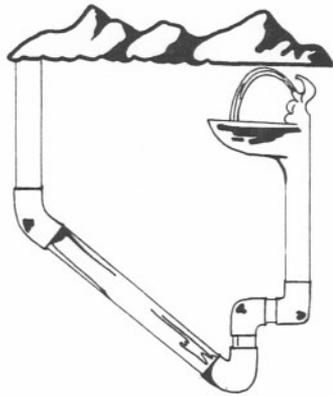


Water

Lines



Water Lines is the resource newsletter and calendar of the Nevada Drinking Water and Wastewater Training Coalition.

Volume 14 Fall 2004 issue

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Special Insert

Arsenic rule and exemptions

Rural Community Assistance Corporation funds *Water Lines* through a contract with the Nevada Division of Environmental Protection.

Editor, Abigail Johnson, RCAC

Editor and Production, Sharon Fowler, RCAC

Long

Featured System: Tonopah Public Utilities

TPU pilots new wastewater treatment system

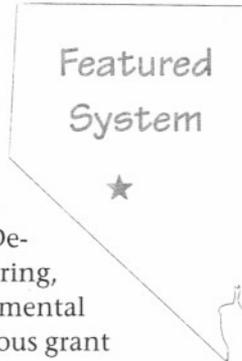
By Kirk Peterson, SPB Utility Services, Inc.

The town of Tonopah's aging sewerage infrastructure and the minimal treatment it provided prompted Tonopah Public Utilities (TPU) to pursue a total system upgrade. Under the leadership of Stan Howerton and Susan Dudley, the utility has been working with U.S. Department of Agriculture-Rural Development, Shaw Engineering, Nevada Division of Environmental Protection (NDEP) and various grant and loan agencies to complete necessary improvements.

Howerton's initial efforts to construct a new wastewater treatment facility centered on whether nutrient removal (nitrogen) would be required for groundwater protection. The

The most common municipal wastewater lagoon design in use is three cells (or more) in series with surface or subsurface mechanical aeration. However, lagoons come with their own problems — algae overgrowth, old sludge accumulation and high aeration costs. To mitigate these concerns and reduce the potential for biochemical oxygen demand (BOD) and total suspended solids violations, a different approach to lagoon design is under investigation. This new approach is called Advanced Integrated Pond Systems (AIPS).

(Continued on page 2)



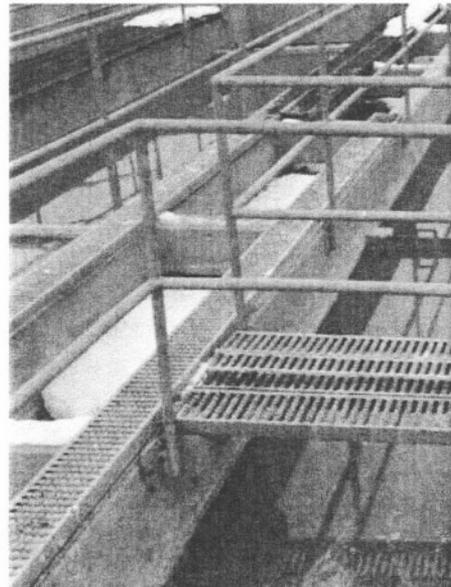
NTC requests board member nominations

By Bob Foerster, Chairman, Nevada Drinking Water and Wastewater Training Coalition

The term of election for the Nevada Drinking Water and Wastewater Training Coalition has changed. The change is needed to avoid complete board turnover in a given year. As a result, two of five board positions are up for election this fall. Another election for the remaining three positions will take place at the general meeting in fall 2005.

We would like operators and managers of voting member drinking water systems and wastewater systems to volunteer to become board members of the coalition, so that the organization can continue to serve and complete its mission. Voting members may be federal, state, county and local governmental organizations,

(Continued on page 3)



The Imhoff tank being used for full scale pilot project.

NDEP technical staff ultimately concluded that nitrogen removal was not a concern based upon Tonopah's circumstances. Without the need for mechanical treatment facilities (nitrogen removal), lagoon treatment became the preferred option.

Featured System

(Continued from page 1)

Dr. William Oswald of University of California-Berkeley originally developed AIPS. The process has been around in various forms since 1950 and has become very popular in California. The original AIPS was developed as an energy efficient process that used anaerobic and subsequent shallow cells that promote algal growth utilized for aeration purposes. Adaptation of the AIPS design, developed for cold weather climates, used the anaerobic cell for BOD removal and then subsequent aerated cells for final

treatment. The advantage to the anaerobic cell is significant BOD reduction without aeration costs to trap nutrients and release gases, thus preventing algal overgrowth in the downstream process.

The anaerobic cell is designed for a two- to four-day detention time. Raw sewage enters the anaerobic cell at the bottom of the basin and flows up through an anaerobic sludge blanket. The system is performing well when methane gas is generated and released. The solids produced in this system must be managed by removing a portion of the total solids inventory every three to five years.

Waste solids exiting the AIPS basin tend to be very low in fecal coliform count and would be suitable for land disposal as Class A sludge. There is also long-term savings in not having to remove sludge from the entire system (conventional pond system), which is an expensive endeavor.

However, an AIPS may not function as intended. It is essential that an active anaerobic sludge layer be in place at all times. Sewage flows

in excess of the system design must be bypassed around the AIPS basin to ensure that the anaerobic sludge layer is not disturbed; therefore, preserving the integrity of the biological process.

If designed and operated properly, an AIPS will remove about 75 percent of the BOD through methane fermentation with no odor concerns. Facilities with cold weather climates have documented five years of continuous compliance. Consistent AIPS

performance is enhanced by good heat retention in the anaerobic cell because of the small basin size (low hydraulic detention time) and wastewater entering

the basin at the bottom with no mechanical mixing.

The real cost savings comes from the greater than 50 percent reduction in mechanical aeration requirements in downstream lagoons. With 75 percent of the BOD satisfied in the anaerobic pretreatment basin, downstream ponds can be reduced in size to allow further savings during initial construction.

TPU has spent nearly a year pilot testing the AIPS by converting one Imhoff treatment basin into an anaerobic pretreatment facility. Only minor piping changes were needed to convert the Imhoff tank to an upflow anaerobic basin.

To date, TPU has had limited success with the full-scale pilot project. An unforeseen piping failure inside the Imhoff required that the tank be fully drained and repaired. The tank draining caused a heavy loss of valuable anaerobic sludge needed to make the AIPS operate.

After repairs, the Imhoff tank was refilled during the winter months. To date, cooler wastewater temper-

atures and a corresponding inactive biomass have kept the AIPS pilot project from yielding desired results. As the summer progresses, BOD removal should increase.

TPU is excited about the future prospects of achieving the desired level of wastewater treatment while keeping Tonopah's user rates as low as possible. Look for updates in future issues of *Water Lines*. ♪

The Spigot Q & A



Q.1. What is a potential adverse effect from chlorination?

A.1. Possible formation of carcinogenic compounds (commonly referred to as disinfection by-products).

Q.2. What is the primary purpose of using activated carbon (granular form) as filter media?

A.2. To remove taste- and odor-causing compounds and other trace organics.

Q.3. How frequently should the performance of the filtration process be evaluated?

A.3. Routinely, at least once per eight hour shift and more frequently when water quality is fluctuating.

Q.4. What is a meniscus?

A.4. The curve of the surface of a liquid in a small tube. The lowest point of the meniscus is the level at which the measurement is taken.

.....
Source: Thanks to Ken Kerri and his books, Water Distribution System Operation & Maintenance, 4th Edition and Small Water System Operation and Maintenance, 4th Edition (California State University, 1999) from which this material was assembled.

Crystel Montecinos, Program Development Specialist with the UNR Cooperative Extension, prepares The Spigot. ♪

NTC

(Continued from Page 1)

public or private nonprofit organizations, or public or private utilities. Nominations for the board will be accepted by mail or fax (see nomination form below), or at the general meeting in Carson City on Oct. 1.

The board of directors presides over the activities of the coalition and consists of a chairperson and four directors who serve for a two-year period. There is no term limit. The five-member board meets quarterly to discuss training needs and programs around the state and to develop *Water Lines*. The publication provides informative articles and training calendars for the water, wastewater and solid waste management fields. The current board members are: Chairperson: Bob Foerster, Nevada Rural Water Association; Dean Adams, University of Nevada; Cameron McKay, Round Hill General Improvement District; Kirk Peterson, Gold Country Estates; and Mark Walker, University of Nevada.

For information, call Bob Foerster at 775/783-7225.



New Nevada operators certified

The Summer 2004 issue of *Water Lines* contained errors in the list. The following names are the operators who passed the distribution and treatment certification exams for levels I and II for the past two rounds of testing. Congratulations to all!

Distribution grades 1 & 2

Greg Bates, D1; Ronald Berg, D-1; Travis Bunkowski D-1; Kevin Burgess, D-1; Roy Callahan, D-1; Dennis Calton, D-1; Patricia Cannon, D-1; Robert Chah, D-1; Tim Elliott, D-1; Brian Estep, D-1; Vicky Fortune, D-1; Bill Hauck, D-1; Chad Kreiser, D-1; Daniel Luong, D-1; Steve McGoff, D-1; Greg Melandow, D-1; Eliodoro Moreno, D-1; Scott Odonald, D-1; Chirstopher Orton, D-1; Eric Parks, D-1; Carl Patrick, D-1; Joel Rand, D-1; Michael Reed, D-1; John Robb, D-1; Gordon Smith, D-1; Chris Struffert, D-1; Michael Sullivan, D-1; Michael Szameitat, D-1; Clayton Terry, D-1; John Van Syckle D-1; Jesse Young, D-1; Ruben Arenas, D-1; Scott Benedict, D-1; Raymond Bick, D-1; Kiley Bradshaw, D-1; Jim Coe, D-1; Shanon Daines, D-1; Amber Dehn, D-1; Brian Greig, D-1; Dale Johnson, D-1; Raymond Kozak, D-1; Rick Lamay, D-1; Mark Levy, D-1; Bryan Newman, D-1; Abel Perez, D-1; Roland Sharp, D-1; Linda Tyler, D-1; Brian Williams, D-1; Michael Bailey, D-2; Gerald Bender, D-2; Gary Blackwelder, D-2; John Bryant, D-2; Chris Buxton, D-2; Patrick Callahan, D-2; Thomas Carrigan, Jr., D-2; Olegario Chavez III, D-2; Kurt Cooper, D-2; Ray Dummar, D-2; Mario Fernandez, Jr., D-2; Michael Fridy, D-2; John Lanza, D-2; Kevin McCans, D-2; Larry McKenzie, D-2; David Musselman, D-2; Patrick Owens, D-2; Aldie Pike III, D-2; Brett Reed, Jr., D-2; David Selby, D-2; Darrin Tuck, D-2; James Klapper, D-2; Chris Struffert, D-2.

Treatment grades 1 & 2

Dennis Dobyns, T-1; Richard Eoff, T-1; Raymond Kozak, T-1; Mark Levy, T-1; Steven Lujan, T-1; Christopher Maes, T-1; Michael Oettinger, T-1; Jacob Roher, T-1; Gary Blackwelder, T-1; Mathew Brower, T-1; Kevin Burgess, T-1; John DeVaney, T-1; Daniel Luong, T-1; Craig Moyle, T-1; Max Shen, T-1; Gordon Smith, T-1; Chris Struffert, T-1; Merlin Taylor, T-1; Darel Barlow, T-2; John Bryant, T-2; Travis Bunkowski, T-2; Douglas Sims, T-2; Eric Wert, T-2; Gary-Blackwelder, T-2; Mark Russo, T-2; Eric Sautter, T-2; Chris Struffert, T-2.

Nevada Drinking Water and Wastewater Training Coalition Nomination Form

Please nominate the person named below (may be yourself) to serve on the board of the Nevada Training Coalition.

Name/Title: _____

Organization: _____

Address: _____

City, ZIP: _____ Telephone: _____

Signature: _____

Telephone (if different from above): _____

Please fax or mail this information to:

Bob Foerster

Nevada Rural Water Association

2245A Meridian Blvd., Minden, NV 89423

Fax: 775/783-7228

Small utility safety programs

By Stevan Palmer, Rural Community Assistance Corporation

Every water utility should design a safety program to prevent accidents. Through communication and coordinated efforts of all utility employees, even the smallest utility can find ways to incorporate a workable safety program into regular operations.

Employees, from top management to operators, share responsibility for job safety. Management sets the tone, and provides training and funding for an effective training program.

SAFETY ZONE

Management should create safety policies and goals and evaluate safety program results. The program should include a description of the duties and responsibilities of:

- ☞ managers
- ☞ operators
- ☞ safety officers
- ☞ safety committees

Operators work in accordance with established safety procedures, report all injuries and hazardous conditions, and actively participate in a safety program. Utility operators are responsible for their own safety and that of fellow operators. This is particularly true in smaller companies where it is not practical to have a full-time safety officer on staff.

An effective safety program educates employees on unsafe acts and conditions and on how to conduct regular safety meetings and trainings. It need not be elaborate or costly. A safety discussion can be a "tailgate" meeting or a five-minute talk in the lunch room.

A safety related component can easily be included in regular work day planning and training discussions. Supervisors can ask operators to list potential hazardous tasks and con-

A SAFETY DISCUSSION CAN BE A TAILGATE MEETING OR A FIVE-MINUTE TALK IN THE LUNCH ROOM.

ditions in the work area, and then discuss how to improve procedures or equipment to address them. Operators can discuss accidents and near accidents and how they might

(Continued on page 7)

Op cert rules change

By Steve Brockway, Nevada State Health Division

The Bureau of Health Protection Services is proposing changes in regulations that affect water system operators systems.

The proposed changes will be mailed for comment and will all be in one envelope. Please read through all the material, as there are some major changes in the operator certification rules.

Proposed changes include: Arsenic, LT1SWTR, Disinfection By-Product Rule 1, Lead and Copper Rule, Radionuclides, Filter Backwash, Public Notice, Variances and Exemptions, and Operator Certification Rules.

For information call Steve Brockway at 775/687-6615 ext. 235.

Advisory board seeks new member

By Darrin Price, Sun Valley G.I.D.

Do you want to have a voice in water operator certification issues? Now is your chance!

The State of Nevada Board of Health Advisory Board for the certification and training of operators of community and non-community water systems is accepting applications for an open "at large" board position.

The Advisory Board consists of seven members: at least one must be a member of the American Water Works Association; one must be a member of the Nevada Rural Water Association and one may represent the general public. The vacant board position will represent the general public.

Members of the board serve without compensation. While engaged in board business, members are entitled to receive per diem allowance and travel expenses provided for state officers and employees to the extent

that money is made available for that purpose.

The vacant position may be represented by any federal, state, county or local government organization, public or private nonprofit organization, public or private utility, or a member of the general public. Applicants should have knowledge of water systems to further the goals and objectives of the board.

The board will select the most qualified applicant at the meeting on Dec. 10. Applications will be accepted until Oct. 15 at 5:00 p.m.

Obtain applications from Steve Brockway. Call 775/687-6615 ext. 235 or write:

Nevada State Health Division
Bureau of Health Protection Services
1179 Fairview Dr., Ste. 101
Carson City, Nevada 89701-5405.

Infrastructure funding agencies make changes

CDBG alters funding cycle

By *Stevan Palmer, Rural Community Assistance Corporation*

Nevada's Community Development Block Grant (CDBG) program is undergoing several changes. The changes are in response to a high number of applications received; to make the timeline for applications fit with the government budgeting process; and to make it easier for utilities to budget around a grant award.

The timeline for grant applications begins earlier in the year. Two application workshops will be held in October. The first of these workshops will be held in conjunction with the annual CDBG forum in Elko on Oct. 6. The second will be held in Carson City at a later date. In 2005, all applications must be postmarked no later than the third Tuesday in January. The CDBG advisory committee will meet in March 2005

**IN 2005, ALL APPLICATIONS
MUST BE POSTMARKED NO
LATER THAN THE THIRD
TUESDAY IN JANUARY.**

to make grant funding recommendations. A series of administrative and/or environmental workshops will be held at locations around the state in June/July.

Each CDBG eligible entity may present three applications. Each application must be ranked by the eligible entity. Every rural county in Nevada and incorporated cities within those counties are eligible entities. To locate eligible entities in your area, contact Gene Etcheverry, CDBG administrator, at 775/687-1812.

The applications may address projects across the three main activities of the CDBG program: community facilities and public services, planning and capacity building and economic development. There are no restrictions on the number of applications that can be submitted by an eligible entity under an activity up to the three application limit.

New U.S. Department of Housing and Urban Development directives also created significant changes in the environmental review forms and processes.

How do these changes affect utilities? Utilities now must submit applications to their eligible entity by November 2004, using the new environmental review forms. This will give the city or county time to review, rate and vote on projects in an open meeting. The selection process is more competitive. CDBG gives a higher rating to projects that address documented public health or safety needs, especially if identified through local community planning processes, and projects that enjoy wide public support. Therefore, it pays to gather as much citizen participation as possible for a project, and to document project need and community support from relevant civic groups.

For more information, contact Gene Etcheverry at 775/687-1812. ♣

Board adopts new policies

By *Bill Coughlin, Nevada Division of Environmental Protection*

At its July meeting, the Board for Financing Water Projects adopted several new policies that will impact rural communities seeking water project grant funds (commonly known as AB198). Due to limited remaining funds, the board will require that AB198 funds be the "last resort." Grant applicants must document an inability to fund the project by other means.



- ☞ Other funding options must be explored and exhausted before water systems seek funds from AB198.
- ☞ A water utility must attempt to obtain a loan for the maximum amount possible that will not cause water rate increases to exceed 1.5 percent of median household income.
- ☞ AB198 will not fund arsenic removal projects before January 2006.
- ☞ Before applying for AB198 funds for an arsenic removal project, a water system must obtain an exemption or extension; been denied an exemption or extension; or demonstrate that an extension cannot be obtained.

- ☞ Funds are no longer available for abandoning individual septic tanks and connecting to community sewer or for water conservation projects.
- ☞ The Nevada Division of Environmental Protection must receive projects six weeks prior to the board meeting to be placed on the board agenda.
- ☞ Projects must be on the Drinking Water State Revolving Fund Priority List prior to submitting a Letter of Intent to AB198.

For more information, contact Bill Coughlin at 775/687-9422 or via e-mail at bcoughli@ndep.nv.gov. ♣

Training Calendar 2004-05

September 23-25—Primm—20th Annual Tri-State Seminar, training for water and wastewater industry professionals. Info: www.tristateseminar.com.

September 24—Reno, Las Vegas and rural locations TBA—UNR Videoconference Workshop, Water Exam Preparation. 9 a.m. – Noon. Info: Crystel Montecinos, 775/784-6853.*

October 1—Winnemucca—NvRWA Cross Connection Control Programs and Devices. 9 a.m. – Noon.**

October 5—Round Hill—NvRWA Fire Hydrant Installation, Maintenance and Repair. 9 a.m. – 11 a.m.**

October 7—Hawthorne—NvRWA Control Valve Installation, Maintenance and Repair. 8 a.m. – Noon**

October 12-15—Sacramento, CA—CA-NV-AWWA Fall Conference, Oct. 15: Smaller Utilities Workshop. Info: 909/481-7200 or www.ca-nv-awwa.org.

October 13-14—Reno—RCAC Water Fair, Oct. 13: Arsenic Treatment Technologies; Complying with the Arsenic Rule; Oct. 14: Funding Options. Info: Stevan Palmer, 775/323-8882.

October 20—West Wendover—NvRWA Fire Hydrant Installation, Maintenance and Repair. 9 a.m. – 11 a.m.**

October 21—Reno—RCAC Budget Development and Rate Setting. Info: Stevan Palmer 775/323-8882.

October 21—Carlin—NvRWA Fire Hydrant Installation, Maintenance and Repair. 9 a.m. – 11 a.m.**

October 22—Reno, Las Vegas and rural locations TBA—UNR Videoconference Workshop, Cross Connection Control. 9 a.m. – Noon, Info: Crystel Montecinos, 775/784-6853.*

October 26—Incline Village—NvRWA Advanced Treatment/Distribution Class. 9 a.m. – 4 p.m.**

October 28—Winnemucca—NvRWA Control Systems Troubleshooting. 8 a.m. – 10 a.m.; Pump Curves/Pump System Efficiencies. 10 a.m. – Noon. **

November 4—Beatty—NvRWA Wellhead Protection Plans and Sourcewater Protection. 9 a.m. – Noon; Solid Waste Management and Groundwater Protection. 1 p.m. – 3 p.m.**

November 4—Reno—AWWA Satellite Teleconference: "Sustainability" at UNR Getchell Library Project Room, 8 a.m. – 12:30 p.m. Info: Delight Young, California-Nevada AWWA Section, 909/481-4688.

November 9—Stagecoach—NvRWA Water Certification Review Class. 9 a.m. – Noon.**

November 16—Incline Village—NvRWA Advanced Treatment/Distribution Class. 9 a.m. – 4 p.m.**

November 17—Reno—RCAC Utility Safety. Info: Stevan Palmer 775/323-8882.

November 18—Reno, Las Vegas and rural locations TBA—UNR Videoconference Workshop, TBD, 2 p.m. – 5 p.m. Crystel Montecinos, 775/784-6853.*

November 30—Tonopah—RCAC Water Distribution and Treatment Operator Certification Test Preparation Grades III and IV. Info: Stevan Palmer, 775/323-8882.

December 1-2—Tonopah—RCAC Water Distribution and Treatment Operator Certification Test Preparation Grades I and II. Info: Stevan Palmer, 775/323-8882.

December 1—Beatty—NvRWA Water Certification Review Class. 8 a.m. – Noon**

December 2—Hawthorne—NvRWA Water Sampling, Recordkeeping and Public Notification. 9a.m. – 11 a.m.**

December 8—Gardnerville Ranchos—NvRWA Advanced Treatment/Distribution Class. 9 a.m. – 3 p.m.**

December 10—Reno, Las Vegas, Elko—Operator Certification Advisory Board, videoconferenced from Reno, 9:30 a.m. (Location TBA) (Earn .1 CEUs for every hour attended.) Info: Steve Brockway, 775/687-6615, ext. 235.

December 10—Reno, Las Vegas and rural locations TBA—UNR Videoconference Workshop, Water Exam Preparation. 9 a.m. – Noon. Info: Crystel Montecinos, 775/784-6853.*

December 10—Reno, Las Vegas and rural locations — RCAC & UNR Videoconference Workshop, Wastewater Exam Preparation, 1 p.m. – 5 p.m. Info: Crystel Montecinos, 775/784-6853.*

2005

January 11—Carson City—RCAC Budget Development and Rate Setting. Info: Stevan Palmer, 775/323-8882.

January 13—Beatty—NvRWA Arsenic-Update and Treatment Technologies. 8 a.m. – 10 a.m.; Radon and Radionuclides. 10 a.m. – Noon.**

January 27—Fernley—NvRWA Treatment Class. 9 a.m. – Noon.**

February 8—Fernley—NvRWA Treatment Class. 9a.m. – Noon.**

February 10—Gardnerville Ranchos—NvRWA Arsenic-Update and Treatment Technologies. 8 a.m. – 10 a.m.; Radon and Radionuclides. 10 a.m. – Noon.**

February 22—Fernley—NvRWA Treatment Class. 9 a.m. – Noon.**

February 23-24—Las Vegas—RCAC Water Distribution and Treatment Operator Certification Test Preparation Grades I and II. Info: Stevan Palmer, 775/323-8882.

March 22-25—Reno—NvRWA Annual Conference, Silver Legacy. Info: 775/783-7225.

April 7—Winnemucca—RCAC Utility Safety. Info: Stevan Palmer, 775/323-8882.

April 19—Las Vegas—RCAC Evaluating Your Community's Wastewater Options. Info: Stevan Palmer, 775/323-8882.

Training Calendar 2004-05 continued...

May 3-4—Las Vegas—RCAC Water Fair, May 3: Arsenic Treatment Technologies; Complying with the Arsenic Rule; May 4: Funding Options. Info: Stevan Palmer, 775/323-8882. ♣

May 17—Carson City—RCAC Water Distribution and Treatment Operator Certification Test Preparation Grades III and IV. Info: Stevan Palmer, 775/323-8882. ♣

May 18-19—Carson City—RCAC Water Distribution and Treatment Operator Certification Test Preparation Grades I and II. Info: Stevan Palmer, 775/323-8882. ♣

** Locations and dates for UNR videoconference workshops are subject to change; registration is required.*

*** Nevada Rural Water Association—Please pre-register for these FREE classes, so that instructors can supply class materials for all participants. Call 775/783-7225 or fax 775/783-7228.*

♣ *This symbol designates Nevada State Health Division pre-approved training for continuing education units (CEU) credit. Other training may be eligible for CEUs but is not yet pre-approved. Before attending any training, contact the Health Division at 775/687-6615 ext. 235 for approval. Ten hours of approved training equals 1 CEU. A different ratio applies for safety training. Contact Steve Brockway at 775/687-6615 ext.235 for details.*

University of Nevada, Reno
Colleges of Agriculture, Biotechnology and Natural Resources & Cooperative Extension
2004 Videoconference Training Calendar
UNR videoconference classes for water system operators and managers are available in most communities. To request a workshop in your area, call Crystel Montecinos at 775/784-6853 or e-mail: xtelle@cabnr.unr.edu.

Community College of Southern Nevada
Wastewater & Water Technology Program
Info: LeAnna Riso, 702/434-6600 ext. 6418.

WWET Training in Clark County
Info: Jeff Butler 702/258-3296; see www.wwet.org for a current training calendar.

State of Nevada Water Certification Exams
All exams will be proctored during the week of the date listed. Applications are due to the state (Steve Brockway) 30 days before exam dates. A proctor will contact examinees to schedule testing. Remaining 2004 exam dates are Sept. 15 and Dec. 15. Info: Debra Kaye, 775/834-8114.

Wastewater Certification Board Testing
Wastewater certification exams are given in March, June, Sept., Dec.; Info: 775/465-2045 or www.nvwea.org.

RESOURCE ROUND-UP

New database for federal funding sources

The Rural Information Center's new database, Federal Funding Sources for Rural Areas is at <http://www.nal.usda.gov/ric/ricpubs/funding/federalfund/ff.html>. The database provides keyword and Boolean search capabilities. ♣

Charles Schwab Bank partners with RCAC

Charles Schwab Bank has joined forces with Rural Community Assistance Corporation (RCAC) to help rural Nevada communities increase affordable housing, build community facilities and improve environmental infrastructure systems.

The bank made a \$250,000 investment in the RCAC revolving loan fund. RCAC will use these funds to improve Nevada's supply of affordable housing and community facilities, and for acquisition and construction of environmental infrastructure.

"This new investment from Charles Schwab Bank will allow RCAC to continue to expand our lending service in rural Nevada communities," said Mike Flanagan, RCAC loan fund director.

Headquartered in Reno, Nevada, Charles Schwab Bank provides checking, savings, money market and CD accounts, home mortgages, and debit cards (ATMs). Deposits are FDIC-insured.

For more information call Mike Flanagan, 916/447-2854. ♣

Utility safety

(Continued from page 4)

be avoided. Conduct a quick safety meeting by reviewing the Material Safety Data Sheets of commonly used chemicals and discussing the best methods for storing and handling that chemical. When a pump or piece of equipment requires regular maintenance or repair, review the manufacturer's maintenance and safety recommendations. When an experienced operator is training an employee for an on-the-job task, it is a good time to cover the safety procedures related to that task.

A wealth of free training is also available to Nevada utility operators and managers. Management should schedule employees for these trainings. The cost of a single on-the-job injury can easily outweigh the cost of sending an employee to safety training. ♣

Nevada Drinking Water and Wastewater Training Coalition

American Water Works Association California/Nevada Section

www.ca-nv-awwa.org
Philip Walsack, Smaller Utilities
Committee Chair, 775/841-3131
Nicole Schreuder, Education Mgr.,
909/291-2101

Indian Health Service

Dominic Wolf, 775/784-5327

Nevada Division of Environmental Protection

www.ndep.nv.gov/index.htm
Adele Basham, DWSRF, 775/687-9488
Bill Coughlin, AB 198 Water Grant Program,
775/687-9422
Nevan Kane, Wellhead Protection,
775/687-9426

Nevada Rural Water Association

www.nvrwa.org
888/884-2055
Bob Foerster, Director
John Allred
Jon Anderson
Curtis Duff
David Miller
John Scovil
Elizabeth Stubbs
Teresa Taylor
David Willard

Nevada State Health Division

www.state.nv.us/health/bhps
775/687-6615
Jim Balderson, SWAP, ext. 228
Steve Brockway, CEU approval, ext. 235
Dana Pennington, ext. 237

Nevada Water Environment Association

www.wef.org
Starlin Jones, 775/861-4104
Eric Leveque, 702-792-3711

Public Utilities Commission of Nevada

www.state.nv.us/puc
Steve McGoff, Utility Engineer, 775/687-6040

Rural Community Assistance Corporation

www.rcac.org
775/323-8882
John Dailey, Regional Manager
Stevan Palmer
Lisa Thayer
Jean Thompson
Abby Johnson, 775/885-0612

U.S. Environmental Protection Agency, Region 9

www.epa.gov/region09
Marvin Young, 415/972-3561

USDA-Rural Development

www.usda.gov/rus/water/index.htm
Mike Holm, 775/887-1222, ext. 26
Kay Vermatter, 702/262-9047 ext. 113

University of Nevada, Reno
Dept. of Civil Engineering
Dean Adams, 775/784-1474

UNR Environmental & Resource Sciences and Nevada Cooperative Extension

www.unce.unr.edu/swp
Crystal Montecinos, 775/784-6853
Mark Walker, 775/784-1938

Water/Wastewater Education and Training Consortium of Southern Nevada — WWET

www.wwet.org
Jeff Butler, 702/258-3296

NDWWTC Board Members

2003-2005

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nvrwa@pyramid.net

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Water Lines

Fall 2004



Water Lines Special Insert

The Arsenic Rule and Exemptions

What you need to know

By Lisa Thayer, Rural Community Assistance Corporation

Does your water system have a problem meeting the new arsenic standard?

If so, you probably know that all water systems will have to be in compliance with the U.S. Environmental Protection Agency's Arsenic Rule, 10 parts per billion maximum contaminant level (MCL), effective January 23, 2006, unless they have received an exemption.

Applying for exemptions

An exemption allows water systems additional time to find the financial assistance or develop the mechanisms necessary to comply. Below is a table showing the exemption periods available to communities based on population and arsenic content. There also are four criteria the utility has to meet in order to receive an exemption. The criteria are:

1. "Due to compelling factors," (40 CFR 142.50) the public water system (PWS) is unable to achieve compliance by January 23, 2006 through any means, including treatment or developing an alternative source of water supply.

2. The PWS "was in operation" by January 23, 2006, or if not, the system has "no reasonable alternative source of drinking water available to it."
3. The exemption "will not result in an unreasonable risk to health."
4. The system cannot reasonably make management and/or restructuring changes that would result in compliance or improve the quality of the drinking water if compliance cannot be achieved.

Piloting

It is important to note that the efficiency of most arsenic removal technologies depends greatly on the quality or mineral content of the water being treated. For example, silica and phosphate are elements that will reduce the life of arsenic treatment media. A media might last six months in one community and only two months in another. This means that piloting is important when a community is going to choose a treatment option.

How can a community afford to pilot? Some companies offer free rent on their pilot units

Number of Persons Served by System	Total Compliance Time after 1/22/2001	Exemption Periods Available	Exemption granted for these arsenic concentrations				
			>35 ppb	>30 ppb but ≤35 ppb	>25 ppb but ≤30 ppb	>20 ppb but ≤25 ppb	≤20 ppb
>3000	8 years	3 years (2006 - 2009)	No	Yes	Yes	Yes	Yes
≤3000	8 years	3 years (2006 - 2009)	No	Yes	Yes	Yes	Yes
	10 years	5 years (2006 - 2011)	No	No	Yes	Yes	Yes
	12 years	7 years (2006 - 2013)	No	No	No	Yes	Yes
	14 years	9 years (2006 - 2015)	No	No	No	No	Yes

which cuts costs. Some communities may be able to do joint piloting if they are close and have very similar water to another system. Nevertheless, a pilot system will require the services of an engineer.

SOME COMPANIES OFFER FREE RENT ON THEIR PILOT UNITS WHICH CUTS COSTS.

A system should pilot more than one type of removal technology to determine which is best for upfront costs and operation and maintenance costs. A filtration media might cost less initially than a membrane filtration unit, but if the media needs to be changed frequently, it could significantly raise the rates of customers in the long run.

It is possible to start saving for eventual piloting now. You can add arsenic treatment to your capital improvement plan and fund it in your budget each year to set aside finances to pilot arsenic treatment options. Even if a community is not able to save the entire amount for piloting, funding entities will be more eager to help a community which has earmarked money for the project rather than a community which has not.

Board for Financing Water Projects arsenic funding policy

The Board for Financing Water Projects adopted the following policy on arsenic projects at its July 20 meeting.

1. After the date of adoption of this policy, the Board for Financing Water Projects will not fund new arsenic projects or engineering studies for arsenic projects before January 23, 2006, unless there are very compelling reasons to make an exception.
2. Before the Board for Financing Water Projects will fund an arsenic project or an engineering study for an arsenic project

the public water system must have obtained an exemption extension, been denied an extension or demonstrate that an extension cannot be obtained.

At the meeting, Board Chairman Kurt Kramer emphasized that he wants to make sure communities know the arsenic rule is coming. As a result, Dana Pennington from the Nevada State Health Division, Bureau of Health Protection Services (BHPS) offered the Bureau's help to send out notices to potential non-compliers.

Bilateral compliance agreements

The Nevada BHPS administers the exemptions and bilateral compliance agreements. A bilateral compliance agreement is a written contract between the BHPS and the water purveyor. This contract lists a set of requirements and timelines that the utility agrees to meet in order to remain in compliance. BHPS has decided that it will issue a very limited number of bilateral compliance agreements. These will be used in circumstances where the arsenic level is very low and the utility is suffering extreme financial hardship. In most cases, the BHPS will only issue exemptions if the utility can meet the requirements.

As you can see, it is not automatic that a utility will receive an exemption. Because of this, it is important for a utility to start looking at options and considering how to pay for them now. There are many factors to consider when thinking about complying with the new rule.

By starting early, a utility's board and management can assure their customers that they will make the best decision possible to protect public health.

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