

**CRITERIA FOR WATER SYSTEM
PLANNING,
PERFORMANCE, AND
CONSERVATION**

as a

**CONDITION FOR STATE
FUNDING**

**Report to the New Mexico State Legislature in response to
HJM 86**

Submitted by the Office of the State Engineer, November 3, 2005

DEVELOPMENT OF RECOMMENDATIONS

In the summer of 2002, when the latest drought became most severe in New Mexico, over seventy (70) community water systems (CWS)* experienced emergency loss of drinking water. A “Strike Team” was organized by the New Mexico Finance Authority (NMFA) and the Water Trust Board (WTB) to help identify solutions to those emergencies. As the Strike Team investigated each situation, it became clear that almost all of these “emergencies” were in fact due to a chronic lack of adequate management, maintenance, and system planning, resulting in CWS that were not robust enough to handle the stress of drought conditions.

Consequently, the Drinking Water Work Group (DWWG) of the Governor’s Drought Task Force (DTF) began to discuss ways to prevent these kinds of emergencies in the future. Under the current administration, an informal Technical Team (TT—Attachment A) grew out of those discussions and began to meet regularly to investigate how other states were approaching the challenge of CWS sustainability and water quality protection through waste water treatment. The TT also provided advice and support to the Governor’s Finance Council (GFC) as it began to develop recommendations to insure that the State’s limited capital dollars are invested in infrastructure for the 21st century.

As a result of this activity, Governor Richardson, in April 2005, signed an Executive Order (Attachment B) that created a Water Infrastructure Investment Team (WIIT) to “provide recommendations and advice regarding a long range plan for secure and sustainable water and waste water infrastructure in New Mexico.” WIIT formalized the TT and asked that it provide recommendations for how to develop systems that could plan, construct and manage water and waste water infrastructure that would dependably and economically meet the State’s current and future needs.

Representative Joseph Cervantes’ **HJM 86** (Attachment C) requested that “the State Engineer collaborate with the Department of the Environment and other agencies to develop criteria for water system planning, performance, and conservation as a condition of funding.” Requiring a standard level of financial and operational planning and management capacity, as well as an accountable system for monitoring water use to encourage conservation and efficiency, is the best way to insure that the nearly \$100 million dollars in annual state funding for water and waste water systems is invested in the best and most cost effective engineering solution to meet an area’s drinking water needs and to protect the State’s water resources through adequate waste water treatment.

Because the TT included all of the agencies in the State that are involved in water and waste water system development, regulation, and funding, that group was asked by the State Engineer to help develop the criteria called for by HJM 86.

* “Community water systems (CWS)” are public water supply systems which provide centralized service to at least 15 service connections used by year-round residents, or regularly serve 25 year-round residents, and includes distribution of water for municipal, domestic, industrial and commercial purposes.

GENERAL APPROACH:

- ** Set State standards for funding based on sound business practices, conservation and efficiency, with clear targets, templates and guidelines for how those standards should be met.
- ** Provide “free and easy” technical support to help water and waste water systems meet those standards.
- ** Enforce statutory and regulatory compliance.
- ** Create incentives to motivate water and waste water systems by prioritizing grants and zero-interest loans to those who meet the standards.

GOALS:

1. To protect the public health and economic vitality of New Mexico through strategic planning and investment in infrastructure for secure and dependable drinking water supplies, sufficient water for business and economic development, and waste water treatment for environmental and water quality protection.
2. To insure that New Mexico’s limited infrastructure dollars, including federal monies, are invested in water and waste water systems that will provide a stable and predictable supply of water for domestic, residential, commercial and industrial use throughout the 21st century.
3. To foster a coordinated, strategic, long-range approach to the development of water and wastewater infrastructure and “new” water supplies (through technologies such as desalination), thereby realizing economies of scale through regionalization and affording opportunities for public/private partnerships.
4. To protect New Mexico’s investment in water and waste water infrastructure by requiring management accountability to insure that assets achieve optimum efficiency and longevity, thereby decreasing the demand for state and federal funding.
5. To insure comprehensive financial planning and adequate funding for operation and maintenance, emergencies, and anticipated repair and replacement of water and waste water systems.
6. To promote conservation and highly efficient use of the State’s limited water supplies.
7. To create water delivery systems that are hydrologically and fiscally sustainable and meet state and federal statutory and regulatory requirements.

RECOMMENDED CRITERIA: SUMMARY

The State of New Mexico plays an important role to insure that the state's residents and economy have safe and adequate water resources through the development of appropriate infrastructure for water delivery and waste water management. Because these delivery systems are local or regional in nature, the State needs to insure that the management entities for these systems have adequate financial, managerial, and technical capacity to reliably, consistently and economically supply sufficient quantities of water to meet regulatory standards, and that waste water treatment is sufficient to protect water quality and public health. The State can insure that systems have adequate capacity by adopting a "business model" approach to delivery of these services and requiring that funding recipients have the following in place:

1. A financial plan
2. A rate structure that covers expenses, builds necessary reserves, and encourages conservation
3. An asset management plan
4. A water accounting system with full metering
5. Full compliance with Office of the State Engineer regulatory requirements
6. Full compliance with the Safe Drinking Water Act (SDWA), the Clean Water Act (CWA), and all N.M. Environment Department regulatory requirements.
7. A governance structure adequate for proper direction and oversight, and which meets all applicable state laws.
8. Planning to support infrastructure project development and operation
9. Participation in regional efforts to collaborate on "long term" solutions with other CWS in an appropriate geographic region. [See definition of regionalization below.]
10. An energy efficiency strategy.

Many of the State's CWS do not now have these basic management tools in place, and many are not in compliance with state and federal laws and regulations. It will thus be important to provide technical assistance to help systems develop the necessary level of management expertise and to come into compliance within a reasonable "grace period." Preliminary approval of funding can be granted to systems that demonstrate both willingness and ability to comply with these requirements. However, final funding should be conditioned upon the system coming into compliance, and providing the funding agency with documentation of compliance within the designated time period.

For those CWS that are unable or unwilling to meet these requirements, the state should provide assistance for the system to merge with another or to participate in a regional solution. The state might also consider establishing a receivership program for such systems, and might want to consider establishing a role for counties to assume responsibility for unsustainable systems. While this may not be the most palatable solution for some water systems, it may be necessary to meet the goal of long term sustainability and security of drinking water supplies in New Mexico.

ADDITIONAL RECOMMENDATIONS:

1. Establish standards for all of the funding criteria.
2. Revise state statutes for water and waste water systems to encourage the development of regional entities and to increase water and waste water systems' powers, authority and responsibility for organization, planning, management, governance, and funding.
3. Provide adequate training and technical assistance in the form of "free and easy" grants funded through annual (ideally recurring) appropriations.
4. Package infrastructure project funding as a combination of grants and loans to extend the benefits of grant dollars to more eligible CWS, expand the funding capacity of infrastructure dollars, and assure financial and management capacity through the loan qualification process.
5. Require that projects be fully planned prior to funding, with full funding then packaged from multiple available sources to allow completion in a timely manner.
6. Establish within State government an entity to coordinate and implement regional planning projects and to coordinate technical assistance activities.
7. Require metering of all water users in the state; make meters available under state purchasing; and provide a grant or revolving loan fund for systems to procure meters.
8. A septic management system should become part of the statutory authority and mandate for water systems where centralized wastewater treatment is not available or economical. Funding priority should be given to communities that address proliferation of septic tanks and septic tank maintenance through ordinances and public education.
9. Require that construction oversight always be included as part of a CWS project budget, and that it be included in funding and in contracts. Research oversight programs in other states to devise an appropriate one for N.M.
10. Fund the development/implementation through the state's 17 community colleges of an on-campus and a "distance learning" program for water and waste water system management (financial planning and management, asset management, certified operators, etc.).

REGIONALIZATION DEFINED

Regionalization of small water systems is being encouraged by many states and by EPA, because small water systems are often unable to economically meet the requirements of the SDWA or to adequately manage their assets.

Regionalization can take many forms but can generally be defined as:

Collaboration among geographically proximate water systems (generally within a 30-mile radius but can vary with terrain and other factors) which share the same water resource and could:

- a. combine administrative, managerial and financing activities for improved management capacity and economic efficiencies;
- b. optimize treatment, conveyance and waste water disposal through comprehensive planning and funding
- c. increase efficiency and reliability, facilitate statutory and regulatory compliance, and decrease cost of service delivery through collaboration.

Regionalization can lead to system interconnection and/or merger of several systems into one larger governing entity, but may also be shared operations, administration, and management.

One attraction of larger regional water systems is that they are of adequate size to attract private sector investment, including design/build/operate/maintain as well as “new water” development projects requiring very large regional conveyance systems or expensive installations.

An additional attraction is that larger regional systems would have the capacity to more effectively deal with waste water management. Currently few systems operate either waste water treatment facilities or have septic management programs, resulting in a growing problem of groundwater pollution. **Statutory changes mandating treatment and/or septic management are an urgent need, in addition to more stringent septic permitting requirements.**

RECOMMENDED CRITERIA FOR FUNDING: DETAILS AND IMPLEMENTATION RECOMMENDATIONS

1. Financial plan

Purpose

- 1.) Establish a funding plan for the CWS that will insure reliable service delivery and a satisfactory level of asset management
- 2.) Provide a financial roadmap for system self sufficiency
- 3.) Establish a basis for the rate structure
- 4.) Demonstrates the feasibility of grant/loan ratios for projects.

Standard

Should be a minimum 5-year plan which includes the following elements:

- 1.) Revenues, including service revenues (with maximum 5% uncollected fees for service), rents (ex: cell phone towers), new service connection charges, etc.
- 2.) Operations and maintenance budget, including management/personnel costs and benefits, debt service (if any), administration (including billing and accounting), insurance, utilities, general supplies, treatment supplies, professional services, etc.
- 3.) Payment into reserve funds for emergencies, operating, anticipated repairs/replacement (including a meter replacement program), and capital improvement (both near- and long-term). Should be based on Asset Management Plan (see #3 below) and should be cash reserves in secured accounts.
- 4.) Auditable format with annual updates approved by the Board
- 5.) Fully allocated rate structure (see #2 below)

When Required

- 1.) Either in place prior to funding or to be developed within 6 months as a condition of funding
 - 2.) Annual updates should be required by funding entities, which should be required to review then to assure that systems are fiscally responsible.
- NOTE** that enabling statutes for water and waste water systems should be amended to require that the State Auditor receive and approve annual audits and that DFA Local Govt. Division should approve budgets as is required for other state entities. This might require additional staff at both agencies.

Technical Assistance: Training Sessions

RCAC conducts about five workshops a year that are funded by NMED's Capacity Development Program. Costs vary from \$2000-\$4000 per day. Additional funding is necessary for additional training sessions, which could be provided by other consultants with a standardized format and adequate quality control.

Technical Assistance: Individual Systems

Could be provided by RCAC or other technical assistance providers under contract with State, using a standardized format and with adequate quality control. Note that recurring funding would be required in order for consultants to add additional staff for this purpose. Costs would vary from \$2-5K per CWS depending on size, availability of records, and management capacity.

2. Rate structure that covers operational expenses and reserves

NOTE: Rates are actually one component of the Financial Plan [see #1 above].

Purpose

- 1.) Insures that entity is financially able to reliably operate the system and maintain the infrastructure for maximum lifespan.
- 2.) Insures that the entity will find it unnecessary to come to the state for non-catastrophic emergency funding.
- 3.) Establishes a cost basis to justify rates and rate increases to the community

Standard

Should include the following elements:

- 1.) Funding for all fixed and variable operations and maintenance costs, including full compliance with SDWA and other state and federal regulations.
- 2.) Funding for cash contributions to reserve funds for operations, emergencies, contingencies, and anticipated repairs and replacement (including meters), as required by the Asset Management Plan (see #3 below)
- 3.) Contributions to a Capital Improvement Fund to cover the cost of anticipated system replacement and upgrades as required by the Asset Management Plan (see #3 below)
- 4.) A tiered structure that rewards conservation.
- 5.) A rate relief program for low income users (optional)
NOTE that the State might consider expanding the LIHEAP program to include water and waste water rates.

When Required

- 1.) Either in place prior to funding or to be developed within 6 months as a condition of funding
- 2.) Annual updates should be required by the funding entity, which should be required to review to assure that systems are fiscally responsible.

Technical Assistance Training Sessions

RCAC conducts about five financial workshops per year, funded by NMED's Capacity Development Program. Costs vary from \$2500-\$4500 per day dependent upon the depth of content, number of participants, location and workshop length. Additional funding is needed for more workshops for different levels of planning.

Technical Assistance: Individual Systems

Could be provided by RCAC or other technical assistance providers under contract with State, using a standardized manual and with adequate quality control. Note that recurring funding would be required in order for consultants to add additional staff for this purpose. Costs would vary from \$2-7K per system depending on size, availability of records, and management capacity.

3. Asset management plan

Purpose

- 1.) Allows a system to operate, maintain, rehabilitate and replace infrastructure in the most cost effective manner to insure a sustained level of service at the lowest life cycle cost
- 2.) Provides the basis for a financial plan, operational plan and an appropriate rate structure
- 3.) Insures that state infrastructure investments will be protected and maintained for optimum longevity

Standard

Should include the following elements:

- 1.) Asset register, noting current condition, mapped locations, anticipated useful life and value
- 2.) Defined level of service required to meet state and federal regulations and customer demands
- 3.) Risk analysis of asset performance based on likelihood of failure and level of consequence
- 4.) O&M strategic plan and Capital Improvement Plan (CIP) that addresses all costs for managing the asset over time
- 5.) Funding strategy for inclusion in Financial Plan (see #1 above)
- 6.) Required metering of all diversions and users
- 7.) Regular updates

When Required

- 1.) Either in place prior to funding or to be developed within 12 months as a condition of funding
- 2.) Annual updates should be required by funding entity
- 3.) Of all systems under Administrative Orders or with Notices of Violation received from NMED, or with public health and welfare emergencies

Technical Assistance: Training Sessions

Could be provided to groups of systems by EFC (or other consultants with standardized guidelines and appropriate quality control). Estimated cost for a two-day training session is \$9 -\$11K dependent upon the depth of content, number of participants, location and workshop length.

Technical Assistance: Individual Systems

Could be provided by EFC under contract with the State. Once standards and a manual are developed, other consultants could provide individual system assistance with adequate quality control. Estimated cost is \$10-20K per system depending on size, availability of records and management capacity.

4. Water accounting system with full metering

Purpose

- 1.) To establish a business approach to managing a system's water resource that will be a corollary to the physical asset management plan
- 2.) To insure water system efficiency to minimize non-revenue (unaccounted) water delivery, thereby decreasing treatment costs and extending the lifetime of the resource as well as minimizing the need for acquisition of additional water rights
- 3.) To identify demand management opportunities that target conservation initiatives to different water user groups and to individual users
- 4.) To support leak detection, repair/maintenance programs, and capital improvement planning in conjunction with the asset management plan (see #3 above)
- 5.) To establish appropriate rate structures for different user categories and to identify and eliminate unauthorized use
- 6.) To extend the State's water supply by insuring optimal efficiency of water delivery systems and help funders prioritize funds for water projects

Standard

Should include the following elements:

- 1.) A perpetual system for accurately quantifying the system's input, output, authorized use and water losses
- 2.) A methodology to quantify:
 - a. For authorized use: what is billed and what is not billed
 - b. For unauthorized use: where it is occurring and how to eliminate it
 - c. For water losses, what is due to leakage and overflows or metering inaccuracies (to inform the asset management plan, see #3 above)
 - d. Usage by different user categories (i.e. residential, commercial/industrial, etc.)
- 3.) Supply and Demand projections
- 4.) A conservation plan with specific goals for user categories

When Required

- 1.) Either in place prior to funding or to be developed within 6 months as a condition of funding
- 3.) An ongoing program should be in place and annual updates should be required submittals to funding entity
- 4.) Systems that are currently over-diverting, have inadequate water rights, or have requested funds to acquire new water rights or drill new wells should be required to have a water accounting program in place prior to funding.

NOTE: Water accounting will require full metering of every usage in the system. Meters should become a requirement for state funding. The initial cost should be part of infrastructure funding or should be done through other sources. Meter repair should be included in the O&M plan and budget, and a meter replacement program should be built into the CIP program. Systems that have existing meters, but are not recording meter readings or have inoperable meters, should be required to fix this problem before any future appropriations are considered.

Technical Assistance: Training Sessions

NMRWA and other technical assistance providers could conduct training sessions around the state for groups of water systems. Cost to be determined.

Technical Assistance: Individual Systems

NMRWA can provide under contract to the State at an estimated cost of \$7-20K per system depending on size, record availability, and managerial capacity. Once standards and a manual are developed, other consultants could provide individual system assistance with adequate quality control.

5. Compliance with Office of The State Engineer regulatory requirements

Purpose

- 1.) To insure that entities are in compliance with state law by having adequate water rights and meeting regulatory requirements
- 2.) To determine prior to funding whether an entity has adequate water rights for system rehabilitation or expansion

Standard

Established by OSE rules and regulations

When Required

Prior to funding, system should be required to compile all records on water rights and permits and have them verified by OSE

Technical Assistance

None required, but private sector consultants are available to assist with historical research and verification. OSE staff helps systems with verification, but cannot do water rights historical research.

If system is out of compliance:

Provide technical assistance for water use accounting, including implementation of conservation plans.

Encourage merger or regionalization.

6. Compliance with Safe Drinking Water Act (SDWA), Clean Water Act (CWA) and NMED regulatory requirements

NOTE: NMED staff estimate that about 20% of systems have quality violations (usually failure to monitor and report due to lack of a certified operator), of which 5% are chronic violators. Approximately 40% do not have certified operators.

Purpose

- 1.) To protect public health by verifying that systems are in compliance with federal law and with state statutory and regulatory requirements
- 2.) To insure that the system has an appropriate level of professional management to comply with SDWA certified operator requirements
- 3.) To ensure that wastewater disposal practices are in compliance with the state and federal water quality protection programs.

Standard

- 1.) Quality, monitoring and reporting requirements are established by SDWA and Utility Operator Certification Act (UOCA; 61-33-2 NMSA 1978).
NOTE: NMED manages sampling, funded by the Conservation Fee.
- 2.) Operator certification requirements are established by SDWA and NMED.
- 3.) Surface water quality protection requirements are established by the CWA and NPDES regulations.
- 4.) Ground water quality protection requirements are established by the NM Water Quality Act and Water Quality Control Commission Regulations
- 5.) Public health protections are established by the NM Environmental Improvement Act and Liquid Waste Regulations
- 6.) A source water protection plan (a voluntary program under SDWA, but NMED is working to assist CWS with plan development and tie to waste water discharge permits)

When Required

In place prior to funding or plan for compliance within 12 months. Can be determined by NMED triennial Sanitary Surveys, which should be updated if more than a year old. (NMED has contracted with EFC to do capacity assessments every three years.) Can also be determined through coordination with NMED Ground Water Quality and Surface Water Quality bureaus.

Technical Assistance: Training Sessions

NMRWA does frequent operator certification training with 5 modules covering all requirements, including monitoring and reporting. This is funded by NMED's Capacity Development Program at \$250K per year, and participants are eligible for expense reimbursement for the training.

Technical Assistance: Individual Systems

- 1.) NMED contracts with NMRWA (\$200K per year as part of the Capacity Development Program) to help CWS with formal enforcement actions or public health threats.
- 2.) NMED contracts with RCAC under the Capacity Development Program to help systems with administration compliance problems.
- 3.) NMRWA also has a contract with NMED to do source water protection plans for 30% of systems within 2 years.

7. Governance structure adequate for proper direction and oversight and which meets all applicable state laws.

Purpose

- 1.) Insures that a system has fully functioning governing structure capable of the level of planning and management oversight required for reliable operation and compliance with state statutes and regulations, including audits and financial reports
- 2.) Insures that an entity receiving state funding has the capacity to manage the asset over the long term

Standard

- 1.) Articles, by-laws and other governance documents are up to date and filed with appropriate regulatory agency
- 2.) Regular Board elections are held and Board members are trained
- 3.) Board meetings are regular and in compliance with Open Meetings and Public Records Acts
- 4.) Audit requirements have been met according to State Auditor
- 5.) Policies and procedures are in place to assure successful fiscal and operational management including:
 - a. Internal controls (who signs checks; how budget adopted; how expenditure decisions are made; audits)
 - b. Billing; new service connection charges; failure to pay policy; etc.
- 6.) Adequate business management tools for ongoing financial planning, water accounting, asset management, etc., have been established and are reviewed and updated regularly
- 7.) Personnel policies and procedures are in place and appropriately certified water system operator(s) are employed.

When Required

Entities should be able to demonstrate that all of this is in place prior to funding or to commit to putting it in place within 12 months. [RUS is starting to require this as a condition of funding.]

Technical Assistance: Training Sessions

RCAC does board training, provides technical assistance to build governance capacity and leadership, and is developing on-line board training. RCAC training workshop costs vary from \$2500-\$4500 per day dependent upon the depth of content, number of participants, location and workshop length. NMRWA also provides board training. Both are free to participants.

Technical Assistance: Individual Systems

Board training is currently provided to individual systems by RCAC under the Capacity Development Program contract with NMED and through leveraged funding from federal agencies. However, more funding is necessary to increase the availability of technical assistance.

8. Planning to support infrastructure project development and operation

Purpose

- 1.) To insure comprehensive project planning within the context of the individual system's present and future needs and those of the region (see #9 below)
- 2.) To insure the best technical and engineering approach
- 3.) To provide funding entities with a full picture of the system's infrastructure needs and project development plans so that phased funding can be packaged appropriately

Standard

- 1.) Preliminary Engineering Report (PER) has been adopted for incremental project elements
- 2.) Full system development plan based on asset management and financial plans, as well as new service demand projections and regional considerations
- 3.) Comprehensive water and wastewater system planning is in place for service area
- 4.) Capital improvement plan is submitted annually for ICIP

When Required

- 1.) PER prior to funding of separate phases of a project
- 2.) Full project plan prior to funding of project elements
- 3.) Comprehensive water and waste water planning should ideally be underway or in place prior to funding (see regional solution, #8 below), and a plan for waste water treatment or septic management should be in implementation stage.
- 4.) ICIP submittals have been completed within the past year

Technical Assistance: Training Sessions

RCAC provides routine workshops on community planning, how to select and hire an engineer, how to work with contractors and other professionals.
DFA does training sessions on ICIP submittals.

Technical Assistance: Individual Systems

Technical assistance funding is needed for integrated planning, ideally on a regional basis (see #9 below).

NOTE that guidelines and templates for comprehensive, integrated water and waste water system planning should be developed by the State, which should provide oversight and quality control for these planning efforts and assist with implementation of the most desirable alternatives.

9. Participation in a regional collaboration for a “long term” solution

NOTE: See “Regionalization Defined” on p.6.

Purpose

- 1.) To insure that water and wastewater systems sharing the same resource collaborate on planning for hydrologic sustainability, water quality protection and efficient use of that resource
- 2.) To create systems or groups of systems of adequate size to reliably and economically deliver water and wastewater services
- 3.) To create “full water cycle” infrastructure plans that most efficiently utilize, and protect the quality of, a region's water supply and have appropriate governance structures to insure professional management and technical operation

Standard

Phase I: Assembling systems that should be collaborating, compiling and sharing background data on the hydrology of the area, the condition and capacity of current water and waste water systems in the area, and coming to agreement to collaborate (usually a Memorandum of Understanding or a Joint Powers Agreement)

Phase II: Comprehensive regional planning for water and wastewater delivery and for shared management and administration opportunities, and conceptual regional system design.

Phase III: Design of water system infrastructure (probably phased) and management/administration system, as well as development of appropriate governance mechanism.

When Required

When a system is too small or is unable or unwilling to comply with SDWA; has inadequate governance; is unable or unwilling to implement appropriate rates to cover operational expenses (defined in the financial plan, see #1 above) and repay loans; or otherwise lacks capacity or willingness to meet funding guidelines.

Phase I: Participation in regional planning should be required prior to funding individual systems or should be a condition of funding.

Phase II & III: should be required for any system expansion or replacement requests.

The State should take the lead in establishing appropriate regions for comprehensive water and wastewater infrastructure development, should manage the planning process, and should impose both the best engineering solution and governance structure if necessary. The State should initiate regional planning immediately in areas with short water supply, water contamination problems, and chronic emergency funding requests from local entities.

The State should develop a life cycle cost analysis approach, as well as a cost/benefit methodology, to guide selection of infrastructure investments so that

the regional solution that best meets the region's needs at the least cost to the state is funded.

Technical Assistance :

Regionalization requires work with groups of systems in an appropriate geographic area.

Phase I cost averages \$10K+ per region, depending on size, number of systems in region, complexity, etc.

Funding Sources – Annual appropriation managed by State.

Phase II costs would vary considerably by region depending on size and complexity.

Funding Sources – Annual appropriation managed by State or to an entity selected by the region as fiscal agent.

Phase III costs would vary depending upon infrastructure.

Funding Sources – Annual appropriation for contract with consulting firm. chosen thru RFP. Could be managed by State with an advisory group representing local water systems and local governments in the region, or could be managed by a local entity designated as lead by the region. In either case, State oversight would be required to insure equity, comprehensive system design, selection of best engineering solution including life cycle cost analysis, and implementation of selected solution.

10. Energy efficiency strategy

Purpose

- 1.) Energy costs are a large percentage of system operating costs and are projected to increase dramatically, so use of renewable sources (wind, solar) should be integrated into system design even if initial capital cost is higher based on long-term cost benefit analysis.
- 2.) Energy efficiency should be a part of asset management and operational planning.
- 3.) Water systems should (as part of their water accounting systems) implement aggressive “end use conservation” programs that eliminate upstream energy consumption required to treat and deliver water, as well as downstream energy that would otherwise be consumed to treat and dispose of the wastewater.

Standard

Energy efficiency is water system/site specific due to varying source (ground and surface water) and treatment methods. Need to develop a methodology for systems’ to evaluate energy usage and potential savings. Also need to develop process to determine potential for alternative sources.

When Required

Should be part of system development plans and comprehensive water and wastewater management plans or any new infrastructure.

Technical Assistance: Training Sessions

The Pacific Institute has a spreadsheet model for determining the energy required for water use from source to disposal.

Technical Assistance: Individual systems

The State should develop an energy audit program modeled on that used by other states, as well as a technical assistance program to assist systems with energy conservation strategies.

WIIT: TECHNICAL TEAM (TT) MEMBERS

OSE: Anne Watkins (Lead)

OSE Water Rights: Jim Sizemore

NMED Construction Programs Bureau: Richard Rose
Andy Edmundson

NMED Drinking Water Bureau: Fernando Martinez
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NMED Surface Water Bureau: Marcy Leavitt

DFA Local Government: Ken Hughes

DFA Capital Projects: Robert Apodaca

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EMNRD: Craig O'Hare

NM Rural Water Association: Matt Holmes

NM Environmental Finance Center: Heather Himmelberger

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