

**NEVADA DIVISION OF ENVIRONMENTAL  
PROTECTION**

**CAPACITY DEVELOPMENT  
REPORT TO THE GOVERNOR**



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# Capacity Development Report to the Governor

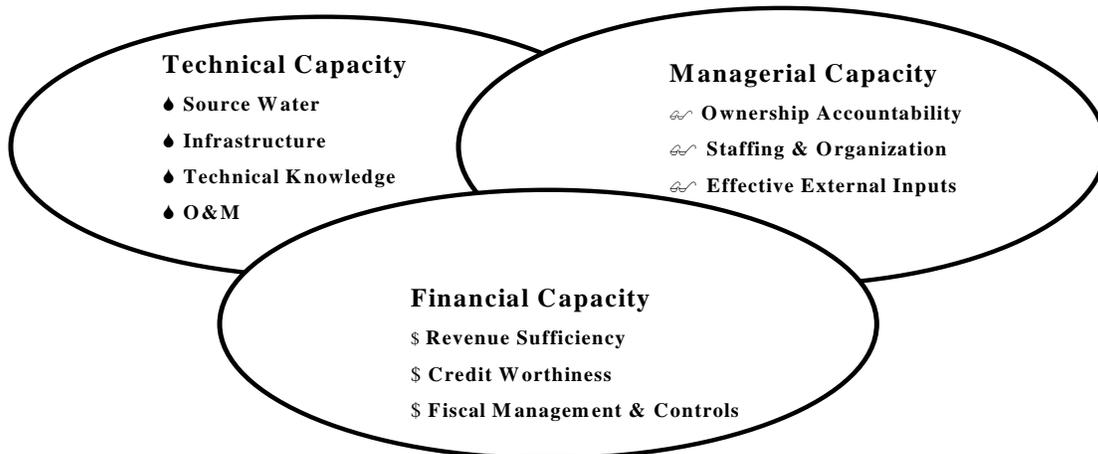
## REPORT PURPOSE

The Safe Drinking Water Act, Section 1420(c)(3), requires that not later than two years after the date on which a State first adopts a capacity development strategy, and every three years thereafter, the head of the State agency that has primary responsibility to carry out this title shall submit to the Governor a report that shall also be available to the public on the efficacy of the strategy and progress made toward improving the technical, managerial, and financial capacity of public water systems in the state. This report is intended to fulfill the requirement of Section 1420(c)(3).

## INTRODUCTION

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 (see Figure 1). Adequate capacity in all three areas is necessary for a system to have “capacity”. Nevada Revised Statute defines the term “capability” (see Appendix A) to have the meaning ascribed to the term “capacity” in Safe Drinking Water Act. Capacity development is the process of water systems acquiring and maintaining adequate technical, managerial, and financial capabilities to enable them to consistently provide safe drinking water.

Figure 1  
Water System Capacity



The Safe Drinking Water Act (SDWA) amendments of 1996 require states to develop and implement programs to ensure that new systems demonstrate capacity and to assist existing systems in acquiring and maintaining capacity. Under Section 1420 of the SDWA, a state must develop and implement a strategy to assist public water systems in acquiring and maintaining technical, managerial, and financial capacity. States failing to develop and implement capacity development programs will have up to 20% of their Drinking Water State Revolving Fund allotment withheld. The Drinking Water State Revolving Fund is a loan program to help public water systems finance the infrastructure needed to achieve or maintain compliance with SDWA requirements and to achieve the public health protection objectives of the Act.

### **Objectives of Nevada's Capacity Development Strategy**

The Nevada State Health Division's Bureau of Health Protection Services (BHPS) formed a Capacity Development Stakeholders Working Group to assist in the creation of the Capacity Development Strategy. The stakeholder group consisted of members from Federal, State, and local governments; private and public water systems; system customers; and drinking water organizations and associations. During the course of its deliberations, the group characterized the problems of small systems in Nevada, listed impediments and enhancements to capacity development, listed additional programs or activities to assist systems in need, and decided what the goals and priorities of the strategy should be.

The information that emerged from the Stakeholders Working Group formed the basis for Nevada's Capacity Development Strategy, which was approved by the U.S. Environmental Protection Agency (USEPA) in September 2000. Nevada's Capacity Development Strategy provides a framework to identify and prioritize water systems most in need of assistance in enhancing their technical, managerial, and financial capacity. Having identified and prioritized systems most in need, Nevada can then effectively target systems in need of technical and financial assistance.

The major objectives of Nevada's Capacity Development Strategy are:

1. Prioritization of systems most in need.
2. Assessment of system capacity.
3. Developing programs to assist systems with SDWA compliance.
4. Encouraging partnering between systems.
5. Measuring success.

### **ACCOMPLISHMENTS**

Several tools are being utilized to implement the capacity development strategy. These tools, which are discussed below, include data collection, technical assistance, and operator training and certification.

## **Data Collection**

The Capacity Development Strategy specified that the State would use a matrix approach to evaluate systems most in need of technical, managerial, and financial capacity assistance. The matrix system uses risk factors relative to compliance problems and ranks systems most in need. The risk types included in Nevada's matrix are:

1. Health/Water Quality.
2. Monitoring and Reporting.
3. Certified Operator Information.
4. Managerial Information.
5. Financial Information.

Each risk factor is assigned a score based on established criteria. These criteria are described in Appendix B.

## **Discussion of Baseline Data**

For the data collection effort, Nevada utilized third-party contractors funded by Drinking Water State Revolving Fund (DWSRF) set-asides. Data was collected for all community and non-transient non-community water systems. A community water system is a water system that has at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. A non-transient non-community water system is a water system that serves at least 25 of the same non-residential persons for more than six months per year, such as a factory or school. Water system participation in the data collection was voluntary. To date, all willing water systems have been evaluated using the matrix approach.

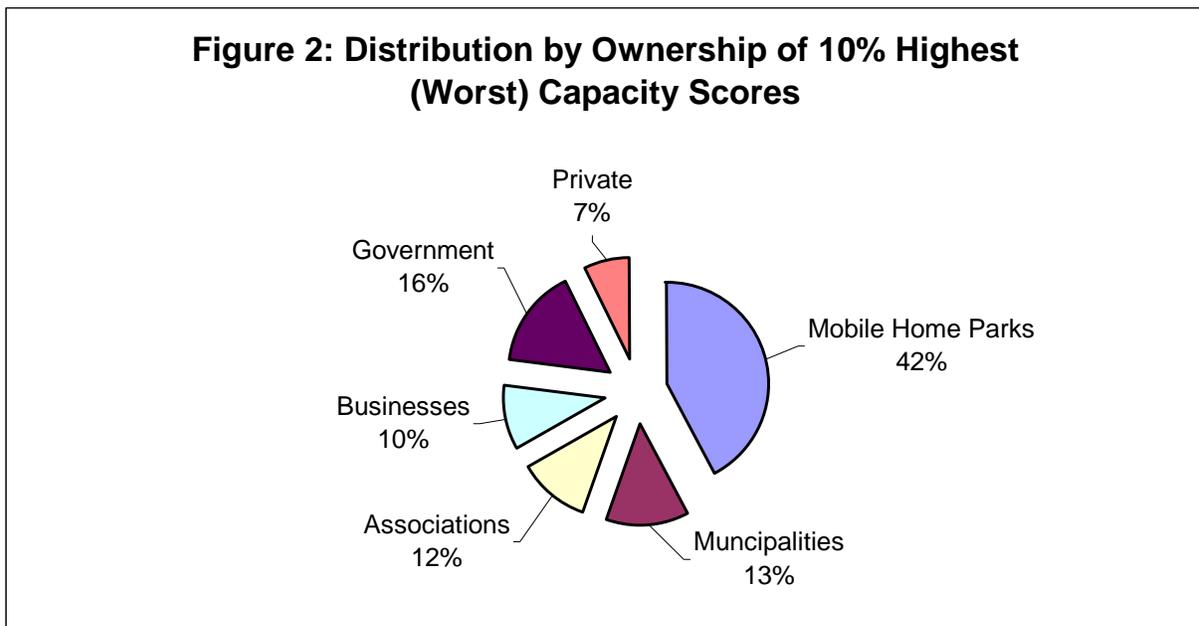
In addition to completing the matrix, the contractors have collected information on the following:

- Needed maintenance or infrastructure
- Operational and management procedures
- Source water adequacy
- Identification of any compliance problems
- Identification of special needs
- Identification of sources of possible funding, if required

Data and information collected has been presented in a manner that clearly identifies the areas of need for each water system. One of the goals of data collection is that the technical assistance provider be able to read the evaluation summary and easily identify critical areas for each system. The contractor has been tactful and considerate of the employees of the water systems while collecting data since many water systems are skeptical about the purposes of the data collection project. The goal of the project is to provide assistance, not to bring about State enforcement action.

All information collected was entered into a database. Having all information in a database has allowed NDEP to sort and analyze data and target future technical assistance.

Out of a total of 322 water systems evaluated, the contractor was unable to complete 44 evaluations. Scores ranged from a high (worst) of 67 to a low (best) of 0. Figure 2 shows the distribution of the 10% highest (worst) scores by water system ownership type. Mobile home parks have the highest scores, on average, demonstrating the lowest capacity. Mobile Home Parks make up 40% of the top 10% highest scores or those with the lowest capacity as shown in Figure 2.



### **Technical Assistance**

Helping water systems develop and maintain capacity is the backbone of the Capacity Strategy. As with the data collection effort, Nevada is utilizing DWSRF set-asides to fund third-party contractors to provide technical assistance. Many water systems throughout Nevada have increased their capacity through the technical assistance program. Technical assistance follows the guidelines of the Capacity Strategy as follows:

- Prioritization of systems most in need
- Assessment of system capacity
- Developing programs to assist systems with compliance (technical assistance)
- Encouraging partnering between systems

- Measuring success

Some common examples of assistance include:

- Providing operator training
- Assisting in consolidation efforts
- Assisting in preparing Emergency Response and Operation & Maintenance Plans
- Assisting the water system in creating a detailed budget
- Assisting with completing grant and loan applications
- Assisting with drinking water standard compliance

Providing technical assistance also includes holding training sessions for water system Board members and owners/managers. Common training topics include:

- Rate Setting and Financial Management
- Water System Management
- Board Roles and Responsibilities
- Budget and Financial Planning
- Operation & Maintenance Budgets
- Water Rates
- Infrastructure Funding Options

### **Methods of Effective Technical Assistance**

Over the years, the method for providing technical assistance has evolved into a very effective approach. While the intent of technical assistance has always been to build capacity, some methods have been shown to be more effective than others. Technical assistance has clearly made a positive impact on the State's public water systems. The trend has been to provide a "targeted" assistance by focusing on specific issues or problem areas. We have learned that the following elements need to be implemented in order to maximize the effectiveness of technical assistance:

- Prior to offering technical assistance to a water system, the existing capacity of that system should be carefully evaluated. Currently, this is accomplished through an interview with the water system manager, using a standardized evaluation tool as a guide. The end result is a comprehensive analysis of the system's capacity, which is used to develop a strategy for technical assistance.
- The objectives, scope, and budget of the technical assistance effort should be clearly defined to maintain focus on the ultimate goal of increasing capacity. The State, the water system manager and the technical assistance provider must all know what is to be expected.
- The goal of technical assistance should be to make increases in capacity through teaching and training that will last long after the assistance provider is

gone. The water system manager should take an active role in technical assistance to learn from the experience and be better able to serve the needs of the water system in the future.

- Measuring the success of technical assistance is critical. When the work is completed, the assistance effort should be carefully evaluated. Measuring success helps the State demonstrate the effectiveness of the Capacity Development Strategy and helps the technical assistance provider make necessary adjustments to assistance methods. Ideally the water system manager should be involved in the evaluation process. This simple approach builds support and awareness of the program.

### **Technical Assistance Case Study – Success Story**

A recent success story involves the Vegas View Sites Water Association in Clark County. This example demonstrates the comprehensive assistance that is available to water systems and the positive impacts that assistance has on capacity.

The initial scope of work included the following 5 items:

- 1) Provide general management and financial training;
- 2) Complete a Capital Improvement Plan;
- 3) Prepare an Operation and Maintenance Plan;
- 4) Provide operator training resources; and
- 5) Prepare a water conservation plan or policies.

After the work commenced, and based upon conversations with the operator the following additional tasks were added:

- 6) Ascertain why the Las Vegas Valley Groundwater Management Program was charging the Association such high fees for groundwater use, and
- 7) Determine Clark County's land use intentions for the area.

The technical assistance provider assisted the Association complete its Operation & Maintenance Plan, but found that the Association did not have a distribution map. The assistance provider provided a map. After reviewing the State's files, the technical assistance provider noted several additional items of concern. The Association did not file a Consumer Confidence Report (CCR) and received a reporting violation and the state's database had two errors (incorrect storage tank sizes and incorrect contact information). The technical assistance provider was able to address these additional issues.

While gathering the data for the CCR, the technical assistance provider noted that the State's database did not denote the fact that the system chlorinates its water.

They were able to help the State correct this error. Once corrected, the database alerted staff that a sampling schedule violation for disinfection byproducts had occurred. However, before collecting samples, a sampling plan is required, which the technical assistance provider addressed. This situation also created a water quality sampling violation that needed specific explanation in the CCR. The technical assistance provider worked with the State to draft acceptable language in the CCR. After the Association published its CCR, the technical assistance provider assisted them with filing their CCR Certification Form.

The State then notified the Association of a second water sampling violation (lead and copper). The Association had collected the initial samples, but failed to report them properly. The technical assistance provider assisted the Association complete the proper form. The Association had also failed to collect the follow-up samples as required. The technical assistance provider assisted the Association by working hand-in-hand with the State to qualify their first samples as compliant with the sampling schedule. The technical assistance provider also explained, in detail, the sampling protocol and schedule for eventual compliance.

This lengthy example shows that the State's technical assistance providers have the knowledge, skills, and abilities to lead water systems through the maze of regulatory requirements and into compliance using a complete and comprehensive technical assistance approach. The assistance dramatically increased the capacity of the water system and was a positive learning experience for the water system manager.

### **Funding**

Since 1991, the Nevada State Legislature continues to support a program that provides grants to water purveyors for costs of capital improvements to publicly-owned community water systems in order to meet the requirements of the Safe Drinking Water Act. Eligible projects include any water infrastructure project that is made necessary by the state health requirements. This grant program has assisted small rural communities in Nevada address their infrastructure problems thereby increasing the capacity. When a water system receives a state grant, they are required to raise their water rates to a reasonable rate and to put money in a depreciation account. Receiving a grant, raising water rates and setting aside money for depreciation all help to improve the water system's financial capacity.

In addition to the state grant program, the Drinking Water State Revolving Fund (DWSRF) provides low interest loans to both publicly and privately owned water utilities.

### **Operator Training and Certification**

NDEP has funded the University of Nevada 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.

## **COMMON PROBLEMS**

The greatest areas of weakness continue to be in managerial and financial capacity, with infrastructure also playing a key role. Information gathered by technical assistance providers shows that the capacity of a water system is heavily tied to two key factors:

1. The ability and competence of the manager and/or governing board.
2. The financial condition and financial practices 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.

Strategic planning is key to the success of any organization, including water systems. However, few of the smaller, rural utilities utilize even the most basic forms of planning. This lack of planning can result in a variety of problems, most notably in the problems with the financial functions of the utility.

The far-reaching impacts of poor planning can be illustrated by the following fact: the typical small, rural water utility does not employ the practice of full-cost pricing. That is to say that revenues are not adequate to allow the utility to function as it should. There are a host of reasons for this, which include poor financial planning, poor capital improvement planning, lack of understanding, and resistance from the governing board or the public to rate increases.

Revenue shortcomings are detrimental in the following ways:

- **Capital Improvements.** Without adequate cash flow and savings, a utility is unable to replace infrastructure when needed. Utilities are also unable to fund new infrastructure needed to serve growing populations. The resulting impacts can be significant. Quite often, infrastructure is taken to the point of failure, well beyond the point where it should have been replaced. The utility then frantically searches for a method to pay for needed improvements; typically looking to State and Federal agencies for grant funds. This usually results in a major rate increase (in some cases over 100%), which leaves the public doubting the managerial ability of the utility.
- **Revenue problems** can also impact rural utilities in areas that are growing. Most rural utilities don't have a strategy that places the cost impacts of growth

on new customers. This is typically done through capacity development fees, which tend to be too low in most rural communities.

- Meeting New Regulations. Water systems that are unable to generate sufficient revenue will have a difficult time meeting new regulations. The new Arsenic Rule is a good example. Many systems throughout Nevada will be impacted by the new rule, but few will have the financial capacity to adequately address it.
- Investing in New Technology. Rural water systems sometimes utilize antiquated technology or practices. Examples include manual-read water meters, antiquated billing techniques and software, and rudimentary telemetry.
- Basic Needs. Many water systems operate without basic needs because they simply cannot afford them. One such example is backup power. Many rural systems operate without backup power, which can be used to maintain service during power outages. Another example is water system security. Few systems invest in the simple technology that will improve the security of their water systems.
- Qualified People. Without an adequate budget, it is difficult for some utilities to attract qualified managers and operators. The competition for qualified professionals in the water industry is significant. Some utilities can't afford to hire enough people, leaving the manager short-handed. These kinds of staffing problems lead to a whole host of other capacity problems.
- Important Programs. Important programs usually suffer as a result of the problems listed above. Few systems have or implement a water conservation program or a cross connection control plan. This is a result of inadequate funding or inadequate staffing.

In addition to the general observations made above, the following specific issues were prevalent.

### **Water Quality**

There are miscellaneous concerns with water quality across the State. The two most significant are related to arsenic and nitrate. Without a doubt, arsenic treatment will be expensive. An interesting statistic is that almost half of the 68 water systems owned by businesses will be affected by the new arsenic rule. Of particular concern is the lack of planning and action that exists among those systems that must comply with the new standard.

Nitrates are a concern because they tend to be associated with impacts from septic tanks. High densities of septic tanks do exist throughout Nevada. The cost of installing a sewer system to replace septic tanks can be difficult to finance. Two

areas that have been impacted by this dilemma in recent years are Silver Springs and the valleys north of Reno. Areas that may be impacted in the near future are town of Dayton, Mound House and Mason, all located in Lyon County.

### **Monitoring and Reporting**

Monitoring and reporting issues are common, but don't seem to significantly impact the capacity of a system. Missing sampling events or sending samples in late indicates that a system may have other problems. They may not have a properly trained operator or may be unorganized. Increasing capacity in other risk areas will likely lead to improvements in this risk area.

### **Operations**

Water systems that do not employ a certified operator or do not have an on-site operator tend to have problems. Adequate record keeping and maps are generally lacking in this situation. Also, manuals and plans tend to be neglected. Many of these systems have missed sampling events or have failed to monitor for lead and copper. Offering training to an on-site operator will increase managerial capacity and may improve the condition of the system.

We are finding that it is becoming more difficult for water systems to attract and retain qualified operators. This has always been the case for systems in very small, rural areas. Now the problem is occurring in larger urban areas due to the high demand for professionals in the water industry. This trend is not likely to reverse in the near future as a large percentage of the water industry workforce nears retirement.

### **Management**

In 2003, the Capacity Development Matrix Scoring Guide was revised significantly in regard to management practices. New scoring criteria were added to acknowledge issues that we knew existed throughout the State. The new scoring guide identified some very significant problems. One serious problem is that many water systems are unable to attract and retain competent, qualified individuals to manage or operate the system. A closely related problem is the general lack of experience among members of the governing body. Water board members come from all walks of life and many have little or no experience with water systems. In some communities, finding enough board members is a difficult task. These issues are problematic because the manager and board are responsible for the capacity of the system.

Another significant problem, which was already presented in this report, is the general lack of strategic planning (or planning of any kind). Planning is critical in any organization, for "if you fail to plan, you plan to fail." Planning may not seem too important in very small towns where things never seem to change. However, even in these situations, good financial planning is a must. The need for good planning is starting to become obvious in rural areas that are suddenly impacted by growing populations or by water systems affected by the new Arsenic Rule.

Other less significant observations included the general lack of prudent water system security practices and the lack of miscellaneous good management practices.

### **Financial Practices**

As stated previously, poor financial practices tend to affect all other areas of water system operations and management. There are still many systems that operate with much less revenue than is required to operate effectively. This is normally the end result of trying to minimize the financial impact to the customer. Other utilities such as gas, electricity and telephone are operated like true businesses. This wide spread problem is difficult to overcome. In addition to the revenue problem, many water system managers and boards lack an understanding of common water system financial practices. For example, we have noticed that some managers and boards do not understand or apply rate-setting practices that are acceptable in the industry.

### **Infrastructure**

Scoring criteria pertaining to infrastructure condition were added to the revised matrix. The condition of the water system infrastructure is closely tied to the managerial and financial functions of the system. Most small systems need improvements of one kind or another. In some cases, the required improvements are significant.

What we have found is that infrastructure generally suffers as a result of poor management and financial practices. Certainly, without adequate revenue, infrastructure cannot be replaced when it should be. Many systems have experienced the difficult situation where improvements must be made, but adequate funds are not available. This means that the infrastructure was not properly depreciated (because rates were too low).

Proper management of infrastructure assets is critical. Asset management is a relatively new concept. Although the concept of managing assets is relatively simple, many water utilities don't 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.

The number of water systems that have applied for AB 198 funding demonstrates the need for effective asset management and capital improvement planning in Nevada. Future technical assistance efforts will include asset management training and assistance.

## **FUTURE CHALLENGES**

In addition to the issues discussed in the "Common Problems" section, the impact of the new drinking water standard for arsenic on Nevada will be significant and warrants additional discussion

According to information provided by the Bureau of Safe Drinking Water, approximately 135 water systems will be impacted by the new standard. Systems that meet certain criteria are eligible for exemptions to the new standard, allowing them more time to comply. Otherwise, compliance is required by January 23, 2006. At last count, 97 water systems were eligible for an exemption and 38 were not.

The projected cost impact of the new arsenic standard is staggering. Many systems are not prepared financially or otherwise to meet the upcoming deadline. Some of the hurdles that water systems must get over pertain to regulatory requirements, exemption options and processes, compliance options, treatment options, cost impacts, funding options, and strategic planning.

The State's technical assistance providers have responded to the crisis by developing a strategy to help systems in need with the new arsenic standard. In brief, the strategy includes the following elements:

- Develop and maintain an arsenic database to track the progress of individual water systems. The database contains all of the systems with arsenic compliance issues, along with their current status and technical assistance needs.
- With input from the State and the water system, clearly written Task Orders will be developed that address the specific needs of each water system. The Task Orders will identify the objectives, tasks, budget and deliverables. Priority will be given to the systems with the most urgent needs (the earliest compliance deadlines).
- Tasks Orders will focus on comprehensive solutions. Tasks Orders will vary depending on individual needs, but may include any of the following activities:
  - Preparation of exemption request forms.
  - Preparation of Arsenic Management Reports. At a minimum, Arsenic Management Reports contain the following information:
    - An analysis of existing water quality.
    - Treatment or other compliance options.
    - Cost estimates and financial impacts.
    - Funding options.
    - Conclusions and recommendations.
    - Schedule of activities.
  - Preparation of SRF Priority List Pre-Applications or Applications.
  - Funding advice or assistance.

- Water rate analysis and adjustments (assistance with the PUC, for example).
- Collection of water quality data.

The technical assistance provider can provide a comprehensive strategy for a water system to meet compliance that includes engineering studies, water quality sampling, a rate analysis, and funding assistance.

## **FUTURE RECOMMENDATIONS**

As the program grows and evolves, there have been many lessons learned which have resulted in a program that continues to improve and better serve the needs of Nevada's water systems. From the beginning of the capacity development program, Nevada has maintained that the Capacity Development Strategy is a 'living' document and will be revised as needed.

While all systems are unique, the vast majority of water systems in Nevada still need 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. Strategic planning is so critical to the success of a water system, yet many systems continue to move forward with no plan whatsoever.

There are certain specific, critical issues that will challenge many Nevada water systems in the coming years. Among those issues are the new Arsenic Rule, impacts caused by growing populations, the need to conserve the State's precious water resources, and finding qualified professionals in the potable water industry.

The focus of technical assistance over the near term will be on the critical issues that are identified above. Concrete plans and strategies are already in place to make sure Nevada's water systems will continue to successfully meet new challenges and build capacity. Certainly other challenges will surface as time passes. The Capacity 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.”*

# APPENDIX A

## STATUTORY DEFINITIONS

**NRS 445A.817 “Financial capability” defined.** “Financial capability” means the ability of a public water system to:

1. Pay the costs related to maintenance, operations, depreciation and capital expenses;
2. Maintain creditworthiness; and
3. Establish and maintain adequate fiscal controls and accounting methods required for the operation of the system.

**NRS 445A.827 “Managerial capability” defined.** “Managerial capability” means the ability of a public water system to conduct its administrative affairs in a manner that ensures compliance with all applicable standards based on:

1. The accountability, responsibility and authority of the owner or operator of the system;
2. The personnel and organization of the system; and
3. The ability of the persons who manage the system to work with:
  - a) Jurisdictional, regulatory and other governmental agencies;
  - b) Trade and industry organizations; and
  - c) The persons served by the system.

**NRS 445A.847 “Technical capability” defined.** “Technical capability” means the ability of a public water system to:

1. Obtain an adequate and reliable source of water that is necessary to provide the quantity and quality of water required by the system;
2. Establish and maintain an adequate infrastructure for the treatment, storage and distribution of the quantity and quality of water required by the system; and
3. Employ operators who have technical knowledge and ability to operate the system.

**APPENDIX B**

**CAPACITY MATRIX SYSTEM  
AND  
MATRIX SCORING CRITERIA**

# Capacity Matrix System

<b>PWS Name</b>				<b>PWS Id#</b>		
<b>Risk Levels</b>						
Risk Type	High 5 Points	Med. High 4 Points	Medium 3 Points	Med. Low 2 Points	Low 1 Point	Total
Health / Water Quality						0
Monitoring and Reporting						0
Certified Operator						0
Managerial Information						0
Financial Information						0
Infrastructure Information						0
<b>Total Score</b>						<b>0</b>

## NEVADA'S CAPACITY SCORING CRITERIA

### A. Health/Water Quality

#### **High:**

1. Waterborne disease outbreaks.
2. Fecal/E.coli positive or Coliform Rule Maximum Contaminant Level (MCL) violations.
3. Surface water or ground water under surface water influence (GWUSWI) treatment technique violations from turbidity MCL exceedances or <2.0-log inactivation through filtration treatment.
4. Nitrate/Nitrite MCL violations.

#### **Medium High:**

1. Surface water or GWUSWI treatment technique violations for failure to meet minimum "CT" (Chlorine x Contact Time) inactivations through disinfection treatment.
2. Volatile Organic (VOC), Synthetic Organic (SOC), Radionuclides, and Inorganic (IOC) Chemical (including Lead Action Level) MCL violations.

#### **Medium:**

1. Nitrate contaminant detections at levels greater than 50% of the MCL.
2. Total Coliform (fecal negative) MCL violations.

#### **Medium Low:**

1. Copper action level violations.

#### **Low:**

1. Secondary MCL violations.
2. Ground water contamination greater than the MCL for any chemical contaminant within 1000 feet of the drinking water source (2-year travel time).
3. Ground water contaminant detection (chemical or viral) within 1000 feet of the drinking water source (2-year travel time).

### B. Monitoring and Reporting

#### **High:**

1. Surface water and GWUSWI water quality reports (turbidity, "CT," etc.)
2. Coliform bacteria.

#### **Medium High:**

1. Nitrate/Nitrite.

#### **Medium:**

1. VOC and SOC.
2. IOC (including Lead).

**Medium Low:**

1. Was the Consumer Confidence Report submitted on time and accepted by BHPS?
2. Radionuclides.

**Low:**

1. Copper.

**C. Certified Operator/Operations**

**High:**

1. No certified operator.

**Medium High:**

1. Water Treatment Plant operates with no operator on site.

**Medium:**

1. Certified to an insufficient grade or discipline.

**Medium Low:**

1. Certified operator is a contractor, located off-site.
2. Certified operator is on staff, but no attention is being paid to maintaining the water quality in the distribution system.

**Low:**

1. Insufficient number of certified operators for the water system operations.

**D. Managerial Information**

**High:**

1. Does management retain and compensate personnel with training and expertise appropriate to the needs of the system?
2. Does the water system management understand applicable regulations, rules, ordinances, and professional practices in the water supply area?
3. No Operation and Maintenance Plan.
4. Job duties are not clearly delineated.

**Medium High:**

1. Is the governing utility board knowledgeable and trained?
2. Does the system follow an effective planning procedure? Describe the planning process that your system uses.
3. Are there regular board meetings; Are meetings open to the public?
4. Are there customer policies, such as hook up policies?

**Medium:**

1. Does the water system implement adequate security measures? Please describe security measures.
2. Do managers have appropriate information systems to monitor operations, personnel, and other areas of performance?
3. Is there a Cross-Connection Control Plan? Has the CCCP been submitted to the Health Department?
4. Is there an Emergency Response Plan? Has the ERP been submitted to the Health Department?

**Medium Low:**

1. Does management provide opportunities for continuing education for technical personnel?
2. Are managers aware of available grant and loan programs, including state revolving funds?
3. Are managers aware of available technical assistance? Are managers willing to explore technical assistance options?
4. Are adequate maps of the distribution system or as-built plans available?
5. Are adequate records for the system kept and available to on-site personnel?

**Low:**

1. Does the management participate in and benefit from local meetings and technical forums sponsored by trade and professional associations?
2. Is the system oriented to customer service and responsive to customer needs? Does it use outreach and educational methods, including information to water customers about the cost of service?
3. Is there a Well Head Protection or Source Water Protection Plan? Has it been submitted?

**E. Financial Capacity**

**High:**

1. Does the system have the financial resources (or access to the resources) required for current and future operations, including infrastructure needs?
2. Does annual revenue cover expenses? Does revenue cover depreciation, capital improvements and a reserve account?
3. Is there a water system operating budget or for systems that do not charge customers for water, does the overall budget account for all water system needs?

**Medium High:**

1. Private systems: Does the system have a rate base? Is the value of the rate base appropriately established and documented?
2. Does the system establish the cost of service (including depreciation, debt service, capital improvements and emergency reserves) and use this information in the rate design? When was the last rate analysis completed?

**Medium:**

1. Is there a capital improvements plan?

**Medium Low:**

1. Does the system maintain an appropriate billing and collection process? Does it receive payments in a timely manner?
2. Does the system use generally accepted accounting procedures?

**Low:**

1. Is cash is being transferred to the general fund?

**F: Infrastructure Analysis**

**High:**

1. Does the system have access to a reliable source of water (adequate quality and quantity)?
2. Is the entire water system and its various components sized, constructed and operated appropriately for the needs of the service population?

**Medium High:**

1. Does the water system have enough supply (water rights) for future growth projections? Are water rights being managed properly?
2. Does the system meet state and local codes and ordinances regarding water pressure, pipe size and fire protection?

**Medium:**

1. Does the system maintain its infrastructure and related equipment on a routine basis to assure performance?
2. Is the condition of the infrastructure adequate and performing properly?
3. Are managers and/or operators familiar with the most recent Sanitary Survey? Are there any items on the Sanitary Survey that have not been addressed?

**Medium Low:**

1. Does the system have access to emergency or backup equipment in case of natural or other emergencies or disasters?
2. Does the system have cost-effective redundancies to ensure reliable service?

**Medium Low:**

1. Does the system have a program to address unaccounted-for water due to leakage?

**Low:**

1. Does the water system have a Water Conservation Plan (is it on file with Division of Water Resources) or do they implement conservation measures?