NEBRASKA'S PUBLIC WATER SUPPLY SUPERVISION PROGRAM CAPACITY DEVELOPMENT REPORT TO THE GOVERNOR

September 30, 2008

Nebraska Department of Health and Human Services
Division of Public Health
Environmental Health Unit
Office of Drinking Water and Environmental Health

Table of Contents

EXECUTIVE SUMMARY

The 1996 amendments to the Federal Safe Drinking Water Act require states to adopt a strategy for ensuring that new community public water systems have the required technical, financial and managerial capacities to provide safe and adequate water to their consumers. The amendments also require states to develop a strategy to help existing public water systems develop and achieve technical, financial and managerial capacity. This report is required every three years to advise the Governor of the results of the efforts that are being made toward this end. The first Report to the Governor in 2002 addressed the development, implementation, and future direction of the original strategy. The second report in 2005, addressed progress made and improvements seen as a result of the strategy implementation since the first report to the Governor, as well as a recap of the development and implementation discussion of the first report. This, the third Report to the Governor, will address the progress and improvements realized since the 2005 report.

The Department has contracted with assistance providers to help public water systems. In the past three years, public water systems have had fewer deficiencies when they are inspected. Almost every water system has a certified operator, compared to much lower rates a few years ago. Security is being addressed through the use of an Emergency Operations Plan template that was developed by the Department and has been made available to public water systems.

The largest identified need is in the training of owners of public water systems of their responsibility under both the state and federal Safe Drinking Water Act. Much of this need is because boards and councils change often, so that continuing education of these groups is needed. The Department has made five (5) DVD videos to disseminate among boards, councils and other groups of owners. The videos are also being used in conjunction with board and council one-on-one training sessions.

A group of stakeholders meets annually to review the progress being made in the area of capacity development, and to make suggestions for any changes that might be needed. The Department will continue to work with public water systems to help them obtain and maintain the needed technical, financial and managerial capacity necessary to properly operate a public water system.

OVERVIEW OF CAPACITY DEVELOPMENT REQUIREMENTS

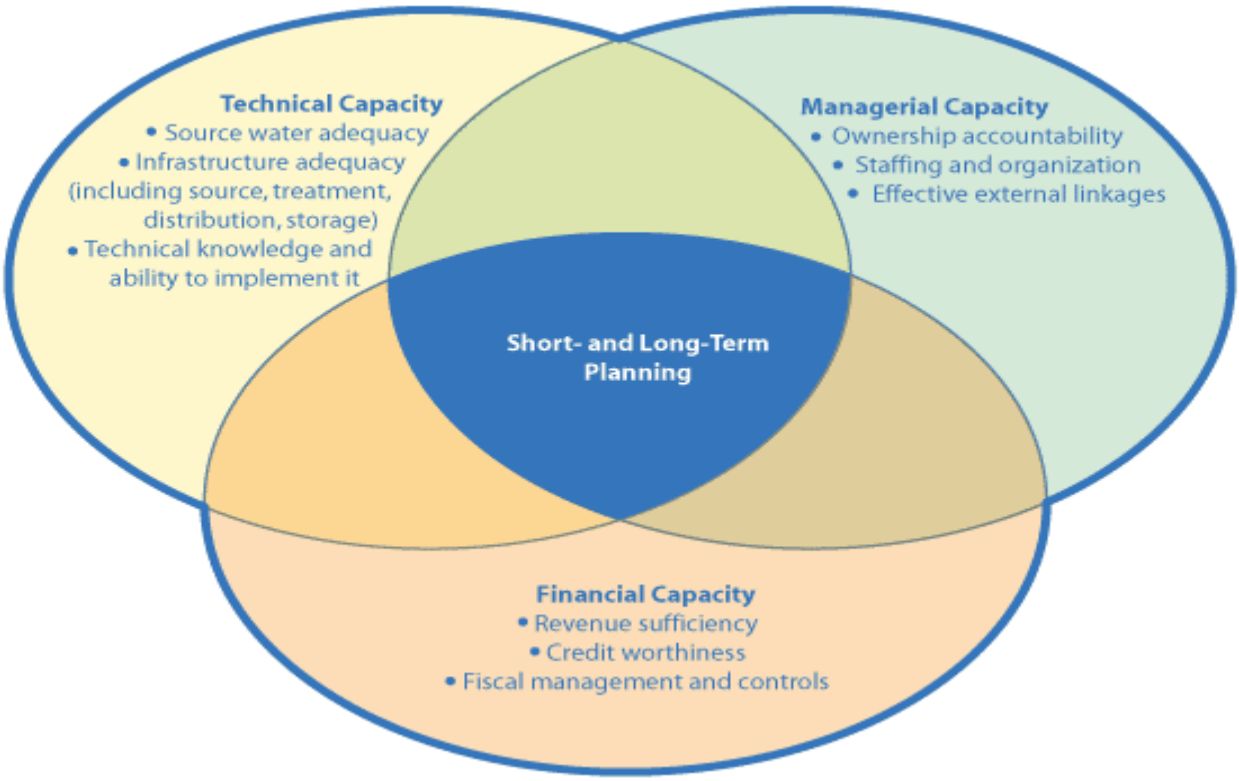
Capacity Development is a program to help drinking water systems improve their finances, management, infrastructure, and operations so they can provide safe drinking water consistently, reliably, and cost-effectively. More specifically, the Federal Safe Drinking Water Act (SDWA) capacity development provisions establish a flexible framework for the Nebraska Department of Health and Human Services – Division of Public Health and water systems to work together to ensure the systems acquire and maintain the technical, financial, and managerial resources necessary to consistently achieve the health objectives of the 1996 SDWA.

Smaller systems often have more resource challenges than their larger counterparts.
Today, challenges for small as well as large systems are daunting and usually include:

- The need to upgrade or replace aging infrastructure with inadequate funds;
- Availability of a properly trained and certified water operators;
- Availability of an adequate and safe supply of source water;
- Protection of the water source;
- The public's increasing demands for lower service costs; and
- Establishment of more enhanced and protective regulatory requirements and rules.

Capacity development and sustainable infrastructure efforts are focused on ensuring all water utilities are managed well today and prepared to operate sustainably into the future. The bottom line: Capacity development is the key to compliance and sustainability for water systems large and small, far and wide.

Capacity development is the process through which water systems acquire and maintain adequate technical, managerial, and financial capabilities to enable them to consistently provide safe drinking water.



The effective promotion of capacity development depends on the program being:

- Flexible, so that Nebraska can maximize the use of available resources and capabilities to implement capacity development processes;
- Proactive in identifying and targeting assistance to water systems most in need of improving their capabilities;
- Integrated, so the resources of all federal and state drinking water programs are considered;
- Accountable by demonstrating that capacity development helps water systems provide safe water to customers; and
- Collaborative to the extent that all entities, agencies, groups and associations act together to support one another.

SDWA Definitions:

"Public water system" is a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

"Community water system" is a public water system that serves at least 15 service connections used by year-long residents or regularly serves at least 25 year long residents of the area served by the system.

"Non-transient Non-community water system" is a public water system that is not a community water system and that regularly serves at least 25 of the same persons over six months per year.

"Transient Non-community water system" is a non-community water system that does not regularly serve at least 25 of the same persons over six months per year.

In developing the regulatory requirements that directed each state's Capacity Development Strategy, the United States Environmental Protection Agency (U.S. EPA) specified five elements the strategy must address. These elements include:

A. How to identify systems in need of technical, financial and managerial assistance.
B. Determining of factors that enhance or impair a systems capacity development.
C. Recommendations on how the state can use its authority and resources to help systems improve capacity.
D. How to measure the success of a state's Capacity Development Strategy.
E. Strategy must include public involvement in its development.

With these elements in mind, Nebraska moved forward to develop the State of Nebraska's Capacity Development Strategy. The major objectives of our Capacity Development Strategy are to:
1) collect useful information about a systems capacity,
2) develop effective working relationships with the Technical Assistance providers in Nebraska,
3) educate the general public, owners and operators of systems and train system operators,
4) encourage land use planning to protect the quality of groundwater,
5) require the use of water meters on system wells and service connections, and
6) track the general compliance with the regulations under which systems are governed.

All of these objectives are aimed at helping systems obtain and maintain capacity. Capacity refers to the sustained ability of a system to provide an adequate supply of safe drinking water to its consumers on a continuous basis, to take care of its own problems when they arise, and to achieve compliance with all existing and upcoming regulations. A systems capacity should reflect a need for a minimal amount of reliance on outside sources of assistance for all but the most desperate of situations.

CAPACITY DEVELOPMENT STRATEGY DEVELOPMENTAL PROCESS

Beginning in 1999, the Department conducted several meetings with a committee of stakeholders regarding how the Capacity Development Strategy for Nebraska should be developed and implemented. This committee was instrumental in developing the primary criteria for the strategy and has been an integral part in determining the future direction of the strategy. A copy of the Final Report of Findings, which was included as Attachment A with the first Report to the Governor in 2002, goes into great detail regarding how the strategy was actually developed and what individuals, agencies and organizations/associations were invited to participate.

In May 2000, the Department issued the Report of Findings in conjunction with the Environmental Finance Center at Boise State University in Idaho (EPA sub-contractor) who helped facilitate the development of the strategy components. Based on the report, the Department developed its Capacity Development Strategy for Existing Public Water Supply Systems, which was included as Attachment B with the first Report to the Governor in 2002. The strategy was submitted to U.S. EPA in June 2000 and received final EPA approval on September 14, 2000. This strategy is now an integral part of Department activities and serves as the cornerstone for the future of Nebraska's Public Drinking Water Program as it incorporates the general characteristics of strategic planning, and the future effects of current decisions, processes, and prevention philosophy into the program.

ELEMENTS OF NEBRASKA'S CAPACITY DEVELOPMENT STRATEGY FOR PUBLIC WATER SYSTEMS

Nebraska's Capacity Development Strategy for Existing Public Water Supply Systems was implemented on January 1, 2001. Since then several activities concerning public water systems technical, financial and managerial capacity have been tracked and quantified.

On August 29, 2002, August 28, 2003, September 1, 2005, September 5, 2006, and September 27, 2007 the Department conducted follow-up meetings of the original stakeholder group to discuss how the strategy is progressing and what potential changes should be made to make the individual strategy elements more effective. In June of 2006 the position of a full-time Capacity Development Coordinator was filled. Since that time the Coordinator has become familiar with the needs and direction of the program. During the stakeholder meeting held on September 27, 2007, three (3) items were again identified as possible changes to the strategy. The identified items are:

1. Element 1 (Public Water System Information Collection) needs to be fully implemented in the area of assessing a public water systems financial capacity.
2. Element 2 (Intergovernmental Collaborative Functions) needs to be revised to focus more attention on the economic impact on small water systems when county planning commissions are discussing future plans for development.
3. Element 3 (Public Water System Training) needs to be revitalized in order to focus more attention on the board members of small water systems in educating them on what needs to be involved in running and managing a water system.

The strategy has been modified to include these identified needs. A copy of the revised Strategy is included with this report as Attachment F. Following are discussions about the status of the different Elements of the State's Capacity Development Strategy.

Element 1: Public Water System Information Collection

Early in the development phase of the strategy, both the stakeholders and the Department realized there was a significant need to collect more complete data on systems in order to assess what type of assistance there is the greatest need for. Currently, routine sanitary surveys of community water systems and non-transient non-community water systems are conducted once every three (3) years utilizing the enhanced sanitary survey and the information collected consists mainly of technical issues centered on water system regulatory compliance. Managerial information is assessed by noting if management has taken the necessary steps to stay in compliance with the applicable regulations. The most recent version of our Routine Sanitary Survey is included as Attachment B.
Public water system financial data (operating budgets and water rates) are being gathered and analyzed to determine the financial capacity of the systems. Complete Technical, Managerial, and Financial assessments of Community water systems, that have received financial assistance through the Drinking Water State Revolving Loan Fund for infrastructure improvements, are currently being done to ascertain sustainability of the system. In the past, it was decided to obtain data from the Nebraska State Accounting office and use a financial assessment tool provided by the Environmental Finance Center at Boise State University, Idaho for this purpose. A problem arises when Villages

(pop. 800 or less) submit budgets to the Accounting Office. They only have to submit an “in-lieu-of audit” which lumps budget figures together and makes it impossible to ascertain a water systems financial capacity. Out of 530* municipalities in the State, 382* are Villages which amounts to about 72% of the Public Water Systems in the State.

Beginning January 1, 2003, all Department field staff started entering all sanitary survey deficiency data directly into the Safe Drinking Water Information System (SDWIS)/State database. This has greatly enhanced the Department’s ability to identify, quantify and target common problems noted during surveys. A comparison of the survey information from January 1, 2005 until December 31, 2007 is shown in Attachment C of this report.

*League of Nebraska Municipalities – 2008 Nebraska Directory of Municipal Officials, pg.14.

Element 2: Intergovernmental Collaborative Functions

The lack of planning in rural areas adversely affects the overall economics of producing safe drinking water. Typically this is associated with the failure of local and/or county governments to incorporate drinking water issues with land use planning and is especially relevant in developments occurring in unincorporated areas adjacent to existing municipal and not-for-profit PWS. The Department currently encourages the consolidation of existing systems in certain circumstances, and requires TFM capacity to be demonstrated by new systems prior to being approved. A greater effort by the Department is needed to act as a technical resource to help cities and counties acquire the information they need to understand drinking water capacity issues and then incorporate these issues into their planning efforts.

In order for small systems to remain in compliance for the long term, the issue of land use planning to protect public water system’s source water is one that must be addressed. Because of the complexity of the issue, there are no easy, obvious solutions. A positive note is that with the help of the Nebraska Department of Environmental Quality the Wellhead Protection Plan has been effective. Since the programs’ inception there have been 81 systems who have develop a wellhead protection plan with 34 of those being completed since 2005. Because the focus seems to be placed on the larger communities in any given county and not on the small communities, the tax/fee base for these small systems is dwindling to a point where they do not have enough customers to be able to become or remain a viable self-sustaining system. This situation leads to one obvious conclusion, these small systems are going to become or remain an enforcement problem for the state. This is based on the realization that these systems, even though they may have the necessary managerial and technical capacity, will probably not be able to develop enough financial capacity to "pay their own way.” Without the financial capacity they cannot keep qualified operators and the technical operation of their systems suffers as a result.

Element 3: Public Water System Training

While the first two elements discuss on-site capacity development activities, Element 3, public water system training, is probably the most important activity of the strategy. This is the element where the Department must succeed in order to ensure the long-term viability of Nebraska’s public water supply systems.

Training is separated into two distinct categories. The first section deals with system operator training strategies and efforts the Department is making to enhance public water systems technical and managerial capacity. The second section deals with system owner training strategies and describes how the Department is working to increase system managerial and financial capacity.

Public water systems are classified as Class I through V. Community and non-transient non-community systems are classified as Class I (highest classification) through IV (lowest classification) depending on the water treatment provided and population served. Class V systems are transient non-community systems. All public water systems are required to obtain the services of an operator holding a valid license equal to or greater than the classification of the water system.

The Department offers six (6) different Grades of Water Operator Licenses, Grades I through VI. Grades I through IV are license grades that allow an individual to operate a community or non-transient non-community system. A person with Grade V license is only allowed to operate a transient non-community system. A Grade VI license is only for testing and repairing backflow prevention assemblies or devices and does not allow for the actual operation of any public water system. Issuance of a water operator certificate for any Grade level requires documentation of minimum education and experience requirements applicable to the license grade, and successful completion of an examination.

While the Training Coalition provides the majority of training for continuing education purposes, the Department conducts all of the training courses associated with initial operator licensing for Grades I through V. The courses vary in length from two (2) days for a Grade IV Water Operator Course (Entry Level) to four and one half (4.5) days for Grades III, II, and I (highest level). At the conclusion of each training course, a licensure exam is offered to those individuals that meet the minimum education and experience requirements. Grade IV training is also offered by the Department through a correspondence course by which the student completes a series of 10 lessons and then takes the licensure exam. These exams are offered at the beginning of every month in each field office. Grade V (transient non-community system) licensing is done solely through correspondence. The training course curriculum is designed so that the subjects being covered are representative of the class of systems that a particular level of license would allow a person to operate.

On average, the Department offers ten (10) water operator training courses every year, six Grade IV courses, two Grade III courses and two courses for Grade II Course and Grade I combined. The location for these courses in Nebraska is based on identified need within the state. The number of Grades I – IV water operator licenses issued for 2005 through 2007are as follows;

Number of Water Operator Licenses Issued 2005 – 2007

YEAR	Grade I	Grade II	Grade III	Grade IV	Grade V	Grade VI
2005	5	3	21	106	70	120
2006	1	3	22	143	53	90
2007	5	0	14	105	55	106

The Department does not conduct Grade VI training courses. These are offered for a fee by the Nebraska Rural Water Association, Central Community College (formerly the Nebraska Environmental Training Center) and other third party providers. Grade VI course providers follow an established course syllabus and the Department proctors the examination at the conclusion of each Grade VI course. There are 12 to 14 Grade VI courses offered each year. The number of Grade VI water operator certificates issued for 2005 through 2007 is also listed in the above table.

Public Water System Owner Training

As mentioned earlier in the report regarding the discussion of the League of Nebraska Municipalities, five (5) videotape/DVD's to be used for the introduction of public water system owners to their responsibilities as owners of a system have been developed. The Department fully recognizes that the weakest link in developing a public water system's capacity is owner ignorance. Consequently, the Department places a very large emphasis on strengthening this link. Some owner education has been accomplished with a module that has been produced outlining their financial, managerial and technical responsibilities as owners of the system. Department field staff have again been directed to focus their survey efforts in a localized geographical area to accomplish the important task of facilitating educational efforts directed at the owners and board members of systems. Additional training is scheduled that looks at regional meetings by concentrating sanitary surveys in a confined geographic area to be followed by area training. Then, if needed, a system-by-system approach is used, depending on the type of training needed, to address specific problems. Some success has been made but, the need to entice more owners to the training sessions is critical.

The Department continues to focus on activities to enhance public water system facility security, even though this particular item is not included in the existing strategy. The Department developed an Emergency Operations Plan Template for systems to use in order to fulfill regulatory requirements. The Department has not mandated the use of this template but, feels it would be beneficial to all PWS to utilize the Department developed template to put together their individual plans. Additionally, the Department developed and held numerous training seminars across Nebraska in order to get the word out about water system security and the need for systems to be vigilant in this arena

WATER OPERATOR REIMBURSEMENT GRANT

As part of the water operator licensing requirements established in the 1996 reauthorization of the Safe Drinking Water Act, Congress established a grant to assist small community and non-transient non-community systems (those serving 3,300 or fewer people) in licensing water operators and to assist those operators in completing their continuing education requirements. Nebraska's reimbursement grant was approved by EPA on July 15, 2002 for a total of $1,557,400 and was retroactive back to January 1, 2002. Under the initial work plan submitted to U.S. EPA for this grant, the Department projected close out of the grant to be January 1, 2008. An amended grant work plan and grant extension consisting of additional reimbursable activities to further utilize the grant funds was submitted and subsequently approved by EPA in August, 2007. The current provisions and eligibility criteria for this grant are included in Attachment G, Water Operator Reimbursement Grant Fact Sheet.

Currently, in Nebraska there are a total of 598 community water systems. Of these 598 community systems, 556 are eligible community water systems and all but 2 of Nebraska's 174 non-transient non-community water systems are eligible for these grant funds. Issuing of reimbursement awards

began in August of 2002. To date the Department has approved for reimbursement to eligible public water systems and their operators the following amounts:

Water Operator Training Courses, Licensing and Renewals	$139,500
Water Operator Continuing Education Activities	$103,200
Total Reimbursed to Eligible Water Systems through CY 2007	$345,800

THE REQUIREMENTS FOR WATER METERS

This aspect of the Capacity Development Strategy was officially implemented with the fiscal year 2002 Drinking Water State Revolving Fund Intended Use Plan. This requirement states that if a system uses Drinking Water State Revolving Fund money for a project, it will be required to install water meters as part of the project if it is an un-metered system. This brought the Department in line with the requirements of the other lending agencies and bolsters the Department's stance that the installation of water meters has been constantly demonstrated to serve as a management and conservation tool without decreasing revenue. However, not having meters installed does not automatically preclude a system from receiving Drinking Water State Revolving Fund money because there are exemptions from this requirement if the system can meet certain criteria. One of the criteria is that the system must be able to demonstrate that the addition of meters would create an economic impairment whereby the cost of installation would exceed the potential benefit.

TECHNICAL ASSISTANCE ORGANIZATIONS

The Department works with several technical assistance organizations to assist Nebraska's public water systems in acquiring capacity. In the past, several of these organizations have served under contract with the Department. Monies from the 2% Set-aside of the Drinking Water State Revolving Loan Fund (DWSRF) have been utilized to fund these contracts. The 2% set-aside is designated specifically for technical assistance capacity development activities while the other set-asides (4%, 10% and 15%) are designated for other activities.

The organizations that have had contracts with the Department are the Nebraska Rural Water Association (NeRWA), the Midwest Assistance Program (MAP), the League of Nebraska Municipalities (LoNM), the Nebraska Section American Water Works Association (NSAWWA), and the Central Community College (CCC). The underlying goal of all of these entities is the same; to help systems develop capacity and provide valuable educational opportunities for water system owners, board members and operators. Currently only two of these organizations are under contract with the Department; the NeRWA and MAP. Beginning October 1, 2008 the Department will have only one contractor, the NeRWA.

The following entities are all considered members of Nebraska's 2% Technical Assistance Team. It is called the 2% Team because many of the past activities, and future activities, of this group are funded through use of the DWSRF 2% Set-aside. As stated above, in October 2008 the Department will have only one contractor, the NeRWA. NeRWA will hold two contracts; one for five (5) years and the other for 4 years. Both of these contracts will expire on June 30, 2012.

The 2% Team members meet with the Department a minimum of once every two months to discuss what needs different systems may have and which entity or group of entities could best provide the necessary assistance. The goal is that once the capacity needs have been identified for individual systems, the proper assistance is not only given to correct the problem, but the system is taught what is needed for long-term permanent solutions. Following is a brief description of each of the 2% Team members:

Nebraska Rural Water Association: The present contract (2007 - 2012) with NeRWA outlines their primary responsibility as providing assistance in developing financial and managerial capacity through on-site visits to water systems that serve 10,000 or fewer persons. NeRWA accomplishes this by helping water systems identify funding sources for infrastructure improvements, walking systems through the funding process and performing financial and managerial assessments of public water systems. This includes responsibility for assisting systems in procuring engineering services, providing water rate analysis and helping to review alternative options for system management. The contract requires that NeRWA perform financial and managerial assessments of all systems requesting funding through the DWSRF program. These assessments are focused on how the system is funded and managed. An assessment includes collecting and analyzing data pertinent to the financial and managerial capacity of a public water system and presentation of the assessment evaluation to the owners of the public water system. When deemed necessary, through analysis of the assessment information, financial and/or managerial goals are developed and provided to the public water systems as a recommended means by which it can increase and improve its capacity. These assessments will be revisited when the projects for which the loans were sought are completed and the public water system has had a chance to implement the identified and suggested goals. The bulk of their time has been spent on systems that have been identified on the DWSRF Priority Funding List. The NeRWA has played a significant role in providing educational opportunities for water operators and system owners.

Midwest Assistance Program: The present contract with MAP (2006-2008), due to expire on September 30, 2008, outlines their primary function as helping water systems develop technical and managerial capacity through assisting in evaluating different operational and managerial alternatives. The bulk of this assistance is to small water systems in dealing with sanitary survey deficiency correction and helping to decide the best way to correct the deficiencies to achieve a permanent solution. From January 2005 to date, MAP has provided 550 on-site assistance visits to Nebraska’s small public water systems. MAP has also played a significant role in providing educational opportunities for water operators and system owners.

Central Community College (CCC, was the Nebraska Environmental Training Center): The CCC contracts have been training oriented. CCC has been charged with providing hands-on training involving different treatment techniques such as disinfection, fluoridation, iron and manganese removal, arsenic and uranium removal and surface water treatment options, and others. The training and assistance offered under contract with the Department was at no cost to the systems. CCC has

provided training to individuals on developing effective and on-going cross-connection control programs, for Grade VI water operator certification training and the associated costs for related operation and maintenance.

Nebraska Section of the American Water Works Association: The NSAWWA contracts with the Department have provided technical and training manuals to small public water systems free of charge. NSAWWA's past contracts have required them to develop and implement a mentoring program through which operators from large systems offer on-site assistance to water operators of nearby small systems in all facets of water system operation and maintenance. Under these past contracts, mentors could be reimbursed for expenses and mileage when assisting other systems. While the mentoring program was not utilized as much as was hoped, mostly due to a lack of awareness by small systems, the program still has mentors available statewide and is ready to give whatever assistance may be needed. However, because NSAWWA currently has no contract with the Department, no reimbursement may be made from the 2% DWSRF Set-aside to the mentors. Under the past contracts, a presentation of approximately 30 minutes in length was given at the NSAWWA annual fall conference, extolling the benefits and availability of this program. Notices about this program have been provided not only at the NSAWWA annual conference but also in the Department's water operator publication, *The Water Spout*.

League of Nebraska Municipalities: Under a past contract and in conjunction with the Department, the League of Nebraska Municipalities helped develop a short videotape/DVD. The goal of this videotape/DVD is to provide an introduction to management responsibilities and to open the door for more in-depth training on a voluntary basis. The Department has recognized through survey findings and through reports from individuals providing on-site technical assistance, that the owner's lack of knowledge is a major limiting factor in developing management capacity for small systems. These videotapes became available for use and dissemination to PWS in 2003. So far, over 300 video tapes and DVD copies of the original video have been made and distributed to systems and to the members of the 2% Team members for use as a stand-alone educational tool or in conjunction with on-site capacity development activities.

The Department has received national recognition for this video and its efforts in this field. The American Water Works Association (the National organization) has requested and obtained permission from the Department to use this video to develop a video that would be applicable on a nation wide basis. Following the success of the first video, the Department developed four (4) additional follow-up videos dealing with the remaining capacity development issues of financial and technical capabilities. There is one video aimed at Financial matters and three technical videos which are focused on distribution systems, water treatment and cross-connection control. These videos were completed in the spring of 2006. As with the first video, these additional videos have been given to the 2% Team members for use as training aids and offered to water systems for their use, at no cost to the systems or trainers.

COMMITTIES AND PROGRAMS

Water/Wastewater Advisory Committee: This committee is comprised of several State of Nebraska and Federal agencies whose purpose is to streamline the funding process for water and wastewater projects, and to ensure that projects that are listed on the DWSRF Priority Funding List have the opportunity to be funded first. The agencies involved with the Water/Wastewater Advisory Committee include the following: DHHS DPH, Nebraska Department of Environmental Quality (NDEQ), United States Department of Agriculture Rural Development (USDA-RD), and Nebraska Department of Economic Development (NDED). By developing a common pre-application process for projects under consideration and having all of the funding agencies around the table to review the application at the same time, the time required to review and approve projects is reduced.

Nebraska Environmental Partnerships Program: The Nebraska Environmental Partnerships Program (NEPP) is administered by NDEQ utilizing dollars from the DWSRF 15% set-aside designated for the Source Water Assessment Program for public water system planning grants. The NEPP supports capacity development activities by having the ability to provide grants to small systems to complete preliminary engineering reports. A preliminary engineering report for a small system is required to be completed before the common Water/Wastewater Application Committee pre-application is reviewed and funding for a project is considered. Often this need is identified by NeRWA when providing on-site financial assistance and then coordinated by NeRWA and the NEPP. Again, the goal of this cooperative effort is to keep those systems on the DWSRF Priority Funding List moving through the necessary steps to assure that high priority projects are funded in a timely fashion.

State and Public Information Programs: One of the items that the Capacity Development Strategy committee felt there was a strong need for was a more enhanced public education program by the Department. In order to meet this requirement of the strategy, the Department continues to have a public presence through offerings of free drinking water nitrate testing during public activities such as the Nebraska State Fair, Husker Harvest Days and the Children's Groundwater Festival. These venues allow for the economic development and distribution of public water system information to the general public. The annual consumer confidence reports, required to be made available from the public water systems to the consuming public, is another way in which public education has been successful.

Nebraska's Public Water Systems

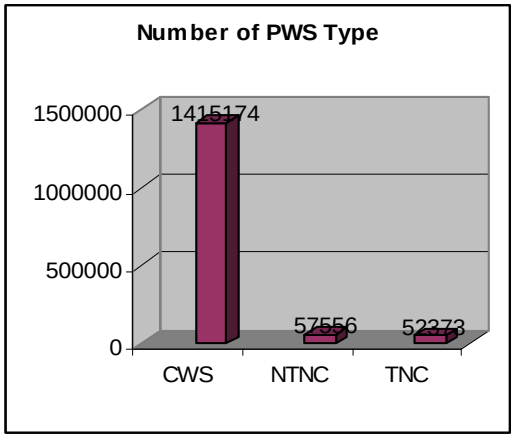
Population and Type of System

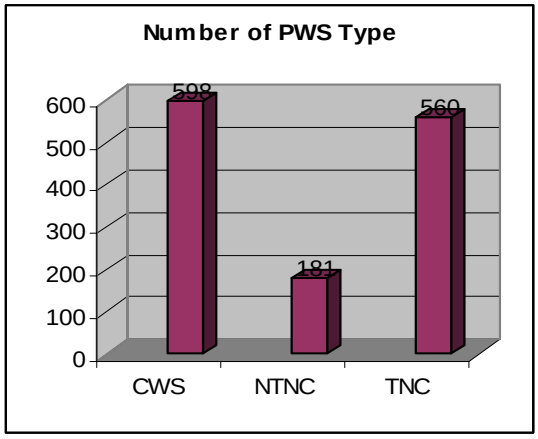
Nebraska public water systems can be broken down into categories based on the size of the population served.

Population	CWS	NTNC	TNC	Total Systems	Percentage*
25-100	80	106	417	603	45.0%
101-500	287	55	125	467	34.9%
501-1000	101	7	17	125	9.3%
1001-3300	90	10	1	101	7.5%
3301-10,000	26	3	0	29	2.2%
10,000-50,000	12	0	0	12	0.9%
>50,000	2	0	0	2	0.2%
TOTAL	598	181	560	1339	100%

Percentages have been rounded off.

CWS = Community (78.3% w/pop. <1,001) ..... 598 systems
NTNC = Non-transient, non-community ..... 181 systems
TNC = Transient, non-community ..... 560 systems





Population Served:

CWS = Community 1,415,174
NTNC = Non-transient, non-community 57,556
TNC = Transient, non-community 52,373
Population Data = SDWIS

MEASURING THE SUCCESS OF THE CAPACITY DEVELOPMENT STRATGEY

In general the Department believes that our Capacity Development Strategy, aimed at improving the capacity of Nebraska's public water supplies, is successful. There are several criteria that can be looked at which clearly demonstrate the successes we have had.

A. A comparison of January 1, 2005 through December 31, 2007 Public Water System Sanitary Survey Data shows the following: (Also, Attachment C)

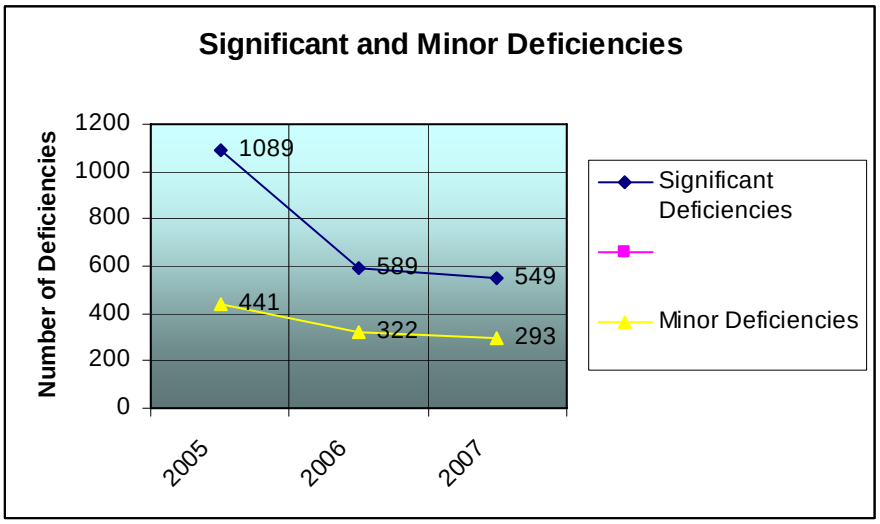
In 2005 the number of transient public water systems having sanitary surveys completed was abnormally high due to the backlog of those systems that had not been surveyed prior to 2005. The number of surveys completed on transient systems during 2006 and 2007 are more in line with normal numbers.

In 2005, field personnel conducted 535 sanitary surveys (213 community, 80 non-transient non-community, and 242 transient public water systems) and 113 follow-up surveys (44 community, 9 non-transient non-community, and 60 transient public water systems) in Nebraska. A sanitary survey is an on-site review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluation the system's adequacy and ability to reliably produce and distribute safe drinking water. When deficiencies are found, the system is notified of the needed improvements. A total of 1,531 deficiencies were found in 2005. There was an average of 4.3 deficiencies found in community systems, and average of 3.2 deficiencies found in non-transient non-community water systems, and an average of 1.5 deficiencies in transient water systems. In 2005 there were 1,089 significant deficiencies and 441 minor deficiencies.

In 2006, field personnel conducted 411 sanitary surveys (204 community, 65 non-transient non-community, and 142 transient public water systems) and 91 follow-up surveys (52 community, 12 non-transient non-community, and 27 transient public water systems) in Nebraska. Field personnel also check for the presence of a certified water operator, an emergency plan, and a cross-connection control program. A total of 911 deficiencies were found in 2006 (619 fewer deficiencies than the previous year, with 125 fewer sanitary surveys having been done). There was an average of 2.9 deficiencies found in community systems, an average of 2.8 deficiencies found in non-transient non-community water systems, and an average of 1.0 deficiency in transient water systems. In 2006 there were 589 significant deficiencies and 322 minor deficiencies.

In 2007, field personnel conducted 403 sanitary surveys (201 community, 58 non-transient non-community, and 144 transient public water systems) and 61 follow-up surveys (33 community, 7 non-transient non-community, and 21 transient public water systems) in Nebraska.. A total of 842 deficiencies were found in 2007 (69 fewer deficiencies than the previous year, with 8 fewer sanitary surveys having been done). There was an average of 2.8 deficiencies found in community systems, an average of 2.1 deficiencies found in non-transient non-community water systems and an average of 1.1 deficiencies in transient water systems. In 2007 there were 549 significant deficiencies and 293 minor deficiencies.

The Department sees the continued reduction in the total number of deficiencies compared to the total number of sanitary surveys each year as a sign that capacity development is working.



B. Another statistic used to measure success of Nebraska's public water system Capacity Development Strategy is sanitary survey compliance follow-up. Each of the field representatives conduct follow-up inspections on at least 5% of the systems that they have inspected, randomly chosen, to determine compliance with the system's corrective action plan that was returned to the Department.

Follow-up Sanitary Surveys

	2005	2006	2007
Community Water Systems	44	52	33
Non-Community Non-Transient	9	12	7
Transient Non-Community	60	27	21
Totals	113	91	61

The Department has made a strong commitment to reduce the number of overdue deficiency corrections by systems. Weekly updated overdue compliance lists are distributed to the 2% Technical Assistance Team to keep them abreast of the systems that have been added to or removed from the list. In 2005, on average there were eighty six (86) systems on this list at any given time. In 2006 the average number of systems on the list was eighty one (81), with an average of fifty three (53) in 2007. Some of the systems on the list have been included on more than one list during the year. The reason for supplying this list to the 2% members is so they may provide on-site technical assistance to these systems to help correct their deficiencies

Additionally, because of increased emphasis on the part of the Department, more systems comply with the regulatory requirements of submitting bacteriological sampling site plans and local emergency plans of operation.

C. Another measure of success can be seen in the Total Coliform Rule violations report. The 2005 report to the Governor (Table 1) has shown that the violations in the three year period covered by that report are greater than the three year period covered by this report to the Governor (Table 2) for 2008. The total percent of systems with violations shows an overall decrease of approximately 5% from 2005 to 2008. We feel that this clearly demonstrates the success that we have had.

Table 1

Violation Type	Monitoring Year	Acute MCL	Non-Acute MCL	Major Monitoring	Total
Number of Violations	2002	6	237	167	410
	2003	11	223	184	418
	2004	16	214	160	390
Number of Systems w/violations	2002	6	191	142	339
	2003	11	177	160	348
	2004	14	168	145	327
% Systems w/violations	2002	0.4%	14.2%	10.6%	25.20%
	2003	0.8%	13.1%	11.9%	25.80%
	2004	1.0%	12.5%	10.8%	24.30%

Table 2

Violation Type	Monitoring Year	Acute MCL	Non-Acute MCL	Major Monitoring	Total
Number of Violations	2005	8	204	134	346
	2006	20	204	115	339
	2007	14	195	100	309
Number of Systems w/violations	2005	8	147	119	274
	2006	19	165	100	284
	2007	12	152	89	253
% Systems w/violations	2005	0.6%	10.9%	8.9%	20.40%
	2006	1.4%	12.3%	7.5%	21.20%
	2007	0.9%	11.3%	6.6%	18.80%

The Department is confident that, through continued efforts to get systems that have historical coliform problems to implement maintenance disinfection, the number of total coliform rule violations will continue to drop.

D. As indicated by the following Administrative Order figures, there has been a substantial reduction in the number of Administrative Orders issued to systems. The Public Water Supply Supervision Program issues an administrative order when a public water system is significantly out of compliance. (Each contaminant has different parameters that indicate what constitutes "significantly out of compliance.")

The 2008 report to the Governor (Table 1) indicates a decrease of Administrative Orders from the report to the Governor in 2005 (Table 2). A proactive process of the Capacity Development Strategy and the involvement of the Department with the 2% Technical Assistance Team members has greatly influenced water system owners and operators to be vigilant in their mission to deliver a safe and clean product to their customers.

Table 1 - 2008 Report

Type of AO	Monitoring Year	Number of Orders	Total AO's
Total Coliform MCL	2005	13	25
	2006	3	
	2007	9	
Total Coliform Monitoring	2005	1	3
	2006	0	
	2007	2	
Nitrate	2005	4	5
	2006	0	
	2007	1	
	Table 1		**33**

Table 2 – 2005 Report

Type of AO	Monitoring Year	Number of Orders	Total AO's
Total Coliform MCL	2002	9	40
	2003	14	
	2004	17	
Total Coliform Monitoring	2002	2	8
	2003	3	
	2004	3	
Nitrate	2002	3	16
	2003	10	
	2004	3	
	Table 2		**64**

We have seen a 48% decrease in Administrative Orders for Total Coliform MCL, Total Coliform Monitoring, and Nitrate combined, from the 2005 report to the 2008 report.

In the past we had a number of systems operating without licensed operators. With the combined efforts of our Training Coalition, Technical Assistance Providers and Department staff responsible for water operator education courses, the number of systems operating without a licensed operator has decreased. Currently that number averages around two (2) to three (3) systems operating without a licensed operator. This number is largely due to personnel turnover at small community and non-community systems. Additionally, because of increased emphasis on the part of the Department, more systems are in compliance with the regulatory requirements of submitting bacteriological sampling site plans and local emergency plans of operation.

All of the statistics show a growing tendency that Nebraska's Capacity Development Strategy is having a positive impact on developing and enhancing Nebraska's public water systems technical, financial and managerial capacity.

In conclusion, the Department and all of its public water system partners have worked hard to implement Nebraska's public water system Capacity Development Strategy and believe that we are meeting the intent and goals of the strategy. Not only are the Department and its partners working to lower the number of public water system violations, but we are also striving to provide the public water systems the necessary information and tools to achieve long-term self-sufficiency. Only by doing this will Nebraska's public water systems be able to achieve, on a continuous basis, compliance with U.S. EPA's existing and future public water system regulations. That is the ultimate measurement of success!

This report will be disseminated to the public via the Department's website (http://www.dhhs.state.ne.us/enh/pwsindex.htm). We will also supply the major media sources with information about the website and the fact that this report may be obtained there. A hard copy will be maintained at the Department offices at the Nebraska State Office Building located at 301 Centennial Mall South in Lincoln, Nebraska. A copy of this report in its entirety shall be provided to any group or individual calling or writing the Department to request a copy.

ATTACHMENT A

Glossary of Terms

Capacity: The ability to plan for, achieve and maintain compliance with the Federal and State Safe Drinking water act regulations and the ability to reliably produce and deliver water meeting all applicable drinking water standards. Capacity is measured by evaluating the technical, managerial, and financial capabilities of the water system.

Capacity Development: The process through which water systems can improve their technical, managerial, and financial capacity to ensure compliance with current and future Safe Drinking Water Act requirements.

Community Water System: A public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

Financial Capacity: Refers to the monetary resources available to a public water system to support the cost of operating, maintaining, and improving the water system. This type of capacity also refers to the demonstration of sufficient revenues, credit worthiness and fiscal management controls.

Managerial Capacity: Refers to the expertise required of the personnel who administer the overall water system operations. This type of capacity also refers to the system's demonstration of clear ownership, proper organized staffing, and effective interaction with regulators and customers.

New Water System: For the purposes of the Capacity Development Program, includes both community water systems and non-transient, non-community water systems being newly constructed as well as systems which do not currently meet the definitions of a public water system but expand their infrastructure and thereby grow to become a community water system or a non-transient, non-community water system.

Non-transient, non-community Water System: A public water system that regularly serves at least 25 of the same persons per day more than six months in any given calendar year. Examples are schools, factories, offices, industrial parks, and major shopping centers.

Public Water System: A system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year, A public water system is either a community water system or a non-community water system. Non-community water systems are classified as either a non-transient or transient water system.

Significant Non-Compliance: A term to define a system that has violated one or more National Primary Drinking Water Act Regulations repeatedly over and extended period of more than one monitoring period.

Technical Capacity: refers to the adequacy, operation, and maintenance of a water system's infrastructure (infrastructure includes the source water, treatment, storage and distribution network of the water system). Also refers to the ability of qualified personnel with technical knowledge to operate and maintain the system.

Transient, Non-Community Water System: A public water system that serves at least 25 transient persons for at least 60 days in any given calendar year. Examples are restaurants campgrounds, and hotels.

ATTACHMENT B

Date

Recipient name
PWS name
PWS address
City, State Zip

Re: Public Drinking Water, County name County, NRD name NRD, PWS name, NE31-ID #, **Routine Sanitary Survey.**

Dear Recipient:

Nebraska's Public Water Supply (PWS) systems operate under permits issued by the Division of Public Health of the Nebraska Department Health and Human Services (Department) as provided for in the Regulations Governing Public Water Systems Title 179 NAC 9 and authorized by the Nebraska Safe Drinking Water Act. Field inspections of PWS by staff comprise a major component of Nebraska's Safe Drinking Water Act, and assist in determining PWS compliance with Title 179. As such, these inspections are intended to identify real or potential problems that may negatively affect the system's ability to deliver safe drinking water to its customers on a continuous basis.

On **date of inspection** I conducted a Routine Sanitary Survey for the **PWS name** accompanied by PWS representative representing PWS name. Findings of the inspection were discussed with PWS rep. at the completion of the inspection. This letter serves as official notification from the Department of deficiencies that need to be addressed because of non-compliance with Title 179 regulations.

Deficiencies found during the inspection are listed in **Section A** of the attachment to this letter. **Within 45 days of your receipt of this letter, the PWS must submit in writing documentation a) which indicates the noted deficiencies have been corrected, or, if they have not been corrected b) which outlines a plan for correction of the deficiencies showing when corrections will be completed (within an acceptable time frame). The PWS must also submit written notification when all deficiencies have been corrected.** Failure to complete and submit the required written response may result in **PWS name** being issued a Notice of Violation (NOV) for non-compliance and possible legal action. If a NOV is issued and a system holds other State of Nebraska issued permits as part of their business, (for example Dept. of Agriculture, Liquor Control Commission, Mobile Home Permit, etc.) these agencies will also be notified of the system's non-compliance status.

If you would like to schedule a meeting to discuss the findings of this Routine Sanitary Survey please contact me at the address on this letterhead, by phone at Phone # or by E-mail at e-mail address. You may also contact Doug Woodbeck, Field Services Program Manager, at (402) 471-0521. If you would like assistance with the required corrections please contact Scott Sprague at scott.sprague@dhhs.ne.gov **or (402)471-0088. There is no fee for this assistance.**

Sincerely,

your name
Water Supply Specialist
DHHS DPH Field Services Representative

CC: Water Operator
Lincoln File

PWS Name: _____ **PWS ID#: NE31-_____**

Nebraska Department of Health and Human Services, Division of Public Health
Routine Sanitary Survey Compliance Plan

SECTION A: DEFICIENCIES

DHHS DPH Use	Regulatory/Statutory Deficiencies	Required Corrective Action	Deadline for Completing Corrective Action	Completion Date
Deficiency code, category and severity				

Prepared by: your name **Date of Survey: _____** **Date of Compliance Plan:** date of letter

Revised
11/5/2007
DLW

Nebraska Department of Health and Human Services
Division of Public Health – Office of Drinking Water
Public Water Supply Routine Sanitary Survey

PWSID #: NE31-_____ **PWS Name: _____**

County: _____ **NRD #: _____** **System Classification: X**

Permit #: _____ **Issue Date: _____** **Inspection By: _____**

Accompanied By: _____ **Title: _____**

RSS Inspection Date: _____ **Last RSS Inspection Date: _____** **Type of System: X**

SYSTEM INFORMATION

Mailing Address: _____ **Physical Address: _____**

City / State / Zip: _____ **_____**

System Phone Number: _____ **System Fax Number: _____**

E-mail Address: _____

Administrative Contact Person: _____ **Phone: _____**

Financial Contact Person: _____ **Phone: _____**

Legal Contact Person: _____ **Phone: _____**

Sample Contact Person: _____ **Phone: _____**

PWS Owned By: _____ **Governing Body: _____**

Is there any change to basic PWS system or personnel information from last RSS: ***Y*** ☐ ***N*** ☐

Is there a defined organizational structure for decision making: **Y** ☐ **N** ☐

24 hour Emergency Phone number (required): _____

OPERATIONAL INFORMATION

Operator in Responsible Charge: _____ **Title: _____**

Certification Grade: X **Certificate #: _____** **Expiration or issue Date: _____**

Home Address: _____ **Home Phone #: _____**

_____ **Cell Phone #: _____**

E-mail Address: _____ **Pager Phone #: _____**

Other Certified Operators and System Personnel:

Name	Grade	Certificate #	Expiration or Issue Date

GENERAL SYSTEM INFORMATION

Population Served: _____ **Source of population information (census, etc.):** _____

Total # of Service Connections: _____ **# Residential:** _____ **# Commercial:** _____ **Other:** _____

% Metered Connections: _____%

Describe Other service connections: _____

System Interconnections: _____ **Reason:** ☐ **Purchase** ☐ **Sell** ☐ **Emergency**

_____ **Reason:** ☐ **Purchase** ☐ **Sell** ☐ **Emergency**

_____ **Reason:** ☐ **Purchase** ☐ **Sell** ☐ **Emergency**

Ave. daily production for past 12 months: _____ **X** **Max. daily (24 hour) production capability:** _____ **X**

Highest daily production for past year: _____ **X** **Total production for past 12 months:** _____ **MG**

FINANCIAL INFORMATION

Is operating budget available for inspection: Y ☐ **N** ☐ **Planned or Actual for Year:** _____

(If not provided during the inspection, request a copy of the systems operating budget and water rate structure in writing)

SYSTEM RECORDS / PROGRAMS

	S	U	NA	Comments
System Maps	☐	☐	☐	
Water Quality / Sample results	☐	☐	☐	
Quantity	☐	☐	☐	
Maintenance Records	☐	☐		
Customer Complaints	☐	☐		
Cross-Connection Control Program	☐	☐		
Sample Site Plans	☐	☐		
Wellhead Encroachment Policy	☐	☐	☐	Date Adopted: _____ Description: _____
Emergency Phone List	☐	☐		
Emergency Plan	☐	☐	☐	Expiration date:
Planning Records	☐	☐	☐	(Master Plan)
CCR(s)	☐	☐	☐	
O&M Manual	☐	☐		
Provisions For Drought Mitigation/Management	☐	☐	☐	
Have all deficiencies from previous RSS been corrected	☐	☐	☐	

Other Records and Comments: _____

WATER SOURCE INFORMATION

Source Type: ☐ **Surface Water** ☐ **Infiltration Gallery** ☐ **Spring** ☐ **Well**

☐ **Other:** _____

Does the system have a withdrawal (allocation) permit: **Y** ☐ **N** ☐

If yes, from whom: _____

Complete a Source Water VA for each source and attach to sensitive / secure information sheet (Bulls eye, State only)

**VOLUNTARY PROGRAMS

****Does the system have a Watershed Management Program:** **Y** ☐ **N** ☐ **N/A** ☐

****Does the system have a delineated Well Head Protection Area:** **Y** ☐ **N** ☐

****Has the WHPA officially been adopted by the system:** **Y** ☐ **N** ☐ **N/A** ☐ **Date:** _____

****Has a contaminant source inventory been completed:** **Y** ☐ **N** ☐ **Date:** _____

****Has the contaminant source inventory been updated:** **Y** ☐ **N** ☐ **N/A** ☐ **Date:** _____

****Does the system have a delineated WDA (surface sources only):** **Y** ☐ **N** ☐ **N/A** ☐

****Has a contaminant inventory for the WDA been completed:** **Y** ☐ **N** ☐ **N/A** ☐ **Date:** _____

****Is there an emergency response plan for spills within WHP or WDA Areas:** **Y** ☐ **N** ☐ **N/A** ☐

(Items below required for systems over 3,300 population)

****Has an EPA Vulnerability Assessment (VA) been completed:** **Y** ☐ **N** ☐ **N/A** ☐ **Date:** _____

****Has certification documentation been submitted for the EPA VA:** **Y** ☐ **N** ☐ **N/A** ☐

****Has an EPA Emergency Response Plan (ERP) been completed:** **Y** ☐ **N** ☐ **N/A** ☐ **Date:** _____

****Has certification documentation been submitted for the EPA ERP:** **Y** ☐ **N** ☐ **N/A** ☐

Comments: _____

DHHS-DPH will assess the following:

Is the source adequate to meet peak demands: **Y** ☐ **N** ☐

Is all source water metered: **Y** ☐ **N** ☐

Are the source water facilities located within a 100 yr. flood plain: **Y** ☐ **N** ☐

If yes, which facilities: _____

Have the source facilities ever been flooded: **Y** ☐ **N** ☐

If yes, which facilities: _____

Comments on Water Source: _____

CROSS-CONNECTION CONTROL PROGRAM

Name of person responsible for the administration and enforcement of the CCC Program: _____

PWS Grade 6 Operators:

Name	License #	Expiration Date

Does the system have an adopted resolution, ordinance, or other enforceable instrument that assures the CCC requirements are being met: Y ☐ N ☐ N/A ☐ **Comments:** _____

If yes, provide the following information: Ordinance #: _____ **Other:** _____

Source of Funding for CCC program implementation: _____

Responsibility of PWS: _____

Responsibility of Consumer: _____

Fines or Penalties for Noncompliance: _____

Has the system adopted a plumbing code: Y ☐ N ☐ N/A ☐

If yes, which code and date/version has been adopted: _____

Date(s) of last cross-connection survey: _____ N/A ☐

How were (are) surveys distributed: _____

% of surveys returned: _____%

What actions are taken if surveys are not returned: _____

Have all hazards been identified throughout the system: Y ☐ N ☐ **Comments:** _____

Required testing frequency of assemblies: _____

Who does the testing for the system: _____ **For the consumer:** _____

What test equipment is available: _____

Are testing records for the last 5 years available: Y ☐ N ☐ **Is testing current:** Y ☐ N ☐

Does the PWS enforce the requirements of their cross-connection control program: Y ☐ N ☐ **Comments:** _____

Is an on-going public information program being done: Y ☐ N ☐ **Describe:** _____

Comments: _____

ANNUAL REVIEW – SHORT AND LONG TERM PLANNING

Are records being kept to facilitate an annual review of the capabilities of the system: Y ☐ N ☐

If yes, is an annual review being done: Y ☐ N ☐

Have the following items been included in the Annual Review of the PWS for the purpose of short (2 years) and long (10 years) term planning:

Item	Y	N	Comments
Source	☐	☐	
Storage	☐	☐	
Distribution System	☐	☐	
Population	☐	☐	
PWS Value	☐	☐	
Water Quality	☐	☐	
Security/Vulnerability	☐	☐	

Intended Capital Improvements for next 3 years:

1.) _____

2.) _____

3.) _____

4.) _____

5.) _____

WATER QUALITY MONITORING

Does the system have an AO: Y ☐ N ☐ Are the requirements of the order being followed: Y ☐ N ☐ N/A ☐

If not, describe: _____

If the AO is for nitrate, list locations of all nitrate postings: _____

Are there any current violations for the system: Y ☐ N ☐ If yes, describe: _____

Does the PWS have a copy of the following plans that are current:

A.) Bacteriological Y ☐ N ☐ Comments: _____

B.) Lead / Copper Y ☐ N ☐ N/A ☐ Comments: _____

C.) TTHMs / HAA5 Y ☐ N ☐ N/A ☐ Comments: _____

D.) TOC Y ☐ N ☐ N/A ☐ Comments: _____

E.) _____ **Y ☐ N ☐ N/A ☐ Comments:** _____

Is compliance water testing equipment calibrated or standardized: Y ☐ N ☐ N/A ☐

Are calibration records readily available: Y ☐ N ☐

What non-compliance water testing, if any, is routinely done: _____

Has the system established any water quality goals: Y ☐ N ☐

If yes, what: _____

Comments on Water Quality Monitoring: _____

DISTRIBUTION SYSTEM

Are there maps of the Distribution System(s): Y ☐ N ☐ **Date of last update:** _____

How often are maps updated: _____

Are the following features shown on the distribution map(s):

Line and Valve Locations:	Y ☐	N ☐		**Comments:** _____
Line and Valve Sizes:	Y ☐	N ☐		**Comments:** _____
Line Materials:	Y ☐	N ☐		**Comments:** _____
Fire Hydrant Locations:	Y ☐	N ☐	N/A ☐	**Comments:** _____
Pressure-zone(s) Boundaries:	Y ☐	N ☐	N/A ☐	**Comments:** _____
Storage Facilities:	Y ☐	N ☐	N/A ☐	**Comments:** _____
Booster Pump Stations:	Y ☐	N ☐	N/A ☐	**Comments:** _____
Sampling sites and zone boundaries:	Y ☐	N ☐		**Comments:** _____
Does system have dead end mains:	Y ☐	N ☐		**If yes, how many:** _____

Other: _____

Does the System retain records or documentation on the following:

O&M Distribution System Repairs: Y ☐ N ☐

Leak Detection / Water Loss: Y ☐ N ☐ N/A ☐ **Water Loss last year:** _____%

What construction standards are followed for projects that do not require submission of plans and specs: _____

Other / Comments: _____

How is the number of bacteriological samples determined for new mains: _____

Does the system have a flushing program:	Y ☐	N ☐	N/A ☐	**Frequency:** _____
Does the system utilize pigging:	Y ☐	N ☐	N/A ☐	**Frequency:** _____
Does the system utilize directional flushing:	Y ☐	N ☐	N/A ☐	**Frequency:** _____
Are valves inspected and exercised:	Y ☐	N ☐	N/A ☐	**Frequency:** _____
Are fire hydrants inspected and operated routinely:	Y ☐	N ☐	N/A ☐	**Frequency:** _____
Are sampling stations available:	Y ☐	N ☐	N/A ☐	**Number:** _____
Is there a common POE for more than one source:	Y ☐	N ☐		

If yes, how many sources per POE? _____

Are the POE's metered? Y ☐ N ☐

What is the pressure at each POE? _____

Comments on POE's: _____

DISTRIBUTION SYSTEM

Piping Materials *(indicate all types of piping existing in distribution system, # of feet of each type **may** be included)*

C-900: _____	**C-909: _____**	**PVC: _____**	**Copper: _____**
Steel: _____	**Lead: _____**	**AC: _____**	**Concrete: _____**
Ductile Iron: _____	**CIP: _____**	**SandCIP: _____**	**Other: _____**

Size of Mains *(indicate each pipe size present in distribution system, # of feet of each size **may** be included)*:

1” _____	**6” _____**	**18” _____**
1.25” _____	**8” _____**	**24” _____**
1.5” _____	**10” _____**	**36” _____**
2” _____	**12” _____**	**Other: _____**
3” _____	**14” _____**	**_____**
4” _____	**16” _____**	**_____**

Comments: _____

Does the system have any lead service lines: **Y ☐ N ☐ Unknown ☐**

If yes, does the system have a removal or replacement method: **Y ☐ N ☐ Describe: _____**

Where does the systems responsibility for the distribution system end (corp stop, curb stop, etc.): _____

Where is the point of maximum water residence time in the distribution system: _____ (Physical location description)

Historical maximum distribution disinfectant residual: _____ mg/L **Historical Minimum residual: _____ mg/L**

Typical range of distribution disinfectant residuals: _____ mg/L

Disinfectant Residual Check: **POE: _____ mg/L Ave. residence time: _____ mg/L Max. residence time: _____ mg/L**

Other checks: _____

Frequency of checking distribution disinfectant residual: _____

Test kit used: _____

Typical distribution system pressure range (pressure fluctuation): _____ psi

Pressure Check: **High elevation pressure: _____ psi Location (address or physical): _____**

Low elevation pressure: _____ psi Location (address or physical): _____

If less than 20 psi, explain: _____

Dist. center pressure: _____ psi Location (address or physical): _____

Are pressure readings routinely taken from the distribution system: Y ☐ N ☐

Frequency: _____

Comments on Distribution System: _____

CONTROL SYSTEMS

Age of Control System or Installation Date: _____ **Control Type:**

Mode of Communications: **Phone:** _____ **Leased:** _____ **Owned:** _____

Radio: _____ **Hard wired:** _____ **Other:** _____

Is there a backup communications system: **Y** ☐ **N** ☐ **N/A** ☐ **Describe:** _____

Is a UPS available: **Y** ☐ **N** ☐ **If yes, at all sites?: Y** ☐ **N** ☐ **Duration of backup:** _____

Does control system automatically log system data: **Y** ☐ **N** ☐

If yes, what data is automatically logged: _____

Frequency of data logging: _____

Does control system generate automatic reports: **Y** ☐ **N** ☐

If yes, what are the reports: _____

Frequency of automatic reports: _____

Is there manual override capability in the control system: **Y** ☐ **N** ☐

If yes, describe: _____

Who has the ability to make set-point changes: _____

Is system secure: **Y** ☐ **N** ☐ **Comments:** _____

Is a spare parts inventory maintained on hand: **Y** ☐ **N** ☐ **Comments:** _____

Is lightning protection installed: **Y** ☐ **N** ☐

Comments on Control Systems: _____

SOURCE FACILITIES – GROUNDWATER SUPPLY FACILITIES

(Complete one sheet per source or well.)

Well ID #: _____ **Well Common Name:** _____ **DNR Registration #: G-**_____

Well Status: Active: ☐ **Emergency:** ☐ **Inactive:** ☐ **Seasonal:** ☐ **Comments:** _____

If INACTIVE, is well disconnected from the system: Y ☐ **N** ☐ **Decommissioned properly: Y** ☐ **N** ☐

Is this well part of a combined POE to the distribution system: Y ☐ **N** ☐ **N/A** ☐ **If yes, which one:** _____

Frequency site is inspected by PWS: ☐ **Daily** ☐ **Alternate Days** ☐ **Weekly** ☐ **Other:** _____

Is the well sealed properly at the surface: Y ☐ **N** ☐ **Comments:** _____

Casing extends min of 18"(CWS) or 12"(NCWS) above well slab, floor, or ground surface: Y ☐ **N** ☐

Is the well vent termination and screening acceptable: Y ☐ **N** ☐ **Size:** _____ **Comments:** _____

Are all other applicable screens in place: Y ☐ **N** ☐ **Comments:** _____

Is a sampling tap available: Y ☐ **N** ☐ **Is the sample tap smooth nosed: Y** ☐ **N** ☐

Is a pressure gauge available: Y ☐ **N** ☐ **Working: Y** ☐ **N** ☐ **Observed pressure gauge reading:** _____

Static ☐ **Dynamic** ☐

Is a chemical injection tap available: Y ☐ **N** ☐ **Chemical tap size:** _____

Is an approved electrical outlet available for chemical tap: Y ☐ **N** ☐ **Is this a GFI outlet: Y** ☐ **N** ☐

Is well metered: Y ☐ **N** ☐ **Type:** _____ **Size:** _____ **Make/Model:** _____

Serial #: _____

Electric meter reading: _____ **Water meter reading:** _____ **Hr. meter reading:** _____

Are drawdown readings taken routinely: Y ☐ **N** ☐ **Frequency:** _____

Airline Length: _____ **Drawdown:** _____ **Available Drawdown:** _____

Are cross-connection requirements adequately met: Y ☐ **N** ☐

Are chemicals injected at the well: Y ☐ **N** ☐ **If yes, what chemical(s):** _____

Observed condition of piping and valving: _____

Observed condition of electrical systems: _____

Is lightning protection in place: Y ☐ **N** ☐

Is backup power available: Y ☐ **N** ☐ **If yes, type:** _____

If exercised, how often _____? **Under load Y** ☐ **N** ☐

Is the facility well maintained and secure: Y ☐ **N** ☐

If necessary, is appropriate signage in place: Y ☐ **N** ☐ **N/A** ☐

Does well meet criteria for potential GWUDI: Y ☐ **N** ☐ **Unknown** ☐

Was the system deemed to be GWUDI: Y ☐ **N** ☐ **N/A** ☐ **If yes, date of determination:** _____

Are there any encroachments on this well: Y ☐ **N** ☐

If yes, describe: _____ **Well Vulnerability changed: Y** ☐ **N** ☐

Comments on this well: _____

<u>WELL INFORMATION</u>

Well ID # (DNR Reg. #)	**Motor HP**	**Vert. Turb.**	**Sub.**	**Well Depth Ft.**	**Well Casing Dia.**	**Screen Const. Type**	**Top of Screen Depth**	**Casing Type**	**Pump Setting**	**Static Water Level**	**Pumping Water Level**	**Well Blow Off Size**	**Comments**
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										
		☐	☐										

Comments: ______

SURFACE WATER SUPPLIES AND FACILITIES

Source Common Name: _____

Frequency site is inspected by PWS: ☐ Daily ☐ Alternate Days ☐ Weekly ☐ Other: _____

Is intake structure able to function at multiple depths: Y ☐ N ☐

Last inspection date: _____ **Inspection:** ☐ Visual ☐ Mechanical ☐ Other: _____

Do conditions exist that can cause fluctuations in water quality: Y ☐ N ☐

If yes, describe the conditions: _____

Can water be withdrawn during a prolonged drought: Y ☐ N ☐ **Minimum usable water level:** _____

Are facilities well maintained: Y ☐ N ☐ **Are facilities secure:** Y ☐ N ☐

Does facility allow recreational use: Y ☐ N ☐ **Are there special provisions for recreational use:** Y ☐ N ☐

Has this surface water withdrawal been approved by DNR: Y ☐ N ☐ N/A ☐

If approval has been granted, what is the maximum allowed withdrawal: _____

Comments on Surface Water Supplies and Facilities: _____

INFILTRATION GALLERY FACILITIES

Construction Material: _____

Number of Laterals: _____ **Length of Laterals:** _____

Is a Booster Pump in use: Y ☐ N ☐

Have there been any significant fluctuations in water quality: Y ☐ N ☐

If yes, describe: _____

Last Inspection Date: _____ **Inspection:** ☐ Visual ☐ Mechanical ☐ Other: _____

Routine Maintenance Frequency: _____

Are facilities well maintained: Y ☐ N ☐

Are facilities secure: Y ☐ N ☐

Condition of associated piping, valving, and other appurtenances: _____

Has source been evaluated for GWUDI: Y ☐ N ☐ **Date:** _____ **Findings:** _____

Comments on Infiltration Gallery Facilities: _____

SPRING SOURCE FACILITIES

Is the spring protected from contact with animals and vandalism: Y ☐ N ☐

Collection Structure Condition: _____

Is spring drainage adequate to protect from surface run-off: Y ☐ N ☐

Are all setback requirements met: Y ☐ N ☐

Are facilities well maintained: Y ☐ N ☐

Are facilities secure: Y ☐ N ☐

Have springs been evaluated for GWUDI: Y ☐ N ☐ **Date:** _____ **Findings:** _____

Comments on Spring Source Facilities: _____

PUMPS AND PUMP FACILITIES

(Excluding Well Facilities)

	Facility Name	Pump Type	Application	Motor HP	Var. Speed	PM Prog.	Backup Power	Comments
1		X			X	X	X	
2		X			X	X	X	
3		X			X	X	X	
4		X			X	X	X	
5		X			X	X	X	
6		X			X	X	X	
7		X			X	X	X	

Type Codes: **PDP = Positive Displacement Pump** **SR = Helical or Spiral Rotor** **C = Centrifugal Pump** **VT = Vertical Turbine**
E = Ejector Pump **RT = Regenerative Turbine** **ES = End Suction** (vertically split) **S = Submersible**
RP = Reciprocating Pump **SC = Split Case** (horizontally split) **O = Other**

Var. Speed, PM Prog., Backup Power = Yes or No

Comment Codes: **1 = Excessive Vibration** **2 = Overheating** **3 = Excessive Noise** **4 = Producing Odors** **5 = Other**

Are all pumps operational: **Y** ☐ **N** ☐ **Comments:** _____

Is redundancy provided and/or spare-parts on hand for repairs: **Y** ☐ **N** ☐ **Comments:** _____

Are the pump facilities located in a flood plain: **Y** ☐ **N** ☐ **If yes, what are the provisions for facility access:** _____

Are all drains and vents properly screened: **Y** ☐ **N** ☐ **N/A** ☐ **Comments:** _____

Are the following items at all facilities adequate for operation: **Lighting: Y** ☐ **N** ☐ **Signage: Y** ☐ **N** ☐ **Ventilation: Y** ☐ **N** ☐

Heating: Y ☐ **N** ☐ **Type of Heating:** _____ **Interior Drainage: Y** ☐ **N** ☐

Comments on Pumps and Pump Facilities: _____

TRANSMISSION OF SOURCE WATER

(If this sheet is completed the information must be included on the Sensitive/Secure Information sheets)

Does the transmission main deliver all raw water to a treatment plant: **Y** ☐ **N** ☐

If no, explain: _____

Number of Transmission mains: _____

Length	Construction Date	Type of Material	# Air Relief	# Blow Off

Does the air relief(s) terminate above ground level: **Y** ☐ **N** ☐ **N/A** ☐

Is (are) the air relief(s) screened: **Y** ☐ **N** ☐ **N/A** ☐

Is (are) the blow off(s) capped: **Y** ☐ **N** ☐ **N/A** ☐

Is there a valve exercising program for the transmission main valves: **Y** ☐ **N** ☐ **N/A** ☐ **Frequency:** _____

Are there materials available for repairs of the transmission main: **Y** ☐ **N** ☐

Comments on Transmission main: _____

TREATMENT FACILITIES AND PROCESSES

Is the treatment plant located within 100-year floodplain: Y ☐ N ☐ **Comments:** _____

Are there any potential contamination sources in the vicinity of the plant: Y ☐ N ☐

If yes, describe: _____

Are the grounds and facility well maintained: Y ☐ N ☐

Is the facility staffed 24 hours per day: Y ☐ N ☐

Is the facility secure from trespassers and vandalism: Y ☐ N ☐ **Comments:** _____

Is the system currently using or participating in any type of optimization programs: Y ☐ N ☐

ATTACH A FLOW DIAGRAM (LINE DRAWING) OF THE FACILITY SHOWING FLOW DIRECTION AND CHEMICAL INJECTION POINTS

Historical Daily Maximum production over last 3 years: _____ **X**

Are there any limitations to plant flows: Y ☐ N ☐

If yes, describe: _____

Is there an emergency power source: Y ☐ N ☐ **Type:** _____

Frequency of testing of emergency power source: _____

Is there a Preventative Maintenance Program for the treatment plant, associated equipment and facilities: Y ☐ N ☐

TREAMENT PROCESS BEING USED

Conventional Filtration: _____ **Direct Filtration:** _____ **In-Line Filtration:** _____

Slow-Sand Filtration: _____ **Single-Stage Softening:** _____ **Two-Stage Softening:** _____

Conventional Filtration / Softening: _____ **Are there Split and Complex Treatment Trains:** Y ☐ N ☐

Membrane Filtration: _____ **Micro-Filtration:** _____ **Ultra-Filtration:** _____

Nano-Filtration: _____ **Reverse Osmosis:** _____ **Greensand Filtration:** _____

Ion-exchange: _____ **Purpose:** _____

Aeration: _____ **Type:** _____

Disinfection: _____ **Pre:** _____ **Post:** _____ **Other:** _____

Oxidation: _____ **Purpose:** _____

Sequestering: _____ **Purpose:** _____

Fluoridation: _____ **Other Processes:** _____

Individual processes or package plant: _____

Comments on Treatment Facilities and Processes: _____

PRESEDIMENTATION BASINS

(If all basins are not same dimension, complete a separate sheet for each size of basin.)

Number of basins: _____ **PWS name or identification for basin(s):** _____

Basin Measurements: _____ **Baffling Factor:** _____

Average Turbidity Removal: _____ **NTU** **Historical Turbidity Removal Range:** _____ **NTU**

Frequency of Cleaning: _____

Sludge Disposal method: _____

Contamination Potential: **Waterfowl:** **Y** ☐ **N** ☐ **Runoff:** **Y** ☐ **N** ☐ **Other:** **Y** ☐ **N** ☐

Comments: _____

FLOW CONTROL AND METERING

Source Water Influent Metered: **Y** ☐ **N** ☐ **Type:** _____ **Size:** _____ **Make:** _____ **Model:** _____

Finished Water Outlets Metered: **Y** ☐ **N** ☐

Type	Size	Make	Model	Comments

RAPID MIX PROCESS

Type: **Mechanical:** _____

Static In-line: _____

Diffuser: _____

Hydraulic (Baffled)**:** _____

Chamber Measurements: _____ **Baffling Factor:** _____

Chemicals Being Fed: _____

Continuous Feed: **Y** ☐ **N** ☐ **Are feeds flow paced:** **Y** ☐ **N** ☐ **Manual Adjusted:** **Y** ☐ **N** ☐

Variable Speed mixers: **Y** ☐ **N** ☐ **RPM:** _____ **RPM Range:** _____

Multiple Units: **Y** ☐ **N** ☐ **Number:** _____ **Locations:** _____

Maintenance Frequency: _____

Are there visible hydraulic inadequacies: **Y** ☐ **N** ☐ **If yes, describe:** _____

Is cross-connection control protection adequate, where necessary: **Y** ☐ **N** ☐ **If no, explain:** _____

Comments on Pre-sedimentation Basins, Flow Control Metering, and Rapid Mix Process: _____

CHEMICALS AND CHEMICAL FEED SYSTEMS

(This sheet needed for any system required to comply with 179 NAC 22-005 Item 6)

Chemical Name	Day Tank capacity in gal.	Average Daily Feed	Certified By	Measured By	Safety Equip.	MSDS Avail.	Labeling & Signage	Spill Contain-ment	Storage Secure	Comments
			X	X	X	X	X	X	X	
			X	X	X	X	X	X	X	
			X	X	X	X	X	X	X	

Certification Codes: 1 = NSF 2 = UL 3 = AWWA Standards **Measurement Codes:** S = Scale L = Labeled T = Tank Marked O = Other

Safety Equip., MSDS Avail., Labeling & Signage, Spill Containment, Storage Secure & Safe = Yes or No

Are MSDS(s) readily accessible to all personnel: Y ☐ N ☐ **Comments:** _____

Is the appropriate chemical safety equipment available to all personnel: Y ☐ N ☐ **Comments:** _____

Are there any visible problems with the application points: Y ☐ N ☐ **Comments:** _____

CHEMICAL FEED EQUIPMENT SPECIFICATIONS

Description	Make	Model #	Feed Range	NSF 61 Cert. (Y or N)	Method of setting Feed Rate			
					Well or Motor Paced	Flow Paced	Manual	Other
				X				
				X				
				X				

Are backup units available for all feeders: Y ☐ N ☐ **Comments:** _____

Is appropriate cross-connection control in place for chemical feeders: Y ☐ N ☐ **Comments:** _____

Are these chemicals fed at a chemical feed facility: Y ☐ N ☐

Comments on Chemicals, Chemical Feed System(s) and Chemical Feed Equipment: _____

COAGULATION AND FLOCCULATION

(If non-similar multiple units, complete one sheet for each one.)

Type of mixing: Mechanical: _____ Baffled: _____ Number of mixers or baffles: _____

Static: _____ rpm Variable Speed Range: _____ rpm Baffling Factor: _____

Vertical Shaft: _____ Paddle: _____ Up-flow Clarifier: _____

Basin(s) Measurements: _____

Does process appear to be working correctly: Y ☐ N ☐

Is there a preventative maintenance program for the equipment: Y ☐ N ☐

Comments: _____

Is there Jar Testing Capability at the facility: Y ☐ N ☐ Frequency of Use: _____

Comments on Coagulation and Flocculation: _____

SEDIMENTATION / CLARIFICATION

(If non-similar multiple units, complete one sheet for each one.)

Type: Cross-flow Basin: _____ Radial-flow Basin: _____ Up-flow Clarifier: _____

Number of Basins: _____ Baffling Factor: _____

Basin Measurements: _____

Does flow appear to be evenly distributed: Y ☐ N ☐

Is there evidence of short-circuiting: Y ☐ N ☐

Method of Sludge Removal: Mechanical: _____ Type: _____

Manual: _____ Frequency: _____

Average Settled Turbidity: _____ NTU Historical Settled Turbidity Range: _____ NTU

Sludge Disposal Location: _____

Comments on Sedimentation/Clarification: _____

PRESSURE FILTERS

(Complete one sheet per filter type.)

Number of Filters: _____ **Filter ID (name or #):** _____ **Date Installed:** _____

Medias: ☐ **Mono:** _____

☐ **Dual Media:** _____

☐ **Multi-Media**: _____

Media depth(s): _____

Maximum design Filtration Rate: _____ **gpm/sq. ft.** **Current filtration rate:** _____ **gpm/sq. ft.**

Filter measurements: _____

Date of Last Internal Inspection: _____ **By:** _____

Attach a copy of the last internal inspection recommendations if any.

Were any deficiencies noted during the inspection: Y ☐ **N** ☐ **If yes, have they been corrected: Y** ☐ **N** ☐

Are head loss gauges present on the inlet and outlet of the filter: Y ☐ **N** ☐

If yes, are the gauges functioning: Y ☐ **N** ☐

Does the filter have a rate of flow indicator: Y ☐ **N** ☐ **Comments:** _____

What criteria are used to initiate a backwash cycle: _____

Briefly describe the backwash procedure: _____

What is the high rate of backwash flow: _____ **gpm/sq. ft.**

How is the backwash water disposed of: _____

Is turbidity monitoring done on the backwash waste: Y ☐ **N** ☐

Is turbidity monitoring done on the filter effluent: Y ☐ **N** ☐

If no, how is the adequacy of the backwash process evaluated: _____

Is filter equipped to filter to waste: Y ☐ **N** ☐

Comments on Pressure Filters: _____

GRAVITY FILTERS

(Complete one sheet per filter type.)

Number of Filters: _____ **Filter ID (name or number):** _____ **Installation Date:** _____

Filter Technology: **Rapid Sand:** ☐ **Slow Sand:** ☐

Filter Media (check all that apply): **Sand:** ☐ **Anthracite:** ☐ **GAC:** ☐

Gravel: ☐ **Garnet:** ☐ **DE:** ☐ **Other:** _____

Filter Dimensions: _____ **Baffling Factor:** _____

Date of last media installation or replacement: _____

Are there any visible problems with filter media: **Y** ☐ **N** ☐ **Comments:** _____

Type of underdrain system: _____

Frequency underdrain system is inspected: _____

Designed filtration rate: _____ **gpm /sq. ft.** **Current filtration rate:** _____ **gpm/sq. ft.**

Design media depth: _____ **Current media depth:** _____

Criteria for initiating backwash: _____

Monitoring Equipment: **Rate-of-Flow Controller(s):** _____ **Are these variable or set:** _____

Filter Effluent Turbidimeters: _____ **Head Loss gauges:** _____

% media expansion during backwash: _____**%**

Average filter run time: _____

Is there a Surface Wash System for the filter: **Y** ☐ **N** ☐ **Air Scour:** **Y** ☐ **N** ☐

Is there filter to waste capability: **Y** ☐ **N** ☐ **Comments:** _____

How are recently washed filters brought back on line: _____

Condition of pipe gallery: _____

Has a filter profile been developed for the filter: **Y** ☐ **N** ☐ **Comments:** _____

Has a filter self-assessment been completed for the filter: **Y** ☐ **N** ☐ **Comments:** _____

Date of last assessment: _____ **Significant findings:** _____

Date of last filter effluent turbidimeter calibration: _____ **Calibration frequency:** _____

Are calibration records current and accessible: **Y** ☐ **N** ☐ **Comments:** _____

How are required turbidimeter readings recorded: ☐ **Chart Recorder** ☐ **Strip Chart** ☐ **Data-logging**

Frequency of readings: _____ **Is redundancy provided for readings:** **Y** ☐ **N** ☐

Are filter-aides added prior to filtration: **Y** ☐ **N** ☐ **If yes, what chemical(s):** _____

Dosage rate: _____ **mg/L** **Does it meet NSF-60, UL, or AWWA standards:** **Y** ☐ **N** ☐

Are appropriate cross-connection devices installed, where necessary: **Y** ☐ **N** ☐ **Comments:** _____

Is backwash water retained for recycle: **Y** ☐ **N** ☐ **If yes, method:** ☐ **Lagoons** ☐ **Direct Recycle**

Additional Comments on Filtration Practices: _____

Comments on Gravity Filters: _____

DISINFECTION PROCESSES

Pre-Disinfectant Used: ☐ Chlorine ☐ Ozone ☐ Chlorine Dioxide ☐ Other: _____

In-plant Disinfectant: ☐ Chlorine ☐ Ozone ☐ Chlorine Dioxide ☐ Other: _____

Distribution (plant effluent) Disinfectant Used: ☐ Chlorine ☐ Chloramines ☐ Chlorine Dioxide ☐ Other: _____

Chlorine Type Used: ☐ Gas – 150 lb. Cylinder ☐ Gas – 1T Cylinder ☐ Gas – RR Tank Cars ☐ Liquid – Sodium Hypochlorite:_____% ☐ Calcium Hypochlorite: _____%

Primary Purpose: ☐ Oxidation ☐ Disinfection ☐ Both

Chlorine Dioxide:

On-site generated: Y ☐ N ☐ **If yes, number of generators:** _____

Size of chlorine cylinders: _____ **Bulk chlorite storage:** _____ **gal**

Primary Purpose: ☐ Oxidation ☐ Disinfection ☐ Both

Frequency of generator yields: _____ **Average yield %:** _____%

Method used to detect residuals: _____

Is there a PM Program for the generators: Y ☐ N ☐

Date of last preventative maintenance on generators: _____

Ozone:

Number of Generators: _____ **Capacity of Generators:** _____

% Ozone being generated: _____%

Primary Purpose: ☐ Oxidation ☐ Disinfection ☐ Both

Are all applicable residual monitors operational: Y ☐ N ☐

Are excess ozone destructors operational: Y ☐ N ☐

Is there a PM Program for the generators: Y ☐ N ☐

Date of last PM on ozone generators: _____

DISINFECTION APPLICATION POINTS

Disinfectant Type	Application Point

DISINFECTION PROCESSES

How are the T10 Times calculated: **Tracer Study:** _____ **Theoretical:** _____

Date Tracer Study was Conducted: _____ **By:** _____

Identify the CT Sampling Zones:

A.) _____ **Baffling Factor:** _____

B.) _____ **Baffling Factor:** _____

C.) _____ **Baffling Factor:** _____

D.) _____ **Baffling Factor:** _____

E.) _____ **Baffling Factor:** _____

F.) _____ **Baffling Factor:** _____

G.) _____ **Baffling Factor:** _____

What is frequency of CT calculations: _____

Are at least 3 years of daily CT calculations available: **Y** ☐ **N** ☐

Are the CT calculations being performed correctly: **Y** ☐ **N** ☐

Testing Equipment for CT Calculations in each zone:

Chlorine Residual: ☐ **Grab or** ☐ **Continuous** **Instrument Model:** _____ **Calib. Freq.:** _____

pH: ☐ **Grab or** ☐ **Continuous** **Instrument Model:** _____ **Calib. Freq.:** _____

Temperature in C: ☐ **Grab or** ☐ **Continuous** **Instrument Model:** _____ **Calib. Freq.:** _____

Comments: _____

Is continuous monitoring for residuals being used: **Y** ☐ **N** ☐

Model of Continuous Monitor: _____

Is there an adequate spare parts inventory: **Y** ☐ **N** ☐ **Reagent supply:** **Y** ☐ **N** ☐

Residual Information Recording: ☐ **Chart-recorder** ☐ **Strip-charts** ☐ **Data-logging**

Is there a level of redundancy: Y ☐ **N** ☐ **Comments:** _____

What is the frequency of verifying the continuous read testing results by another method: _____

What is that method: _____

Are backflow preventers installed where necessary: **Y** ☐ **N** ☐ **Comments:** _____

Comments on Disinfection Process: _____

GROUND AND ELEVATED TANK STORAGE FACILITIES

Facility Name	Type	Const. Mat.	Tank ht.	Over-flow ht.	Corrosion Control (Y or N)	Date of Last Inspection	Date of Last Cleaning	Date Interior Painted	Interior Paint Type	Date Exterior Painted	Exterior Paint Type
	X	X			X				X		X
	X	X			X				X		X
	X	X			X				X		X

Type: G = Ground Storage PB = Partially Buried B = Buried E = Elevated HP = Hydro-pillar UC = Uncovered Facility SP = Stand Pipe

Construction Material: C = Concrete S = Steel O = Other Describe: _____

Paint System Type: E = Epoxy G = Glass Coating W = Wax UK = Unknown O = Other Describe: _____

Current condition of tank exterior(s): _____

Any apparent structural problems: Y ☐ N ☐ **Comments:** _____

Is there a routine inspection and cleaning program: Y ☐ N ☐ **Comments:** _____

Who performed the last inspection and cleaning? _____

Were any deficiencies noted during the last inspection: Y ☐ N ☐

If yes, have they been corrected: Y ☐ N ☐ **If no, what was not corrected:** _____

How is the water supply maintained with storage facilities out of service: _____

Are the facilities well maintained and secure: Y ☐ N ☐ **Locked Security Fence:** Y ☐ N ☐ N/A ☐

GROUND AND ELEVATED STORAGE TANK FACILITIES COMPONETS

Facility Name	Roof Leaks	Access Hatch Locked	Roof Vent Cond.	Level Measure	Tank Drain	Overflow 12-24" above ground on splash pad	Overflow Cover	Access Ladders	Valving Operable	Bypass Present / Operable	Level Controls Type	Alarm System
	X	X	X	X	X	X		X	X	X		X
	X	X	X	X	X	X		X	X	X		X
	X	X	X	X	X	X		X	X	X		X

S = Satisfactory U = Unsatisfactory N = Not Present, but should be UI = Unable to Visually See NA = Not Applicable

Overall Comments on Ground and Elevated Storage Facilities: _____

HYDROPNUEMATIC AND PRESSURE TANKS

(complete one sheet per tank brand/model)

Brand of Tank(s): _____ **Model of tank(s):** _____

Number of Tank(s): _____ **Water source(s) tank(s) is/are used for:** _____

Type: ☐ **Air** ☐ **Air-Wafer** ☐ **Air-Diaphragm** ☐ **Air-Bladder**

Installation Date(s): _____

Is tank located completely above ground: **Y** ☐ **N** ☐

Date of last internal inspection if applicable: _____ **Comments:** _____

ASME plate information: _____ **N/A** ☐

Is a manway available: **Y** ☐ **N** ☐ **Size:** _____

Is there a functioning pressure relief valve: **Y** ☐ **N** ☐

Is there a pressure gauge: **Y** ☐ **N** ☐ **If yes, psi:** _____

What are the pump On and Off pressure settings: **On:** _____ **Off:** _____

Is there an automatic control system for water / air ratio: **Y** ☐ **N** ☐ **N/A** ☐

If yes, are air injection lines filtered: **Y** ☐ **N** ☐

Is there a sight glass or other water level indicator: **Y** ☐ **N** ☐ **N/A** ☐ **If other, describe:** _____

Are there controls to prevent water hammer: **Y** ☐ **N** ☐ **N/A** ☐ **If yes, describe:** _____

Overall condition of tank(s): _____

Comments on Hyropnuematic and Pressure Tanks: _____

Inspector's Signature: _____

System Representative: _____

Date Inspection Completed: _____

PWS Name: _____ **County:** _____ **PWS ID#: NE31-** _____

Date of Survey: _____

SENSITIVE / SECURE INFORMATION

WELL INFORMATION

Well ID#	Well Capacity	Chemicals Injected (Y/N)	Encroachments (Y/N)	Well GPS Location
				N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
				N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
				N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”

SURFACE WATER SUPPLIES AND FACILITIES

Facility Name	Avg. Daily Flow	Max. Daily Flow	GPS Location
			N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
			N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
			N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”

INFILTRATION GALLERY FACILITIES

Facility Name	Avg. Daily	Max. Daily	Boosted Flow	GPS Location
				N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
				N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
				N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”

SPRING SOURCE FACILITIES

Facility Name	Avg. Daily	Max. Daily	Boosted Flow	GPS Location
				N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
				N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
				N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”

TRANSMISSION OF SOURCE WATER

Description of Trans. Main Run (start point to stop/end point)	GPS Location of POE to Dist. System
	N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
	N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
	N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”

TREATMENT FACILITIES AND PROCESSES

1. Physical location and directions to treatment facilities: _____

Treatment Process/Name	Design Cap. of Process	GPS Location if applicable
		N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
		N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”
		N __ ° __ ’ ____ ” W __ ° __ ’ ____ ”

2. List potential contaminant sources in the vicinity of the treatment facilities: _____

3. Design capacity of treatment plant: _____ MGD

FILTRATION

1. What is the POE for recycling backwash water: _____

FLOW CONTROL AND METERING

Name and Location of Finished Water Outlets:	Meter type and reading	GPS Location
		N __° __' ____" W __° __' ____"
		N __° __' ____" W __° __' ____"
		N __° __' ____" W __° __' ____"

CHEMICALS AND CHEMICAL FEED SYSTEMS

Name of Chemical Stored	Location of Chemicals, Chemical Storage and Chemical Feed Systems	Lbs./Gallons of Chemical Stored

Name of Chemical Feed Facility and Type of Chemical Fed	GPS Location if different from well locations
	N __° __' ____" W __° __' ____"
	N __° __' ____" W __° __' ____"
	N __° __' ____" W __° __' ____"

STORAGE FACILITIES

Name of Storage Facility	Physical Location of Facility	PSI	Capacity	GPS Location
				N __° __' ____" W __° __' ____"
				N __° __' ____" W __° __' ____"
				N __° __' ____" W __° __' ____"

PUMPS AND PUMPING FACILITIES

(other than wells)

Facility Name	Number and Application of Pumps in Facility	PSI	Cap. of Pump	GPS Location
				N __° __' ____" W __° __' ____"
				N __° __' ____" W __° __' ____"
				N __° __' ____" W __° __' ____"

DISTRIBUTION SYSTEM GPS DATA

Location of Geographical Center of Distribution System	GPS Location
	N __° __' ____" W __° __' ____"

Attachment C

The following figures give a comparison between calendar years 2005, 2006 and 2007 with respect to the number of RSS performed and the severity and number of deficiencies found.

CWS – Community Water System
NTNC – Non-Transient Non-Community Public Water Supply
TNC – Transient Non-Community Public Water Supply
RSS – Routine Sanitary Survey

Note that the "Total Number of Deficiencies" for the three years has decreased by 45%, which is an excellent indicator of the success of the program. The comparison shows that a vast majority of the deficiencies have decreased over the three-year period.

	2005	2006	2007
Total Number of RSS	535	411	403
CWS	213	204	201
NTNC	80	65	58
TNC	242	142	144
Total Follow-Up RSS	116	89	65
CWS	46	52	37
NTNC	9	10	7
TNC	61	27	21
Total Number of Deficiencies	1531	910	842
CWS	646	593	567
NTNC	186	181	152
TNC	261	136	123
Significant vs. Minor Deficiencies			
Total Significant Deficiencies	1089	589	549
Total Minor Deficiencies	441	322	293
Significant vs. Minor Deficiencies			
CWS Significant	646	392	360
CWS Minor	268	201	207
NTNC Significant Deficiencies	186	105	86
NTNC Minor Deficiencies	54	76	37
TNC Significant Deficiencies	246	90	103
TNC Minor Deficiencies	113	46	49
Average Number of Deficiencies per RSS	2.9	2.2	2.1
Average Number of Deficiencies by System Type			
CWS	1.2	1.44	1.41
NTNC	.34	.44	.37
NC	.48	.33	.31

Attachment D

July 3, 2003

Mr. Jo Public
Village of Anywhere
217 Nile Street
P. O. Box 307
Anywhere, Nebraska. 678901

Re: Village of Anywhere- NE31-04104- Unregistered water wells

Dear Mr. Public:

Through a review of HHSS-R&L records for Village of Anywhere it has been discovered that your wells #271 and #301 that are used to supply water for human/public consumption are not registered with the Nebraska Department of Natural Resources as required by state law. According to the Department of Natural Resources Statute §46-602, wells that are not registered are illegal.

Specifically, Neb. Rev. Stat. §46-602 states, "Except for water wells which are used solely for domestic purposes and were constructed before September 9, 1993, and for test holes and dewatering wells used for less than ninety days, each water well which was completed in this state before July 1, 2001, and which is not registered on that date shall be an illegal water well until it is registered with the Department of Natural Resources."

Registered public water system wells serving a city, a village, a municipal corporation, a metropolitan utilities district, a rural water district, a natural resources district, an irrigation district, a reclamation district, or a sanitary and improvement district are afforded spacing protection under state law (Neb. Rev. Stat. §46-638). This is an important legal tool with respect to water quality and quantity. The current dry cycle has clearly pointed out the importance of spacing protection as the competition for ground water has greatly increased over the past several years.

Equally important is that under the Nebraska Safe Drinking Water Regulations, public water system owners are to activate all existing legal tools to protect their sources of drinking water from encroachments which are "likely hazards to the safety of the drinking water quality, or which could have a substantial impact on the system pressure or economies delivered by the system". (Title 179 NAC 2-008.02F)

The result of public water wells not being registered goes beyond the fact of being labeled as "illegal." Unregistered public water wells also run the risk of being identified as being vulnerable to encroachments (contamination) and subject to increased costly monitoring requirements.

I hope that enough good reasons have been stated above to encourage you to get your public water wells registered with the Department of Natural Resources as soon as possible as required by state law. Registration is an important tool in protecting public health and the system's infrastructure investment.

The Department of Natural Resources will inform us of your well registration status on a regular basis until such time as the wells are registered or it is clear that other action is necessary to assure compliance with state law.

To assist you in this matter, enclosed you will find a well registration form for each of your existing unregistered public water system wells.

Given the information requested on the enclosed well registration form, you may need to contact your local licensed well driller/pump installer or the Department of Natural Resources at 402/471-0576 in order to provide you with the well information requested.

Thank you in advance for your prompt attention regarding this important matter.

Sincerely,
Jack L. Daniel, Administrator
Environmental Health Services Section
Department of Health and Human Services
Division of Public Health
JLD/jem
xc: Susan France, NDNR
Doug Woodbeck, DHHS-DPH

Attachment E

June 26, 2007

Mr. John Doe
Village of Anywhere
1234 Knox Road
Anywhere, NE 69000

Re: Total Coliform Rule Violations – Village of Anywhere - NE3100000

Dear Mr. Doe:

The Nebraska Department of Health and Human Services - Division of Public Health (DHHS-DPH) has been reviewing Public Water System (PWS) records for coliform (bacteriological) positive water samples. The Village of Anywhere has been identified as having experienced problems with positive bacteriological samples, and subsequent violations of the Total Coliform Rule. The record review looked at the most recent seven (7) years (1997 through 2003). DHHS-DPH records indicate that your positive bacteriological samples have all occurred in the same four (4) month period over this 7 year period.

DHHS-DPH suspects that bio film growth in your distribution system may be the cause of these positive bacteriological samples. In an attempt to avoid future coliform violations, DHHS-DPH strongly recommends the Village of Anywhere implement maintenance disinfection for your water distribution system, just ahead of the 4 month period in which the positive samples are showing up. The 4 month period identified for your system is September through December.

Maintenance disinfection needs to be recorded and reported to DHHS-DPH according to Title 179 NAC 16 Attachment 1 item C, Disinfectants and Disinfection By-Products Rule. Your system would also be required to do Total Organic Carbon (TOC) monitoring from each water source (well). As long as the TOC levels for every source are at or less than 2.0 mg/l, and maintenance disinfection is applied for no more than 21 consecutive or 30 cumulative calendar days, your system will not have to sample for Disinfection By-Products.

You need to be aware that if the trend of positive bacteriological samples continues the Village of Anywhere may become a candidate for permanent continuous disinfection. DHHS-DPH strongly encourages you to be pro-active and address this problem on your own, and avoid permanent disinfection.

If you have any questions, you may contact DHHS-DPH staff person Doug Woodbeck, who is closest to this issue, at your convenience by E-mail at doug.woodbeck@hhss.state.ne.us, by phone at (402) 471-0521 or at the address on this letterhead. You may also contact me by E-mail at jack.daniel@hhss.state.ne.us or by phone at (402) 471-0510.

Sincerely,

Jack Daniel
DHHS-DPH Environmental Health Services Administrator

Xc: PWS File
Ralph Naber, DHHS-DPH Field Representative
Doug Woodbeck, DHHS-DPH Field Services Program Manager
Howard Isaacs, DHHS-DPH Monitoring and Compliance Program Manager
Chinn Chew, DHHS-DPH Engineering Services Program Manager
Barney Whatley, Nebraska Rural Water Association
Harold Reynolds, Midwest Assistance Program
Rob Pierce, League of Nebraska Municipalities

Division of Public Health

Capacity Development Strategy

August 6, 2000
Revised September 2007

TABLE OF CONTENTS

Capacity Development Strategy for Existing Public Water Systems

Introduction

The Safe Drinking Water Act (SDWA) amendments of 1996 authorize a Drinking Water State Revolving Fund (DWSRF) loan program to help public water systems (PWS) finance the infrastructure needed to achieve or maintain compliance with the SDWA requirements and to achieve the public health objectives of the Act. Section 1420(c) of the SDWA directs the Administrator of the United States Environmental Protection Agency (U.S. EPA) to withhold a 10% portion of a state's 2001 DWSRF allotment unless the state develops and implements a capacity development program to assist existing PWS in acquiring and maintaining technical, financial and managerial (TFM) capacity.

Under Section 1420, the State of Nebraska's Capacity Development Strategy is required to consider, solicit public comment on and address the following five requirements:

A) The methods or criteria that the State of Nebraska will use to identify and prioritize the PWS most in need of improving TFM capacity.
B) A description of the institutional, regulatory, financial, tax or legal factors at the Federal, State or local level that encourage or impair capacity development.
C) A description of how the state will use the authorities and resources of this title or other means to assist PWS in complying with the National Primary Drinking Water Regulations (NPDWR), encourage the development of partnerships between PWS to enhance the TFM capacity of the systems and assist PWS in the training and certification of operators.
D) A description of how the state will establish a baseline and measure improvements in capacity with respect to the NPDWR and state drinking water law.
E) Identification of the persons that have an interest in and are involved in the development and implementation of the Capacity Development Strategy.

In respect to these five elements, Nebraska Department of Health and Human Services – Division of Public Health (Department) is confident that the program elements selected and described in this document will strategically assist PWS in acquiring and maintaining TFM capacity. The Department has fashioned a strategy that exhibits the general characteristics of strategic planning, the future effect of current decisions, process, philosophy and structure.

The future effect of the current decisions made by this strategy are enhanced through programmatic decision-making (current decisions) that is ultimately geared toward improving the TFM of PWS (future effect) by working with the Capacity Development Strategy Committee Members and through other public input. The Department has examined the causes and effects of possible program changes as they may affect the acquisition and maintenance of TFM by PWS. This process has allowed the Department, after extensive review of enhancements and impairments to capacity, to better understand how program changes can influence TFM.

The strategy also meets the required characteristics of strategic planning because it is the result of a process of strategic planning. Even as the Capacity Development Strategy Committee was beginning its work, the Department had determined that the strategy would be generated through a coordinated planning effort. As a matter of course, the Department considered and adhered to the guidelines and advice of the U.S. EPA in

undertaking this strategic planning effort. This process was determined in advance; and, identified what the overall planning effort would be, when it would be done, who would do it, and what would be done with the results. The strategy process does not end with the results. The strategy process does not end with the issuance of this document. Rather, this strategy is the first step in a continuous process of understanding and addressing the TFM capacity building needs of the PWS in the state.

An important shift in focus is another requisite characteristic of the strategic planning process. The Department has demonstrated through this strategy that directors, managers and staff of the Drinking Water Program believe that strategic planning is important in reaching the goals of improved TFM capacity of PWS. This strategy which forms the basis for future program direction and goals of the Department, represents a philosophical commitment to the strategic improvement of PWS and is confirmed in this document.

Finally, a strategy should formally link planning, budgeting and operations together. This allows for a systematic and formalized effort to develop detailed plans to implement objectives, policies and purposes. The strategy shows how the Department will integrate operational, budgeting and planning functions to achieve TFM goals within the organizational structure of the program.

The Department's strategy for improving TFM capabilities of PWS has looked to the future and made assumptions about the needs of TFM improvements. In addition, the Department has analyzed in detail how TFM goals might be accomplished, looked at the resources within the Department, and those of the stakeholders in meeting these goals. The Department has also established priorities in implementing TFM improvements, monitoring performance, and after measuring success and setbacks, will review the plan periodically and make necessary adjustments.

Strategy Development

The Department solicited extensive public involvement in the development of this strategy. The primary purpose of this public involvement was to bring together individuals and organizations to form a stakeholder group that would represent the broadest possible spectrum of interested parties while at the same time respecting the need to keep the committee small enough to function efficiently.

Through a series of several public meetings beginning in March of 1999, the stakeholder group developed a Report of Findings with the assists of the Environmental Finance Center at Boise State University on improving the TFM capacity of Nebraska's PWS. This Report of Findings, which includes all of the information concerning the findings of the stakeholder group in addressing the five essential requirements, is included with this strategy as Attachment A. The Report of Findings was also made available on the Department's web page with a mechanism available to present comment through e-mail or by fax or mail. Additional public comment was also sought during a series of three public meetings across the state (Lincoln, Norfolk and North Platte). In an attempt to further increase public participation, the request for comments on the findings was combined with a public meeting on requirements of the Interim Enhanced Surface Water Treatment Rule and the Disinfection/Disinfection By-product Rule. Based on the findings of the strategy committee and from information gathered at public meetings, the outline for the strategy was developed.

The strategy that the Department has adopted is based on recommendations produced by the stakeholder committee and public comment and forms the basis of the strategy. All recommendations derived from this public process are incorporated into the strategy with the exception of one.

The one recommendation that was not included in the strategy was one that looked for improved communication and reporting between the Department and U.S. EPA. The Department feels that good communications between the Department and the U.S. EPA are a necessity in conducting the daily business of the program. We also feel that with the quarterly and annual reviews conducted on Nebraska's program, and the ability to contact U.S. EPA personnel as needed, is adequate to meet the intent of this finding. This recommendation refers to the State and Federal relationship and has little impact on existing water systems; and, as a consequence of this, the recommendation will not be included in the final strategy for capacity development for existing systems.

The remaining recommendations are listed in Attachment A of this strategy and the following describes how those recommendations will be used and the time frame of their incorporation into the final capacity development strategy.

Strategy for the Department

The strategy that the Department has chosen to implement based on the findings of the Capacity Development Strategy Committee Members and other public input which involves six broad areas, all designed as program or philosophical changes to further enhance the TFM capacity of Nebraska's PWS. Each of these areas is discussed below with the time frame for implementation of each element within the broader area.

Information Collection

Currently some information is routinely collected relative to the technical capabilities of a public water system through the sanitary survey format. However, because of the lack of financial and managerial capacity information on systems, the strategy committee recognized the need for collection of more TFM information by the Department. At the same time, due to shortcomings in the existing program and associated regulatory requirements of upcoming new regulations, the Department realized that the current format of sanitary surveys would need to be re-evaluated. As a result of these identified needs, an enhanced sanitary survey format has been developed. The Department completed the development of the new sanitary survey format with additional input solicited from the Two Percent (2%) Technical Assistance Team. The 2% Technical Assistance Team are the members of the Department's 2% Technical Partnership which is funded through the 2% Technical set-aside of the DWSRF which is designed to financially assist the State in providing capacity development services. The new Sanitary Survey is designed not only to meet the regulatory needs of the Department, but to also collect TFM information for review by the Department and the Two Percent Technical Assistance Team.

Because the sanitary survey is a regulatory document, even though enhanced to provide TFM information, only the Department staff will conduct the actual inspections. The results of the survey will then be reviewed by the Department to assign priority ranking as determined by the priority ranking protocol discussed later in this strategy. Once the priority rankings have been established, the results will be reviewed by the Department and the Two Percent Technical Assistance Team on a quarterly basis to determine which systems are most in need of TFM assistance.

Another provision of the new sanitary survey is that Department representatives and/or a Two Percent Technical Assistance Team member will be available to attend meetings, if requested by the governing body or owner of Nebraska's PWS systems to answer questions arising from the Sanitary Survey. In addition, at such meetings, staff would encourage long-term planning for the system. The offer for such meetings will be made

available in a cover letter, which is sent to the head of the governing board or owner and system operator. The letter will also describe the deficiencies found during the Sanitary Survey and the procedure for corrective actions to take place.

The strategy committee also wanted to see a capacity assessment tool that could be developed and the results provided to the system. The tool that the Department will implement will be priority ranking protocol and this information will also be contained in the cover letter to the system.

The new sanitary survey format is also designed to help the Department recognize what impact TFM assistance programs are having on systems as well as what additional training needs the systems may need. In this manner, the new format will, beginning January 1, 2001, also serve as an indicator of what changes may be needed in the strategy to meet future needs.

The new sanitary survey format serves as the cornerstone of the entire TFM strategy. All PWS are on a three-year rotation for evaluation under this format. Transient systems are on a 5 year rotation.

Intergovernmental and Regulatory Functions

Two Percent Technical Partnership

The Capacity Development Strategy recommended that the Department continue its efforts to implement its Two Percent Partnership Program which is funded through the Drinking Water State Revolving Fund (DWSRF) Two Percent set-aside fund, which is designed to financially assist in giving the State the option of providing capacity development services. The Department is committed to continuing this program. A list of the current members of the Two Percent Technical Assistance Team is shown on Attachment A. This group will meet bi-monthly with the Department to review a listing of water systems in need of assistance and which partner(s) might best provide the assistance needed. The bi-monthly meetings will also be an opportunity for the group to report on and reflect on progress that has been made, and as the strategy develops and evolves, begin the process of redefining what the TFM needs are for the system, and what the future contractual responsibilities of the Two Percent Technical Assistance Team may be. As future needs are assessed, the defined duties will be changed to meet those needs.

The Two Percent Technical Assistance Team members MAP, currently under contract for Technical and Managerial through June 30, 2008, and NeRWA under contract for Managerial and Financial through June 30, 2012. The partners are currently working on specific projects or with systems defined by the Department as having known compliance issues and/or capacity shortcomings.

State Public Information Programs

The strategy committee recognized that there is a strong need for a more enhanced public education program by the Department. The Department agrees with the findings and will internally and through cooperation with larger organizations such as larger PWS, peer group associations, and government organizations, begin to develop and implement an effective public education program. Because of existing staff impacts of producing an effective statewide public education effort, the official implementation of this facet of the strategy began in July 2001. This will allow time for the Department to assess and prepare for such a program. The elements to be developed with include the following:

A) A statewide educational campaign to heighten public awareness regarding the information contained in consumer confidence reports.

B) The development and implementation of programs for public schools related to Drinking Water Week.
C) To continue and enhance displays on the Department's activities during the Nebraska State Fair and during cooperative information programs such as the Nebraska Groundwater Foundation.
D) The development and/or procurement of brochures, bill-stuffers, and mailers/hand-outs pertaining to pertinent current water topics geared toward small and medium size systems that may lack the financial means to do on their own.

Local Land Use Planning

The strategy committee felt that throughout Nebraska, the lack of planning in rural areas adversely affects the overall economics of producing safe drinking water. Typically this is associated with the failure of local and/or county governments to incorporate drinking water issues with land use planning and is especially relevant in developments occurring in unincorporated areas adjacent to existing municipal and not-for-profit PWS. The Department currently encourages the consolidation of existing systems in certain circumstances, and requires TFM capacity to be demonstrated by new systems prior to being approved. Future regulations will require a greater effort by the Department to act as a technical resource to help cities and counties acquire the information they need to understand drinking water capacity issues and then incorporate these issues into their planning efforts. The Department will implement meetings throughout the state to bring these issues to the attention of local governments. Extra emphasis is placed on getting out to the rural areas that typically lack land use planning and results of these meetings was evaluated in the Report to the Governor, the first of which was due in August of 2002.

Water Meter Requirements

The Capacity Development Strategy Committee felt that the use of measurement devices should be required in most situations for a public water system to be eligible for the DWSRF. The Department agrees with this element and has long encouraged the use of water meters for PWS. The use of meters has time after time demonstrated that they serve as an excellent conservation tool without decreasing revenues. Without accurate meter readings it is also very difficult for a system to adequately develop a long-term planning document. Because of the importance of water meters, effective with the State of Nebraska Fiscal Year 2002 Intended Use Plan Priority Funding List for the DWSRF (July 1, 2001), the needs survey, in late 2000, early 2001 contained questions concerning the metering capabilities of the PWS applying for the funds. That information was then tied into the eligibility requirements of the DWSRF as set forth in the Department's priority ranking criteria. Not having meters will not preclude a PWS from receiving DWSRF funds if the public water system can meet the requirements listed below.

1) All new or existing wells must have a functional measurement device installed in order to be eligible for the DWSRF.
2) The use of functional measurement devices is required on all service connections to be eligible for the DWSRF unless the owner can demonstrate all of the following:
   A) The installation of such devices creates an economic impairment whereby the costs of installation of such devices exceeds the potential benefits of such devices, and
   B) All un-metered customers are very similar in the nature and quantity of their water use, and
   C) The system has in place a comprehensive effective leak detection program and has available an enforceable water conservation plan.

A comprehensive effective leak detection program is interpreted by the Department as a program that has the entire system evaluated by individuals proficient in leak detection (commercially available or through assistance of the 2% Technical Assistance Team) a minimum of once every five years; and, provides written documentation as to the number of occurrences of leaks, the size of the leaks, and how those leaks were

corrected. An enforceable conservation plan is interpreted by the Department as a local ordinance that clearly defines the following:

A) Who has the authority to place restrictions on the PWS?
B) What are the specific restrictions?
C) Who has the authority to rescind restrictions?
D) What enforcement mechanisms are used if restrictions are not followed?

Training and Technical Assistance

Financial Management Training

Small systems face an on-going challenge of obtaining capital resources for improving or replacing system infrastructure.

As fiscal capacity and financial capacity are two of the essential components in achieving capacity development, it is essential that small systems in Nebraska routinely review and adjust water service charges to keep pace with the full costs of operating and maintaining their water systems. Therefore, beginning after July 1, 2001, some of the contractual requirements of the Two Percent Technical Assistance Team will be changed to meet this need since they already provide technical assistance in the areas of financial management and water rate setting. The changes in the contract will reflect an enhancement of this type of assistance by being incorporated into actual training courses targeted not only at operators but also at the governing boards. It may also be possible to combine the financing seminars described above with rate-setting and financial management training so that the entire package can be presented to the target audience at one time. This possibility will be further explored over the next 10 months as this portion of the strategy is developed.

Training

A significant theme of impairments discovered the by strategy committee revolved around the need to improve the knowledge of drinking water protection rules among not only the operators of the system, but also management personnel. The Department believes that along with the enhanced sanitary survey, meeting the training needs of operators and management personnel is one of the biggest steps to a system achieving TFM capacity. The major hurdle to overcome is that often rules and regulations are produced in forms that are difficult for small system operators and managers to understand. This in turn can lead to confusion in water systems with limited managerial capabilities that have difficulty in tracking regulatory changes from proposed to final status. Therefore, the Department will implement the following changes in meeting the training needs.

1) Effective February 2001, the new operator training regulations under Title 179 NAC 2 Section 010, will be in place. Stakeholder meetings for this regulation will begin in August through September of 2000, and is proposing the following changes.
   A) Verifiable education, work or training experience in a pre-application process for testing. Provisional licenses will no longer be granted and all operators applying to take certification exam will be required to meet the minimum requirements.
   B) That all system personnel making water quantity or quality changes are certified to a minimum of a Grade 4 level.
   C) Certification exams will be conducted out of central locations throughout the state (most likely field offices) at designated times. The operator candidates are currently being tested on only the material covered, in an at most, a 4 and one-half day course through a series of five 20-question tests which are

given on the last 4 days of the training course. The new format will place the burden on the operator to feel that they are adequately prepared and trained to take the test; and, to assist the operators in this, the Department will develop a tutorial for each certification grade to help in their preparation for the exam.

D) As part of the Operator Certification Regulations, the U.S. EPA will reimburse the state for training unsalaried operators of systems serving populations less than 3,300.

2) The Monitoring and Compliance Program has already implemented a program in which information on proposed and upcoming rules is being presented to the systems and their governing boards. This program has included mailings to potentially impacted systems, site visits to council/board meetings, and group informational meetings centered on proposed impacts to systems. For operators attending these meetings, continuing education credit has been given towards operator certification renewal. This trend is expected to continue and as this program develops over the next year an upcoming regulatory status report will be developed and mailed to all system owners on an annual basis. This program will also interpret the U.S. EPA's improved health protection and risk reduction information into a more easily read and understood format for inclusion in the impact mailings of proposed rules. The section will also develop an automatic e-mail service to keep operators updated on rule development or modifications by July of 2002.

3) In conjunction with the Two Percent Technical Assistance Team and in an effort to improve managerial capacity through on-site board training, a training module will be designed for board and council members. This training will focus on long-term planning, financial management, full-cost financing and regulatory environmental and financial controls. It would also be possible to develop a module for new board members that would include supplemental materials that would help them understand their role in the oversight of a public water system. This training is essential in helping the system acquire and maintain TFM capacity.

4) The Strategy Committee found that the rules and regulations (Title 179 NAC 2) are very cumbersome and written in language difficult to understand. The Department will begin surveying operators and system officials to determine which regulations are giving the system's problems. From the results of the surveys, the Department will arrange for meetings statewide to provide clarification on the regulations in question. The Department has also made the regulations easier to follow by placing individual rules and requirements in their own section of the regulations. This helps to minimize the amount of referencing back-and forth between the regulations. These efforts, when combined with the efforts of the Monitoring and Compliance Section, as described above, has allowed for a much better comprehension of the rules and regulations among system operators and owners.

5) The Committee identified a need to encourage partnerships among systems. As discussed in earlier elements of this strategy, this will be accomplished primarily through training sessions located throughout the state. By attending the sessions, networking between operator/board members can occur and specific topics such as consolidation, mutual aid agreements, shared equipment and/or operator would be used at these meetings to encourage attendance.

The Rejected Elements

The findings of the Strategy Committee were generally found to be true and the changes suggested were incorporated into this strategy. However, there was one finding not incorporated and that was the finding that there needed to be better communications between the U.S. EPA and the Department. This finding was rejected because the Department feels that with all the contact that is currently done with U.S. EPA, that good communications already exist and must be maintained for the Department to continue to function properly.

Protocol for Determining Public Water Systems Most in Need of Technical, Financial and Managerial Assistance

The Two- Percent Technical Assistance Team was given the responsibility of defining the criteria, which the Department would utilize to determine which systems are most in need of TFM assistance. As stated in the strategy, most of the pertinent information necessary to categorize the systems is obtained through the enhanced sanitary survey format. The listing of systems is based on four basic requirements:

1) An administrative order has been issued.
2) Being listed on significant non-compliance list.
3) Acute violations.
4) Multiple violations.

The priority that systems are ranked with these criteria will depend on the number and severity of violations as they pose a threat to public health. This list will be reviewed and the Department will determine the level of TFM assistance necessary. Additional priority will be given if a system is also listed on the previous years DWSRF Intended Use Plan.

The list will be revised and amended based partially on the TFM protocol listed below. The TFM priority list will be reviewed and up-dated on a continuous basis.

There are three specifically defined levels of needs that a system may qualify under.
The following numbers are assigned to sanitary survey deficiencies:

1) Significant Category – This level indicates obvious TFM deficiencies of an immediate nature that have a potential or direct threat to public health. This includes:
   - A) No certified water operator, 10
   - B) No defined or structured ownership of the public water system, 5
   - C) Inadequate source quantity and quality, 10
   - D) Current infrastructure deficiencies which pose a direct threat to public health, 7 or 10
   - E) Issuance of, or failure to comply with, an administrative order, 100
   - F) Multiple violations and/or placement on significant non-compliance list, 25
   - G) Acute violations, 50
   - H) Encroachment issue of a regulatory nature. 10
   - I) No wellhead encroachment prevention tool 5
   - J) Missing entire CCCP 10
   - K) Failure to enforce/implement No effective and on-going CCCP 7

L) Missing an enforcement tool as part of the CCCP 5
M) Existing unprotected dross connection 10
N) Non-Secure critical facility 10
O) Uncorrected RSS deficiency listed on previous RSS report 5
P) Failure to accomplish public notification or report as required 5
Q) Current Non-acute TC violation 5
R) Inclusion on the previous priority list 50

Five points represents a potential threat to public health and 10 or more points represents an immediate and direct threat to public health. A value of 7 points recognizes a deficiency that while posing a potential threat, over time, if not corrected could lead to a direct threat to public health. In this manner, the Department is allowed flexibility in determining the point value assessments on a system to system basis, rather than trying to define broad definitions that may not impact one system while having a significant impact on another.

2) Minor Category - This classification is intended for those deficiencies that can be indicative of potential TFM deficiencies. However, multiples of these items can move a system up through the priority rankings that may classify the system along with the serious category systems. Minor deficiencies include the following:

A) No certified water operator at the appropriate level, 3
B) No Permit to Operate a PWS, 3
C) No operating budget, 1
D) No record keeping system to enable 2/10 year planning 1
E) Lack of infrastructure maintenance, 2
F) No sample site plan, 3
G) No Emergency Plan of Operations 2
H) No Emergency Phone Contact List 1
I) Inadequate records, 2
J) Failure to have one or more components of a CCCP (1,2, or 3)
(device testing 3, surveys 2, public education 1, not missing entire program)
K) Failure to submit plans and specifications as required, 3
L) Limited access to parts and equipment, 3
M) Inadequate staffing. 1
N) No Wellhead Protection Program (not wellhead encroachment) 1
O) No Source Water Assessment Program, 1
P) No Watershed Management Practices 1
Q) No current water system map, 1
R) Safety deficiencies, 3
S) O & M Manual 2

This list may be added to if deficiencies are found that cannot be related to one of the items listed herein.

Again this category is intended for systems that are showing indications that at least a portion of the system is lacking in TFM capacity. Rankings will be done based on points of either 1, 2 or 3 being assessed for each deficiency. One represents a relatively minor deficiency and a three represents a much more serious deficiency. Again, these points will be assessed on a system-by-system basis so that appropriate measures are assessed based on that system's needs only.

3) Requested Category - These are systems that have minimal deficiencies or have corrected the deficiencies as directed. These systems will not be offered assistance directly the by Two Percent Technical Assistance Team but still retain the ability to call and request assistance if needed.

In conjunction with the health based deficiencies, the amount of time that any one system has been on the list will influence the priority of the system.

As with the other major components of the strategy, this priority ranking system will be reviewed yearly. At that time and if needed, the Department will again meet the Two Percent Technical Assistance Team to further redefine or if necessary change how systems are being prioritized.

Measuring the Success of Nebraska's Capacity Development Strategy

The Capacity Development Strategy Committee defined several methods that the Department can utilize to measure the success of Nebraska's strategy for capacity development.

In order to accurately measure the success of Nebraska's TFM Strategy several tools have been utilized for at least the first three years of the strategy implementation. These tools listed below involve looking at the outreach and assistance efforts made by the Department and the Two-Percent Technical Assistance Team. They also establish a baseline from which the Department can evaluate their own programs and the Two-percent Technical Partnership's progress as the strategy unfolds. These tools include:

1) The number of sanitary surveys performed on an annual basis.
2) Site visits by Two-Percent Technical Assistance Team members, and evaluation of the number and types of assistance that was rendered.
3) Follow-up with systems via survey to solicit feedback from systems that have received assistance.
4) Following the type of deficiencies being found to determine how public outreach programs are working.

Another method of measuring success is by evaluating compliance tracking. This method will show the most direct results, but at the same time can be misleading. System specific compliance issues as identified under TFM prioritization categories and will be tracked as the system returns to compliance and hopefully will be maintained there. Success under this method will be difficult to measure as it will take three years to rotate through all of Nebraska' PWS. This will result in a significant number of systems coming on, or going off of the priority list at any given time. Another factor to consider is the number of upcoming regulations that can also influence the overall numbers of system in or out of compliance at any given time.

The final goal of this strategy is to not only lower the number of violations of a PWS as the strategy progresses through time, but also to provide the information necessary for Nebraska's PWS to become self-sufficient and to achieve long-term TFM Capacity. Only by doing so, will Nebraska's Public Water Systems be able to achieve, on a continuous basis, compliance with EPA's existing and future regulations. If all of the water systems in Nebraska can qualify under this statement, then the strategy has met its purpose and that is the ultimate measurement of success.

Attachment G

Water Operator Reimbursement Grant Fact Sheet

NEBRASKA SMALL SYSTEM WATER OPERATOR REIMBURSEMENT GRANT FACT SHEET

Grant Administrator: NE DHHS-DPH, Office of Drinking Water and Environmental Health
PO Box 95026
Lincoln NE 68509-5026

Contact Persons: Doug Woodbeck, Field Services & Training Supv. – (402) 471-0521 or (402) 432-4692
Mike Wentink, Training Coordinator – (308) 535-8135 or (308) 530-3930

Eligible Systems: All CWS and NTNC PWS(s) that serve 3,300 customers or less

Eligible Activities for Reimbursement; activities on or after January 1, 2002

A. Grades II, III, and IV Water Operator Certification Training Courses including the Grade IV Correspondence Course (the exam fee is included with registration)

1. Registration and Certification Fees
2. Textbooks
3. Reasonable mileage to and from training course at the personal vehicle mileage rate established by State of Nebraska guidelines. This is defined as the most direct route to and from a training event (typically map mileage) and a reasonable allowance for local travel depending on circumstances.
4. Limited to one course and one exam and, if needed, one exam retake per calendar year.

B. Individual Grades II, III and IV Water Operator Exams

1. Exam and Certification Fee
2. Reasonable mileage to and from nearest Field Office (Lincoln, Omaha, Norfolk, Grand Island and North Platte) at the personal vehicle mileage rate established by State of Nebraska guidelines.
3. Limited to one exam and, if needed, one exam retake per calendar year.

C. Conferences / Seminars / Workshops for Certification Renewal Purposes

1. Training Sessions must be approved by HHSS-R&L for Continuing Education Credit for Grades I – IV Water Operators and deal **predominately with** Water Operator Training.
2. Training Sessions must be conducted within the State of Nebraska.
3. Eligible applicants will be reimbursed for up to 15 hours of continuing education during each 3-year renewal period, or for additional hours at the discretion of the PWSS program.
4. Reasonable mileage to and from the training event at the personal vehicle mileage rate established by State of Nebraska guidelines.

D. Volunteer Operators – Operators who receive <u>no form</u> of compensation for serving as a system's operator.

1. Eligible for reimbursement for all of the above activities under the same criteria.
2. Eligible for reimbursement for per-diem expenses up to $101.00 per day according to State of Nebraska guidelines. Receipts for meals and lodging are required to be submitted with the application.

E. Grades I, II, III, and IV Water Operator Certification Renewal

1. Renewal application fee.

INELIGIBLE TRAINING ACTIVITIES – Under the Grant Guidelines, the following activities are **<u>NOT</u>** eligible for reimbursement.

A. Grade 1 Water Operator Certification Training Course and Exams
B. Training conducted outside of the State of Nebraska
C. **Training dealing <u>PREDOMINATELY with</u> wastewater, backflow (Grade 6) or well driller continuing education credits.**
D. Grade 5 Water Operator Certification Course and Certification fees
E. Grade 6 Water Operator Certification Course, exams, renewal application fee, or continuing education courses
F. More than one operator certification training course per calendar year, and more than two certification examinations per calendar year.
G. Late renewal payment fee