation.

4.1.1 Demonstration

Legal ownership may be demonstrated by , but is not limited to, the following examples of documentation:

- Documentation of legal ownership including name, address, and telephone number of the legal owner of the water system (person, persons, association, district, corporation, or other entity). All documents submitted for review should use identical names for the water system and owner.
- Description of the type of system ownership.
- Copies of deeds, plats, and easements that verify ownership.
- Explanation of the water system's management structure.
- Documentation of legal access to service line meters and shutoff through utility easements, access agreement, or equivalent.
- Discussion of any plans to transfer ownership after construction. The system transferring ownership must ensure that all health-related standards are met during transfer and that water rights, O&M manuals, and pertinent documentation are transferred to the new owner. DEQ and all customers must receive written notice of the transfer with a description of how and when this transfer will take place. This description must address impacts on system revenues and outline any effects on funding of emergency and other reserves. The TFM capacity documentation must fully cover both the initial *development phase* and ultimate final ownership entity.

4.2 Compliance Personnel

IDAPA 58.01.08.500.03.b requires the name, address, and telephone number of the person who will be accountable for ensuring that the water system is in compliance with these rules.

4.2.1 Demonstration

Provide the name, address, and telephone number of the person responsible for ensuring the system complies with all applicable drinking water regulations. The rule compliance person is usually the system operator but may also include an administrative or other associated water system contact.

4.3 Responsible Charge Operator

IDAPA 58.01.08.500.03.c requires the name, address, and telephone number of the responsible charge operator.

4.3.1 Demonstration

After designated, provide the name, address, and telephone number of the public water system's responsible charge operator. The designated operator or contract operator for all community and non-transient non-community public water systems, as well as all surface water systems must hold a license equal to or greater than the classification of their public water system (IDAPA 58.01.08.554.02). Section 2.5 "Personnel Qualifications and Licensure" provides more information on operational personnel.

4.4 System Management and Organizational Structure

IDAPA 58.01.08.500.03.d requires a description of the manner in which the water system will be managed. Information such as bylaws, restrictive covenants, articles of incorporation, or procedures and policy manuals which describe the management organizational structure shall be provided with the description.

4.4.1 Demonstration

System management may be demonstrated by, but is not limited to, the following:

- Copies of bylaws, articles of incorporation, neighborhood covenants, or other documents that define how the water system will be owned, operated, and managed. The documentation should include clear procedures for appointing or electing managing officials, determine the length of service, and provide for a means for terminating service when required.
- If required, a copy of the application for a "Certification of Public Convenience and Necessity," issued by the Idaho's PUC.
- Statement summarizing how the water system's management organization will function, including the decision-making process, including who is involved and how often they meet. The operator will have the most detailed knowledge of system operations and it is recommended they have a formal means to communicate with management.
- Description of how legal, engineering, and other professional services are provided and a plan for providing legal doctrines, including policies, ordinances, rules, resolutions, or practices.
- Establishment of a record-keeping or information management system to ensure legal, financial, and regulatory records are maintained in good order.
- Billing and collection procedures.
- Discuss when any proposed transfer of ownership will take place.

4.5 Staffing Requirements

IDAPA 58.01.08.500.03.e requires a recommendation of staff qualifications, including training, experience, certification or licensing, and continuing education.

4.5.1 Demonstration

Water system staff associated with owning, managing, operating, and maintaining a public water system are responsible for keeping up with changes in drinking water regulations and managing changing water quality to deliver safe drinking water. Policies and procedures can demonstrate how the system will meet these responsibilities. For operator licensing and continuing education, refer to Section 2.5 “Personnel Qualifications and Licensure.”

4.6 Establishing Effective Communications

IDAPA 58.01.08.500.03.f requires an explanation of how the water system will establish and maintain effective communications and relationships between the water system management, its customers, professional service providers, and any applicable regulatory agencies.

4.6.1 Demonstration

Effective communication may be demonstrated by, but is not limited to, the following:

- Description of how water system customers will be notified of, and given an opportunity to participate in, meetings, decisions, and other water system business. This description may be drawn from bylaws, covenants, and other founding documents.
- Description of how all required public notifications (e.g., consumer confidence reporting, violations, and boil water notices) are completed and distributed to the required entities.
- Description of how governing boards, managers, and system staff interact with customers, technical assistance providers, and regulatory agencies.

4.7 Planning for Growth

IDAPA 58.01.08.500.03.g requires evidence of planning for future growth, equipment repair and maintenance, and long-term replacement of system components.

4.7.1 Demonstration

A facility plan demonstrates long-term planning for growth (usually a 20-year planning horizon). A capital improvement plan, discussed in Section 2.4 “Asset Inventory and Capital Replacement and Improvement Plan,” estimates the cost of growth. Equipment repair and component maintenance is discussed in Section 2.1 “Technical Operating Requirements.” Asset inventory and planning for replacement of system components are discussed in sections 2.4 and 3.2.

An asset management plan is an effective tool for planning for growth. Asset management combines the management, financial, technical, and engineering practices applied to physical

assets with providing the required level of service in the most cost-effective manner. Asset management involves five core components to assist in planning for future growth:

1. Asset inventory—What assets does the system have, where are they, what are their useful lives, and what is the value of replacement costs.
2. Level of service—Level of service the system will provide customers and the most efficient and economical way to deliver that service.
3. Critical assets—How likely the asset is to fail and the consequence if the asset does fail.
4. Life-cycle costing—Operate and maintain the existing assets, repair the assets as they fail, rehabilitate the assets, and replace the assets.
5. Long-term funding strategy—Determines the best way to fund operation and maintenance, repair, rehabilitation, and replacement of assets.

The State of Idaho encourages asset management through:

- State Revolving Fund priority points—Water systems can receive rating points on a drinking water loan or planning grant if they have implemented or will implement as part of a proposed project an asset management plan.
- Drinking Water State Revolving Fund Set Asides may be used for asset management planning grants.
- Technical assistance from third party providers to provide on-site and off-site assistance with asset management and plan development.
- *Smart Management for Small Water Systems* tool—This application can be used to demonstrate TFM requirement of revenue sufficiency and assist with State Revolving Fund loan underwriting.

Resources

Asset Management Switchboard

<https://swefcamswitchboard.unm.edu/am/>

Reference Guide for Asset Management Tools

<https://www.epa.gov/dwcapacity/reference-guide-asset-management-tools>

Asset Management: A Handbook for Small Water Systems (EPA)

<http://nepis.epa.gov/Exe/ZyPDF.cgi/2000261D.PDF?Dockey=2000261D.PDF>

Assessing Water System Managerial Capacity

<https://nepis.epa.gov/Exe/ZyPdf.cgi?Dockey=P100MEW9.txt>

DEQ Grants and Loans

<https://www.deq.idaho.gov/water-quality/grants-and-loans/>

Drinking Water Cross-Connection Control Programs

<https://www.deq.idaho.gov/water-quality/drinking-water/public-water-system->

[switchboard/cross-connection-control/](#)

Public Water System Switchboard

<https://www.deq.idaho.gov/water-quality/drinking-water/public-water-system-switchboard/>

Source Water Protection Planning Tool

<https://www2.deq.idaho.gov/water/swpp>

Source Water Protection Activity Guide

<https://www2.deq.idaho.gov/water/swpp>

Revolving Loan Fund Program

<http://nrwa.org/initiatives/revolving-loan-fund/>

State Revolving Fund Switchboard

<https://swefcsrfswitchboard.unm.edu/srf/>

Setting Small Drinking Water System Rates for a Sustainable Future (EPA)

<https://www.epa.gov/sites/production/files/2015-04/documents/epa816r05006.pdf>

Technical, Managerial, and Financial (TFM) Capacity Resources for Small Drinking Water Systems

<https://www.epa.gov/dwcapacity/technical-managerial-and-financial-tmf-capacity-resources-small-drinking-water-systems>

Additional guidance may be obtained from the [Southwest Environmental Finance Center](#), [Rural Community Assistance Corporation](#), [US Department of Agricultural Rural Development](#), and the [Idaho Rural Water Association](#).

Definitions

New System—Any water system that meets for the first time, the definition of a public water system provided in the federal Safe Drinking Water Act § 1401 (42 USC § 300f). This includes systems that are entirely new construction and previously unregulated systems that are expanding. (IDAPA 58.01.08.003.84)

Material Modification—Those modifications of an existing public water system that are intended to increase system capacity or alter the methods or processes employed. Any project that adds source water to a system, increases the pumping capacity of a system, increases the potential population served by the system or the number of service connection within the system, adds new or alters existing drinking water components, or effects the water demand of the system is considered to be increasing system capacity or altering the methods or processes employed. Maintenance and repair performed on the system and the replacement of valves, pumps, or other similar items with new items of the same size and type are not considered a material modification. (IDAPA 58.01.08.003.72)

Public Drinking Water System—A system for the provision to the public of water for human consumption through pipes, or after August 5, 1998, other constructed conveyances, if such a system has at least 15 service connections, regardless of the number of water sources or configuration of the distribution system, or regularly serves an average of 25 individuals daily at least 60 days out of the year. Such term includes any collection, treatment storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system; and any collection or pretreatment storage facilities not under such control, which are used primarily in connection with such system. Such term does not include any “special irrigation district.” A public water system is either a “community water system” or a “non-community” water system. (IDAPA 58.01.08.003.110)

Substantially Modified—The department shall consider a public water system to be substantially modified when, as the result of one or more projects, there is a combined increase of 25% or more above the system’s existing configuration in the population served or number of service connections, the total length of transmission and distribution water mains, and the peak or average water demand. (IDAPA 58.01.08.003.136)

Appendix A. Suggested Checklists

Checklist 1. Operation and Maintenance.

Suggested Checklist For Public Water Supply System Operation and Maintenance Manual	Completed
Item 1: Map of all source/intakes and raw water transmission lines to plant(s).	Choose an item.
Item 2: Map of current finished water distribution system.	Choose an item.
Item 3: Map identifying locations of valves and other key system features.	Choose an item.
Item 4: Inventory list of property, service lines, equipment, tools and instruments including manufacturer, model, serial number, and condition.	Choose an item.
Item 5: Locations of spare parts (including pumps and backup power source) and vendor contact information or repair service used.	Choose an item.
Item 6: Manufacturer's manuals for equipment and water system facilities (e.g., treatment plant and distribution system) parts lists, parts order forms, technical specifications, and factory or dealer locations and telephone numbers.	Choose an item.
Item 7: A description and schedule of routine maintenance, maintenance checklists, log sheets, performance checks, and preventative practices for all system components (assets).	Choose an item.
Item 8: Lists of daily, weekly, monthly, quarterly, and annual maintenance tasks to be performed. Log sheets for recording maintenance performed.	Choose an item.
Item 9: Contact names, telephone numbers and email addresses for system operators, system owners, or local government officials regulating agency, certified laboratories used, and local responders (e.g., law enforcement, fire, and hazmat).	Choose an item.
Item 10: Monitoring requirements including location or sampling or monitoring sites, sample forms and reporting and record-keeping instructions. Location of spare sample bottles and public notice forms and instructions.	Choose an item.
Item 11: Instructions for flushing and shock chlorinating tanks, wells, and distribution system mains.	Choose an item.
Item 12: Instruction for shutdown and startup procedures.	Choose an item.
Item 13: Instructions for pressure loss in system.	Choose an item.
Item 14: Identification and description of safety hazards including mechanical, electrical, leak detection and explosion and fire hazards. Include safe operating procedures for job-related activities.	Choose an item.
Item 15: Location of secured instructions for maintaining security in the system.	Choose an item.

Checklist 2. Cross-Connection Control.

Suggested Checklist Items for Cross-Connection Control	Completed
Item 1: Establish an inspection program to locate cross connections and determine required suitable protection. For new connections, develop a plan to ensure suitable protection is installed before providing services.	Choose an item.
Item 2: Ensure that adequate and suitable backflow prevention assemblies for identified or potential cross connections will be installed.	Choose an item.
Item 3: Provide for how annual inspections and testing of backflow prevention assemblies will be conducted.	Choose an item.
Item 4: Identify that procedures are in place through legal authority to discontinue service to any structure, facility, or premises where suitable backflow has not been provided.	Choose an item.
Item 5: Identify how assemblies that cannot pass annual tests, or are defective, shall be repaired, replaced, or isolated within 10 business days. If no action is taken, water service to the failed assembly must be discontinued.	Choose an item.

Checklist 3. Adequacy and Consistency of Source Water.

Suggested Checklist Items for Public Water Supply Adequacy and Consistency of Source Water	Completed
Item 1: Attach a copy of the Valid Water Right, Change of Ownership, or Transfer of Valid Water Rights.	Choose an item.
Item 2: Reference any evaluations completed of existing consolidations or the feasibility of consolidations with existing or planned water systems.	Choose an item.
Item 3: Reference any evaluation completed of interconnections or the potential for any interconnections with other existing or planned water systems.	Choose an item.
Item 4: Evaluate any potential water system partnerships, informal or contractual.	Choose an item.

Checklist 4. Emergency Response.

Suggested Checklist Items For Public Water Supply Emergency Response	Completed
Item 1: Provide system-specific information.	Choose an item.
Item 2: Provide a chain of command that identifies roles and responsibilities.	Choose an item.
Item 3: Provide contact lists for public water system contacts, regulating agency contacts, emergency personnel contacts, and services and repair contacts.	Choose an item.
Item 4: Identify how public notification will be provided to customers and provide a list of the system's vulnerable populations.	Choose an item.
Item 5: Provide a list of immediate actions to take during specific events and who should be notified.	Choose an item.
Item 6: Provide system-specific emergency disinfection procedures.	Choose an item.
Item 7: Provide system-specific unidirectional flushing procedures.	Choose an item.
Item 8: Identify alternative water supplies that may be available if your supply becomes unexpectedly disrupted or contaminated. Identify emergency sources, short-term alternative supplies, and long-term potential alternative supplies.	Choose an item.
Item 9: Provide a contingency plan	Choose an item.

Checklist 5. Asset Inventory Replacement and Capital Replacement Plan.

Suggested Checklist Items For Public Water Supply Infrastructure Replacement Plan	Completed
Item 1: Provide a major system component list. Attach a copy.	Choose an item.
Item 2: Identify the planned year of replacement for each major asset and calculate the replacement life.	Choose an item.
Item 3: Calculate the equity of each asset.	Choose an item.
Item 4: Calculate the future replacement cost of replacing each asset.	Choose an item.
Item 5: Compile items 1–4 into a table to produce an asset inventory and capital replacement plan. Attach a copy.	Choose an item.
Item 6: Provide a capital replacement plan identifying all assets that need to be replaced in the next 5 years. Attach a copy.	Choose an item.
Item 7: Money that needs to be saved to replace the items found in the capital replacement plan should be reflected in the water system's annual budget.	Choose an item.

Appendix B. Typical Life Expectancies of Water System Equipment

Source of Supply

Equipment	Life Expectancy in Years
Intake Structures	35 – 45
Wells and Springs	25 – 35
Galleries and Tunnels	30 – 40
Transmission mains	35 – 40

Pumping Plants

Equipment	Life Expectancy in Years
Structures	30 – 60
Pumping Equipment	10 – 15

Treatment Plants

Equipment	Life Expectancy in Years
Structures	30 – 60
Equipment	10 – 15
Chlorination Equipment	10 – 15

Transmission/Distribution

Equipment	Life Expectancy in Years
Structures	30 – 60
Reservoirs and Tanks	30 – 60
Mains & Distribution Pipes	35 – 40
Services	30 – 50
Valves	35 – 40
Backflow Prevention Valves	35 – 40
Blow-off valves	35 – 40
Meters	10 – 15
Hydrants	40 – 60

General Plant

Equipment	Life Expectancy in Years
Structures	30 – 40
Electrical Systems	7 – 10
Equipment	10 – 15
Transportation Equipment	10
Computers	5

Stores equipment	10
Lab/Monitoring Equipment	5 – 7
Tools and Shop Equipment	10 – 15
Landscaping/Grading	40 – 60
Power operated equipment	10 – 15
Communications equipment	10

From EPA publication EPA 816-R-03-016, September 2003 (reformatted for web accessibility).

Appendix C. Public Comments and Response to Comments

Demonstrating Technical, Financial, and Managerial Capacity in New Public Water Systems

Response to Comments Received During First Round of Public Comment Opportunity in January 2022 on Draft Final TFM Guidance

Comment #1:

Bob Chandler Avondale Irrigation District, March 8, 2022 Letter

Please accept these comments on behalf of Avondale Irrigation District located in Hayden, Idaho.

The importance of providing such information for a new and upcoming community water system is understood.

The importance of providing such information for a public water system that has been around for several years and has a proven track record for following state guidelines, dependably serving safe drinking water while continually meeting growth demands is beyond questionable.

Avondale Irrigation District has been serving water since 1908. We started as an irrigation system and eventually added domestic use. We have worked with the Bureau of Reclamation and have an impeccable track record for both water quality and service. It is beyond reason to us that we would even consider taking any shortcut for service that may lead to water quality problems, distribution shortcomings, or a loss of faith by our customers.

Technical capacity is one thing, and is commonly addressed through master plans, updates, and capacity analysis reports. These are documents that are updated every few years and provided to IDEQ to eliminate all doubt for capacity and assure that future projects are well planned for in advance and understood. These documents allow IDEQ to gauge the project safely and quickly as well as expedite it through the approval process. All public water systems should be completing regular technical capacity reports and updates for the simple sake of staying ahead of growth and providing the best service possible.

Financial and Managerial Capacity reports are going to dramatically slow down the process and delay approvals through IDEQ even more than they currently are. Going through this unneeded process time and time again will create an atmosphere where unnecessary associated costs will have to be passed on to customers, and projects will stall and could eventually die. Why would a successful public water system that needs to extend mains, build a reservoir, or drill a well to stay ahead of growth need to prove to IDEQ that they have the money and staff to manage it? It stands to reason that they probably wouldn't submit plans to the state if they didn't already figure out a way to pay for it and manage it.

IDEQ needs to give existing public water systems a little credit for the great job they are doing in Idaho instead of trying to micromanage and make our lives harder. Managers across the state work hard every day (especially now with the out of state influx) to assure that future housing, developments and businesses will have the same opportunities as those prior to them. Not only do public water systems work with IDEQ, but they work with IDWR, cities, counties, airports,

developers, business owners and homeowners. Part of their job is to constantly complete rate studies, connection fee studies, meet ever increasing water quality parameters, increase budgets, manage employees and plan for projects as far as 10 years out, while at the same time striving to keep rates as low as possible. These are realistic issues that are constantly changing, and it is unrealistic to think that they can be depicted in a report and used as a gauge for the purpose of approving/disapproving a project by IDEQ. At what point does IDEQ put faith in those chosen to fulfill the duties of their organization, state licensure and most importantly, customers. Additional bureaucratic regulations are only going to hinder the excellent job that public water systems are doing across the state of Idaho.

I appreciate your time and thank you for the opportunity to comment on such a critical subject.

Response 1: Thank you for your comments and dedication to providing safe water. This document represents an update to the existing 1999 Technical, Financial and Managerial Guidance Document. No new regulatory requirements are being implemented through this guidance document. The information in the draft guidance is intended to be an update and enhancement of the existing 1999 guidance document to better assist water system personnel, consulting engineers, developers, and DEQ staff with an understanding of how TFM capacity can be demonstrated as outlined in IDAPA 58.01.08.500. Demonstration of TFM for existing water systems is only required when the system reaches a point of substantial modification as defined in IDAPA 58.01.003.136. Submittal of full TFM documentation is only required at that point, and not for every construction project undertaken by a PWS. The guidance has been revised to help make this clearer, and to relay flexibility existing public water systems will have in demonstrating TFM to DEQ. Existing public water systems that stay on top of their planning and have a high level of coordination with DEQ may have greater flexibility and less documentation to submit to demonstrate TFM when the water system reaches a point of substantial modification. Public water systems are encouraged to work with their DEQ engineer prior to initiating development of a TFM demonstration for DEQ submittal so that any documentation necessary can be minimized and streamlined for the water system.

Changes to TFM: The guidance has been revised throughout to provide a better understanding of flexibility for existing public water systems and to better outline the existing rule requirements this document is based on.

Comment #2:

**Branden Rose Hayden Lake Irrigation District, March 8, 2022
Letter**

I'm the Administrator for Hayden Lake Irrigation District. I'm against adding the new document "technical, financial, and Managerial Guidance Document". I will try and keep this as short as possible and try not to ramble.

1) This document would be a financial burden on systems my size and smaller. For example; Engineering cost for a large project are running 10-15%. My engineering firm is JUB. To run a simple model for a project cost my patrons \$8295.00 now a two million gallon reservoir

engineering cost are from start to finish over \$1.1 million. Also, a Facility plan in 2019 cost the District 85,000.00. The new document would appear to need an engineer to be able to produce the proper documentation for every project. That would take away from our funding to replace our aging infrastructure to service our existing customers. Money not well spent.

2) Facility Plans are living documents that need to be updated every 10 years. If a responsible manager does his job and keeps his document current this documentation would not be needed. Example; My Master plan has and documents the our build out for ten - twenty years and DEQ receives a copy of this documentation and approves/reviews the document. In the document it facilitates the need of the District for the next 20 years and projects a growth rate and the infrastructure to provide service to our current and future customer, also build out for that 20 year period. This said, DEQ has the District's connections (ER's) for 20 years and as long as we follow are facility plan and notify DEQ of our ER's every year. Which we do with our annual ER's assessment to DEQ and we pay a fee based on our ER's. What I'm getting at is if we have a facility plan you know if we are managing our system and if we are over our ER's. Why would you need another document? Please don't take this wrong but underground work is already expensive enough and we barely have enough time in a day to take care of our staff and customers without bogging us down with more paper work and cost associated with this new document. Please reconsider adding more unneeded documentation to our plates.

Response 2: Thank you for your comments and dedication to providing safe water. This document represents an update to the existing 1999 Technical, Financial and Managerial Guidance Document. No new regulatory requirements are being implemented through this guidance document. The information in the draft guidance is intended to be an update and enhancement of the existing 1999 guidance document to better assist water system personnel, consulting engineers, developers, and DEQ staff with an understanding of how TFM capacity can be demonstrated as outlined in IDAPA 58.01.08.500. Demonstration of TFM for existing water systems is only required when the system reaches a point of substantial modification as defined in IDAPA 58.01.003.136. Submittal of full TFM documentation is only required at that point, and not for every construction project undertaken by a PWS. The guidance has been revised to help make this clearer, and to relay flexibility existing public water systems will have in demonstrating TFM to DEQ. Existing public water systems that stay on top of their planning and have a high level of coordination with DEQ may have greater flexibility and less documentation to submit to demonstrate TFM when the water system reaches a point of substantial modification. Public water systems are encouraged to work with their DEQ engineer prior to initiating development of a TFM demonstration for DEQ submittal so that any documentation necessary can be minimized and streamlined for the water system.

Changes to TFM: The guidance has been revised throughout to provide a better understanding of flexibility for existing public water systems and to better outline the existing rule requirements this document is based on.

Comment #3:

**Norman Semanko on behalf of East Greenacres Irrigation District,
March 9, 2022 Letter**

Re: Demonstrating Technical, Financial, and Managerial Capacity

These comments are submitted on behalf of East Greenacres Irrigation District ("EGID") regarding the above-referenced matter, as proposed by the Idaho Department of Environmental Quality ("DEQ").

EGID is a quasi-municipality whose primary function is to provide irrigation water to approximately 5,340 acres of irrigable land within the District boundaries at a maximum rate of 6.4 gallons per minute, per acre, during normal water years. It is also the function of EGID to provide domestic, municipal, and industrial water to those within the District boundaries and within the capacity of the system. EGID serves these uses with ground water diverted from the Spokane Valley-Rathdrum Prairie Aquifer. We appreciate the opportunity to comment.

EGID concurs in the March 8, 2021 comments submitted by Avondale Irrigation District. EGID does not support DEQ's proposed changes as they will create additional, unnecessary burdens on long-time, proven public water providers. The proposed reports would cause undue delay in DEQ approvals and impose increased costs.

The changes proposed by DEQ are a perfect example of regulation going too far. We urge you to reject these changes.

Response 3: Thank you for your comments and dedication to providing safe water. This document represents an update to the existing 1999 Technical, Financial and Managerial Guidance Document. No new regulatory requirements are being implemented through this guidance document. The information in the draft guidance is intended to be an update and enhancement of the existing 1999 guidance document to better assist water system personnel, consulting engineers, developers, and DEQ staff with an understanding of how TFM capacity can be demonstrated as outlined in IDAPA 58.01.08.500. Demonstration of TFM for existing water systems is only required when the system reaches a point of substantial modification as defined in IDAPA 58.01.003.136. Submittal of full TFM documentation is only required at that point, and not for every construction project undertaken by a PWS. The guidance has been revised to help make this clearer, and to relay flexibility existing public water systems will have in demonstrating TFM to DEQ. Existing public water systems that stay on top of their planning and have a high level of coordination with DEQ may have greater flexibility and less documentation to submit to demonstrate TFM when the water system reaches a point of substantial modification. Public water systems are encouraged to work with their DEQ engineer prior to initiating development of a TFM demonstration for DEQ submittal so that any documentation necessary can be minimized and streamlined for the water system.

Changes to TFM: The guidance has been revised throughout to provide a better understanding of flexibility for existing public water systems and to better outline the existing rule requirements this document is based on.

Comment #4:

Suzanne Scheidt North Kootenai Water and Sewer District, March 9, 2022 E-mail

From the perspective of an existing purveyor that may propose a substantial modification in the future, below are some requests for clarification to assist in delineating requirements for new systems and systems proposing substantial modification:

1. Operation and maintenance manuals, Section [2.1.1.3](#) Operation and Maintenance Manual “The O&M Manual should be prepared by the design engineer who develops the system plans and specifications and oversees construction and equipment installation.” In cases of substantial modification of an existing system, the design engineer would have oversight of a system-specific project rather than the entire system. The purveyor’s fundamental understanding of the system may contribute to an increased qualification in the development of a system-specific O&M, and provide a greater public health protection benefit.

Response 4: Thank you for your comment and dedication to providing safe water. The guidance document is not meant to preclude the purveyor in assisting an engineer in preparing the manual or amendments thereto.

Changes to TFM: “The O&M manual ~~should~~ is typically prepared by the design engineer who develops the system plans and specifications and oversees construction and equipment installation. Additional resources, such as system operators, may also contribute to O&M manual contents.”

2. “The water system shall initially be designed and built without cross-connections as approved in engineering plans and specifications” Original construction timelines for existing systems subject to substantial modification may pre-date implementation of Idaho Rules for Public Drinking Water Systems. It is requested the sentence be reworded to apply to new water systems only, and guidance includes requirements for demonstration of the implementation of cross-connection control for systems proposing substantial modification.

Response 5: Thank you for your comment and dedication to providing safe water. The requested clarification has been addressed.

Changes to TFM: ~~The~~ A new water system ~~should~~ must initially be designed and built without cross connections as approved in engineering plans and specifications. All existing community water systems must ensure a proper cross-connection control program is in place to maintain the system free of cross-connections.

3. Section 2.2.3 Emergency Planning – AWIA 2018 required community systems serving > 3,300 to conduct a risk/resilience assessment and develop or update an emergency response plan. Clarification on the demonstration of this requirement for all systems or exclusive to community systems serving > 3,300 is requested.

Response 6: Thank you for your comment and dedication to providing safe water. Water systems with a population >3,300 must meet the AWIA 2018 requirements for completing a risk and resilience assessment and subsequent development or update of an emergency response plan, and must certify those activities to EPA. For smaller community and non-transient, non-community water systems a plan to prevent or manage emergencies is required as outlined in IDAPA 58.01.08.500.01.c and 501.07.d.i. The requested clarification has been addressed.

Changes to TFM:

Documentation to demonstrate an adequate emergency response plan may include, but is not limited to:

- *Existing community public water systems >3,300 in population substantially modifying their system—submit the emergency response plan developed or updated under AWIA and updated to include the subject project.*
 - *Existing community public water systems <3,300 in population substantially modifying their system—submit an emergency response plan capable of meeting the requirements for Technical Capacity outlined in IDAPA 58.01.08.500.01.c and 501.07.d.i.*
 - *New community or non-transient, non-community public water systems—submit an emergency response outline in the O&M manual.*
4. Section 2.4.2 – Asset Inventory – the District’s asset inventory is detailed and extensive. Summarizing this information to conform to Checklist 5 creates significant purveyor workload and expense. Considerable flexibility to provide asset inventory documentation in a manner previously compiled and utilized by the purveyor is requested.

Response 7: Thank you for your comment and dedication to providing safe water. The guidance document provides a “suggested” checklist as an example of the information that is necessary to complete and asset inventory. Checklist 5 is not required to be used or may be modified by public water systems to best fit their needs. There is no format required via rule or guidance as to how the system presents the plan for replacement or improvement of infrastructure. The requested clarification has been addressed.

Changes to TFM: Appendix A was revised to be titled “Suggested Checklists” to help convey that the checklists in their presented format are not required and are simply provided as an example/suggestion for water system to utilize.

5. Section 3.2.1.1 – Operating Budget – provisions to provide considerable flexibility for existing purveyors proposing substantial modification is requested as follows:

demonstration of an annual operating budget and flexibility to utilize other financial principles, such as those recommended by AWWA M-1.

Response 8: Thank you for your comment and dedication to providing safe water. The guidance document is not meant to prescribe a specific format for demonstration of operating budget. The requested clarification has been addressed.

Changes to TFM: The operating budget ~~should~~ is recommended to contain, at a minimum, all anticipated and projected revenues and expenditures for the first, or next, 5 years of system operation. Other financial principles may be incorporated into a system's operating budget as necessary.

6. Section 4.1.1 Demonstration – clarification is requested on the extent of the demonstration of legal ownership for proposed substantial modification. For example, the District does not hold easements for main located within rights-of-way. In addition, North Kootenai Water District operates 15 public drinking water systems over a 200 square mile area, and locational infrastructure data is maintained in GIS. The voluminous amount of information required to be compiled by the District and reviewed by DEQ staff is not likely to provide equivalent public health protection benefits.

Response 9: Thank you for your comment and dedication to providing safe water. Legal ownership is required to be demonstrated. This can be demonstrated through a number of methods. The requested clarification has been addressed.

Changes to TFM: ~~Demonstration of~~Legal ownership; may be ~~proved~~demonstrated by providing one or more, but is not limited to, the following examples of documentation:

7. As purveyor demonstration of TFM may be submitted concurrently with plans and specs, will TFM be subject to IC 39-118.2 42-day review period?

Response 10: Thank you for your comment and dedication to providing safe water. The schedule for review of plans and specifications established in Idaho Code 39-118 does not apply to review and approval of TFM capacity.

Changes to TFM: None

8. Lastly, does DEQ engineering staff realistically have the capacity to provide a review of the Demonstration of TFM within a reasonable timeframe? Is a state fee structure to fund additional engineering positions within the Department under consideration?

Response 11: Thank you for your comment and dedication to providing safe water. There are no expected changes to the existing engineering review process. The existing requirements and documentation to meet them described in this guidance are not expected to alter the volume of engineering submittals received by DEQ. If a public water system coordinates their projects with DEQ and follows this guidance when required to

submit documentation of TFM, their submittals are expected to be streamlined and more likely to be approvable upon initial submittal. DEQ will continue to process and review submittals of TFM demonstration for new and substantially modified community and non-community, non-transient public water systems as it has previously. There is no fee structure for engineering reviews being proposed by DEQ at this time.

A Second Round of Public Comment Opportunity was Solicited by DEQ in January 2023 Regarding the Draft Final TFM Guidance That Incorporated the Changes Noted Above During the First Round of Public Comment Opportunity.

No public comments were received during the second round of public comment opportunity.