# *Technical, Managerial, and Financial Capacity For Drinking Water Revolving Fund Projects User Guide*

*By completion of the Drinking Water Project Needs Assessment*

COLORADO
Water Quality Control Division
Department of Public Health & Environment

COLORADO
Department of Local Affairs
Division of Local Government

The Drinking Water Revolving Fund (DWRF) program was established with federal dollars to provide low cost loans to communities. Public water systems that apply for a DWRF loan are required to complete the Technical, Managerial and Financial (TMF) Capacity Assessment to demonstrate that it has the ability to provide safe drinking water to customers.

The TMF questions are embedded in the Drinking Water Project Needs Assessment. The table below layouts the technical, managerial, and financial sections by category, topic area, and response guidelines for each question as asked in the Drinking Water project needs assessment section. The review criteria include mandatory facility improvements, procedures, policies and practices for effective public water system (PWS) operation.

The Local Assistance Unit of the division offers free training and assistance to small drinking water systems who would like assistance with meeting the drinking water TMF. The training provides systems with coaching and tools to help the system develop sustainable TMF practices and meet the DWRF requirements. In addition, the unit provides additional training for training units (TUs) to certified operators. Contact Jacki Main at 303-692-3665 or cdphewqdwtraining@state.co.us to request this assistance.

| Technical Capacity | | | | | |
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| **#** | **Category** | **Topic Area** | **Question** | **Response Guidelines** | **Project Needs Assessment Section** |
| T-1 | **Regulatory** | Compliance with drinking water regulations | For an existing water system, is the system in compliance with all applicable promulgated Federal and State of Colorado drinking water regulations related to water quality and monitoring? | Describe the system's compliance with the CPDWR regulated MCLs including any violations and enforcement orders. Address monitoring compliance including failure to monitor violations in the last 12 months. | Section 3.2.2 |
| T-2 | **Water Resource Management** | Overall water resource management description | Please provide a brief narrative on the water system water resource management, including source water(s), quality of source(s), seasonal variability, availability, usage (especially with multiple sources of differing water qualities), and user demands. | | Existing water resources – Section 3.1.1; Existing and future usage – Section 5.2; future water resources – Section 5.3.1 |
| T-3 | | Water rights | Please describe your water rights and explain how you are able to meet the projected served population and industrial expansion for the next 20 years. This includes the ability to meet this demand through surface water rights, well permits, or purchase agreements with the supplier. | Calculations of the expected water use with residential taps, commercial/industrial taps for the current population and at build out must be provided. List any surface water rights, well permits or purchase agreements and provide copies of supporting documentation. | Existing water rights – Section 3.1.2; future water rights – Section 5.3.2; expected water use – Section 5.2 |
| T-4 | | Source water supply capacity | Is the capacity of the source water supply infrastructure capable of delivering adequate source water to meet projected needs over the next 20 years? | SRF Funded source water supply infrastructure must be capable of delivering adequate source water to meet projected demands for next 20 years. | Section 5.3.3 |
| T-5 | **Treatment** | Overall treatment description | Please provide a description of the treatment process, including major design parameters such as process capacities, detention times, and unit loading rates for both the current and proposed treatment process. | Please include an evaluation of log inactivation achieved by the disinfection treatment process and contact time. | Existing treatment description – Section 3.2.1; Future treatment description – Section 7.2 |
| T-6 | | Treatment technologies | Considering existing source water quality & potential sources of contamination, please explain how you're available (or proposed) treatment technologies are appropriate to meet drinking water standards. | Address both the ambient water quality to be treated, variability in quality and potential sources of contamination in the watershed or source aquifer as part of the justification for the selected treatment alternative. Please identify any GWUDI sources without filtration treatment and any sources without disinfection treatment. | Existing treatment technologies – Section 3.2.4; Future treatment technologies – Section 7.4 |

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| **#** | **Category** | **Topic Area** | **Question** | **Response Guidelines** | **Project Needs Assessment Section** |
| T-7 | | Capacity of treatment technologies | Is the capacity of the water treatment system appropriate to meet water demands through the next 20 years? | RF Funded water treatment system must be sized appropriately to meet the water demands for the next 20 years. | Section 3.2.5 |
| T-8 | | Process flow diagram | Provide an updated process flow diagram for the system's full treatment process. | | Existing pfd – Section 3.2.2; Future pfd – Section 7.3 |
| T-9 | | Residuals management | Please explain the water system residuals management strategy: | Please explain in less than 200 words each. | |
| | | | • Describe quantity and quality of residuals produced | All waste streams should be identified, including spent media or filter media, brine, backwash waste. | Section 3.2.7 |
| | | | • Capacity of residuals management systems | For all identified waste streams, explain the residual disposal methods and any worker exposure precautions. | Section 3.2.7 |
| | | | • List discharge permits | Include copies of any NPDES discharge permits, EPA UIC Permit, HMWMD radioactive materials license, HMWMD Solid Waste licenses. | Section 3.2.7 |
| T-10 | | Appropriate operational controls | Please describe how the water treatment system equipment allows operations personnel to respond to routine and unanticipated treatment challenges, such as flow rate, chemical feed dosing, and process monitoring. | Please include any boil orders/bottled water advisories resulting from treatment challenges. | Section 3.2.6 |
| T-11 | **Distribution** | Overall description | Please provide a narrative description of the distribution system. | Include gravity vs. pumped pressurization, age , type, condition of materials, amount of AC pipe, number of pressure zones, pump stations. Include a list of all storage tanks, tank capacity, tank conditions. | Section 3.3.1 |
| T-12 | | Pipes, pumps, storage | Is the capacity of the pumping system(s) and distribution system adequate? | Indicate capacity of pumping system and distribution system. | Section 3.3.1 |

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| T-13 | | Pressure | CDPHE Design Criteria for Potable Water Systems indicates that the "normal working pressure in the distribution system should be approximately 60 psi, (4.22 kg/cm2) and not less than 35 psi (2.46 kg/cm2)." It also indicates that water systems "shall be designed to maintain a minimum pressure of 20 psi (1.41 kg/cm2) at ground level at all points in the distribution system under all conditions of flow." Please explain how your system meets those requirements. | Include any locations where a minimum pressure of 20 psi cannot be provided under all conditions of flow. | Section 3.3.2 |
| T-14 | **Personnel** | Certification of operators | Does the system's operator in responsible charge (ORC) hold a valid certificate equal to or greater than the classification of the water facility he or she operates? See Regulation 100 for guidance. | Provide the ORC name, certification number (treatment and distribution), certification level and expiration dates. | Section 2.4 |
| T-15 | | Water treatment and distribution staffing | Please explain how the system has adequate staffing today and in the future, considering both current and future treatment, to operate and maintain the system from source to tap and consistently provide safe drinking water that meets all state and federal regulations. Consider as a minimum the operator duties delineated in part 100.16.2 of Regulation 100. | Certified operators must be accountable for performing as a minimum, the duties delineated by Regulation 100. If other workers perform these duties, written delegation of duties is expected along with a statement of constraints or conditions requiring consultation with the ORC prior to making adjustments that could affect the quality of the finished water. | Section 2.5 |

| Managerial Capacity | | | | | |
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| **#** | **Category** | **Topic Area** | **Question** | **Response Guidelines** | **Project Needs Assessment Section** |
| M-1 | **Organization** | Legal Ownership of System | Who has legal ownership of the System? | Provide name, address and phone number. | Section 2.1 |
| M-2 | **Planning** | Please provide copies of these items | • Monitoring Plan | All PWSs must have a monitoring plan meeting the requirements of CPDWR 1.12. With updates submitted to the division within 30 days of the effective date of change. | Section 2.3 |
| | | | • Cross-Connection Control Program | ALL PWSs must implement appropriate cross-connection control measures and demonstrate compliance with CPDWR 12.1. | Section 2.3 |
| | | | • Water Conservation Plan for systems that sell over 2,000 acre feet annually. | Only required for systems that sell over 2,000 acre-feet annually. | Section 2.3 |
| M-3 | **Record Keeping** | Monitoring records | Do you have a record keeping system to maintain all regulatory compliance records including the following Colorado Primary Drinking Water Regulations: | PWSs must maintain records according to the minimum requirements per CPDWR 1.6.3. Provide a narrative outlining the PWS record keeping procedures. Please have the records available for review during the on-site visit. | Section 2.6 |
| | | | • 5 years bacteriological | | |
| | | | • 10 years chemical monitoring | | |
| | | | • 3 years actions to remedy violations | | |
| | | | • 10 years sanitary surveys | | |
| | | | • 5 years variances and exemptions | | |
| | | | • 12 years lead and copper monitoring | | |
| | | | • 3 years cross connection control records | | |
| | | | • 3 years consumer confidence reports | | |

| Financial Capacity | | | | | |
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| **#** | **Category** | **Topic Area** | **Question** | **Response Guidelines** | **Project Needs Assessment Section** |
| F-1 | **Cash Flow Analysis and Financial Plan** | Annual Budget | Does the system prepare an annual budget? **Does the system prepare and maintain a CIP (5 years)** | Please provide a copy of the annual budget. Please provide a narrative of the process for annual budgeting and financial planning. | Section 2.7 |
| F-2 | | Cash Flow projection / analysis / financial plan | Has the system prepared a 10-year cash flow projection or comparable financial spreadsheet? **Must include at least 3 months O&M Reserve.** | Provide a copy of the multiyear financial planning spreadsheet and a narrative of the process for multi-year financial planning. Costs for treatment plant waste disposal / media replacement should be included. | Section 2.8 and Section 7.9 |
| F-3 | **User Charge System** | User Charge System | For systems that maintain a user charge system, does it allow for billing, collection, and enforcement? | This criterion will be evaluated based on information received in the loan application, annual system reports, or from direct contact with the applicant. Some utilities fund their systems with sources other than user charges, so a user charge system should not be considered the only acceptable system, but adequate funding of all system needs should be assured | Section 7.9 |
| F-4 | | Metering | Does the system Utilize Metering? | **SECTION 37-97-101 C.R.S. (1990 WATER METERING ACT):** Colorado Revised Statutes call for water service suppliers with more than 600 unmetered taps to have 50% of those taps metered by January 1, 2000, and all remaining unmetered taps metered by January 1, 2009. This criterion will be evaluated based on information received in the loan application, annual system reports, and through direct contact with the applicant. | Section 3.3.3 |
| F-5 | **Financial Audit** | Conducts Audits | Does the system undertake annual financial audits or has the system received State exemption of the statutory audit requirement? | Yes, please provide a copy of the last 5 years of audited financial statements or exemption from State. No, please explain. | Section 2.9 |

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| F-6 | **Insurance** | General Liability Insurance | Does the system maintain general liability insurance? | Yes, please provide documentation. No, please explain. | Section 2.10 |