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**STATEMENT OF DANA D. MINERVA
DEPUTY ASSISTANT ADMINISTRATOR
FOR WATER
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SPECIAL COMMITTEE ON THE YEAR 2000 TECHNOLOGY PROBLEM
UNITED STATES SENATE**

**FIELD HEARING
ANAHEIM, CALIFORNIA
DECEMBER 18, 1998**

Mr. Chairman and Members of the Committee:

I am Dana D. Minerva, Deputy Assistant Administrator for Water of the U.S. Environmental Protection Agency (EPA). I am pleased to be here today at this hearing on the readiness of the drinking water and wastewater utilities to deal with the Year 2000 (Y2K) technology problem. EPA welcomes your involvement in this critical issue, and I appreciate the opportunity to discuss our activities related to this matter.

Before addressing specific drinking water and wastewater treatment Y2K issues, I would like to briefly relate to you EPA's progress toward internal Agency Y2K compliance as well as our efforts to engage a wide variety of public and private organizations in our common goal of Y2K readiness.

Under the direction of Al Pesachowitz, the Agency's Chief Information Officer (CIO), EPA is pursuing an aggressive strategy to ensure the Y2K compliance of its systems, equipment, and facility operations. EPA's CIO holds discussions on a regular basis with senior management

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officials in all Headquarters and Regional Offices to review Y2K progress. This senior level attention has greatly enhanced the visibility and priority of Y2K within the Agency.

All mission-critical systems are on schedule to achieve Y2K compliance by the government-wide compliance milestone of March 1999. We are continuing to make good progress in renovating systems and returning them to use, with 90% of our mission-critical systems now Y2K compliant. The Agency has also created an independent certification program to validate that these systems have been fixed and operate properly. Our certification schedule provides nine months to actually operate the EPA systems in a Y2K environment, allowing us to identify any areas where contingency planning is necessary and to involve the States and other data exchange partners in contingency planning.

I am pleased to report that all five of the Agency's water-related, mission-critical systems are now compliant. These include: the Safe Drinking Water Information System (SDWIS), the Storage and Retrieval of Water Quality Information (STORET) System, the State Revolving Fund (SRF), the Needs Survey (NEEDS), and the Permit Compliance System (PCS). In addition, as part of the government-wide data exchange with States, we have documented six external water data exchanges: four are compliant and the remaining two are planned for completion by March 1999.

The Subcommittee on Government Management, Information, and Technology of the House Committee on Government Reform and Oversight recently recognized EPA's progress by

assigning a grade of "B+" for our Y2K compliance efforts for this past quarter, and we remain in OMB's top tier ranking of agencies' progress.

Y2K Sector Outreach

EPA is responsible for coordinating Y2K outreach efforts with other Federal agencies and with State and local governments and private sector organizations whose activities affect protection of public health and the environment. In addition to focusing internally on EPA-managed systems critical to performing our mission, we are actively engaged in a series of Y2K outreach efforts with important stakeholders and constituencies in several critical industry sectors.

The goal of our Y2K outreach effort is to : 1) promote nationwide awareness in the environmental sector; 2) encourage coordinated assessment and sector-wide planning; 3) point stakeholders to technical assistance and guidance in readying and repairing their systems and equipment; and, 4) encourage stakeholders to develop contingency plans, as appropriate.

Under the auspices of the President's Council on Year 2000 Conversion, EPA has worked closely with the water, waste, and chemicals sectors assigned by the Council. In this regard, we have performed a broad array of outreach activities to ensure awareness of Y2K issues in each of our sectors. EPA speakers have discussed Y2K issues in numerous fora. We have distributed specific "tool kit" materials including brochures, handouts, articles, and guidance documents and have coordinated extensively with our major trade associations.

We are also working hard to augment information materials and to provide targeted information to specific constituencies such as tribes and small businesses. Agency outreach plans and information materials have been posted to EPA's Y2K Internet site (<http://www.epa.gov/year2000>).

A significant result from our sector engagement has been the development and sharing of data from surveys performed in the sector. In addition to surveys of readiness for the drinking water and wastewater industries, which I will discuss later in my remarks, we expect the waste and chemical industry trade associations to assess the readiness of their membership to address Y2K conversion. We hope to have summaries of the waste and chemical industry efforts after the first of the year.

Finally, as a regulatory agency, EPA's primary partners are the States. The States are crucial to EPA's ability to perform its regulatory functions, and they are the key players in the delivery of local environmental services and in protecting environmental quality on site. We have broadened outreach activities to include more directly EPA's Regional Offices and specific State entities involved in managing environmental programs.

Now let me turn specifically to the subject of Y2K conversion in the drinking water and wastewater areas. Under our mandate to protect the public health and the environment, EPA sets water quality criteria and provides assistance and technical support to States, tribes, and local governments. States generally issue permits and monitor compliance, but the nation depends on

our local drinking water and wastewater utilities to take the steps necessary to maintain the quality of our drinking water supplies and to clean our wastewater. As the Federal agency chiefly responsible for the safety of our drinking water and the quality of our nation's water, EPA has the lead for the drinking water and wastewater utility sector under the President's Council for Year 2000 Conversion.

EPA is working hard with trade association representatives of our nation's public and private utilities to ensure that the nation's drinking water supplies and wastewater treatment capabilities are not impaired as we reach the Year 2000. We are doing this by making sure that all tribal, municipal, and private utilities are aware of this problem and by encouraging them to assess and repair problems when found, to make contingency plans, and to keep their customers and the Federal, State, tribal, and local governments informed of progress. As a Federal regulatory agency operating within our mission and means, EPA has the role of strongly and actively encouraging and complementing these efforts to the best of our ability.

Now I would like to discuss the Y2K problem and its potential impact on drinking water and wastewater treatment plants. I will then address the state of Y2K readiness and the outreach efforts to facilitate awareness of the problem, to encourage plant managers to actively work to fix it, and to provide access to information and support, as necessary. I will also identify some potential problems that are beyond the utilities' control but could impact utility operations, and I will also address contingency planning.

Overview of Drinking Water and Wastewater Service Providers

It is important for the Committee to have a picture of the “community” that treats and safeguards our nation’s water to better understand the potential impacts of the Year 2000 technology problem. The drinking water and wastewater utilities are a diverse collection of service providers. They are owned by tribal and local governments, not-for-profit corporations, and private companies; they range in size from small (serving from 25 to 3300 people) to large (serving populations of over 100,000). They are designed to serve a wide spectrum of communities--from trailer parks to large cities.

There are approximately 55,000 community water systems in the United States. These systems provide drinking water to almost 250 million Americans, 92% of the population. The remaining 8% of the population gets its drinking water from wells. It is worth noting that 15% of these water systems serve 75% of the population, providing drinking water to communities of 10,000 people or more, while the vast majority of the systems (85%) service only 17% of the population, those living in communities of under 10,000 people.

In addition to these community water systems, there are approximately 116,000 water supplies which serve two distinct populations: “non-transient” and “transient.” “Non-transient” water supplies serve populations through facilities such as schools, hospitals, and factories. About 20,000 water supplies are included in this “non-transient” category (17% of the total). The “transient” water supplies, serving a mobile populace at places such as convenience stores, gasoline station and roadside rest stops, and campgrounds, number approximately 96,000. This

“transient” category accounts for 83% of the total water supplies. Although these water supplies are typically small and are without significant treatment operations, they are used by a large portion of the public on a frequent basis.

With respect to wastewater treatment systems, there are approximately 20,000 facilities in the United States. Of these, about 16,000 (80%) are publicly-owned (POTW) and serve approximately 190 million people. Of these POTWs, 2% serve 38% of the population, providing treatment to communities of over 100,000 people. Another 13% serve an additional 22% of the population in communities between 10,000 and 100,000 people. Again, the vast majority of the POTWs (85%) serve only 10% of the population, those living in smaller communities of under 10,000. The remainder of the population not served by POTWs is served by either septic systems or privately-owned treatment systems. There are approximately 3,860 privately-owned treatment systems in the United States. These are small systems and are often found at facilities such as hospitals or factories. Statistics on their size and populations served are generally kept by the States which issue permits for their operation.

In brief, the main point to be made here with all these statistics is that the majority of the nation’s population is served by a relatively small number of large drinking water and municipal wastewater treatment systems.

Characterization of the Problem

With respect to their operations, drinking water and wastewater utilities deal with specific water quality problems in their localities. Their methods of treatment vary. As you might guess, the treatment systems also vary greatly in their degree of automation and sophistication, with the larger plants being heavily automated while some of the smaller plants have little, if any, computerized equipment. However, many plants, both large and small, have individual pieces of equipment that have embedded computer chips. Larger plants depend on computerized control systems that run plant operations based on information received from sensing and monitoring instruments. These systems are known as Supervisory Control and Data Acquisition, or SCADA systems. It is critical that steps be taken to ensure that this equipment continues to operate properly on and after January 1, 2000.

Fact Finding and Outreach Efforts

EPA's approach to understanding the nature and extent of the Y2K problem has been through numerous and continuing contacts with trade and professional associations and utilities. A list of the trade and professional associations with which we have consulted is attached. We have also made a number of site visits to gain a better understanding of the types of problems that the utilities must solve, their Year 2000 readiness, and the contingency plans they have made. Based on these discussions and site visits, we believe that most of the large drinking water and wastewater plants are aware of the problem and are actively taking steps toward making necessary corrections.

We have less information, however, about the readiness and the level of awareness of the small and medium plants. Although they are generally less automated than the larger plants (and many of the smaller plants may have little, if any, computerized systems or equipment), without examination and assessment, it is hard to predict whether these plants are prepared. Plant managers have said that much of the equipment in these small and medium plants contains embedded chips that are not date sensitive, but rather are sensing devices. Nevertheless, we are encouraging all plants regardless of size to assess, correct, test and validate, implement corrections, and plan for contingencies.

There is no single entity such as a trade or professional association that can readily communicate with all owners and operators of drinking water and wastewater treatment plants throughout our nation. Our outreach challenge is to identify the best ways to make sure the 171,000 drinking water systems and supplies and 19,860 wastewater treatment plants have been contacted about this problem and that they have access to helpful information.

EPA has held three water utility stakeholders meetings with representatives from some of the largest national drinking water- and wastewater-related trade and professional associations. These include the American Water Works Association (AWWA), the Association of Metropolitan Sewerage Agencies (AMSA), the Association of Metropolitan Water Agencies (AMWA), the Water Environment Federation (WEF), the National Association of Water Companies (NAWC), the Association of State Drinking Water Administrators (ASDWA), the National Rural Water Association (NRWA), the National Association of Towns and Townships

(NATAT), the American Public Works Association (APWA), and the Water and Wastewater Equipment Manufacturers Association (WWEMA). In addition, a fourth meeting was held with representatives of water utility associations and John Koskinen, Chairman of the President's Council on Year 2000 Conversion, to discuss surveys and assessments of progress.

During our discussions with the water utility stakeholders, several of the associations said they had surveyed their members. They were careful to state that the surveys did not represent statistical samples, but rather, served as "indicators" of Y2K readiness activities. I understand that these associations have shared the survey results with you. Although these surveys might not provide a precise picture of the state of readiness, they do indicate that a majority of the larger plants are dealing with the problem. We are very appreciative of the efforts of AWWA, AMWA, AMSA, and NAWC in this regard.

In addition, the National Rural Water Association is preparing its "circuit riders" to provide information on the Year 2000 issue and to collect information on the status of rural drinking water and wastewater systems. These "circuit riders," funded through a grant from the U.S. Department of Agriculture, visit drinking water and wastewater plants providing technical assistance to owners and operators. This assistance covers technological, financial, and managerial aspects of small drinking water and wastewater utilities. NRWA is also addressing the Y2K issue in its in-service training for plant operators.

Since a common thread for many of these plants is the equipment used, the Water and Wastewater Equipment Manufacturers Association has stated that, based on its own survey, equipment built since the early 1990s is Y2K compliant, equipment from the late 1980s to early 1990s needs to be tested, and equipment installed prior to the late 1980s may need to be replaced.

In October, EPA and the American Water Works Association co-sponsored a meeting with representatives from the electric power, drinking water, and wastewater treatment industries. The purpose of this meeting was to explore the potential risks of drinking water and wastewater treatment failures due to Y2K-caused power outages. The participants from the electric power industry represented to the group that Y2K-related power outages would be unlikely.

As part of EPA's initial outreach efforts to the drinking water and wastewater utilities, we prepared an informational fact sheet, attached to this testimony, to be provided to States, tribes, local governments, EPA Regional Offices, and to the regulated entities through trade associations as conference handouts and for inclusion in letters to their membership. Our fact sheet summarizes the Y2K problem and the six-step approach we recommend: awareness, assessment, correction, testing and validation, implementation, and contingency planning.

In October, J. Charles Fox, Assistant Administrator for Water, was accompanied by top executives from AWWA, AMWA, AMSA, and WEF on a tour of drinking water and wastewater treatment facilities in the Washington, D.C. metropolitan area to review Y2K preparedness. All

of these associations have used articles and photographs about the tour in their publications as part of their effort to inform their members about Y2K issues.

In addition, we prepared an informational article which we have distributed to trade association publications and other appropriate journals and newsletters. It provides further details on the six-step approach as well as a checklist for plant managers to use to assess and repair problems. NRWA is using our article and fact sheet to write newsletter articles for drinking water and wastewater operator publications that reach more than 60,000 people.

We have established an EPA Water Sector Y2K web page with linkages to related sites, including those of trade and professional associations. We are now working to make our site a "broker" to point to different sources of helpful information and to help the general public more readily understand how to find information on the Y2K readiness of their own water systems.

Through our outreach efforts we encourage utilities to conduct their own outreach by communicating with their customers about what is being done to ensure that they will experience "business as usual" on January 1, 2000. We are also urging utilities to share information with each other as they work to solve this problem.

I would like to commend the Chairman and Members of this Committee for their efforts throughout the summer and early fall to craft legislation that would encourage private companies to volunteer information about the Y2K readiness of their products and processes. The "Year

2000 Information and Readiness Disclosure Act of 1998" (PL 105-271), signed by the President on October 19 of this year, affords companies protection from the use in private litigation of the Y2K readiness information they affirmatively disclose. We are continuing to encourage private companies individually and through their trade associations and other groups to share as much Y2K readiness information as they possibly can with us, with other governmental entities, with their industrial counterparts, and with the general public. However, we note that some companies are still reluctant to share information with us and to work closely and comfortably with their counterparts on Y2K problems due to concerns about their legal liability and the extent of the protection provided by the new law.

We have planned another meeting with representatives of associations that could help communicate with entities such as trailer parks, large universities, hospitals, apartment complexes, and other facilities that may operate drinking water and wastewater treatment systems as an adjunct to their main establishments. We are sending letters to over 560 Federally recognized tribes to ensure that they are aware of this issue. We are coordinating outreach activities with our Regional Offices to better work with States and tribes, and we are working with the other Federal agencies in the water sector work group to assure coverage of Federally operated treatment systems.

We will continue to work with trade and professional associations, our Regional Offices, States, tribes, and other Federal agencies to increase awareness and offer assistance, especially to

smaller systems which may not have the resources to help themselves. EPA staff members are available to speak at conventions and meetings on this important issue.

External Factors

Let me now address some external factors beyond the control of these drinking water and wastewater utilities. Most significantly, these are the electric and telecommunications utilities and our transportation system. Most drinking water and wastewater treatment systems cannot operate without an outside source of electricity. Wastewater treatment utilities have some ability to generate electric power themselves and to be able to operate in an emergency for a short period of time. Most drinking water plants do not. Therefore, should there be electricity failures, some drinking water utilities will not be able to operate and will need to depend on their storage reserves or on other facilities' water supplies. We should remember that these facilities have had short-term outages during natural disasters such as hurricanes, floods, and ice storms. In most instances, good planning has resulted in quick recovery.

In addition, suppliers to the treatment systems, such as chemical companies supplying chlorine and fluoride, could be subject to their own Year 2000 or transportation problems, resulting in lack of supplies needed for water treatment. Further, if pretreatment providers experience Y2K-caused problems, downstream wastewater treatment facilities could experience difficulties in meeting their permit requirements thus causing public health and environmental quality problems in the receiving water. We are encouraging drinking water and wastewater utilities to meet with external suppliers such as the power and telecommunication utilities,

pretreatment providers, and chemical and other material suppliers to ensure that their contingency plans address the potential inability of these entities to deliver needed materials and services.

We are also encouraging these water utilities to ascertain their position on power companies' priority lists for restoration of power. In particular, we urge the power companies to give a high priority to wastewater collection and treatment facilities if they have not already done so. Raw sewage overflows would adversely impact drinking water and should not be overlooked as power companies make their Y2K contingency plans.

Contingency Planning

Given the status indications I discussed previously and the early Y2K test results which have been generally positive, we are guardedly optimistic that our drinking water and wastewater utilities will have few, if any, Y2K-related problems on January 1, 2000. However, contingency plans are still necessary and are one of the steps in our six-step approach. We are continuing to focus our efforts on medium and small plants to ensure continued progress and contingency planning. These plans should address not only interruption of operations due to a Year 2000 failure in the treatment system, but also interruption of operations due to a failure external to the treatment system, such as a power failure.

In speaking with representatives from utilities and trade associations, we have learned that contingency planning relies on manual operation of these plants. Most drinking water and wastewater treatment plants can be operated without their computerized control systems and, in fact, are operated in the manual mode from time-to-time. In addition, most large drinking water systems have two to five days storage capacity and have been designed, in some cases, to supply water by gravity while major repairs are underway. Some of our drinking water plants have the advantage of being able to share water supplies with other local drinking water utilities. They regularly buy and sell drinking water among themselves and can provide backup for one another should circumstances warrant. In the event that water being produced does not meet health standards, "boil water" notices for microbial problems can be issued or residents can be advised to use alternate drinking water sources to avoid microbial or other contaminants, such as nitrates.

Even though manual operation is feasible and provides a means of operation in the event of computer or equipment failure, we believe this raises another concern -- that of the availability of the workforce needed to sustain manual operations for any significant length of time and the ability of the utility to afford a higher payroll. This is another consideration that we recommend be addressed in contingency plans.

Permit Violations

With respect to legal implications of plant failure as a result of permit and drinking water standards violations, EPA's major focus is on preventing failure rather than preparing to take enforcement actions. EPA expects all water and wastewater facilities to be in compliance with

environmental regulations before, during, and after the Year 2000. However, recognizing that treatment plants should be encouraged to test their Y2K repairs, EPA has issued an enforcement policy that waives some enforcement action if Y2K-caused violations occur during Y2K testing, provided that specific conditions are met. Also, such testing will be taken into consideration if enforcement violations result from Y2K causes on January 1, 2000 or on other "problem" dates, such as December 31, 1999 and February 29, 2000.

Recommendations

With respect to your call for recommendations as to how the Committee can be most helpful in this area, we offer the following suggestions. First, your encouragement of other infrastructure-related sectors, including power and telecommunications utilities, to continue to move swiftly toward Y2K compliance and to ensure the inclusion of wastewater systems as well as drinking water systems as a high priority in service restoration plans would be helpful. These sectors can greatly enhance the ability of the drinking water and wastewater service areas to be ready on January 1, 2000.

Second, it may be advisable to explore the ability of small communities and tribes to deal with this issue. Many have voiced the opinion that these entities do not rely heavily on automation and therefore would have few, if any, problems. However, without specific knowledge of their status, it is impossible to gauge the extent of any problems or the resources needed for repairs.

Summary

In closing, I would like to say that the drinking water and wastewater utilities are making good progress in their efforts to identify and fix potential Y2K problems. We continue to reach out to these utilities to ensure that their diverse entities, large and small, have identified these problems and have access to important and useful guidance and information. I would also like to commend the trade and professional associations for bringing this issue to the attention of their members, providing information and assistance, conducting surveys, and generally supporting Federal, State, tribal, and local government efforts to ensure that this problem is successfully addressed.

Thank you for the opportunity to discuss this important issue today. I would be happy to answer any questions you may have.