

Environmental Finance Center Network The University of New Mexico - Region 6 1999 Annual Report

ANNUAL REPORT 1999

**Environmental Finance Center
The University of New Mexico
U.S. EPA Region 6**

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Introduction

"The UNM EFC blends the disciplines of engineering and finance to assist state, local, and tribal governments and the private sector with the managerial and financial side of environmental infrastructure and regulation."

Established as the first EFC in 1992 at the New Mexico Engineering Research Institute, the University of New Mexico Environmental Finance Center (UNM EFC) promotes innovative environmental financing techniques by blending the disciplines of environmental engineering and finance. Serving USEPA Region 6, the EFC facilitates efficient environmental infrastructure through innovative and alternative engineering techniques and provides state and local officials with education and training, advisory services, publications, and analyses of possible financing sources. The EFC initially began with an emphasis on the application of public-private partnerships, particularly public water and wastewater utility systems. With the anticipation of NAFTA, the EFC expanded its technical assistance to border communities on ways to reduce costs for basic sanitary and public health services. Additionally, the EFC researched financing alternatives for environmental infrastructure along the US-Mexico Border, which later served as a guide to feasible choices for public policy decision making. The EFC field-tested a water and wastewater rate model with several New Mexico communities during 1995. For the past 5 years, one of the EFC core activities has been the capacity development requirements (technical, financial, and managerial) of the Safe Drinking Water Act, specifically as they relate to federal, state, tribal, and local governments and public and private small water systems. This assistance has been provided to all states in Region 6 and several states outside of the region. It has also encompassed the Tribal water systems in Region 6. New efforts include assisting residents in northern New Mexico in developing a Unified Source Water Protection Plan, a pilot project initiative with EPA and USDA Rural Utilities Service. The EFC will also begin working on a project to assist a community in Russia with drinking water capacity development and will begin a project to develop a Clean Air Investment Fund for the El Paso/Juarez airshed.

EFC EXPERTISE AND ORGANIZATIONAL STRUCTURE

Located at the University of New Mexico Science and Technology Park, the University of New Mexico Environmental Finance Center (UNM EFC) is a division of the School of Engineering's New Mexico Engineering Research Institute (NMERI) and primarily serves the US Environmental Protection Agency's

Region 6 states. The EFC director is a registered Professional Engineer in the states of New Mexico and Pennsylvania and holds a master's degree in environmental engineering. Educational backgrounds of the staff include degrees in environmental engineering, science, community planning, and public administration. The EFC also employs graduate students in the areas of engineering, business, water resources, and planning. The current staff level is 5 full time employees and 5 students. The number of students fluctuates during the year to correspond to workloads.

In addition to the full time staff dedicated to the UNM EFC, the EFC can also draw upon expertise from other departments within UNM. This type of collaboration enhances the multi-disciplined nature of the UNM EFC. Collaborative efforts have involved the following UNM departments: Schools of Engineering, Law, Public Administration and Architecture and Planning; Alliance for Transportation Research Institute; the Institute for Public Policy; the Latin American Institute; the Bureau of Economic and Business Research; the Earth Data Analysis Center; and the Water Resources Administration Program.

ACCOMPLISHMENTS

Texas Water System Study and Water Treatment Alternatives Database

Sponsors: Texas Natural Resource Conservation Commission 1998 - Present

Key Words

Drinking Water
Capacity Development
Rate Setting
Rate Regulation
Characteristics of Well Run Water Systems
Affordability
Treatment System Alternatives

Brief Description of the Overall Project

In 1997, the UNM EFC worked with the Texas Natural Resource Conservation Commission (TNRCC) to develop a Capacity Development Strategy under the 1996 Safe Drinking Water Act (SDWA). TNRCC was the first state to complete a strategy under the 1996 requirements. TNRCC began to implement the strategy in 1997 and 1998. As part of the implementation, TNRCC wished to gain additional information regarding water systems. In mid 1998, TNRCC contracted with the UNM EFC to conduct a three part study: 1) information related to the establishment of reasonable water rates for regulated utilities, 2) characteristics of well-run water systems by type of ownership, and 3) affordability of water treatment alternatives.

Establishment of Reasonable Water Rates for Regulated Utilities: The TNRCC not only has the responsibility of ensuring compliance with environmental regulations, such as SDWA, but also regulates the customer rates of investor owned utilities (IOUs). This dual regulation is unique among environmental regulatory agencies and provides the TNRCC with some unique opportunities. The TNRCC was given additional rate flexibility with 1997 legislation. In order to take advantage of some of the flexibility allowed, the TNRCC wanted some detailed information from IOUs. The detailed information included line item budgets, staffing, and equipment useful life. The study also included an on-site interview component to discuss rate case issues with IOUs.

Development of Characteristics of Well-Run Water Systems: In the overall capacity development program there is a need for information regarding the characteristics that define a well-run water system. This information can be used in a variety of ways by systems and by the TNRCC. It can be used to help assess capacity by establishing benchmark values and by indicating key factors that the TNRCC can examine in the process of trying to determine if a system is well-run. The information can also be used by systems to provide

an indication of potential improvements. In this section, systems were contacted and asked to complete a detailed survey form. The UNM EFC staff also visited systems to conduct personal interviews and conducted phone interviews.

Affordability of Water Treatment Alternatives: Many water systems in Texas have difficulty meeting SDWA maximum contaminant levels (MCLs). In most cases, this difficulty is attributed to a lack of equipment needed to remove particular contaminants from the source water. Inadequate water treatment is often caused by either the perception or reality that the necessary treatment is too costly for the system user to bear. Therefore, system improvements are not made and the customers continue to receive inadequately treated water. With the passage of the 1996 SDWA and the associated State Revolving Fund (SRF) to fund water system improvements, it is appropriate to reexamine the issue of what is affordable for communities.

The determination of the affordability of installing water treatment technologies is a two-fold process. One step in this process is to determine dollar amounts that communities of various sizes and characteristics can afford. These dollar amounts are independent of the actual treatment technology used; they represent an amount that can be spent to install treatment, which is not tied to a particular treatment technique. The other step in the process is an investigation of the types of technologies that can be used to remove particular contaminants and the estimated cost of the technology. The two components need to be combined together to develop an affordability scenario for TNRCC. For example, if a community faced a contamination problem and the proposed solution was reverse osmosis, the estimated cost of that system could be compared to a database of possible alternatives to see if the cost appeared reasonable. If not, the TNRCC could work with the community and engineer to determine if all alternatives were examined and if the estimated cost was truly valid. Once TNRCC, the community, and the engineer reached an agreement on the proposed technology and the estimated costs, the cost could be compared to affordable dollar amounts to determine if the proposed cost was within an acceptable range.

Activities Completed During 1999

Phase 1 Activities

The UNM EFC used an objective process to select systems that demonstrated characteristics of well-run Investor Owned Utilities (IOUs). The following selection process was used:

- Start with a database of all IOUs in Texas
- Eliminate IOUs with populations greater than 15,000
- Eliminate IOUs with any health and compliance violations
- Eliminate IOUs with any enforcement actions in the previous 3 years
- Eliminate IOUs without certified operators
- Eliminate IOUs with sanitary survey deficiency scores greater than 20
- Select IOUs that filed any of the required annual reports in 1994-96
- Select IOUs that had at least one rate case between 1994-96

Once this list of IOUs was established, the IOUs were divided by TNRCC region and by type of system (groundwater, surface water, purchased water). The UNM EFC then selected an appropriate number of each type of system to survey from each region. The TNRCC was then asked to comment on the list of potential well-run IOUs to see if they disagreed with any of the choices.

Once the list of candidate IOUs was established, the UNM EFC contacted each IOU to solicit their participation in the project. If the system agreed to participate, a detailed survey was mailed to the system. The survey asked questions about system finances, operations, staffing, equipment life, and system management. In many cases, the systems were then interviewed on site to solicit additional information, particularly about rate cases and rate case experiences with TNRCC. In some cases, a phone interview was completed, in lieu of a site interview.

The results of the survey, phone, and site visit interviews were analyzed and prepared in a report titled, Analysis of Operating Data of Utilities, November 10, 1999. The IOU section of the report has also been mailed out to all systems that participated in the survey process.

Phase 2 Activities

The Phase 2 activities were similar to Phase 1. In this phase, the UNM EFC used an objective process to select systems that demonstrated characteristics of well-run municipalities, districts, and water supply corporations (WSCs). The selection process described below was similar to the process followed for IOUs, except that some of the criteria did not apply and some were more stringent.

- Start with a database of all municipal systems, districts, and WSCs in Texas
- Eliminate systems with populations greater than 15,000
- Eliminate systems with any health and compliance violations
- Eliminate systems with any enforcement actions in the previous 5 years
- Eliminate systems without certified operators
- Eliminate systems with sanitary survey deficiency scores greater than 4

Once this list of systems was established, the systems were divided by TNRCC region and by type of system (groundwater, surface water, purchased water). The UNM EFC then selected an appropriate number of each type of system to survey from each region. In the case of these types of systems, there were so many more systems than were needed for the survey that systems were chosen by random from the list of possible candidates. The TNRCC was then asked to comment on the list of potential well-run systems to see if they disagreed with any of the choices.

Once the list of candidate systems was established, the UNM EFC contacted each system to solicit their participation in the project. If the system agreed to participate, a detailed survey was mailed to them. The survey asked questions about system finances, operations, equipment life, and system management (the staffing and rate case questions were excluded). In many cases, the systems were then interviewed on site to solicit additional information. In some cases, a phone interview was completed, in lieu of a site interview.

The results of the survey, phone, and site visit interviews were analyzed and prepared in a report titled, Analysis of Operating Data of Utilities, November 10, 1999. The appropriate section of the report (either district, municipality or WSC) has also been mailed out to all systems that participated in the survey process.

Phase 3 Activities

The UNM EFC held a meeting with various representatives from within TNRCC to discuss the framework for an affordability decision-making tool. The meeting was an all-day meeting and included a diverse group of over 20 individuals. The result of the meeting was a draft of an affordability decision-making tool. The draft was sent to TNRCC for review and comment. A final draft version of the affordability tool was developed and included in the draft report, Analysis of Operating Data of Utilities, November 10, 1999. The section of the report on affordability has been copied separately and distributed to an internal review group within TNRCC. Comments from this internal group as well as from water systems, are being solicited.

The UNM EFC requested a list of the 10 most critical contaminants for drinking water systems in Texas from the TNRCC. The list included:

| | | |
|-----------------|-------------------------|----------|
| Nitrate | Asbestos | Radium |
| Alpha Particles | Fluoride | Atrazine |
| Arsenic | Volatile Organic Carbon | Selenium |
| Barium | (1,1 DCE, Benzene, PCE) | |

The UNM EFC developed a list of technologies that can be used to treat drinking water for these various contaminants. The UNM EFC then contacted manufacturers of the technologies to get detailed data about the costs, uses, limitations, size ranges, operation and maintenance considerations, waste disposal considerations and other items. All of the information was collected in a Microsoft Access database. The database can be searched for various items including costs. The database was presented to TNRCC in November of 1999. The TNRCC staff are currently testing the database to determine what additional information should be included or what revisions should be made to make it more useful to the agency.

Upcoming Activities for 2000

The results of the water system survey will be presented at the Independent Water and Sewer Companies of Texas (IWSCOT) winter meeting. The results will also be presented to water systems and an internal group of TNRCC personnel. Comments will be solicited on the draft findings and a final report will be prepared. Comments are also being solicited on the technology database. Updates will be made to the database and a final version will be prepared.

SDWA Capacity Development Activities

General Introduction

The UNM EFC currently has three contracts related to SDWA Capacity Development Assistance: Assistance to EPA Region 6 States, Assistance to States Outside of EPA Region 6, and Assistance to EPA Region 6 Native American Tribes. Because all of these projects involve the same underlying issue, a general introduction has been provided here as background for all three of the projects. The Key Words Section has also been provided for all three projects jointly. SDWA Capacity Development Activities constitute a major focus area for the UNM EFC and account for approximately 50 to 60 percent of the overall workload.

The EPA defines capacity as "*the ability of a water system to consistently provide quality service at an affordable cost.*" This encompasses the technical, financial, and managerial capability of a system to consistently comply with all state and federal regulations. Capacity can also be seen in a much broader context than merely regulating compliance; it can involve economic development, population growth, and the role of the government and private sector in providing public infrastructure.

The EPA included capacity development in the Reauthorization of the Safe Drinking Water Act (SDWA) in 1996. The Act included three requirements for States related to Capacity Development: New Systems, SRF Applicant Systems, and Existing Systems. These requirements are summarized briefly below.

- *New Systems*: States were required to develop the authority and associated regulations to prevent any new system from starting up after October 1, 1999 if the system did not demonstrate that it had adequate technical, managerial, and financial (TMF) capabilities to operate in compliance with all regulations for the foreseeable future. The states had to indicate how they would assess the TMF capabilities of proposed new systems and what authority(ies) allowed them to deny the system if there was insufficient capacity. The new system programs had to be developed and submitted to EPA by September 30, 1999 to prevent a withholding of money from the State Revolving Fund (SRF).
- *SRF Applicant Systems*: States were given SRF capitalization grants by EPA to establish SRFs. One component of the establishment was that states could not loan this money to any system that did not have adequate TMF capability to operate for the long-term, unless the loan money would give the system adequate capability. To make this determination, systems applying for SRF funds, must have their TMF capabilities assessed, by either the state regulatory or funding agency. Then, any noted deficiencies may either be corrected by the system prior to the loan or be built into the loan application process.
- *Capacity Development Strategy for Existing Systems*: The capacity development strategy for existing systems is an opportunity for states to address the technical, managerial and financial deficiencies of all

water systems within the state. The strategy should include a means to prioritize water systems for assistance, methods of delivering assistance to water systems, an identification of the items that impair or enhance capacity within the state, a means of establishing a baseline and measuring improvements, and a process of involving stakeholders in the process.

The assistance provided by the UNM EFC involves all three areas, but the majority of work has been related to assistance to develop the strategy for existing systems.

Key Words

Safe Drinking Water Act
Capacity Development
New Mexico
Oklahoma
Arkansas
Louisiana
Technical, Managerial, Financial Capability
State Environmental Programs
New Systems
SRF Applicants
Native American Water Systems

SDWA Capacity Development Activities for Region 6 States

*Sponsor: EPA Region 6
1996- Present*

Brief Description of the Overall Project

The overall goal of this project is to assist the Region 6 states of Arkansas, Louisiana, New Mexico, and Oklahoma in meeting the capacity development requirements of SDWA and in developing capacity development strategies for existing systems. This project is intended to help states meet SDWA deadlines and to prevent them from having funds withheld from the SRF for a failure to do so.

This project does not have sufficient funding to allow the UNM EFC to assist each of the states in completing each of the required elements of the capacity development strategy, so the assistance will focus on the greatest need in each state. The State of Texas is not included in this effort, because assistance was provided to the State under separate contract in 1997. Possible activities for assistance include, but are not limited to:

- assistance to state agencies in developing Capacity Development Strategies:
- review existing state programs that relate to capacity development.
- meet with state agencies to discuss capacity development elements that relate to new systems.
- meet with state agencies to discuss capacity development elements that relate to existing systems.
- meet with state agencies to discuss capacity development elements that relate to SRF applicants.
- facilitate stakeholder meeting.
- review copies of the states' draft strategies as they are produced.
- participate in New Mexico Drinking Water Advisory Group

Activities Completed During 1999

The UNM EFC met with every state in EPA Region 6 to discuss the requirements of the new system strategy. In many cases, the UNM EFC shared examples of activities other states were completing to meet the requirements. The UNM EFC reviewed draft new system strategy submittals.

The UNM EFC participated in the Region 4 and Region 6 annual capacity development meeting in Dallas, TX

in April 1999. The UNM EFC used this opportunity to meet with EPA Region 4 and 6 representatives and EPA headquarters representatives as well as representatives from each of the states. The UNM EFC was able to share information between the states and answer questions at the meeting.

The UNM EFC held conference calls with each state and EPA Region 6 following the meeting in Dallas to assess the states' needs for capacity development assistance. These calls were held in April and May of 1999.

The UNM EFC assisted Louisiana in testing its new system business plan on several existing systems in the state. The state selected systems in several regions that the state would consider good, bad, and mediocre. The state and UNM EFC then traveled to the systems to have them complete the business plan and answer questions related to the process. The results of testing were examined to see if the business plan was accurately predicting system's capacity (technical, managerial, and financial). The results were included in two separate reports for the state.

The UNM EFC assisted Arkansas in developing its Request for Proposal (RAP) for on-site assistance. The UNM EFC also assisted in the review of the on-site assessment form that was to be used on systems as part of the contract. The UNM EFC also participated in the selection process for the on-site contractor.

The UNM EFC has participated as a member of the Drinking Water Advisory Group and has provided information related to capacity development. The UNM EFC has also met numerous times with the state to assist in the development of the new and existing system strategy. The UNM EFC has reviewed and commented on documents related to capacity development.

Upcoming Activities for 2000

Given the deadline for existing system strategies, September 30, 2000, the UNM EFC will concentrate its efforts on helping states prepare strategies to meet the deadline. The UNM EFC will be participating in the Region 4 and Region 6 capacity development meeting in Dallas, TX in February 2000.

SDWA Capacity Development Activities for Region 6 Tribes

*Sponsor: EPA Region 6
1997 - Present*

Brief Description of the Overall Project

The Reauthorization of the Safe Drinking Water Act in August of 1996 included the establishment of the Native American Set-Aside Fund for Native American Tribes, Pueblos, and Alaskan Native Villages. The fund is administered by EPA Regional Offices and is similar to the state-administered revolving loan funds in that it was established to provide resources in the form of monetary and technical assistance to small and medium community drinking water systems. But in the case of the Native American Set-Aside Fund, the funds are in the form of grants rather than loans.

In the first year of the project, the UNM EFC concentrated its efforts on developing a program for tribes, sharing information related to the existence of grant funds and the need to demonstrate adequate capacity to receive the funds. The UNM EFC also participated in training sessions and hosted a meeting for EPA Region 6 to share information with the tribes.

This assistance effort has evolved into assistance provided directly to particular tribes to help them improve capacity deficiencies. The assistance is tailored for the needs of each tribe and may be requested by a tribe directly or may be requested through a referral from EPA or IHS.

Activities Completed During 1999

The UNM EFC worked with all of the tribes to develop the required Consumer Confidence Reports (CCRs). The UNM EFC has met with most of the tribes to discuss the availability of assistance and to

describe services available. Several tribes have made specific requests of the UNM EFC and have received various types of assistance. The UNM EFC has participated in conferences, meetings and training events to share information and to offer assistance.

Upcoming Activities for 2000

The UNM EFC will continue its capacity development assistance to tribes. The UNM EFC anticipates assisting EPA Region 6 in developing a groundwater optimization program.

SDWA Capacity Development Activities for Other States

Sponsor: EPA Headquarters

1997 - Present

Brief Description of the Overall Project

This collaborative project with the Environmental Finance Center at Boise State University (EFC-10) is funded through a grant from the USEPA Office of Ground Water and Drinking Water. Although both Centers are doing equally proportionate work, the EFC-10 is the designated grantee while the EFC-6 is a subcontractor for the grant.

In the first year of the grant, the UNM EFC assisted New Mexico, Texas, and the Region 6 tribes. In the second year of the grant, the UNM EFC assisted Nevada, Wisconsin, and New York. The assistance to New York was done through the Syracuse EFC in New York. The assistance program varies with each state depending on the state's need. The UNM EFC feels strongly that each state has unique needs with capacity development and that the UNM EFC must tailor its work to meet the particular needs.

Actual assistance may include: information sharing, review of requirements and deadlines, review and comment on documents, participation in advisory groups, facilitation of stakeholder meetings, facilitation of internal staff meetings, or others.

Activities Completed During 1999

The UNM EFC met with Nevada to discuss possible assistance to the state in April 1999. A plan for assistance was then developed. The UNM EFC prepared an outline for a stakeholder involvement process. The UNM EFC then facilitated stakeholder meetings in three cities in Nevada in November and December. The UNM EFC will be sharing the information gathered at the meetings with an internal staff group.

The UNM EFC met with Wisconsin to discuss possible assistance to the state in March 1999. A plan for assistance was then developed. The UNM EFC prepared an outline for a stakeholder involvement process. The UNM EFC will be facilitating stakeholder meetings in Spring 2000. The UNM EFC has participated in the state's advisory group meetings over the last year.

The UNM EFC has provided assistance to New York by working through the Syracuse University EFC. A detailed description of the program and assistance can be found in the section of the annual report completed by Syracuse EFC. The UNM EFC shared information with the Syracuse EFC, commented on documents, provided advice, and otherwise helped Syracuse.

The UNM EFC has participated in bi-weekly conference calls with EPA headquarters and regions as part of this contract and has met with EPA Headquarters and other assistance providers funded by EPA. The UNM EFC has shared its experiences with EPA staff and other states.

Upcoming Activities for 2000

The UNM EFC will continue assistance to Wisconsin, Nevada, and indirectly, New York. The UNM EFC will add additional states, as well. The possible states include: Georgia, Kentucky, Colorado, Wyoming, Utah and the Region 8 tribes. The assistance will probably not include all of these states; assistance will be determined based on the states' needs and their desire to work with the UNM EFC.

Unified Source Water Protection Pilot Project for Western Mora County, NM

*Sponsors: USEPA Headquarters and USDA Rural Utilities Service
1998 - Present*

Key Words

Source Water Protection
Drinking Water
Unified Planning
Pilot Project

Brief Description of the Overall Project

The 1996 SDWA Amendments establish a strong emphasis on preventing contamination problems through source water protection and enhanced water system management. Under this Act, states were required to develop strategies to delineate source water areas and assess the vulnerability of the all water system source water areas to potential contamination. These activities constitute source water assessment. The information developed in the state's assessment process is then provided to water systems who may voluntarily develop a protection plan to prevent contamination of their water system's source(s). The plan can include education, zoning, ordinances or other measures; the components of the plan are strictly the choice of the water system and associated local government. Typically, this type of planning is completed on a single system basis.

An alternative approach to a single system source water protection plan, is a unified source water protection plan (USWPP). This type of approach brings together water systems that share the same or similar sources and the same or similar contamination threats to develop a single plan to cover the entire area. The unified plan increases the available resources - both personnel and financial - and may also increase the ability to enforce the plan once completed. Often times, a single water system does not have the ability to impact an area large enough to adequately protect the source waters.

The western part of Mora County, New Mexico was chosen as the location for a pilot project, which was jointly funded by the U.S. EPA and the USDA Rural Utility Service (RUS). This area was chosen for the development of a Unified Source Water Protection Plan for several reasons, including: 1) its commitment to economic development through a community-based approach, as part of the La Jicarita Enterprise Community, 2) its unique hydrogeologic setting, and 3) its potential for poor water quality due to land use practices, increasing population, and limited resources. Mora County has consistently been ranked among the poorest counties in the entire nation. In 1970, 60 percent of Mora's residents lived below the poverty line. In 1993, the per capita income was \$10,401 growing only slightly to \$11,472 in 1996. In 1996 the unemployment rate was at 18.1 percent with nearly 40 percent of the population living below the poverty line (from the Bureau of Business and Economic Research Web page, 1998, University of New Mexico).

There are 16 water systems in the western part of Mora County that share the same or similar source of water and that face the same types of contamination threats. All of these systems are small groundwater systems and they are primarily Mutual Domestic Water Consumers Associations (essentially homeowner associations). The systems identified the following as their primary sources of potential contamination: septic tanks and cesspools, highway runoff, solid waste, and buried gas lines and tanks.

To conduct the project, the University of New Mexico Environmental Finance Center (EFC) teamed up with the Rural Community Assistance Corporation (RCAC) and La Jicarita Enterprise Community (LJEC). Each team member brought various strengths and expertise to the project to provide a multi-disciplined approach. Also, La Jicarita is an Enterprise Community that encompasses Mora County and is intimately involved in all facets of the economic development of Mora County.

In addition to the project team members listed above and the two funding agencies, the team felt it was important to involve others in the project as well. These additional partners include: the New Mexico Environment Department, the New Mexico Rural Water Association, and, most importantly, the water systems in Western Mora County and the community members.

The guiding principle at the core of this entire project is "creating the environment for communities to make the decision." This principle is intended to keep the project team and community focused on the fact that the idea behind Unified Source Water Protection is community empowerment. The project team wants to empower the Council to take ownership of the project and to act as the leaders of the effort and the principle decision-makers. The project team wants its primary role to be creating an atmosphere where the Council and larger community feels empowered, where it feels it has all the information necessary to make informed decisions, and where it feels comfortable making and implementing those decisions. The project team wants this project to be entirely driven by and for the community.

The scope of work for this project consisted of the following main steps.

- Introduce the concept of Unified Source Water Protection to Western Mora County water systems and community members
- Develop background data for the project area and compile data into a background information report
- Coordinate with the New Mexico Environment Department (NMED) and New Mexico Rural Water Association to complete Source Water Assessments on the wells in the project area
- Assist in the formation of a Unified Source Water Protection Council
- Provide technical information and resources to the Council
- Present information on options available to protect drinking water sources from contamination and options for implementation of the plan
- Assist the Council in continuing beyond the extent of the initial project

In addition to these activities, the project team was also involved in the community education and involvement process. Activities Completed During 1999

In January of 1999, the project team met with all of the drinking water systems in western Mora County, NM to explain the project and "kick-off" the effort. Based on this meeting, a subcommittee of water systems agreed to investigate options for a Source Water Protection Council. The subcommittee was to investigate such issues as: who should serve on the council, voting options, how often the Council should meet, the tasks the council should complete, and others.

The subcommittee work resulted in the formation of a Unified Source Water Protection Planning Council that was made up of one representative from each water system in western Mora County. The Council agreed to sign a Memorandum of Understanding (MOU) to establish the Council. To date, 10 of the 16 water systems included in the study have signed the MOU. The Council has been meeting on a bi-weekly basis for the past several months to develop the framework of the Unified Source Water Protection Plan. The Council is following the schedule of activities listed below.

- Step 1: Organize the Council
- Step 2: Describe Area of Study/Plan
- Step 3: Identify Potential Sources of Contamination
- Step 4: Develop a Management Plan
- Step 5: Develop an Emergency Plan
- Step 6: Implement and Enforce Plan

The goal of the Council is to have a draft of the overall plan in place by the end of April 2000, the end of the funding for this project. The project team has been supporting the council in all of its activities.

The project team is also working with the Council to assure that the project continues after the funding ends and will work with the Council to obtain additional funding, if necessary. The project team has identified approximately 13 potential sources of funding that could cover various aspects of the project. The Council has been given this information and is reviewing whether or not they wish to seek additional funding from any of these sources.

In addition to working with the Council, the project team is working with the community to educate and involve them in the process. The team and the Council have had meetings with community members and stakeholders, have provided informational mailings and a copy of the background report to community members, and have held a water fair in Mora. The project team will continue to work with the Council to involve the community.

As stated previously, this project is intended to be a pilot project. As such, an important component of the project is to present information on the project activities and lessons learned. The project team has endeavored to share the successes and difficulties with the process in as many forums as possible, including:

- Presentation at National Rural Water Conference in Albuquerque, NM; October 1999
- Write-up in the Rural Community Assistance Corporation newsletter; Spring 1999
- Presentation at the Council of Infrastructure Financing Conference, San Antonio, TX; November 1999
- Presentation at the National Rural Water Research Foundation and National Sanitation Foundation Small Water and Wastewater System Technology Conference and Expo, Phoenix, AZ; January 2000
- Publication of a paper on the project in the Small Water and Wastewater System Technology Conference and Expo proceedings; January 2000
- Discussions with the Rural Community Assistance Program in Ohio who are completing a similar pilot project for Karst areas in Ohio

Upcoming Activities for 2000

The project team will continue to work with the Council to assist them in developing a Unified Source Water Protection Plan. The team will also continue efforts to educate community members about source water protection and involve stakeholders in the Plan development process. The team will be developing a Web site to showcase information about the project. The team will be preparing a final report on the project at its conclusion in late spring and will work with the Council to ensure that the project continues past the end of the contract.

In addition to these activities specifically related to the Mora County project, the UNM EFC will be investigating the possibility of doing Unified Source Water Protection projects in other areas within New Mexico.

Restoring Ecological Balance in Native American Communities through Comprehensive Community Planning, Sustainable Development, and Ecological Design

*Sponsor: USEPA Region 6
1998 - Present*

Key Words

Native American
Comprehensive Planning
Sustainable Development
Ecological Design

Brief Description of the Overall Project

The objective of this project is to assist Native American communities in identifying ways to restore

ecological balance through the appropriate use of comprehensive community planning, sustainable development and ecological design techniques. The intent is to assist a few Native American communities with specific activities that fit within the overall objective of restoring ecological balance. These communities will then be used as role models to inform other Native American communities about how to accomplish similar sustainable community development goals.

All work efforts will be undertaken at the specific request of Tribal authorities within EPA Region 6. The work will be consistent with the Tribes' cultural values and governmental policies. The work will also be coordinated with other state and federal agencies involved in Tribal environmental issues, including, but not limited to, the EPA, the Indian Health Service, and the Bureau of Indian Affairs. The EFC will ensure that the efforts of this project will complement, but not duplicate, efforts of these other agencies.

The overall project intent is to assist two to four Native American Tribes within EPA Region 6 with community planning, sustainable development, and ecological design over the next three years (1998-2001). These services are designed to increase local capacity to plan and develop environmental infrastructure, determine the type and pace of economic growth that will occur in these communities in the future, and address other issues vital to sustainable community development. The initial needs assessment, training and dialogue phase will involve the federally recognized Tribes in EPA Region 6. The results of this first phase will be combined with the results of the similar effort underway in EPA Region 5 and other results, if any, from other EPA Regions represented by EFCs.

The overall project will proceed in four sequential phases, beginning with Phase 1 - Needs Assessment, Training Workshops, and Project Design. The EFC and its partners (selected as needed for their expertise) will offer training in the areas of community planning, sustainable development, and ecological design to tribal officials within EPA Region 6. The project design will be based upon a needs assessment of key community and environmental issues facing these communities. Existing plans, reports, and other informational sources will be built upon. A key emphasis will be placed on helping the Tribes to build local capacity through technical training, organizational development, and research services.

This phase of the project, will be used to establish trust between the project team members and the Tribes and to establish a successful working relationship. It is recognized that it takes considerable time to create the needed relationship and that the creation of such a relationship is vital to the overall success of this project. The first phase of the project will also be used to introduce the topics of comprehensive community planning, sustainable development, and ecological design to the Tribes to get them comfortable and familiar with these issues.

Phase 2 of the project will consist of developing a request for projects (RAP) and selecting the tribes that the EFC will work with. The RAP will be very simple to complete and is intended as a tool to develop ideas.

Once the Native American communities have been selected, Phase 3 will commence - Working with the Native American Communities. The UNM-EFC will assist each in preparing a set of goals that can help guide future planning efforts. These goals will create appropriate tribal expectations with respect to project outcomes. An ongoing public education process will be used to shape and maintain appropriate expectations throughout the planning process. This public education process will help build support of project recommendations. This is a crucial aspect of the project to ensure that realistic steps can be taken to remedy the strategic community issues identified during the planning process. Finally, all of these activities will help build local capacity for community-based environmental protection.

Phase 4 will involve efforts to transfer the success and lessons learned of the tribal assistance to other Native American communities.

The EFC intends to bring unique and effective approaches to working with the Tribes on these issues. The

first approach focuses on community-based and community-led planning. This will ensure that local officials control the process. A second unique component is a focus on "lifestyle" as a key community building block in a city, village, or town. The planning process will work to identify the dominant lifestyles types found in each community. The third is an active focus on connecting and integrating the various aspects of community life to increase social cohesion within Native American communities.

Activities Completed During 1999

The UNM EFC visited each Pueblo and Tribe in New Mexico (19 Pueblos and 2 Tribes) to describe the project and the possibility for assistance to the Native American community. The types of Pueblo or tribal attendees varied in each case, but generally included individuals from some of the following organizations: public works, environment department, economic development department, housing department, tribal council, tribal leadership, or agriculture department. Some of the meetings were very well attended with over 8 to 10 participants; others included only one or two individuals. The response to these meetings was very positive.

Following the individual meetings, a workshop was held at the Pojoaque Casino Hotel to discuss the project in greater detail and to introduce the concepts of comprehensive planning, ecological design, and sustainable development. Approximately 30 individuals attended the workshop. The workshop also included participants from the Great Lakes EFC in Region 5.

Following the workshop, the tribes and Pueblos were asked to complete a Request for Projects and submit it to the UNM EFC. From this effort, the UNM EFC has selected two projects for assistance and has begun this effort.

Upcoming Activities for 2000

The UNM EFC will continue to work with Native American Tribes to assist with projects related to comprehensive planning, ecological design, and sustainable development. Information will also be shared with the Region 5 EFC so that each EFC can benefit from the experiences of the other. This information sharing will also benefit the tribes in each region.

New Mexico Resource Geographic Information System

Sponsor: NM State Legislature

Funded annually since 1992 as part of UNM's budget

The Resource Geographic Information System (RGIS) Program was established by the New Mexico state legislature in 1992 to assist state and local governments with developing and implementing GIS programs. RGIS also supports the goals of the New Mexico Information Technology Council and its associated Geographic Information System Advisory Council. Three UNM public service and research units comprise the RGIS Team including the EFC Director, representing the New Mexico Engineering Research Institute, the Earth Data Analysis Center, and the Bureau of Business and Economic Research.

RGIS facilitates the use of GIS in New Mexico in three ways: mapping, communicating, and educating. First, it provides counties and municipalities with public maps in a format appropriate for the most commonly used GIS software. Second, it assists state and local governments with interactive communication and cooperation in the use of GIS. Third, it educates public organizations about the advantages of GIS and trains them in its use. Thus, RGIS promotes statewide-use of GIS for planning and spatial analysis of current and historical trends throughout the state. For more information refer to the RGIS web page at <http://rgis.unm.edu:8080>.

ESRI-Certified ArcView Training Instruction

1998-Present

Margie Krebs-Jespersen of the EFC staff completed the certification process to become an ESRI Authorized

ArcView GIS (geographic information system) instructor in 1998. The Introduction to ArcView GIS course provides instruction in the basic skills needed to use the software's display editing, analysis, and presentation mapping functions. Classes are typically offered quarterly.

PROPOSED INITIATIVES

Technical Assistance to Nizhny Tagil Vodokanal, Russia

Proposed Sponsor: Subcontract to Syracuse University EFC; Funding from EPA Office of International Activities

Key Words

Water System Capacity Development
International Activities
Russia
U.S. Study Tour

Brief Description of the Overall Project

This proposed effort entails implementation of a capacity development project for the Nizhny Tagil Vodokanal in Nizhny Tagil, Russia. The UNM-EFC will arrange, organize, and support a 13-day study tour in the United States for the Director of the Nizhny Tagil Vodokanal and two additional people. This tour would include visits to Washington, DC; Dallas, Texas; Albuquerque, New Mexico; and Denver, Colorado.

- Washington, DC: visits to the USEPA Office of International Activities, the World Bank, and tours of local water and wastewater treatment facilities.
- Dallas, TX: visits to the USEPA Region 6 offices and tours of related water and wastewater treatment facilities.
- Albuquerque, NM: Capacity Development workshop conducted by the UNM-EFC, tour of an alternative disinfection technology facility, and tour of Albuquerque water and wastewater plants.
- Denver, CO: tours of local water and wastewater treatment facilities.

In addition, the UNM EFC will provide funding to the Nizhny Tagil Vodokanal for technical, managerial, and financial improvements to the water system.

Current Status of the Initiative

The UNM EFC is currently finalizing the agreement between the UNM EFC and Syracuse University EFC to allow the project to begin. It is anticipated that the project will begin in March 2000, with the study tour taking place in April 2000.

Clean Air Investment Fund

Proposed Sponsor: EPA Region 6 Border Office

Key Words

Clean Air
Clean Air Investment Fund
Emissions Trading
Border
Pilot Program

Economic Incentive Program

Brief Description of the Overall Project

The El Paso, Texas/Juarez, Mexico/Las Cruces, New Mexico airshed has many problems related to air pollution. Complicating the issue is the binational border and the differing regulations on the U.S. and Mexican side of the border. EPA developed an Economic Incentive Program to promote various approaches to address regional air pollution. One of these approaches is a Clean Air Investment Fund. The EPA Region 6 Border Office in El Paso wants to pilot the idea of a Clean Air Investment Fund (CAIF) for the El Paso/Juarez/Las Cruces airshed.

A CAIF is a type of Economic Incentive Program that allows sources facing control costs that exceed a designated cost-per-ton benchmark to pay into the fund in lieu of installing the required controls. While sources participating in a CAIF have not installed the required controls, they are otherwise obligated to meet all other regulatory requirements that apply to them. The fees in the fund are managed by a separate entity. The fund manager may be a regulatory agency or a third party. The fund manager uses the pooled payments collected by the fund to seek equivalent and presumably less costly emission reductions. (Proposed Economic Incentive Program Guidance, Environmental Protection Agency, March 1999)

CAIFs combine features of both emission trading programs and financial mechanism Economic Incentive Programs. These features include: providing a less costly, flexible way to comply with emission limits, voluntary participation, and replacing more costly emission reductions with less costly reductions. The CAIF does not limit total emissions directly.

The UNM EFC will partner with the California State University EFC to complete this study. The work will involve discussions with stakeholders on both sides of the border, discussions with individuals with particular expertise in establishing an investment fund, and development of a Clean Air Investment Fund Charter. The Charter will include items, such as the following:

- authority for creation
- scope of activity
- managing authority
- administrative procedure for using the fund
- bylaws governing paying into the fund, drawing on the fund, closure of the fund
- federal, state, local regulations necessary for implementation of the fund

There may be additional items added to this list as the project progresses.

Current Status of the Initiative

Funding for this project is expected in February 2000. The project is expected to be initiated in March 2000.

Sustainable Urban Areas: Guiding Growth

Proposed Sponsor: EPA OAQPS as a subcontract to Region 3 EFC (lead EFC for Network)

Key Words

Sustainable Urban Areas
 Urban Sprawl
 Charettes
 Houston
 Smart Growth

Brief Description of the Overall Project

Urban sprawl comprises one aspect of a larger issue: regional patterns of development. Regional development frequently occurs in fragmented patterns, with little coordination between levels of government, between public and private sectors, or between different disciplines including economics, landscape ecology, and natural resource management. However, in reality, these issues are all interconnected: land use, brownfields redevelopment, transportation, and economic vitality are all interrelated with habitat restoration, water and air quality, and natural resource protection.

Feasible, more cost-effective solutions to ensure sustainable urban areas lie in a multi-governmental, multi-issue problem solving process. The challenge is how to integrate this process into local decision making. To address this challenge, the EFC Network proposes to conduct a series of charrettes, which would explore the long-term sustainability of urban areas through a process of "interconnectedness of issues" and between levels of government and the private sector. The charrettes would begin by recognizing the traditional ways in which policy makers approach local challenges. Each charrette would not only focus on issues of local concern, but also demonstrate how a single issue is connected to broader issues and broader geography.

The UNM EFC's charette would focus on smart growth issues for the City of Houston, TX. Houston has numerous issues related to growth in its various neighborhoods and would like to examine the ways in which its policies are impacting (either positively or negatively) local growth patterns. The City has applied for funding under the Sustainable Development Challenge Grant program at EPA, but despite a well-received proposal was not able to secure funding. This project would explore some of the issues outlined in the Challenge Grant application.

Current Status of the Initiative

The UNM EFC is working with the City of Houston and EPA Region 6 to develop a charette for Houston. The charette will be conducted jointly by the UNM EFC and the University of Maryland EFC in Region 3. The anticipated date for a charette is late spring/early summer of 2000.

Independent Review of Leak Detection Technology

Proposed Sponsor: City of Albuquerque

Key Words

- Leak Detection
- Water Line Repair
- Cost Effectiveness
- Rate of Return Analysis

Brief Description of the Overall Project

The City of Albuquerque desires an independent analysis of the cost-effectiveness of using a particular type of leak detection technology. The leak detection technology can detect certain types of leaks in ductile iron and cast iron pipe. An associated technology can then be used to repair areas that are vulnerable to leaks without having to remove and replace the pipe. The City wishes to have an independent analysis of the cost-effectiveness of using this technology as part of the City's overall pipe repair and replacement program. Considerations include the fact that only a portion of the City's pipes are cast iron and ductile iron; the types of leaks the City routinely experiences may or may not be detectible with the technology; repairing the pipes with this technology will provide a different pipe life than replacing the pipes; pipe repairs in this manner do not allow for replacement of pipe appurtenances; pipe inspection may prevent breakages that can cause considerable damage to facilities near the break and tremendous water loss; and anticipating breaks would allow the City to be proactive with its repair program. The EFC will be evaluating the proposed technology in

the context of the overall pipe maintenance program.

Current Status of the Initiative

This project is anticipated to begin in March 2000.

Infrastructure Capital Improvement Plan (ICIP) Cost Estimation Guide

Proposed Sponsor: Local Government Division of New Mexico

Key Words

Cost Estimation
Infrastructure Alternatives
Capital Improvements Planning

Brief Description of the Overall Project

All Cities and Counties in New Mexico are asked to provide five year capital improvement plan documenting all of their infrastructure needs. As part of this plan, the local government entities must be able to estimate the cost of the proposed infrastructure needs. Some communities do not have technical expertise, such as engineering, on staff and can not afford to hire this expertise to complete the ICIP. Therefore, it is necessary to have a cost-estimating guide that is simple and easy to use by the local government personnel. Such a guide was completed by the EFC in 1995. Due to cost increases, it is necessary to update the cost estimating guide. It will also provide the EFC with an opportunity to make other adjustments to the guide.

Current Status of the Initiative

This project is anticipated to begin in March 2000 and be complete by May 2000. The completed document will be presented at the New Mexico Infrastructure Financing Conference in mid-May.

EFC NETWORK COLLABORATIONS

The UNM EFC has continued and expanded its collaborations with the other EFCs. Over the past year, the UNM EFC has collaborated with five other centers. A description of those collaborations is presented below. The project activities described below highlight the collaborative activities and are supplemental to the detailed information provided previously on each of these projects.

Collaborations with the Syracuse University EFC in EPA Region 2: Capacity Development Assistance for the Nizhnii Tagil, Vodokanal, Russia

The Syracuse EFC is the lead center for a larger initiative to assist Russia in the area of public finance of environmental infrastructure. The UNM EFC will be assisting the Nizhnii Tagil Vodokanal in the area of capacity development for its water and wastewater facilities. The assistance has been described in more detailed elsewhere in this document, but primarily consists of assisting in the purchase of water meters, hosting a trip to the United States to view water and wastewater facilities, and presenting a workshop on capacity development.

Collaborations with the University of Maryland EFC in EPA Region 3: Sustainable Urban Environments Charette

On behalf of the Environmental Finance Center, the Maryland EFC in Region 3 is the lead EFC on a project to assist with EPA's Sustainable Urban Environments Initiative. This project involves conducting 4 charettes at various locations across the country in conjunction with the EFC serving that location. One of the charettes is planned for Houston, TX. The UNM EFC has been working with the Maryland EFC to plan the charette,

which should be conducted in late winter or early spring, 2000.

Collaborations with the Great Lakes EFC (GLEFC) in EPA Region 5: Restoring Ecological Balance to Native American Communities

The GLEFC and the UNM EFC have both been working on a project to apply the principles of comprehensive planning, sustainable development, and ecological design to Native American communities to assist them in restoring overall ecological balance. All work is with Native American Tribes, not for the tribes. The two centers have been working on independent contracts - one in Region 5 and the other in Region 6 - but have been sharing expertise and experiences throughout the project. In the spring of 1999, the EFC Director of the UNM EFC traveled to Michigan and Wisconsin to participate in the tribal workshops hosted by the GLEFC. In August of 1999, the Director of the GLEFC traveled to New Mexico to participate in the tribal workshop hosted by the UNM EFC. Collaboration on this project will continue as both EFCs continue to work with the tribes.

Collaborations with the California State University EFC in EPA Region 9: Clean Air Investment Fund for the U.S./Mexico Border Region

As part of a new initiative, the UNM EFC teamed up with EFC9 to assist the EPA Region 6 Border Office on a project to establish a Clean Air Investment Fund for the El Paso/Juarez/Las Cruces Airshed. This project will be a joint effort of the two EFCs and should begin in winter of 2000.

Collaborations with the Boise State University EFC in EPA Region 10: Capacity Development Strategies: Assistance to States and Native American Tribes

For the third year, the UNM EFC continues working with the Boise State EFC in assisting states and the tribes with capacity development strategies. The two centers serve various states around the country that are outside the regions served by the centers, under an assistance agreement to EPA's Office of Groundwater and Drinking Water.

UNM EFC TECHNICAL PRESENTATIONS/CONFERENCES, MEETINGS and TRAINING SESSIONS

| Presentations/Conferences | Date | Location | Description |
|---|-----------------------|-----------------|---|
| RCAC 1999 Tribal Conference: Sharing Resources and Expanding Partnerships in Indian Country | Apr. 28 - May 1, 1999 | Reno, NV | The EFC gave presentations on: sustainable development, ecological design and comprehensive planning in tribal country; and on Safe Drinking Water Act Requirements for Tribes. |
| New Mexico Infrastructure Financing Annual Conference | May 19 - 20, 1999 | Albuquerque, NM | The EFC gave three presentations: one on funding tools available to communities, one on assistance services available through the EFC and one on better working relationships with professionals. |
| Native American Water Association Annual Conference | Sept. 7 - 9, 1999 | Reno, NV | The EFC participated in the conference. |
| Association of Drinking Water Administrators Conference | Oct. 4 - 6, 1999 | Orlando, FL | The EFC had an exhibit table and participated in the conference. |

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| National Drinking Water Advisory Committee Meeting | Oct. 20 - 21, 1999 | Albuquerque, NM | The EFC attended NDWAC meeting on small systems and capacity development. |
| New Mexico Environmental Health Conference and New Mexico Water Summit | Oct. 25 - 27, 1999 | Albuquerque, NM | The EFC participated in the conference. |
| Bioneers Conference - 1999 | Oct. 29-31, 1999 | Marin, CA | The EFC participated in the conference to advance visionary solutions for restoring the earth, ecodesign, sustainability, and resource protection. |
| Council of State Infrastructure Financing Authorities Annual Conference | Nov. 8-9, 1999 | San Antonio, TX | The EFC had an exhibit table and gave a presentation on Unified Source Water Protection Plan for Mora County, NM |

| UNM EFC Meetings | Date | Location | Description |
|---|--------------------|------------------|---|
| Meeting with Richard Holland, New Mexico Environment Dept. | Jan. 6, 1999 | Santa Fe, NM | Meeting to discuss capacity development strategy |
| Meeting with Source Water Protection Advisory Committee | Jan. 6, 1999 | Santa Fe, NM | Meeting to discuss the State's Source Water Protection Plan |
| Meeting with drinking water systems | Jan. 12, 1999 | Mora, NM | Meeting to introduce the Unified Source Water Protection Plan to the water systems in Mora County, NM |
| Meeting with NM Association of Counties | Jan. 12, 1999 | Albuquerque, NM | Meeting to discuss the State's three year funding program to enhance counties' E-911 GIS/GPS capabilities |
| Meeting with Source Water Protection Advisory Committee | Jan. 20, 1999 | Santa Fe, NM | Meeting to discuss the State's Source Water Protection Plan |
| Meeting with Source Water Protection Advisory Committee | Jan. 27, 1999 | Santa Fe, NM | Meeting to discuss the State's Source Water Protection Plan |
| Drinking Water Advisory Capacity Development Task Force Meeting | Feb. 10, 1999 | Santa Fe, NM | Meeting to discuss capacity development strategy |
| Meeting with TNRCC in Austin, TX | Feb. 11 - 12, 1999 | Austin, TX | Meeting to discuss water system study and capacity development |
| Stakeholder meeting for Unified Source Water Protection Plan | Feb. 18, 1999 | Mora, NM | Facilitated stakeholder meeting for Mora County Unified Source Water Protection Plan |
| Meeting with Nambe Pueblo Environment Dept | Feb. 25, 1999 | Nambe, NM | Meeting to discuss options and review proposal for capacity development |
| Meeting with Thomas Mann and Assoc. (w/Nambe Env Dept.) | Feb. 26, 1999 | Albuquerque, NM | Meeting to review one proposed capacity development project |
| Environmental Financial Advisory Board Meeting | Mar. 2 - 3, 1999 | Washington, D.C. | EFC Director served as an expert witness to the Environmental Financial Advisory Board |
| Meeting with NMED Source Water Protection staff | Mar. 2, 1999 | Santa Fe, NM | Meeting to discuss water records for Mora County water systems |

| UNM EFC Meetings | Date | Location | Description |
|--|------------------------|------------------|---|
| Meeting with Mora County Planner, County Commissioner, and water systems | Mar. 3, 1999 | Mora, NM | Meetings to present Source Water Protection Project and to solicit county support for the project |
| Environmental Finance Centers Directors' Meeting | Mar. 3 - 4, 1999 | Washington, D.C. | The EFC Directors met to discuss the EFCs and the Network |
| Meeting with State of Wisconsin Drinking Water Advisory Group | Mar. 15 - 16, 1999 | Madison, WI | The EFC Director presented a talk on capacity development activities in other states. |
| Meeting with Drinking Water Advisory Group | Mar. 24, 1999 | Santa Fe, NM | Meeting to discuss drinking water and capacity development issues in NM |
| Native American Water Assoc. | Mar. 24 - 25, 1999 | Albuquerque, NM | Workshop to address Tribal Utilities and Capacity Development issues |
| New Mexico Rural Water Association Symposium | Mar. 25, 1999 | Albuquerque, NM | Symposium/training session to address the needs of small community and tribal water systems |
| Meeting with Texas Natural Resource Conservation Commission | Mar. 31 - Apr. 1, 1999 | Austin, TX | Meeting to discuss water system study and capacity development |
| Dona Ana County Alliance | Apr. 7, 1999 | Las Cruces, NM | The EFC Director presented information to the water and wastewater systems |
| New Mexico Drinking Water Advisory Group Meeting | Apr. 14, 1999 | Santa Fe, NM | Meeting to discuss drinking water issues in New Mexico |
| Senator Dominici's Office | Apr. 20, 1999 | Albuquerque, NM | Meeting with Tony Benavidez of the Senator's office to discuss water issues in the upper Rio Grande basin |
| Meeting with Nevada Drinking Water Program | Apr. 26 - 27, 1999 | Carson City, NV | Meetings with the Drinking Water Bureau Director and the capacity development coordinator to discuss the SDWA capacity development requirements and the services available from the EFC |

| UNM EFC Meetings | Date | Location | Description |
|---|-------------------|------------------|---|
| Capacity Development Assistance Providers Meeting | May 4, 1999 | Washington, D.C. | Meeting with EPA's Office of Groundwater and Drinking Water, Boise State EFC, and UNM EFC |
| El Alto MDWCA | May 17, 1999 | Mora, NM | Meeting with the El Alto water system to discuss Source Water Protection Project |
| "Virtual Meetings" with the States regarding capacity development | May 24 - 28, 1999 | conference calls | The EPA Region 6 and the EFC held conference calls with each state in Region 6 to discuss capacity development requirements and the assistance they wanted/needed from EPA or the EFC |

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| Meeting with All Indian Pueblo Council - Pueblo Office of Environmental Protection | June 7, 1999 | Albuquerque, NM | Introduced ecodesign project and received input from this agency |
| Meeting with NMED Drinking Water Bureau | June 9, 1999 | Santa Fe, NM | Meeting with NMED to discuss Source Water Protection Project and coordinate system assessments |
| Meeting with representatives from Guadalajara, Mexico | June 9, 1999 | Albuquerque, NM | The EFC met with two representatives from Guadalajara, Mexico to discuss water and wastewater issues |
| Meeting with Indian Health Service - Santa Fe Office | June 10, 1999 | Santa Fe, NM | Introduced ecodesign project and received input from this agency |
| Meeting with Eight Northern Indian Pueblo Council | June 10, 1999 | San Juan Pueblo, NM | Introduced ecodesign project to Planning and Environmental Departments |
| Meeting with Santa Ana Pueblo Department of Natural Resources | June 11, 1999 | Santa Ana Pueblo, NM | Ecodesign project meeting |
| Meeting with Zia Pueblo Environment Department | June 11, 1999 | Zia Pueblo, NM | Ecodesign project meeting |
| Meeting with Jemez Department of Resource Protection | June 11, 1999 | Jemez Pueblo, NM | Ecodesign project meeting |

| UNM EFC Meetings | Date | Location | Description |
|--|---------------|---------------------|--|
| Meeting with the Director of the Indian Pueblo Cultural Center | June 14, 1999 | Albuquerque, NM | Introduced ecodesign project and received in put from this agency |
| Meeting with Realty Department of Pojoaque Pueblo | June 16, 1999 | Pojoaque Pueblo, NM | Ecodesign project meeting |
| Meeting with Nambe Department of Environment and Natural Resources | June 16, 1999 | Nambe Pueblo, NM | Ecodesign project meeting |
| Meeting with Tesuque Pueblo Tribal Planner | June 16, 1999 | Tesuque Pueblo, NM | Ecodesign project meeting |
| Meeting with New Mexico Environment Department | June 21, 1999 | Santa Fe, NM | Meeting with several people from the NMED to discuss capacity development issues |

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|--|---------------|---------------------|--|
| NM Drinking Water Advisory Group Meeting | June 22, 1999 | Santa Fe, NM | Meeting to discuss drinking water issues in New Mexico |
| Meetings with Mescalero Environment, Utility Departments and BIA | June 24, 1999 | Mescalero, NM | Ecodesign project meetings |
| Meeting with Pojoaque Housing Corporation | June 29, 1999 | Pojoaque Pueblo, NM | EFC discussed ecological design concepts for their planned housing development; EFC introduced a representative of WERC who can assist them with Pollution Prevention planning for the new housing and industrial park |
| Meeting with New Mexico Office of Indian Affairs | June 29, 1999 | Santa Fe, NM | Introduced ecodesign project and received input from this agency |
| Meeting with Water Companies | June 30, 1999 | Dallas, TX | Meeting to discuss private water system issues in Texas |
| Meeting with Texas Natural Resource Conservation Commission | July 1, 1999 | Austin, TX | Meeting to discuss water system study and capacity development |
| Meeting with Acoma Business Enterprises | July 6, 1999 | Acoma Pueblo, NM | Ecodesign project meeting |

| UNM EFC Meetings | Date | Location | Description |
|--|--------------|--------------------------|--|
| Meeting with Laguna Pueblo Tribal Administrator | July 6, 1999 | Laguna Pueblo, NM | Ecodesign project meeting |
| Dona Ana County Alliance Meeting | July 7, 1999 | Rincon, NM | EFC attended Meeting to participate on a panel to discuss small water system issues and capacity development |
| Meeting with San Ildefonso Pueblo | July 7, 1999 | San Ildefonso Pueblo, NM | EFC attended a meeting with San Ildefonso officials to discuss possible opportunities associated with the sustainable development project. |
| Meeting with San Juan Pueblo Office of Environmental Affairs | July 7, 1999 | San Juan Pueblo, NM | Ecodesign project meeting |
| Meeting with Sandia Environment and Planning Departments | July 9, 1999 | Sandia Pueblo, NM | Ecodesign project meeting |
| Meeting with Santa Ana Planning Department | July 9, 1999 | Santa Ana Pueblo, NM | Ecodesign project meeting |
| Meeting with Isleta Pueblo Environment Department | July 9, 1999 | Isleta Pueblo, NM | Ecodesign project meeting |
| Meeting with Zuni Pueblo Tribal Planner | July 12, | Zuni Pueblo, NM | Ecodesign project meeting |

| | 1999 | | |
|--|---------------|-----------------------|--|
| Meeting with Arkansas Department of Health (connected via phone) | July 13, 1999 | Little Rock, AR | The EFC participated in a meeting to select on-site contractors for the State's Capacity Development Program |
| Meeting with San Felipe Pueblo Environment Department and Tribal Administrator | July 14, 1999 | San Felipe Pueblo, NM | Ecodesign project meeting |
| Meeting with San Juan Agriculture Co-op and Tsay Corporation | July 14, 1999 | San Juan Pueblo, NM | Ecodesign project meeting |

| UNM EFC Meetings | Date | Location | Description |
|--|-------------------|------------------------|--|
| Meeting with Pojoaque Housing Board | July 14, 1999 | Pojoaque Pueblo, NM | EFC personnel attended Board meeting to present more in-depth information on the ecodesign project |
| Meeting with Tesuque Environment Department | July 15, 1999 | Tesuque Pueblo, NM | Ecodesign project meeting |
| Meeting with Santa Clara Pueblo Office of Environmental Affairs | July 15, 1999 | Santa Clara Pueblo, NM | Ecodesign project meeting |
| Meeting with Picuris Pueblo Environment Department | July 15, 1999 | Picuris Pueblo, NM | Ecodesign project meeting |
| Meeting with Cochiti Pueblo Environmental Protection Office and Tribal Administrator | July 19, 1999 | Cochiti Pueblo, NM | Ecodesign project meeting |
| Meeting with Taos Pueblo Environment Department and Utility Service | July 20, 1999 | Taos Pueblo, NM | Ecodesign project meeting |
| Metadata Workshop | July 22, 1999 | Albuquerque, NM | Metadata workshop in support of the State's three year funding program to enhance counties' E-911 GIS/GPS capabilities |
| Meeting with Zia Pueblo Tribal Administrator/CEO of Zia's Business Enterprise | July 23, 1999 | Zia Pueblo, NM | Ecodesign project meeting |
| Meeting with Cochiti Pueblo's Business Enterprise | July 29, 1999 | Cochiti Pueblo, NM | Ecodesign project meeting |
| Environmental Financial Advisory Board | Aug. 9 - 10, 1999 | San Francisco, CA | The EFC Director served as an Expert Witness for the Environmental Financial Advisory Board Meeting |
| Sandia National Labs International Working Group | Aug. 11, 1999 | Albuquerque, NM | EFC attended a meeting with Sandia National Laboratory officials |
| Meeting with New Mexico Environment Department | Aug. 16, | Santa Fe, NM | EFC attended a meeting with NMED to discuss capacity development issues |

1999

| UNM EFC Meetings | Date | Location | Description |
|---|-----------------------------|-----------------------|--|
| Meeting with State of Wisconsin Drinking Water Advisory Group via phone | Aug. 24, 1999 | Madison, WI via phone | The EFC Director participated in the discussions on capacity development |
| Meeting with NMED Drinking Water Bureau | Aug. 31, 1999 | Santa Fe, NM | Meeting with NMED to discuss Source Water Protection Project and coordinate system assessments |
| Meeting with New Mexico Rural Water Association | Sept. 7, 1999 | Albuquerque, NM | Meeting with NMRW to discuss coordination of technical assistance to small water systems |
| Meeting with Veronica Kasi from Pennsylvania Department of Environmental Protection | Sept. 7, 1999 | Pittsburgh, PA | EFC met with PA DEP to learn more about PA's capacity development program and to present information from programs in other states to PA |
| Source Water Protection Council meeting | Sept. 9, 1999 | Holman, NM | First official meeting of the Mora Source Water Protection Planning Council |
| NM Drinking Water Advisory Group Meeting | Sept. 15, 1999 | Santa Fe, NM | Meeting to discuss drinking water issues in New Mexico |
| EFC Directors' Meeting | Sept. 15 - 17, 1999 | Boise, ID | EFC Director participated in the 6th Annual EFC Directors' Meeting |
| Meeting with New Mexico Environment Department | Sept. 22, 1999 | Albuquerque, NM | EFC met with NMED to discuss capacity development issues |
| Meeting with State of Wisconsin Drinking Water Advisory Group via phone | Sept. 29, 1999 | Madison, WI via phone | The EFC Director participated in the discussions on capacity development |
| Meeting with USWPP Project team members | Oct. 7, 1999 | Albuquerque, NM | Meeting with USWPP team to discuss project progress and timeline |
| Meetings with Nambe Pueblo | Oct. 11,13 and Dec. 9, 1999 | Nambe Pueblo, NM | Consumer Confidence Report (CCR) meetings |
| Meeting with Santa Ana Pueblo | Oct. 12, 1999 | Santa Ana Pueblo, NM | CCR meeting |
| Meeting with Zia Pueblo | Oct. 12, 26, 1999 | Zia Pueblo, NM | CCR meetings |
| Geographic Information Systems Advisory Committee meeting | Oct. 13, 1999 | Santa Fe, NM | Initial meeting of the redefined GISAC, an advisory committee to the State Government for GIS and GPS capabilities. |
| Meeting with Pojoaque Pueblo | Oct. 13, 1999 | Pojoaque Pueblo, NM | CCR meeting |

| UNM EFC Meetings | Date | Location | Description |
|-------------------------|-------------|-----------------|--------------------|
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| UNM EFC Meetings | Date | Location | Description |
|---|-------------------------|--------------------------|--|
| Meeting with San Ildefonso Pueblo | Nov. 9, 1999 | San Ildefonso Pueblo, NM | CCR meeting; meeting with new Director of Environment Dept. |
| Meeting with TNRCC | Nov. 10, 1999 | Austin, TX | EFC presented results of water study and technology database |
| Meeting with Laguna Pueblo | Nov. 10, 1999 | Laguna Pueblo, NM | EFC and representative of EPS Group met with Chief of Operations to discuss capacity development issues |
| Meeting with Jemez Pueblo | Nov. 10, 1999 | Jemez Pueblo, NM | EFC and representative of EPS Group met with members of utility board to discuss capacity development issues |
| Meeting with Taos Pueblo | Nov. 17, 1999 | Taos Pueblo, NM | Met with utility personnel to discuss CCR revisions |
| Meetings with Santa Clara Pueblo | Nov. 17, & Dec. 2, 1999 | Santa Clara Pueblo, NM | CCR meetings |
| Meeting with Laguna Pueblo | Nov. 19, 1999 | Albuquerque, NM | CCR meeting |
| Meeting with Arkansas Department of Health | Nov. 22 - 23, 1999 | Little Rock, AR | EFC met with AR and EPA Region 6 to discuss capacity development requirements and possible capacity development activities |
| Meetings with Sandia Pueblo | Nov. 23, Dec. 17, 1999 | Sandia Pueblo, NM | CCR meetings |
| Meeting with Zuni Pueblo and Zuni Public School District | Dec. 1, 1999 | Zuni Pueblo, NM | EFC and EPA met with Zuni water operator and representatives of Zuni Public Schools to discuss water quality problems at the schools |
| Geographic Information Systems Advisory Committee meeting | Dec. 7, 1999 | Santa Fe, NM | Meeting of the GISAC, an advisory committee to the State Government for GIS and GPS capabilities. |
| Meeting with Pojoaque Pueblo Housing Corporation | Dec. 7, 1999 | Pojoaque Pueblo, NM | Ecodesign project meeting |

| UNM EFC Meetings | Date | Location | Description |
|---|------------------|-----------------|--|
| Meeting with TNRCC | Dec. 7, 1999 | Austin, TX | EFC met with TNRCC to discuss write up of the final Capacity Development Strategy for EPA submittal |
| Meeting with EPA and Louisiana Department of Health and Hospitals | Dec. 7 - 8, 1999 | Baton Rouge, LA | EFC met with LA and EPA Region 6 to discuss capacity development requirements and possible capacity development activities |
| Meeting with NM Intergovernmental Infrastructure Group | Dec. 8, 1999 | Santa Fe, NM | EFC attended meeting of the New Mexico Infrastructure Group |

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| Meeting with Picuris Pueblo | Dec. 8, 1999 | Picuris, NM | CCR meeting |
| Meeting with Picuris Pueblo | Dec. 9, 1999 | Santa Fe, NM | EFC attended meeting along with representatives of USDA-RUS, The Enterprise Foundation, NMRWA and the Picuris Pueblo to discuss funding opportunities for a new wetlands project |
| Meeting with Cochiti Pueblo | Dec. 14, 1999 | Cochiti Pueblo, NM | Meeting to discuss assistance on developing alternatives to lagoon expansion |
| Meetings with Isleta Pueblo | Dec. 15, 16, 1999 | Isleta Pueblo, NM | CCR meetings |
| Meeting with Sandia Pueblo | Dec. 16, 1999 | Sandia Pueblo, NM | Meeting to discuss Ecodesign application and selection |
| Meeting with NMED | Dec. 23, 1999 | Mora, NM | Meeting with NMED, Drinking Water Bureau to discuss Mora SWP |
| Mora Source Water Protection Planning Council meeting | Dec. 23, 1999 | Mora, NM | Council meeting to approve bylaws and establish timeline for 2000 |

| UNM EFC Training Workshops | Date | Location | Description |
|--|--------------------|---------------------|--|
| New Mexico Rural Water Association Tribal Training | Jan. 14, 1999 | Tesuque, NM | Presentation on the capacity development program for tribes |
| Training session in Estancia, NM in the use of RateMod Pro | Jan. 12, 1999 | Estancia, NM | Presentation of RateMod Pro and training in the use of the model |
| Sustainable Development, Ecological Design, Comprehensive Planning Workshop sponsored by the Great Lakes EFC | Mar. 8 -9, 1999 | Traverse City, MI | The training workshop was for tribes within the State of MI. The EFC presented a workshop on capacity development and innovative financing. The EFC also presented some information on working with professionals. |
| Sustainable Development, Ecological Design, Comprehensive Planning Workshop sponsored by the Great Lakes EFC | Apr. 10-11, 1999 | Lac du Flambeau, WI | The training workshop was for tribes within the State of WI. The EFC presented a workshop on capacity development and innovative financing. The EFC also presented some information on working with professionals. |
| EPA Region 4/Region 6 Capacity Development Workshop | Apr. 11 - 13, 1999 | Dallas, TX | The EFC presented a workshop on a new method of small systems working with professionals to blend engineering and finance and improve overall water system project completion. |
| Las Cruces Focus Group Workshop | Apr. 14, 1999 | Las Cruces, NM | The EFC held a focus group with water systems to discuss different types of funding and related technical assistance and how these items affected |

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| | | | the system's capacity before and after funding. |
| Stakeholder Meeting for Texas Natural Resource Conservation Commission | July 22, 1999 | Austin, TX | The EFC facilitated a stakeholder meeting for the TNRCC to gather input on the implementation of the Capacity Development Strategy. |
| UNM EFC Training Workshops | Date | Location | Description |
| Sanitary Survey Training for Surface and Ground Water Plants | July 26 - 30, 1999 | Raton, NM | The EFC attended training conducted by EPA Region 6 |
| Sustainable Development, Ecological Design, Comprehensive Planning Workshop sponsored by the UNM EFC | Aug. 4, 1999 | Pojoaque, NM | The EFC hosted and facilitated a workshop on sustainable development, ecological design, and comprehensive planning for tribes in New Mexico |
| Consumer Confidence Report (CCR) training for Tribes | Aug. 30, 1999 | Pojoaque, NM | The EFC participated in a tribal training on CCRs with NMED and NMRWA |
| Mora County Water Fair | Sept. 11, 1999 | Holman, NM | Water Fair for residents of western Mora County, co-sponsored with the Mora Source Water Protection Planning Council |
| EPA Tribal Summit | Sept. 21 - 22, 1999 | Albuquerque, NM | EFC attended the EPA tribal summit that discussed tribal environmental needs |
| Stakeholder Input Sessions in three Cities in NV | Nov. 29 - 30 & Dec. 2, 1999 | Carson City, Elko, and Las Vegas, NV | EFC facilitated three stakeholder input sessions for Nevada Bureau of Health Protection Services for the Capacity Development Program |
| RCAC Tribal Stakeholders Meeting | Nov. 30, 1999 | Santa Fe, NM | EFC attended meeting of Tribal Technical Assistance Providers and presented information on Capacity Development Assistance for Tribes |
| Water System Study Input Session | Dec. 6, 1999 | Houston, TX | EFC Facilitated a stakeholder input session on the results of the water system study for TNRCC |
| NMED Funding Meeting | Dec. 13, 1999 | Santa Fe, NM | EFC attended meeting of presentations from various funding agencies in New Mexico |

[AVAILABLE PUBLICATIONS](#)

Compilation of Information on Composting Toilets, December 1999

Analysis of Operating Data of Utilities, November 10, 1999

Compilation of Capacity Development Stakeholder Meetings for Various States Conducted by UNM EFC, November 1999

Survey and Database Summary Report on GIS Usage in New Mexico, September 1998

Evaluation of a Subsurface Flow Wetland and Evaporation Pond for a Single Family Dwelling in the East Mountain Area of Bernalillo County, Final Report April 1998

Report on Issues in the Development of a County Utility Department: Final Report to Doi¿½a Ana County, New Mexico, November 1997

Cost-Effective Environmental Management Case Studies, October 1997

Ecological Baseline Model for the U.S.-Mexico Border, Final Report September 1997
 Capacity Development Strategy Report for Texas Natural Resource Conservation Commission, Final Report August 1997
 Civil Engineering Options Assessment for the Enchanted Skies Park, Draft Report July 1997
 Bioflotation Treatment Unit Demonstration Project, Final Report July 1997
 Examples of Capacity Development Assessment Tools & Business Plans from Various States, July 1997
 A Guidebook of Financial Tools, prepared by the EFAB and EFC Network, June 1997
 Environmental Finance Center Network 1996 Annual Report, January 1997
 Management and Financing Options for Small Community Water Systems on the US-Mexico Border Region: Final Report to Doña Ana County, New Mexico, July 1996
 A State Survey of Capacity Building Tools, November 1996
 A State Viability Survey, August 1996
 The Otero County Small Water System Restructuring Project, November 1995
 North Valley Wastewater Options Study: Final Report for Bernalillo County, New Mexico and Village of Los Ranchos de Albuquerque, June 1995
 Meeting Financial Responsibility Requirements on Tribal Lands, October 1994
 Public-Private Partnerships for Environmental Facilities: The Management Challenge for Local Governments, October 1993
 Water and Wastewater User Charge Guide for Small Municipalities, September 1991

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