

2013 Annual Capacity Development Report to the US Environmental Protection Agency

**State Fiscal Year 2013
(July 1, 2012 – June 30, 2013)**



**State of Nevada
Division of Environmental Protection**

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Contents

Background 1

A. New Systems Program Annual Reporting Criteria 1

B. Existing System Strategy 3

 Data Collection 3

 Technical Assistance 3

 Cross-connection Control Plan Development 4

 Water Conservation Plan Development 4

 General Technical Assistance 4

 Compliance Assistance 5

 Digital Mapping and Spatially Referenced Record Keeping 5

 Operator Training and Certification 6

Integrated Source Water Protection/Wellhead Protection 6

Funding 8

Challenges 8

 Impact of the new drinking water standard for arsenic on Nevada 8

 Managerial Capacity 9

The Future 10

ATTACHMENT 1 –Technical Assistance Provided by Nevada Rural Water Association

ATTACHMENT 2 – NDEP Bureau of Safe Drinking Water Arsenic Rule Compliance Status List

Background

The Nevada Division of Environmental Protection (NDEP) implements the state's capacity development program (http://ndep.nv.gov/bffwp/dwsrf1_cap_dev.htm). The following annual capacity development implementation report describes the capacity development efforts conducted by the Office of Financial Assistance (OFA), Bureau of Safe Drinking Water (BSDW), Bureau of Water Pollution Control (BWPC), and technical assistance provider – Nevada Rural Water Association (NvRWA), from July 1, 2012 through June 30, 2013, in the administration of the Capacity Development Program.

The capacity development program is funded primarily with set-aside monies from the Drinking Water State Revolving Fund. In developing and implementing this program, the NDEP accomplished tasks in the following areas:

- ◆ New Systems Program Annual Reporting Criteria
- ◆ Existing System Strategy

A. New Systems Program Annual Reporting Criteria

1. *Has the State's legal authority (statutes/regulations) to implement the New Systems Program changed within the previous reporting year?*

Nevada's legal authority to implement the New Systems Program did not change during state fiscal year (SFY) 2013.

2. *Have there been any modifications to the State's control points?*

There have been no modifications to Nevada's control points during SFY13.

3. *List new systems (PWSID & Name) in the State within the past three years and their ETT scores.*

Table 1 (next page) shows the new systems in the State within the past three years and their ETT scores. A large number of the new systems include the large casinos in Las Vegas. These facilities receive their drinking water from the Las Vegas Valley Water District; however, they are now installing chlorination on site to treat for possible legionella bacteria.

2013 Annual Capacity Development Report to the EPA

ACTIVITY STATUS	ACTIVITY DATE	COUNTY	TYPE	PWS ID	PWS NAME	POPULATION	ETT Score
A	6/26/2013	CLARK	NTNC	NV0001127	POLO TOWERS	2300	
A	6/12/2013	DOUGLAS	NC	NV0002041	BEST WESTERN TOPAZ LAKE INN	300	
A	6/11/2013	CLARK	NC	NV0001101	NDOT SEARCHLIGHT WELCOME CENTER	50	
A	6/7/2013	MINERAL	NC	NV0001128	WILDKAT RANCH	25	
A	5/7/2013	DOUGLAS	NTNC	NV0002227	THE CLUB AT CLEAR CREEK TAHOE	25	
A	4/18/2013	NYE	NC	NV0002555	CHAMPIONS	25	
A	4/15/2013	ELKO	NC	NV0001092	RYNDON COUNTRY STORE LLC	25	
A	3/19/2013	LYON	C	NV0000411	PERI AND SONS FARM LABOR HOUSING	1148	
A	2/19/2013	LYON	NC	NV0004040	STAGECOACH MARKET	25	
A	2/6/2013	NYE	NTNC	NV0001122	ROUND MOUNTAIN GOLD HILL WATER SYSTEM	250	
A	1/14/2013	PERSHING	NC	NV0001125	HUMBOLDT RIVER RANCH ASSOCIATION	150	
A	1/10/2013	ELKO	NTNC	NV0001126	WEST END WATER COOP ASSOC	25	
A	12/6/2012	LYON	NC	NV0000341	CARMENS MEXICAN RESTAURANT	25	9
A	11/8/2012	NYE	C	NV0002571	RANCHO VISTA 4	25	
A	10/3/2012	CLARK	NTNC	NV0001121	MGM GRAND HOTEL AND CASINO	7500	
A	9/10/2012	NYE	NC	NV0000829	SULLIVANS PUB	25	
A	8/16/2012	CLARK	NTNC	NV0001120	MIRAGE RESORT AND CASINO	4400	
A	8/8/2012	CLARK	NTNC	NV0001119	MANDALAY BAY RESORT AND CASINO	5549	
A	7/26/2012	CLARK	NTNC	NV0001118	MONTE CARLO RESORT AND CASINO	1980	
A	7/25/2012	CLARK	NTNC	NV0001117	BELLAGIO RESORT AND CASINO	8171	
A	7/11/2012	WHITE PINE	NTNC	NV0002197	WHITE PINE BOYS RANCH LLC DBA	27	5
A	7/3/2012	CLARK	NTNC	NV0001107	KAPEX WATER SYSTEM CITY OF NLV	25	
A	7/1/2012	STOREY	NTNC	NV0000413	COMSTOCK MINING	45	
A	6/22/2012	CLARK	C	NV0001116	SIGNATURE TOWERS	516	
A	6/22/2012	CLARK	NTNC	NV0001114	EXCALIBUR RESORT AND CASINO	2607	
A	6/22/2012	CLARK	NTNC	NV0001113	CIRCUS CIRCUS CASINO	2668	
A	5/9/2012	CLARK	NTNC	NV0001111	LUXOR RESORT AND CASINO	3196	
A	5/9/2012	CLARK	NTNC	NV0001112	NEW YORK NEW YORK HOTEL AND CASINO	2000	
A	4/2/2012	CLARK	C	NV0001109	CITY CENTER RESIDENCES	808	1
A	2/24/2012	WHITE PINE	NTNC	NV0000982	BALD MOUNTAIN MINE	110	
A	11/17/2011	HUMBOLDT	NTNC	NV0001103	MARIGOLD MINE POTABLE WATER SYSTEM	300	
A	10/26/2011	CLARK	NC	NV0001024	CORN CREEK FIELD STATION	25	
A	10/14/2011	WHITE PINE	NC	NV0003053	BIRD CREEK CAMPGROUND USFS	30	
A	10/7/2011	CLARK	NTNC	NV0001106	CITY CENTER HOTELS	8900	
A	9/15/2011	NYE	NC	NV0001105	ORCHARD VALLEY MARKET	25	
A	7/27/2011	NYE	NC	NV0000385	COYOTE CORNER III	25	1
A	5/24/2011	LANDER	NTNC	NV0001097	BARRICK CORTEZ HILLS	358	
A	5/9/2011	LYON	NC	NV0002608	STAGECOACH COUNTRY MARKET	25	
A	1/13/2011	NYE	NC	NV0001096	SANDERS WINERY	25	
A	1/13/2011	NYE	NTNC	NV0001095	CEDAR PASS WATER SYSTEM	250	
A	1/1/2011	WHITE PINE	NC	NV0000922	WARD CHARCOAL OVENS STATE PARK	25	
A	12/21/2010	NYE	C	NV0000408	CALVADA MEADOWS UICN	77	
A	11/3/2010	NYE	NC	NV0001094	PATCH OF HEAVEN	50	
A	10/1/2010	NYE	NC	NV0001093	SPRING MOUNTAIN MOTOR SPORTS RANCH	30	
A	9/30/2010	LINCOLN	NC	NV0002563	A COWBOYS DREAM	26	
A	9/9/2010	LYON	NC	NV0000858	SHERRYS STEAKHOUSE	25	
A	8/30/2010	CHURCHILL	NC	NV0002017	COLD SPRINGS STATION	25	

Table 1. New water systems within Nevada in the last 3 years.

B. Existing System Strategy

1. *In referencing the State's approved existing systems strategy, which programs, tools, and/or activities were used, and how did each assist existing PWS's in acquiring and maintaining TMF capacity? Discuss the target audience these activities have been directed towards.*

Several tools are being utilized to implement the capacity development strategy. These tools, which are discussed below, include data collection, technical assistance, funding, operator training, and source water/wellhead protection. Many of the efforts of Nevada's Capacity Development Program support sustainable infrastructure.

Data Collection

Capacity Development programs provide water systems the necessary resources to build and maintain TMF capacity. A capacity assessment, through a self-assessment or one-on-one interview, can be a useful tool for the water system manager and/or operator to measure strengths and identify weaknesses. It can also be a useful tool for state staff to provide the most appropriate assistance to a particular system.

Capacity surveys are conducted with community water systems every 3 – 5 years or as needed. Nevada's capacity survey was updated in SFY12 to provide a more objective survey of water systems' TMF capacity. The survey is available on NDEP's website at program http://ndep.nv.gov/bffwp/dwsrf1_cap_dev.htm. Knowing what expectations the state has can help water systems recognize the areas with which they need assistance in meeting those expectations. Seeing the long-term implications can encourage the system to manage their operations sustainably, so that they are able to continue to afford as well as be allowed to operate in the future. These assessments also help systems realize that poor management can jeopardize future opportunities for assistance or even participation in DWSRF loans.

Common deficiencies among small water systems in Nevada include:

- Limited maps of water distribution systems
- Lacking plans for Operation & Maintenance, Emergency Response, Cross Connection Control and Capital Improvement
- Routine maintenance lacking
- Under-staffed and under-funded operations

Technical Assistance

Helping water systems develop and maintain capacity is the backbone of the Capacity Development Strategy. Many water systems throughout Nevada have increased their capacity through the technical assistance program. In SFY13, NDEP contracted with the NvRWA to provide technical assistance to small water systems. The technical assistance program provides "targeted" assistance by focusing on specific issues or problem areas. Specific assistance to small water systems is shown in ATTACHMENT 1. Some of the more recent program highlights of technical assistance are described below.

Cross-connection Control Plan Development

One of the technical capacity needs at several systems in Nevada has been an individual system plan for the control of potential flow of contaminated liquids by back-siphoning or back-pressure, into the drinking water distribution system. Nationwide, cross-connections and backflow represent the single largest source of contamination of drinking water. Nevada Administrative Code 445A addresses cross-connection control and backflow prevention, and requires public water system plans and plan implementation through control measures at connections where specific activities take place. NvRWA developed a template and then used that model to begin writing plans at small and medium sized water systems. The next step is to assist systems with implementation of their plans. Working with the NDEP-BSDW to identify systems needing this type of assistance, NvRWA began mentoring one system as it worked through the process. To-date, this ongoing effort has resulted in the local government adopting an ordinance, a comprehensive survey of utility-owned connections where backflow prevention needs to be installed or upgraded, and identification of commercial accounts where backflow prevention might be needed. The system is on-track to achieve full implementation within approximately one year. The lessons learned from the managerial capacity building, board education and public outreach efforts will be invaluable as cross-connection control and backflow prevention programs become fully established at other systems with NvRWA assistance.

For the smallest public water systems, the cross-connection control plan is combined into one template with operations and maintenance (O&M) and emergency response plans. These items are all regulatory requirements for every public water system. Now that these living documents are in place, often for the first time, local managers and staff will be guided to periodically update their plans and encouraged to take on ownership of the plans. Most can be expected to maintain the O&M manual and emergency response plan on their own after one or two years of assistance with updating.

Water Conservation Plan Development

The Nevada Division of Water Resources requires that every water system submit a Water Conservation Plan that includes measures to evaluate the effectiveness of the plan. In addition to user-based conservation measures, systems are being educated to audit and chart the amounts of water produced and sold on a monthly basis. Boards are being informed to ask for this information each month. Once usage patterns are established, changes in use will prompt managers to implement leak detection studies. During SFY13, NvRWA trained staff at twelve water systems on electronic and acoustic leak detection equipment specifically to enhance their technical capacity by being up-to-date on detection technologies, while locating any leaks. Control of leakage in water systems not only saves water but pumping costs and energy.

General Technical Assistance

A variety of assistance was delivered to systems, depending on the system needs identified. Examples of assistance requested and provided include: meter reading technologies; helping local staff in evaluating appropriate technologies, for example point of use treatment, haul

truck requirements, or selection of appropriate disinfection equipment; developing budget based water rates.

The NDEP-BSDW staff provides a tremendous amount of general technical assistance on a regular basis. This is accomplished through one-on-one technical assistance with water system owners/operators on the phone, during on-site visits and when conducting Sanitary Surveys.

Compliance Assistance

It is important that systems understand and comply with all of the regulatory requirements, and on-site and telephone support was provided to systems around the state. A listing of the issues addressed would include: public notification requirements, formation of disinfection byproducts and disinfectant residual concentration; understanding and responding to sanitary survey findings; writing the annual consumer confidence report and understanding lab reports. NDEP-BSDW has implemented the EPAs' Enforcement Targeting Tool (ETT), and NvRWA assisted system managers to understand how their system is rated through this points-based methodology for identifying systems with compliance deficiencies.

Since March 2013, BSDW and NVRWA staff has actively worked with approximately 50 Community and Non-Transient Non-Community water systems to develop or update Site Sampling Plans for compliance with the Total Coliform Rule. Developing these plans requires educating the water systems on the nuances of the Total Coliform Rule; identifying appropriate sample locations; establishing appropriate sampling schedules and reviewing the plans once submitted. With the development of these site sampling plans, the BSDW staff has an additional tool at their disposal in the event of the presence of Total Coliform bacteria in the water system or a water related emergency. NvRWA helped with implementation and follow up with this BSDW initiative, as well as a related project to improve quality control for the chlorine residual measuring field procedure by writing standard operating procedures and implementing new requirements for Operator Initial Demonstration of Competency.

Digital Mapping and Spatially Referenced Record Keeping

Nevada recognizes that as operators have retired, a wealth of system knowledge goes with them and is largely undocumented. In order to take advantage of available information technologies and to capture and transfer that institutional knowledge to electronic media, technical assistance is being provided to small water systems with limited budgets to create system maps and asset tables in the free ESRI product, ArcReader. Similar assistance and training is being provided to those systems with licensed versions of GIS software that did not know how to get started.

Using simple, low-cost methods to develop a system image linked to spreadsheet tables containing component documentation, systems are then able to, on their own, develop and update digital maps to locate components such as pipe lines, valves, hydrants, production and storage facilities, and customer meters. NvRWA assisted staff at twelve systems in their efforts to locate their physical assets using GPS and to create GIS component tables, or to convert existing CAD and other files to an appropriate form. In most cases, a properly aligned image of the system was created. Compared to using paper maps or having data located at an off-site

consulting engineer office, with this approach local staff gains not only immediate access to their data, but deeper skills and an enhanced sense of ownership. The image with attribute table method not only enables local staff to use digital maps in the field, but will provide a seamless linkage between maps and day-to-day maintenance management and longer term asset management and capital improvement planning. This facilitates the implementation of asset management and planning locally, by system personnel. At three systems, NvRWA worked to enable staff to implement the next step, using GIS for asset management and spatially referenced record keeping.

Operator Training and Certification

NDEP funded the NvRWA to provide operator training using remote video-conferencing. This method of offering training has been very successful in part because it meets the needs of a very specific audience, the very small system operators (those that serve between 25-100 customers). The sessions are broadcast from Reno to sites all over the state and offer the advantage of being essentially local classes that are cost-effective extensions of the university that require minimal travel for the participants.

NDEP has also funded the NvRWA to provide both group and individual operator training at the operator's water system. These sessions are open to any interested party, and often, staff from a number of nearby systems participate.

The NDEP-BSDW engaged with the EPA Grantees for the \$15M Small System Training and Technical Assistance program. Nevada Rural Water Association has been utilizing the funds to assist systems during this reporting period. The Environmental Finance Center and Texas A&M Engineering Extension Service will be providing training in Nevada in the 3rd calendar quarter of 2013.

Integrated Source Water Protection/Wellhead Protection

Groundwater is the source of drinking water for approximately 90% of Nevada's public water systems. To assist public water systems and local communities in protecting groundwater from contamination, Nevada is implementing a multi-faceted Integrated Source Water Protection Program ("ISWPP", formerly referred to as the "Wellhead Protection Program" or "WHPP"). It is Nevada's belief that effective source water protection must be developed and administered by the community in conjunction with local water supplier(s). A local plan should be a long-term commitment on the part of the community to protect its drinking water sources from becoming contaminated or polluted by various land use activities.

The NDEP's Bureau of Water Pollution Control administers the ISWPP, which provides assistance to communities in the development and implementation of Community Source Water Protection Plans (CSWPPs). Local CSWPPs are developed through a county-wide planning and coordination approach which provides a framework for all public water systems within a specific county to work together to examine shared water sources, evaluate community development impacts to those sources, and discuss how to collectively manage potential risks from a broader perspective. The ISWPP's multi-jurisdictional approach provides opportunities for public water systems ranging from very small taverns and mobile home parks

to larger districts and municipalities to pool resources and promote community-wide awareness and acceptance of the plan. This ultimately increases opportunities for small public water systems with limited resources and/or capacity to be included under a more comprehensive CSWPP and implementation effort.

Since the inception of the State's Wellhead Protection Program in 1994 through the recent implementation of the ISWPP, Nevada has assisted in the development of 76 wellhead/source water protection plans, covering 209 of 567 public water systems in Nevada. The success of the ISWPP and local CSWPP plan development depends on the establishment of engaged local planning teams; they represent the water systems, local planning agencies, and other stakeholders throughout each county. Each team must be structured so that it adequately represents the community's public water systems and planning agencies. A representative team allows for more transparency of the planning effort and brings credibility when presenting the plan to community leaders. It is also imperative that the teams are committed for the entire plan development process, which on average takes approximately two years. The time it takes to complete a plan may vary depending upon the county's population, geographic size, resource availability, and commitment.

The ISWPP assists communities in developing engaged and committed local planning teams by dedicating resources upfront to provide outreach and education to the local governing boards and public water systems through presentations at their regularly scheduled meetings. The presentations outline the ISWPP planning goals and highlight local planning benefits should the community chose to participate. The ISWPP emphasizes that the planning effort is voluntary, and provides a mutual benefit for the State and local communities. The goal of the Program planning horizon is to overlap the technical assistance into neighboring counties to allow for regional coordination and to maximize funds dedicated to travel expenses. However, ISWPP is also flexible in working in other communities based on demonstrated needs, local planning momentum, and resource availability.

Previously, the Wellhead Protection Program provided financial assistance to public water systems and communities through the annual Request for Proposal (RFP) process. Since the ISWPP was refocused in 2009, NDEP has opted to contract directly with a technical contractor through the RFP process, which occurs every two to four years. The contractor works directly with the community in coordinating plan development and is required to demonstrate technical and planning experience in working with local planning communities. Strong leadership skills are crucial to facilitate multi-jurisdictional team meetings and to promote a cooperative and productive environment.

The current ISWPP planning schedule and funding allocations allow every public water system in the State of Nevada an opportunity to participate in the planning process over the next 12-15 years. In addition, the program planning schedule goal is to provide assistance for up to three counties at a time; approximately two years of technical assistance is dedicated for each county to include team building, plan development and implementation, and promoting community acceptance of the plan.

Nevada's local community boards may send a letter to NDEP requesting assistance. The letter must demonstrate a commitment to dedicating appropriate staff to participate in local planning teams and attend regular meetings. This ensures that staff has the resources and support to commit to plan development.

Between 2009 and 2012, the ISWPP assisted three counties in developing and implementing plans which covered all regulated public water systems within the respective counties. Douglas County served as the State's pilot community. In the spring of 2012, the Douglas County CSWPP (plan) was unanimously adopted by the Douglas County Regional Planning Commission and the Board of County Commissioners. This plan was incorporated into the County's Master Plan to ensure it being implemented in future planning activities. The plan covers all regulated public water systems in the Carson Valley. The Lake Tahoe water systems are excluded because they are already a highly regulated community under the Watershed Control Program administered by NDEP's Bureau of Safe Drinking Water. The plan covers a population of approximately 34,000.

Two other counties - White Pine and Nye - were cycled into the planning schedule following Douglas County's planning momentum. Both the White Pine and Nye County Boards of County Commissioners also formally adopted their plans in 2012 and are currently implementing them.

In the summer of 2012, a new technical contractor was selected to provide community assistance under the ISWPP. Lyon County and Carson City are currently receive planning assistance and are scheduled to release draft plans in December 2013 and January 2014, respectively. Staff is working with the ISWPP contractor to select and cycle in two more communities in 2014.

Funding

The Drinking Water State Revolving Fund continues to provide subsidy in the form of principal forgiveness loans to "disadvantaged" communities to address low income areas that have infrastructure deficiencies that pose a health threat. The Nevada Administrative Code defines a disadvantaged community as an area served by a public water system in which the average income per household is less than 80 percent of the median household income of the state median household income. The terms and amount of the additional subsidy are determined on a case by case basis based on the individual community's financial situation.

Nevada, as a whole, recognizes that the needs associated with infrastructure deficiencies are increasing while many federal and state funding resources are dwindling. Collaboration between the major funding agencies in the state was initiated in 2006. This effort is further discussed on our website at <http://ndep.nv.gov/bffwp/nwwpa.htm>.

Challenges

Impact of the new drinking water standard for arsenic on Nevada

According to the NDEP Bureau of Safe Drinking Water (BSDW), 113 Public Water Systems, approximately 35% of systems subject to the Arsenic Rule in Nevada, were impacted by the

new standard when compliance determinations were made in 2005. A few systems have since been added to or removed from the list based on more recent arsenic data. The Safe Drinking Water Act and Nevada Administrative Code, allow for systems that meet certain criteria to be eligible for exemptions to the new standard, providing more time for them to comply. For some systems with small populations and low concentrations, final compliance deadlines can be as far out as January 23, 2015. Exemptions are approved by the State Environmental Commission.

As of July 2013, 96 affected water systems have met their compliance requirements through treatment or non-treatment solutions. This is an improvement from the 86 systems that had achieved compliance as of September 2012. Exemptions are in place for ten (10) systems that will expire January 23, 2015; of those, six (6) systems have not yet demonstrated compliance with the arsenic standard and have been allowed more time to finalize their plan for compliance. Nine (9) systems in violation of the drinking water standard are working to achieve compliance under an NDEP enforcement approach. Approaches generally include an Administrative Order (unilateral in nature) or an Administrative Order on Consent. Both approaches outline a water system's compliance timeframes and puts them on a Path to Compliance. The systems on the Arsenic Rule Compliance Status List, included as ATTACHMENT 2, either have an executed Order, or are in the queue for establishing one. There are three (3) additional systems that are not in compliance with the standard, but are working on their compliance solutions in concert with NDEP staff using various approaches other than formal enforcement.

Many systems were not prepared financially or otherwise to meet their compliance deadlines. Systems faced many hurdles pertaining to regulatory requirements, exemption options and processes, compliance options, treatment options, cost impacts, funding options, and strategic planning. In addition, the requirements of operator certification increased. Previously, systems that only consisted of water storage and distribution were not assigned treatment points for operator certification. Any system that employs treatment must have a treatment-certified operator. Some water systems have installed treatment systems of some complexity, elevating them from no treatment required to now needing a Treatment 2 to Treatment 4 operator and adding more costs. Systems are now working to determine their true cost of operations and maintenance. These cost vary widely depending on the type of treatment technology, number and type of chemical addition required, power use, and various administrative costs including possible disposal of media or sludge.

Managerial Capacity

Despite the evolution and maturing of Nevada's Capacity Development Program, the greatest areas of weakness in rural Nevada continue to be in managerial capacity. Information gathered from the 2011 and 2012 Capacity Surveys shows that managerial capacity is directly affected by the individual water system operators, managers, and board members. Nevada has some very small water systems (31% of the community water systems in Nevada serve a population less than 100 people) and in some cases there is not even one full time employee. Finding and retaining qualified and experienced water system operators, managers, and board members is limited in rural areas and may be attributed to the following causes:

- Board Members without utility backgrounds. In rural communities, water systems are fortunate to find enough individuals to serve on a board. Many board members in rural areas lack a fundamental understanding of water system operations, finance and management. This can be overcome where an experienced water system manager is in place, but when the manager is lacking experience, this situation can be problematic. Unfortunately, some boards tend to micro-manage water systems, and when they lack the appropriate background or experience this can lead to a serious decline in the capacity of a water system.
- Aging workforce. There have been several published reports regarding the aging workforce in the water industry and the lack of qualified professionals to succeed those that are retiring.
- Salaries. Due to the competition in the marketplace, rural water systems typically do not offer enough money to attract experienced operators and managers. They will usually settle for someone less qualified that will work for a lower wage. This in turn affects the managerial capacity of the water system.

Water systems that are led by a capable, experienced manager, who are supported by a competent and progressive governing board, tend to have high capacity in all areas. On the other hand, water systems that are led by managers with little experience or technical ability who report to an unsupportive or uninformed board tend to struggle with capacity in many areas.

The Future

As the capacity development program grows and evolves, lessons learned have resulted in a program that continues to improve and better serve the needs of Nevada's water systems. From the beginning of the program, Nevada has maintained that the Capacity Development Strategy is a 'living' document and will be revised as needed. Although the Strategy document, itself, has not been revised, the method of implementation of the Strategy has evolved.

While all systems are unique, the vast majority of water systems in Nevada still need particular assistance with managerial and financial principles and planning. Full cost pricing is required in order for a water system to fully function as it should. Operation and maintenance activities, such as valve exercising and line flushing, are also important to extending the life of the infrastructure.

Proper management of infrastructure assets is critical to sustainability. Although the concept of managing assets is relatively simple, many water utilities do not understand how to design and implement an effective asset management program. Managing a utility effectively requires a proactive approach to managing infrastructure assets. The primary objective of asset management is to manage system assets in a way that meets long-term service requirements reliably and cost-effectively. Future technical assistance efforts will include asset management training and assistance to systems to:

- develop a record of their assets and create a tailored asset management plan,
- create a 5 and 10 year capital improvement plan (CIP), and
- understand their financial situation and funding opportunities to implement their CIP

There are new requirements and issues that will challenge many Nevada water systems in the coming years. Among them are the Disinfection Byproducts Rule, the Long Term 2 Enhanced Surface Water Treatment Rule, the Groundwater Rule, the need to conserve the State's precious water resources, and finding qualified professionals in the water industry.

The focus of technical assistance over the near term will be on the critical issues that are identified above. Plans and strategies are already in place to make sure Nevada's water systems will continue to successfully meet new challenges and build capacity. The Capacity Development Strategy will continue to evolve, but will always focus on the following statement: *"Water system capacity is the ability to plan for, achieve, and maintain compliance with applicable drinking water standards. Capacity has three components: technical, managerial, and financial. Adequate capacity in all three areas is necessary for a system to have capacity."*

2. *Based on the existing system strategy, how has the State continued to identify systems in need of capacity development assistance?*

Compliance problems, sanitary survey deficiencies, requests for technical assistance, and capacity surveys are all used to identify systems in need of capacity development assistance.

3. *During the reporting period, if statewide PWS capacity concerns or capacity development needs (TMF) have been identified, what was the State's approach in offering and/or providing assistance?*

Technical assistance has been offered both by state staff and through third party contractors (see technical assistance section above).

4. *If the State performed a review of implementation of the existing systems strategy during the previous year, discuss the review and how findings have been or may be addressed.*

Nevada evaluates the effectiveness of the existing systems strategy on an ongoing basis and adjusts the program when needed improvements are identified.

5. *Did the State make any modifications to the existing system strategy?*

No changes to Nevada's Capacity Strategy were made during SFY13.

**ATTACHMENT 1 –Technical Assistance
Provided by Nevada Rural Water Association**

Technical Assistance provided by Nevada Rural Water Association (Components A & B)

The following list identifies the initiation of technical assistance. Completion of assistance may take longer than one quarter.

<u>Water System Name</u>	<u>Description of Assistance</u>
Jul-Sep 2012	
1 Wildes Manor MHP	SRF loan application, water conservation plan, O&M plan, ERP, bacteriological sampling plan, capacity evaluation
2 Kingsbury GID	Leak detection assistance to find a system leak
3 Canyon GID	Assisted with GIS valve records
4 Virgin Valley Water District	Composed GIS map using NAIP images
5 Kingston	Excel training (2 people, 1 system, 7.5 hrs)
6 Weed Heights	Assisted with new chlorine residual requirements & SOP
7 Indian Hills GID	Assisted with troubleshooting after positive e. coli result & subsequent boil water notice
8 Washoe State Park	Assisted with troubleshooting bacteriological contamination & subsequent disinfection of system
9 Hawthorne Utilities	Review & assistance with CCC implementation
10 Sierra Estates GID	Vulnerability Assessment, ERP, CCCP
11 McGill-Ruth Consolidated Sewer & Water GID	O&M plan, CCCP, bacteriological sampling plan, chlorine residual analysis SOP
12 The Lodge at Galena	Update of CCCP
Kingsbury GID	Valve exercising
Virgin Valley Water District	Updated GPS data & datasets, GIS & GPS training
13 Moapa Valley Water District	Updated GIS data for meter locations, updated ArcGIS10.1 software, GIS & GPS training
14 Topaz Ranch Estates GID	Assisted with operator candidate interview, public outreach information, effective communications with Board
15 City of Wells	Interim guided sanitary survey
16 Biglieri Water System (Washoe County)	O&M plan, CCCP, and ERP development
17 Old Forty West Motel (Washoe County)	O&M plan, CCCP, and ERP development
18 4th St Bistro (Washoe County)	O&M plan, CCCP, ERP, and Bacteriological Sampling Plan development
Canyon GID	CCCP development
19 Arrowhead MHP (Washoe County)	O&M plan, CCCP, and ERP development; assisted with well logs & water rights
20 Mt Rose Bowl HOA	Assisted with funding options for a pH control project
McGill-Ruth Consolidated Sewer & Water GID	Assist with vector data re-alignment
21 Crosby's Lodge, Sutcliffe	D-1 operator training (1 operator, 1 system, 1.5 hrs)
Indian Hills GID	Leak detection/Water audit training (2 people, 1 system, 2.5 hrs)
22 City of Fernley	Excel training (2 people, 1 system, 2.25 hrs)
23 Gardnerville Ranchos GID	Leak detection training (3 people, 1 system, 1.25 hrs)
Oct-Dec 2012	
24 Elk Point Country Club	Assisted with chlorine residual SOP and CCCP
25 Lahontan Dam State Park	Assisted with source water treatment
26 Lander County Water & Sewer District 2 (Austin)	Assisted with chlorine residual testing
Wildes Manor MHP	Assisted with Spanish version of Boil Water Notice
27 Dyer Elementary School	Assisted with updates to O&M plan and ERP
28 City of Carlin	Installed ArcReader and provided training on the use of published maps and asset tables
City of Wells	Training on ArcGIS 9.1
Kingsbury GID	Leak Detection Training
Elk Point Country Club	Leak Detection Training (1 person, 1 system, 3 hrs)
29 Gerlach GID	Cross-connection Control for Board (10 people [5 Board members], 1 system, 1.25 hrs)
Lander County Water & Sewer District 2 (Austin)	Distribution Operator Training (1 person, 1 system, 5.75 hrs)
30 Round Mountain	Leak Detection Training (1 person, 1 system, 4 hrs)
31 City of Fallon	Water Audit and Leak Detection Training (4 people, 1 system, 2.25 hrs)
32 Tonopah Public Utilities	Water Audit and Leak Detection Training (2 people, 1 system, 8 hrs)
33 Lamoille Water Users Association	Assisted with Bacteriological Sampling Plan, O&M plan, ERP, Cl2 Residual SOP, & Asset Mgt
34 Crescent Valley	Assisting with truck transport (Boss Tanks) of water to Barrick Mine
35 Elko RV Park	Assisted with SOPs
36 Goldfield Utilities	Demonstrated & set up ArcGIS online
Virgin Valley Water District	Assisting with final map view & display of records
McGill-Ruth Consolidated Sewer & Water GID	Set up ArcGIS online
Tonopah Public Utilities	Leak Detection Training (1 person, 1 system, 3.75 hrs)
37 Topaz Best Western	Assisting BSDW in sanitary survey of new system & sampling techniques
38 City of Ely	Assisted BSDW with CCC implementation - cited as a significant deficiency on the June 2012 Sanitary Survey
Canyon GID	Income survey
Lahontan Dam State Park	Installed ArcGIS and reviewed possible GPS purchase
Canyon GID	Assisting with determining accuracy of GPS and post processing
Jan-Mar 2013	
39 Windmill Ridge Restaurant & Lodge	Assisted with investigations into high nitrate test results
40 Carvers Smoky Valley RV & MHP	Assisted with development of Bacteriological Sampling Plan
41 Panaca Farmstead Water Association	CCCP development
Carvers Smoky Valley RV & MHP	CCCP development
Lahontan Dam State Park	Assisted with Mobile Mapper GPS unit & post-processing attribute data collected
Goldfield Utilities	Edited GIS tables for use with mobile devices
42 Beatty Water & Sanitation District	Excel Training (1 person, 1 system, 4.5 hrs)
Goldfield Utilities	Leak Detection Training (4 people, 1 system, 3 hrs)

Technical Assistance provided by Nevada Rural Water Association (Components A & B)

The following list identifies the initiation of technical assistance. Completion of assistance may take longer than one quarter.

<u>Water System Name</u>	<u>Description of Assistance</u>
Jan-Mar 2013	
Weed Heights	Assisted with Bacteriological Sampling Plan
Dyer Elementary School	Assisted with Bacteriological Sampling Plan Updates
McGill-Ruth Consolidated Sewer & Water GID	Assisted with CCCP update
43 City of Caliente	Assisted with CCCP development & presentation to the City Council
Lahontan Dam State Park	Training on Mobile Mapper and ArcGIS 10.0 (1 person, 1 system)
Goldfield Utilities	Prepared system maps for ArcGIS online account
City of Fallon	Treatment training (2 people, 2 systems, 2 hours)
44 City of Yerington	Leak Detection/Water Audit training (4 people, 1 system, 4.75 hours)
City of Fallon	Treatment training (2 people, 2 systems, 2 hours)
City of Fallon	Treatment training (2 people, 2 systems, 2 hours)
45 Dutchman Acres	Assisted system with issues leading to boil water notice & return to compliance
City of Ely	Assisted with CCC Draft Plan & Start-up
Canyon GID	Assisted with TCR site sampling plan
46 Pyramid Lake Piute Tribe	Training and data assistance in use of ArcGIS
City of Fallon	Treatment training (2 people, 2 systems, 2.5 hours)
Apr-Jun 2013	
Sierra Estates GID	Assisted with TCR site sampling plan
47 Tolas Waterworks Co-op	Assisted with CCR
48 Jiggs Bar	Assisted with manganese compliance (reviewed water quality, treatment options, corrosivity index)
49 Lovelock Meadows Water District	Assisted with CCC implementation
Moapa Valley Water District	Demonstrated ArcGIS Online and assisted with editing the meter file
Panaca Farmstead Water Association	Demonstrated ArcGIS Online and provided general GIS assistance on files
Lander County Water & Sewer District 2 (Austin)	Leak detection training (1 person, 1 system, 2 hours)
Dutchman Acres	Assisted with CCCP, ERP, O&M plan
Panaca Farmstead Water Association	GPS water meters
50 Terrace Garden Apts	Assisted operator addressing customer complaints
Tonopah Public Utilities	Created free ArcGIS online account for TPU & uploaded their data files
51 Washoe Tribe of NV & CA, Carson Colony	Assisted with Tier II public notification due to rising nitrate levels in source water with treatment out of service
City of Carlin	Review & upload GIS data for publishing on ArcGIS online
52 Esmeralda Market - Dyer	Assisted with TCR site sampling plan
Beatty Water & Sanitation District	Assisted with standard operating procedures including startup of arsenic treatment plant
Washoe Tribe of NV & CA, Carson Colony	Assisted with treatment plant start-up
53 Montello	Assisted with Income Survey
City of Wells	Set up ArcGIS online account, assisted with data updates, & trained one operator on the use of ArcGIS online
54 Battle Mountain Te-Moak Tribe	Assisted with arsenic treatment plant start-up
55 Midway Gold	Provided treatment review materials for operator independent study
Virgin Valley Water District	Assisted with the transfer of GPS points to GIS geodatabases
Panaca Farmstead Water Association	Assisted with the GPS of water meters & mapping of legally defined service area for PUC
56 Alamo Sewer & Water GID	Arranged GIS data for internet publishing
Dutchman Acres	Assisted with the GPS of assets and other points for system mapping

General Training provided by Nevada Rural Water Association (Component C)

<u>Course Title</u>	<u>Date</u>	<u>Contact Hours</u>	<u>Number of Participants</u>	<u>Number of Systems</u>	<u>Locations</u>
<i>GIS for Rural Water Utilities</i>	7/20/2012	3.00	7	6	Videoconference to multiple locations
<i>Fire Hydrants: Installation, Repair, & Maintenance</i>	8/17/2012	3.00	31	16	Videoconference to multiple locations
<i>Water Distribution Certification Review</i>	9/4/2012	4.00	9	6	Silver Springs
<i>Water Distribution Certification Review</i>	9/18/2012	4.00	14	7	Silver Springs
<i>Water Distribution and Treatment Certification Review</i>	9/18/2012	4.00	10	6	Silver Springs
<i>Trench Safety Awareness</i>	9/21/2012	3.00	34	16	Videoconference to multiple locations
<i>Survey of Water Distribution System Components</i>	10/19/2012	3.00	40	19	Videoconference to multiple locations
<i>Transmission Mainline, Lateral Valve Insertion & AWWA Valves</i>	11/16/2012	3.00	48	29	Videoconference to multiple locations
<i>Water Rights Boot Camp</i>	12/7/2012	3.00	70	43	Videoconference to multiple locations
<i>Water Operator Principles - Distribution & Treatment</i>	1/9/2013	2.00	7	4	Silver Springs
<i>Doing Your Best to Ensure Water Quality</i>	1/18/2013	3.00	52	30	Videoconference to multiple locations
<i>Water Operator Principles - Distribution & Treatment</i>	1/23/2013	2.50	16	7	Silver Springs
<i>Water Treatment</i>	1/25/2013	2.50	2	2	NA
<i>Water Operator Principles - Distribution & Treatment</i>	1/30/2013	2.00	18	8	Silver Springs
<i>Monitoring - An In-Depth Look</i>	2/15/2013	3.00	62	32	Videoconference to multiple locations
<i>Water Operator Principles - Distribution & Treatment</i>	2/20/2013	2.50	15	7	Silver Springs
<i>Water Operator Principles - Distribution & Treatment</i>	2/27/2013	2.50	14	6	Silver Springs
<i>Overcoming Hurdles to CCC Implementation</i>	3/12/2013	2.00	48	33	Nevada Rural Water Conference - Reno
<i>How Do I Know When an Asset Needs to be Replaced</i>	3/13/2013	2.25	24	14	Nevada Rural Water Conference - Reno
<i>Practical Steps for Conducting Water Audits</i>	3/13/2013	1.25	39	23	Nevada Rural Water Conference - Reno
<i>Understanding Map Projections and Coordinate Systems Using GIS & GPS</i>	3/13/2013	2.00	17	13	Nevada Rural Water Conference - Reno
<i>New Developments in GIS: Why it is easier than ever to collect and update GIS Data</i>	3/13/2013	2.00	29	18	Nevada Rural Water Conference - Reno
<i>New Developments in GIS: Why it is easier than ever to collect and update GIS Data</i>	3/14/2013	2.00	12	7	Nevada Rural Water Conference - Reno
<i>Cross Connection Control Refresher Workshop</i>	4/19/2013	3.00	55	33	Videoconference to multiple locations
<i>Design Considerations for Sanitary Sewer & Stormwater Pump Stations (approved for water hours, pumping related)</i>	5/10/2013	3.00	28	16	Videoconference to multiple locations
<i>DNA of Hazardous Waste Compliance</i>	6/19/2013	3.00	19	12	Videoconference to multiple locations

**ATTACHMENT 2 – NDEP Bureau of Safe Drinking Water
Arsenic Rule Compliance Status List**

NDEP Bureau of Safe Drinking Water - Arsenic Rule Compliance Status List – Sept. 9, 2013

	COUNTY	PWS ID#	PUBLIC WATER SYSTEM NAME	ARSENIC (ppb)	POP
<u>Systems with Final Exemption Extensions from the State Environmental Commission</u>					
1	CL	NV0000219	SEARCHLIGHT WATER COMPANY	11	760
2	DO	NV0000887	SUNRISE ESTATES	17	91
3	HU	NV0000162	MC DERMITT WATER SYSTEM	19	200
4	LA	NV0000006	LA CO SEWER AND WATER DIST 2 AUSTIN	14	350
5	WA	NV0000896	BRISTLECONE FAMILY RESOURCES	12	25
6	WA	NV0004021	SILVER KNOLLS MUTUAL WATER COMPANY	13	120
<u>Systems Working to Achieve Compliance Under an NDEP Enforcement Approach</u>					
1	CH	NV0000303	OLD RIVER WATER COMPANY	32	300
2	CH	NV0000055	TOLAS WATERWORKS	35	110
3	CH	NV0000058	WILDES MANOR	20	70
4	CL	NV0000109	EQUESTRIAN ESTATES CO OP WATER ASSOC	36	108
5	CL	NV0000147	FRONTIER VILLAGE MHP	42	60
6	CL	NV0000149	DESERT PARADISE MHP	13	70
7	EL	NV0000928	LAMOILLE VALLEY PLAZA	24	25
8	NY	NV0005028	SHOSHONE ESTATES WATER COMPANY	30	240
9	WA	NV0005061	VERDI BUSINESS PARK WATER CO-OP	15	100
<u>Systems Working to Achieve Compliance Under Other NDEP Approaches</u>					
1	CL	NV0000319	ROARK ESTATES WATER ASSOC.	18	62
2	DO	NV0002046	HOLBROOK STATION RV & MHP	43	180
3	LI	NV0000005	ALAMO SEWER AND WATER GID	22	900

*Updated
09/03/2013*