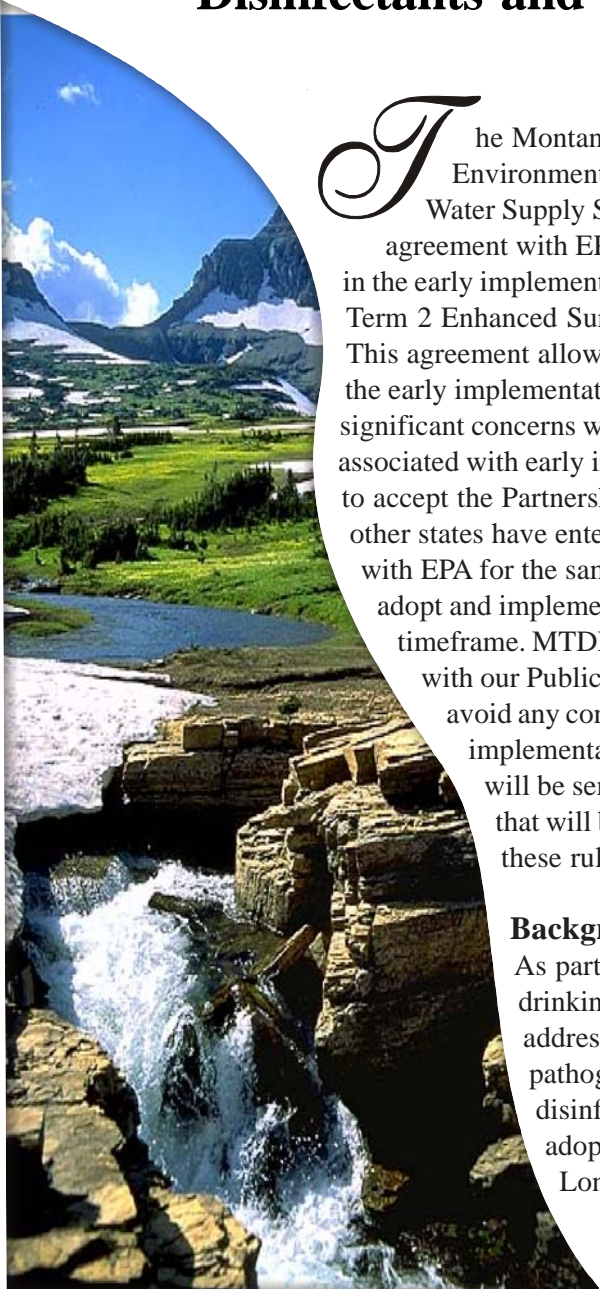


Partnership Agreement for Implementation of Enhanced Surface Water Treatment and Disinfectants and Disinfection Byproducts Rules



The Montana Department of Environmental Quality (MTDEQ) – Public Water Supply Section has signed an agreement with EPA Region 8 to not participate in the early implementation of Stage 2 and Long Term 2 Enhanced Surface Water Treatment Rule. This agreement allows EPA to proceed forward with the early implementation of the rules. MTDEQ has significant concerns with the increased workload associated with early implementation as reasons not to accept the Partnership Agreement. A number of other states have entered into similar agreements with EPA for the same reason. It is our intention to adopt and implement these rules by the required timeframe. MTDEQ is sharing this information with our Public Water Supply Systems to avoid any confusion about early implementation and potential delays. EPA will be sending postcards to the systems that will be required to monitor under these rules.

Background and Purpose

As part of a set of interrelated drinking water regulations that address risks from microbial pathogens and disinfectants/disinfection byproducts, EPA has adopted two new regulations – the Long Term 2 Enhanced Surface

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Big Sky Clearwater

Volume XXXVI, Issue 1

Spring 2006

The *Big Sky Clearwater*,

a publication of the Montana Department of Environmental Quality, is for water and wastewater operators and managers. The Department welcomes articles of interest and suggestions for articles related to water quality, water and wastewater treatment and the water environment. Articles may be about your treatment plant experiences, or those of others, technical papers or any information that may benefit other operators or managers.

Please submit articles 30 days before publication (*August 1 and February 1*) to:

EDITOR: Big Sky Clearwater
Montana Department of Environmental Quality
1520 East Sixth Ave. • Metcalf Building
P. O. Box 200901
Helena, MT 59620-0901

Visit our website at:

<http://www.deq.mt.gov>

to view “The Big Sky Clearwater” issues electronically

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The *Big Sky Clearwater* is published twice a year by the Montana Department of Environmental Quality’s Planning, Prevention and Assistance and the Permitting and Compliance Division

Partnership Agreement for Implementation - continued from page 1

Water Treatment Rule (LT2) and the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2). LT2 will address disease incidence associated with *Cryptosporidium* and other pathogenic microorganisms by targeting additional treatment at those systems at higher risk. Stage 2 focuses on limiting exposure to disinfectants/disinfection byproducts, specifically total trihalomethanes and five haloacetic acids. Stage 2 will also require consecutive systems that receive disinfected treated water to monitor for regulated byproducts.

EPA has put together training material and will be providing training and other implementation activities throughout the nation. The Public Water Supply Section

will provide contact information (*web sites, phone numbers, and etc.*) to water systems when we are instructed by EPA.

Systems can contact the program by calling the:

Helena office	444-4400
Kalispell office	755-8985, or the
Billings office	247-4445

and staff will provide your system with the necessary EPA contact information. ■

EPA Plans to Propose Regulatory Changes to the Lead and Copper Rule in the Following Areas by Early 2006

- **Customer Awareness:** Water utilities will notify occupants of the results of any testing that occurs within a home or facility. EPA will also seek changes to allow states and utilities to provide customers with utility-specific advice on tap flushing to reduce lead levels.
- **Treatment Processes:** Utilities will notify states prior to changes in treatment so that states can provide direction or require additional monitoring. EPA will also revise existing guidance to help utilities maintain corrosion control while making treatment changes.
- **Monitoring:** Water samples will reflect the effectiveness of lead controls to clarify the timing of sample collection and to tighten criteria for reducing the frequency of monitoring.
- **Lead Service Line Management:** Service lines that test below the action level are re-evaluated after any major changes to treatment which could affect corrosion control.
- **Lead in Schools:** 1994 guidance on testing for lead in school drinking water will be updated and expanded. EPA will emphasize partnerships with other federal agencies, utilities, and schools to protect children from lead in drinking water. *This has already begun (see ‘**Not For Schools Only**’)

More information on the national review of LCR Implementation and Drinking Water Lead Reduction Plan is available online at: http://www.epa.gov/safewater/lcrmr/lead_review.html.

Information about lead in drinking water is available online at: <http://www.epa.gov/safewater/lead> or by calling the Safe Drinking Water Hotline at 1-800-426-4791.

NOT For Schools Only

EPA's new 3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities Toolkit and Revised Guidance documents are now available online. These tools provide school and child care facility officials with guidance on how to deal with the technical issues related to lead in drinking water, as well as recommending

continued on page 4

EPA Plans to Propose Regulatory Changes - continued from page 3

communication strategies for students, their families and the community at large. Central to the new materials are the 3Ts – Training, Testing, and Telling. Training focuses on making school officials aware of lead issues. Testing increases knowledge of lead exposure and provides the basis for future actions at the facility. Telling provides everyone with appropriate information about lead and what is being done. ASDWA was among a number of water and education groups who provided input as EPA developed these products.

All of EPA's new information is available at the website below and much of it can be useful to any system that tests for lead and copper.

<http://www.epa.gov/safewater/schools/index.html>

No access to the website? Just call and request the information be sent to you. Kerry Schmelzer, Lead and Copper Rule Manager, 406-247-4412. ■

Statewide Waiver Program – 2005 Sampling Events

By Greg Butts, DEQ – Kalispell Public Water Supply Section

Introduction to the Program

The Public Water Supply Section of the Department of Environmental Quality initiated the statewide waiver program in 1996 to provide public water systems in Montana with some financial relief from monitoring costs. As a result of a statewide sampling program and a review of historic public water supply monitoring data, eight contaminants were determined not to be present in Montana source waters. On this basis, statewide waivers were issued for: endoathall, diquat, glyphosate, dioxins, ethylene dibromide (EDB), dibromochloropropane (DBCP), asbestos at the source, and cyanide. In March 1999 polychlorinated biphenyls (PCBs) were added to the waived contaminants list. A cost savings estimate for the roughly 850 community and non-transient, non-community water systems which would have been required to do this monitoring is \$3.2 million dollars for the time period 1996 – 2004. This is a savings of \$3,810 per system.

Reevaluation of the Program

In response to considerable population growth and development in the intervening years, the Public Water Supply Section of the DEQ began discussions about reevaluating the basis of the statewide waiver program. It was decided that the PWS Section should develop a

plan to do further source water sampling for these waived contaminants. Twenty thousand dollars (\$20,000) was budgeted for this project for Fiscal Year (FY) 2005 and twenty thousand (\$20,000) more was budgeted in FY2006.

The objective of this sampling program was to validate the statewide waiver program by demonstrating that the waived contaminants are not present in public drinking water sources in Montana. Two sampling events occurred in 2005 and cumulatively consisted of the following numbers of samples:

Glyphosate	50 random sample sites
Ethylene dibromide	50 random sample sites
Dibromochloropropane	50 random sample sites
Diquat	22 selected sample sites
Endoathall	22 selected sample sites
Cyanide	20 selected sample sites
Dioxin	25 selected sample sites
PCBs	25 selected sample sites
Asbestos	25 selected sample sites

Glyphosate is a herbicide that is commonly used in the weed killer Roundup. It is a non-selective, systemic herbicide that is used widely throughout the state but is unstable and immobile once in contact with the soil.

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Statewide Waiver Program – 2005 Sampling Events - *continued from page 4*

Ethylene dibromide (EDB) is a pesticide that was used as a grain elevator fumigant until its use was discontinued in the mid 1980s.

Dibromochloropropane (DBCP) is a soil fumigant pesticide that was discontinued for most uses in the late 1970s. Random sites were selected for these three contaminants because they are, or have been, used throughout the whole state.

Asbestos is a family of naturally occurring minerals, which are found in either needle-like or fibrous crystals. This unique crystal structure has enabled asbestos to be manufactured into water and steam pipe, fire resistant sheeting, shingles, siding and many other industrial, commercial and residential items. The 25 sites selected for asbestos monitoring were derived from the list of random sites selected for EDB, DBCP and Glyphosate. The sites were selected from those that are in the mountainous areas of Montana. The sampling for these four contaminants was done in June 2005.

Endothall and Diquat are used primarily on the potato crops grown in Gallatin and Lake Counties. These contact herbicides are used to kill the potato plants prior to harvest.

Cyanide - The industrial use of Cyanide is generally limited to mining operations in the state, although it has been generated as waste at manufactured gas plants (MGPs) and other industrial sites.

Dioxin is a general term for a family of compounds called chlorinated dibenzo-p-dioxins (CDDs). These compounds can be naturally produced from the incomplete combustion of organic material by forest fires or volcanic activity or unintentionally produced by industrial, municipal or domestic incineration and combustion processes. The compound of greatest concern for public water supplies is 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8 TCDD).

Polychlorinated biphenyls (PCBs) are mixtures of up to 209 individual chlorinated compounds known as congeners. PCBs were widely used as coolants and lubricants in transformers, capacitors and other electrical equipment because they don't burn easily and are good insulators. Manufacture of PCBs ceased in the U.S. in 1977 as it became evident that PCB's build up in the environment and bioaccumulate in wildlife. The sampling locations for these five contaminants were selected from

areas of known contamination sites using data from the DEQ Remediation Division (Site Response Section) database. The sampling for these five contaminants was done in October 2005.

Results of the Sampling

The drinking water in Montana is good. Of the 290 samples taken for these nine contaminants only one sample resulted in a detected chemical. The detected chemical was glyphosate. It was found during the June sampling event, but when that source was re-sampled in October, nothing was detected. This source will be sampled again this spring to determine if the detection was significant or not.

These sampling results support the desire of this department to continue the statewide waivers for these nine contaminants. They also illustrate that even in areas where there are known contamination sites our drinking water supplies are not affected. I think it was prudent that this monitoring was completed to validate the waiver program. The cost to the state of Montana was a little less than \$30,000 and the cost savings to public water supply systems is significantly more.

I need to thank several people from the department who helped with this sampling effort. They are: John Camden, Eugene Pizzini, Steve Kilbreath, Eric Sivers, Joe Meek, Andrea Vickory, Rick Cottingham, Dusti Lowndes, Max Lauder, Matt Usuriello, Kerry Schmelzer, Eric Minetti, Sam Martinez and John McDunn. I would also like to thank all of the water system operators that helped us collect these samples and were so cooperative. ■

Chemical Monitoring Waiver Program

By Greg Butts, DEQ - Kalispell Public Water Supply Section

There is a chemical monitoring waiver program for public water supply systems in Montana!

These waivers are available to all community and non-transient, non-community water systems that submit a written application and meet the waiver program requirements. There are four groups of contaminants that have monitoring waivers available.

The first is the contaminant asbestos. Asbestos is a mineral, inorganic contaminant that normally is sampled for once each nine-year compliance cycle. The sample is taken in the distribution system, from an area that has asbestos/cement (A/C) water main pipe. If your system does not have A/C pipe, you can fill out an asbestos monitoring waiver form, which will eliminate the requirement for sampling. In addition, there is a statewide waiver for asbestos monitoring of your source water. Statewide waivers apply to all public water supply systems.

The next group of contaminants is the inorganic chemicals. The inorganic chemicals are divided into two subgroups, the Phase II and Phase V (Phase II = barium, cadmium, chromium, fluoride, mercury and selenium; Phase V = antimony, beryllium, nickel and thallium). To receive a monitoring waiver for either subgroup or individual contaminants, the water system must have completed three rounds of sampling and analysis. The waiver program manager will review the monitoring history, water quality data and any treatment in determining which chemicals qualify for reduced monitoring. Inorganic chemical monitoring waivers are renewed each nine-year compliance cycle by having one sample analyzed.

The organic chemicals have available waivers but the application process is substantially different from the others. This group includes the synthetic organic chemicals, which utilize three EPA Analytical Methods (515.1, 525.2 & 531.1), and the volatile organic chemicals (Method 524.2). There are two types of waivers available for organic chemicals, the use waiver and the susceptibility waiver. The application for an organic use waiver requires quite a bit of information from the water system including; aquifer characteristics, land use in the designated inventory area, inventory of contaminants for each land use and maps illustrating all of this. The

susceptibility waiver requires this same information and a hydrogeologic analysis of the susceptibility of the source to contaminants. Some of this information is being collected by the Source Water Protection folks, in the preparation of a Source Water Delineation and Assessment Report. This report is being, or has been, prepared for each public water system and can be very useful when completing the application for either a use or susceptibility waiver. Organic chemical monitoring waivers must be renewed at the beginning of each three-year compliance period. The water system must review which contaminants are listed within the inventory area and verify that these have not changed. Then a written request is submitted to the state either stating that the contaminant list has not changed or that these are the changes. Each time the waiver is renewed public notice must be given. If you have an organic waiver and have not renewed it for this period (2005-2007), please send a written request for renewal now.

The final type of waiver is for lead and copper monitoring. Under the minor revisions of the Lead and Copper Rule, small systems that meet the materials and monitoring requirements may apply to the state to reduce monitoring frequency to once every nine years. The requirements for this "no-risk waiver" are:

- a. The system must certify that the distribution system contains insignificant amounts of copper and lead metal components.
- b. Baseline monitoring must be completed and the most recent round of sampling must demonstrate 90th % concentrations of copper below 0.65 mg/L and lead 90th % concentrations below 0.005 mg/L.

In conclusion, the chemical monitoring program for the state of Montana is actively assisting public water systems in reducing monitoring cost by issuing waivers and helping systems understand the complex monitoring regulations. Some of the waivers do require periodic renewal, but all of them will save money for the water system. There is information about the available waiver on the internet at: www.deq.mt.gov/wqinfo/pws/Waivers.asp. You can also call Greg Butts (755-8985 ext. 103) for information about inorganic, organic and asbestos waivers, or Kerry Schmelzer (247-4412) for information about lead and copper waivers.

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Chemical Monitoring Waiver Program - continued from page 6

More Information on Organic Waivers:

Submitted by Eric Sivers

Source Water Protection Program MT DEQ

The Source Water Protection (SWP) Section is available to help you apply for organic chemical monitoring waivers. We will need your help in completing an up-to-date contaminant inventory and identifying chemical usage in the source water protection areas. Then, we will visit the Public Water Supply (PWS) and the source water protection areas, conduct interviews, prepare maps, and help you complete the application forms. After that, we will provide a recommendation to PWS Section.

A recent waiver review included a revision of the existing source water delineation and assessment report

(SWDAR), and this may arise with future waiver applications. The waiver application process provides an opportunity to (re)visit a PWS and improve the quality of the source water assessment and contaminant inventory.

Your first step should be determining eligibility. First, the PWS must be in compliance with all DEQ regulations. Second, you should review your system's SWDAR to see if waivers were recommended, and how susceptible your source water is to contaminants. To begin the application process, contact Greg Butts in the DEQ Kalispell office at (406) 785-8985 ext. 103 or gbutts@mt.gov. Basic information and application forms are available at: http://www.deq.mt.gov/wqinfo/swp/Guidance/104_Waiver.htm ■

New Arsenic MCL Rule Requires Schools to Test

By Andrea Vickory, Water Quality Specialist, DEQ, Public Water Supply Section

January 23, 2006 marks the date for the maximum contaminant level (MCL) of arsenic to drop from 0.05 mg/L to 0.010 mg/L. Systems with levels that appear to be above the new MCL had been notified over the past several years of the upcoming rule change. This included about 30 of the systems that sampled the last monitoring period (2002-2004) through present. On December 7th training was held at the DEQ, in conjunction with Montana Rural Water Systems, to assist systems in understanding the rule change and options available for future compliance. Attendees were instructed on the MCL exemption process, treatment options and funding information. To further assist public water supply systems, information is now available on the DEQ web site at <http://www.deq.mt.gov/wqinfo/pws>. Here you can find a brief slide show presentation, link to the EPA's information on arsenic, guidance for small entity compliance and the actual DEQ exemption form. Part of the MCL exemption process is for the systems to provide public education and a public hearing to inform their community. The web site slide show presentation can be used as part of this required community education if desired. The guidance for small entity compliance will be a very helpful tool as well.

Also new with the rule change, is the requirement for non-transient non-community (NTNC) public water supply systems to monitor for arsenic. This classification includes most schools. Ground water systems are required to

monitor every three years within the standardized monitoring framework. And surface water systems are required to monitor yearly. Reminder to sample notifications are planned to be sent to target NTNC systems specifically, this year.

Brief highlights of the arsenic rule include the following:

- MCLs are calculated based on a running annual average.
- A confirmation sample and increased monitoring to quarterly will be required for one year to determine the yearly average. Any one sample four times over the MCL will demonstrate violation of the MCL.
- Consumer Confidence Reports requirements were added.
- A MCL violation requires corrective actions such as eliminating the source, treatment (possibly blending) or a new source.
- An MCL exemption process, is now in place, which allows small systems time to secure financing and to implement a compliance strategy.
- And NTNC systems must now monitor.

The arsenic rule change was implemented with the expectation that decreased exposure to arsenic would reduce incidences of bladder and lung cancers, heart disease, and high blood pressure. ■

Nitrate/Nitrite Fact Sheet

By W. Adam Sigler and Jim Bauder

Montana State University Extension Water Quality Program

Department of Land Resources and Environmental Sciences

What are nitrate and nitrite?

Nitrate and nitrite are soluble compounds containing nitrogen and oxygen. Nitrate (NO_3^-) is more stable than nitrite (NO_2^-). This means nitrite easily changes into nitrate in groundwater and the results of a nitrate plus nitrite test are almost always predominantly nitrate.

Nitrate is essential for plant growth and is present in all vegetables and grains. For this reason, the predominant use of nitrate in industry is for fertilizer. Nitrite is used for curing meats, manufacturing explosives, and for maintenance of industrial boilers. According to the World Health Organization, the average American male consumes 9-22 mg of nitrate-N per day primarily from leafy greens and root vegetables like carrots, beets, and radishes. Average nitrite-N consumption is much lower at 0.1-0.8 mg per day, primarily from cured meats. Intake at these levels is not considered a health risk.

How much nitrate/nitrite is too much in drinking water?

The Safe Drinking Water Act gives the Environmental Protection Agency (EPA) the responsibility for determining drinking water standards for all public water supplies in the United States. The drinking water standard for nitrate-N is 10 mg/L, or 1 hundredth of a gram in one liter of water. The nitrite-N standard is 1 mg/L. These standards only regulate public water supplies but the health risks are the same for private well owners.

Nitrate plus Nitrite Test Results

Testing labs report nitrate + nitrite results as weight of nitrogen present as nitrate and nitrite (written nitrate+nitrite - N). This can be a confusing concept and it is not necessary to understand it to compare test results to standards.

Nitrate + Nitrite - N test results reported in ppm:

0	Excellent - no detectable nitrate or nitrite in the sample
0.05 - 0.95	Satisfactory - less than drinking water standards for nitrate and nitrite
1.00 - 9.95	Potential Impairment - the test on your sample was for nitrate and nitrite together, so there are two standards to consider

(Nitrate-N = 10 ppm and Nitrite-N = 1 ppm). Nitrite easily changes to nitrate in groundwater and is almost always present at very low levels. However, it is possible (although very unlikely) to have an objectionable nitrite level with a test result of 1 ppm for a nitrate + nitrite test. For people with test results above 1 ppm who want to be certain nitrite values are below the drinking water standard, it would be necessary to do a second test for nitrite alone (approx \$15).

For results greater than 4 ppm it is advisable to plan on annual testing to monitor any changes in concentration over time.

> 10.00

Objectionable - this value is above the drinking water standard and warrants action to treat the water before use and to trace and try to eliminate the source.

What are the health risks?

- The major health risk from nitrate/nitrite is to infants under 6 months of age. At this early stage of development, nitrate in the body is transformed to nitrite, which reacts with hemoglobin (the oxygen carrier in the blood) and prevents transport of oxygen. The result is a decreased oxygen supply to the body, often called blue baby syndrome (or methemoglobinemia). It gets this name because the skin often turns a blue or grayish color, especially around the mouth. If these symptoms are noticed, seek medical attention immediately.
- Adults are at low risk from this syndrome.
- Adults with chronic health problems, such as heart or lung disease or enzyme deficiencies, may be at higher risk from elevated nitrate/nitrite levels.
- Pregnant and nursing mothers should also avoid drinking water high in nitrate/nitrite because of potential effects passed on to the fetus or infant.
- There have been a few studies suggesting high nitrate/nitrite may cause certain types of cancer, but this connection is not well understood.

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Nitrate/Nitrite Fact Sheet - *continued from page 8*

How does nitrate get into water supplies?

Nitrate is found naturally in soil and water but usually at relatively low concentrations (less than 4 mg/L in water). However, nitrate is highly soluble and is easily transported when contamination sources come into contact with water. Common sources for nitrate contamination include sewage systems, refuse dumps, fertilizers, manure, and decaying plant matter. When water from precipitation or other sources is flushed over these sources, the water carries the nitrates with it. As this water percolates into the ground and runs over the surface, the nitrates are carried into groundwater and/or surface water.

What steps can be taken to deal with high nitrate levels in well water?

- If an infant shows any blue or grey skin coloration (changes often occur around the mouth first), seek medical attention immediately.
- Do not boil water to treat for nitrate; this will increase the concentration.
- Bottled water should be used for infants under 6 months of age.
- Pregnant women and nursing mothers should avoid consuming contaminated water.
- Other people who should limit consumption of elevated nitrates are those with chronic health conditions such as heart or lung disease, enzyme deficiencies, cancer, or people who are simply uncomfortable about the inconclusive research on long term health effects related to nitrate consumption.
- Steps should be taken to determine and remove the source of the contamination. This could mean reduced fertilizer application, moving of manure piles, cleaning and/or moving of septic systems, and manipulating surface water to flow away from the wellhead.
- There are some treatment options available to remove nitrate from drinking water including ion exchange, reverse osmosis, and electrodialysis. Prices vary depending on nitrate/nitrite levels and presence of other contaminants in the water. Check your local yellow pages for water treatment professionals. (See NSF website referenced below for additional information as well.)

- In some cases drilling a deeper well into a clean aquifer might be worth consideration.
- In the meantime, bottled water is often the most convenient way to avoid health effects from nitrate contaminated groundwater.
- After receiving results of high nitrate in your well water, retesting the water to confirm the value is recommended before investing in a new well or a treatment system.

Additional Resources

Contact your County Sanitarian or Water Quality District.

World Health Organization Document

(a comprehensive nitrate/nitrite document) http://www.who.int/water_sanitation_health/dwq/chemicals/rnitrates/en/

EPA Safewater Page

(General Nitrate/Nitrite information and drinking water standards)
http://www.epa.gov/safewater/contaminants/dw_contamfs/nitrates.html

NSF Home Water Treatment Device

http://www.nsf.org/consumer/drinking_water/dw_treatment.asp?program=WaterTre

MSU Extension Water Quality Web Resources

Water Quality Issues in Montana Agriculture

<http://waterquality.montana.edu/docs/qualityissues.shtml>

Temporal Change in Groundwater Nitrate

<http://waterquality.montana.edu/docs/homeowners/nitrates.shtml>. ■

Montana Prepares for the Unexpected

Chemical Terrorism—more likely than you might expect

By Mary Simmons, Chemical Terrorism Laboratory Coordinator

A terrorism incident involving a hazardous chemical is more easily engineered than one involving a biological agent. Hazardous chemicals, whether industrial, agricultural, or chemical warfare agents (CWA) are more readily available, less costly, and require less technology to produce and deliver than biologic agents. Consider the following news clips:

The Jackson Sun News (TN), October 26, 2004:

“Federal authorities have charged a McKenzie man with attempting to acquire chemical weapons, explosives and weapons of mass destruction to “blow up” government buildings...told the agent he had made a chemical weapon, specifically mustard gas, in the past. He said he had once worked at an electroplating factory and had access to various chemicals from the factory.”

The Grand Forks Herald (ND), October 7, 2004: “An incident involving three barrels of the sodium cyanide that fell off the back of a truck somewhere between Devils Lake and Cavalier, N.D., has attracted the attention of the FBI, and the U.S. Department of Homeland Security.”

Association of Public Health Laboratories publication, Fall, 2005: “Early on Sunday morning, March 6, 2005, railroad workers spied something bubbling through the seams of a tanker car sitting in a train yard in South Salt Lake City. A plume of noxious, orange fumes was spreading downwind. Yet, 15 hours after the disintegrating car was discovered, city officials still were not certain what was in the tanker due to conflicting reports from its owner and a second company that had leased the car to transport hazardous wastes. On-site field tests were inconclusive. In the meantime, thousands of gallons of chemicals were soaking into the soil beneath the tanker (and threatening to contaminate groundwater). As many as 6,000 people were evacuated from nearby homes, and some of Utah’s busiest stretches of Interstate highway were shut down.

At 11:15 that evening, officials contacted the Utah public health laboratory to respond to “a public health disaster in the making.” A team of environmental chemists worked through the night. Screening tests, confirmatory tests and back-up tests yielded the answer. The soup was a witch’s brew of seven agents: acetic acid, ammonia, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid and—the nastiest of the lot—hydrofluoric acid, a recognized agent of

chemical terrorism. The chemical cocktail could burn skin on contact. The fumes alone could corrode the respiratory system, trigger vomiting, and damage to the eyes.”

Sulfur mustard (commonly called mustard gas or mustard) and cyanide are both classified as chemical warfare agents or CWA’s. Hydrofluoric acid, cyanide, and the other chemicals mentioned in the articles are also classified as Toxic Industrial Chemicals (TICs). They are not only highly toxic, but are also common, legitimate-use industrial chemicals that are produced in great quantities. Whether accidental or deliberate, it is always advisable to plan for the possibility of a release event.

Fortunately, most chemical spills and even deliberate acts of terrorism do not result in high mortality rates. A chemical attack, however, can cause extensive incapacitation and overload response agencies and systems. The threat of the attack may cause as much panic as an actual attack itself.

What are chemical terrorism agents, anyway?

There are many ways to classify chemicals, such as by their chemical properties (acid, oxidizer), their physical state (solid, liquid), and their intended use (feedstock, precursor, catalyst). The classification scheme used for Toxic Industrial Chemicals is based on the physical and chemical properties of the material. These include, but are not limited to, corrosives such as hydrofluoric acid, explosives such as ammonium nitrate, flammables such as gasoline, metabolic poisons such as cyanide, pesticides such as Dursaban and pressurized gases such as chlorine.

Significant or problematic human exposure to chemical agents usually results in rapid, observable, “signature” symptoms indicating exposure to a particular type of chemical. Chemical warfare agents (CWA) are classified by these signature effects on victims. The categories of CWAs include: Blister or Vesicants, such as sulfur mustard; Blood Agents, such as cyanide; Lung-damaging or Choking Agents, such as chlorine gas; Incapacitating Agents, such as hallucinogens, Nerve Agents, such as Sarin; and Riot Control Agents such as Tear Gas. The table below lists some of the chemical agents in each of these categories and their military abbreviations in bold

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Montana Prepares for the Unexpected *continued from page 10*

type. The agents that only have military abbreviations (BZ and VX) have never been used in any civilian applications.

Future articles are planned to provide further information on the chemical warfare agents in each category.

Chemical Warfare Agent Categories					
Blister / Vesicants	Blood	Choking or Lung-Damaging	Incapacitating	Nerve	Riot Control Agent
Sulfur Mustard (H) Lewisite (L)	Hydrogen cyanide (AC) Arsine (SA)	Phosgene (CG) Chlorine (CL)	BZ Fentanyl and other opioids	Sarin (GB) Soman (GC) VX	Tear Gas (CS) Adamsite (DM)

NEWS from the State of Montana Environmental Laboratory

“Control tower, we have an emergency!”

A Boeing 737 enroute from Missoula to Billings has just radioed the Helena Regional Airport that there is some type of “smoke” in the first class section. The smoke has penetrated into the cockpit and is affecting the crew. The pilot complains of stinging eyes, burning lungs, and nausea. He reports that the entire crew and many of the passengers are complaining of the same symptoms. There are 30 persons on board counting the crew. He is requesting an emergency landing at the Helena Regional Airport. The plane is expected to arrive within the next 10-15 minutes.

This was the opening scenario for last June’s full-scale Last Chance One exercise. The State of Montana Environmental Laboratory participated in the exercise along with many other preparedness partners from around the state. Working with St. Peter’s Hospital Laboratory and Lewis and Clark County Public Health for the exercise, the Environmental Laboratory successfully simulated receiving, packing, and shipping clinical specimens from the victims on the plane to CDC as would be called for in an actual incident involving an unknown chemical.

The State of Montana Environmental Laboratory is taking major steps toward preparing to respond to chemical incidents, including acts of chemical terrorism or accidental release of unknown chemicals. Procedures and policies have been developed to enable hospital laboratories, local public health jurisdictions, and first responders to react

effectively to a chemical incident. Training for various partners on packing and shipping protocols to ensure safe and rapid transit of clinical specimens or samples is an ongoing project. The laboratory staff has also participated in the training CDC requires in handling, packing, and shipping clinical specimens from the victims of a suspected chemical terrorism attack.

As part of the preparedness response, the laboratory, with the help of CDC funding and the support of the Department of Public Health and Human Services bioterrorism team, has also been able to purchase new instrumentation and train chemists in methods for detecting exposure to cyanide and heavy metal poisoning. Acquisition of additional equipment and more staff training is planned for this year. More exercises, including one with CDC participation, are being planned to test and improve the laboratory’s response. However, the most exciting aspect of this year’s program is the construction of new space for the organics laboratory and the renovation of some of the existing laboratory space. The overarching goal of this preparedness effort is to better protect and serve the people of the state of Montana.

For more information about the state laboratory or this article, please contact Mary Simmons (406 444-4115 or msimmons@mt.gov), Judy Halm (406 444-5259 or jhalm@mt.gov), or Denise Higgins (406 444-0944 or dehiggins@mt.gov). Portions of this article were developed with information furnished by Cate Franklin, Washington State Public Health Laboratories. ■

Using Standard Terms for Coliform Samples

By Sandra L. Ewing, MT DEQ - Helena

As the Total Coliform Rule (TCR) Specialist my goal in this article is to describe the three types of samples that are actually mentioned in the TCR.

The three sample names mentioned in the TCR are routine, repeat and special purpose samples.

Routine Samples

Routine samples are regularly scheduled samples that a water system is required to take each month. The number of routine samples is based on the population served. A water system may have to increase the number of routine samples as the result of a growth in the population served. (There are some exceptions to monthly sampling, but I will not be discussing them in this article.)

Routine samples are collected each monitoring period according to an approved monitoring schedule. The required number of routine samples only changes under the following circumstances:

- A water system taking fewer than five routine samples and has a total coliform-positive sample; the system must increase the number of routine samples to five in the following month.

The extra routine samples are called “confirmation samples” or “follow-up samples.” The standard term, however, is “Temporary Routine Samples.”

Repeat Samples

If a routine sample is total coliform-positive, the public water system must collect a set of repeat samples within twenty-four hours of being notified of the positive results. A system that collects more than one routine sample per month must collect no fewer than three repeat samples for each total coliform-positive found.

A system that takes four repeat samples must collect:

- At least one repeat sample must be taken from the sampling tap where the original total coliform positive sample was taken;

- at least one repeat sample at a tap within five service connections upstream; and
- at least one repeat sample at a tap within five service connections downstream of the original sampling site.

Any fecal coliform-positive sample or E.coli-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or E.coli-positive routine sample constitutes a violation of the Maximum Contaminant Level (MCL) for total coliforms. Two coliform-positive samples in a monitoring period constitute an MCL violation.

Special Purpose Samples

Special purpose sample, including a sample taken to determine whether adequate disinfection has occurred after pipe placement or repair, may not be taken from a part of the public water supply distribution system that is actively serving the public.

Special purpose samples do not count toward compliance with TCR. They allow a water system to assess the bacterial quality of the water without worrying about generating regulatory violations.

It is important to pay careful attention to how we refer the two categories of samples that count toward compliance: routines and repeats. ■

A Family's Sacrifice and a Chance of a Lifetime to Help Others in Great Need

Montana DEQ – Public Water Supply Employee Deployed with Red Cross
to Aid Louisiana after Hurricane Katrina & Rita

By Dusti Lowndes, DEQ - Kalispell Public Water Supply Section

I really must tell you about my experience as an American Red Cross (ARC) volunteer in the wake of Hurricane Katrina/Rita. I have kind of swept my journey under the rug in order to get back to my family and busy job but I think about the people and the conditions in Louisiana often and check on their progress through the web. A busy schedule and maybe humility does not allow me to talk or share my whole experience very much but there is so much to learn from that devastation and emergency response that I must try to tell you from a personal and professional perspective.

I am very proud of the state of Montana and know that we would all come together to help each other through anything. But what would we do if our neighbors could not help because they needed help too. As I left and flew over our state feeling apprehensive, nervous, and sad to leave my family (*husband Michael; son Cameron, 13; daughter Emmalie, 12; and son Maverick, 3*) I gathered strength from knowing that I would want all those that could to come help my family and this beautiful state.

On October 10, I ended my 24 hr. travel ordeal by landing at the airport of Baton Rouge, Louisiana. I (with my husband's help) had packed two big duffle bags to the gills and a carry-on with medical/first aid supplies including a kill-all antibiotic, hygiene supplies, bedding, clothes, quick protein snacks, and a water bottle that had two filter units and iodine disinfection (You need to be certified just to operate the dang thing!). I hit the ground running. I was assigned to a pilot program in ARC called Public Health, which was stationed at the ARC disaster headquarters in a vacant Wal-Mart building. The hustle and bustle was amazing. The program was to assist with public health concerns and conduct facility assessments that evaluated the public health and environmental conditions, which is old hat for me as an environmental health sanitarian. As I told people that I was from Montana, they would look at me like "so Montanans really can leave the state." I just had to grin because obscurity is not that bad and kind of



fun. The obstacles of politics, being a new program, and poor communication were inefficient and frustrating at times. Not easy for a gal from Montana who knows things needed attention and just wanted to see it get done for the good of the people. You know that saying "Git'er Done" or as I like to think of it "the deeper the piles, the taller the boots you must wear."

I worked out of Baton Rouge's ARC headquarters for a week. As one of the out-laying communities from the major devastation, Baton Rouge was inundated with displaced citizens from other communities and with relief crews. The traffic, garbage pick up, linen service, food deliveries, supply needs, additional water and wastewater production, and other utilities were all feeling the pressure caused by the over-loading of normal service conditions. It took us several hours to get to a place that should only take minutes. The population increase and complications of the disaster, such as displaced workers or downed equipment, made it very difficult for administrators and community services to cope with the new demand on existing infrastructures. As I was transferred closer to New Orleans into the Covington and Mandeville area for my last two weeks, we experienced more of the business crippling affects caused by the hurricanes. Many businesses had a shortage of employees. Hiring signs

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A Family's Sacrifice and a Chance of a Lifetime to Help Others in Great Need - *continued from page 13*

were posted everywhere and some businesses simply could not stay open past a single shift. A subway shop closed periodically depending on if they had enough employees or if they had run out of food. The IHOP was only open until early afternoon because of staffing issues and half their menu was not available. There really was only a hand full of places to eat for an area that was hopping with people. Several nights I waited up to three hours to eat dinner at the only open restaurant after 7:00 p.m. Our staff shelter, which was a big church gym, often had meals. Some nights there would be 20 of us, other nights there might be 90. The food was gone quickly and we were on our own to eat.

Oh yes, I mentioned sleeping arrangements. Picture yourself sleeping on a cot surrounded by 70 people that may or may not have PJ discretion, snore, play music, talk, get up in the middle of the night, wake up at 4:30 a.m.



Sleeping arrangements in gym

(harder for the older folks to sleep), talk on cell phones or, in their sleep, coming and going to the hazmat showers outside, eating, messing with plastic bags at 1:00 a.m., or with those that may scream out in terror in the middle of the night from nightmares (*believe me that one brings you straight up out of your cot*).

I typically would get to sleep at midnight and get up at 6 a.m. Some of the best six hours of sleep I've ever gotten. So tired and physically/emotionally washed out that sleep was like a rock to the head. It was true "if you worked this hard at your regular job, you'd quit." The three weeks went very fast – like passing through Two Dot, but I won't tell you how much my cell phone bill was from calling my family.



Shortly after Hurricane Katrina hit the ground, I contacted Karen Irion, Louisiana Safe Drinking Water Administrator, and asked her if there was anything our state public water supply section or operators could do to help. She was very appreciative of our call and was going to let us know.

I again contacted Karen while in Louisiana to find out which water systems were down or on boil orders as to assist Red Cross in properly placing facilities near potable water. Karen invited me to go with her and Mark Scharfenaker, AWWA WaterWeek editor, to a New Orleans Treatment Plant. Mark Scharfenaker was to meet up with Portland, Oregon's Emergency Response Team which was camped outside the plant. The Portland team was working hard to document the damage for the water system to help verify the need for relief funds. The team of 40, including engineers, operators, and individuals trained in disaster evaluation, had their own trucks, laptops, safety gear, and tents. They tried to show me all the information they were gathering and the forms that needed to be filled out for FEMA.

The response team showed me some photos that were taken of the water departments' billing and map building. The walls were covered with mold up to the flood level in the building. All the equipment (chairs, desks, computers, countless file cabinets, and mapping equipment) was also covered with mold and soaked by flood waters. The group pointed out several brand new replacement backhoes that had just been delivered. As we visited about their daily activities of assessing damage, getting meals from the mobile kitchen, showering in tents, sleeping in yurts, and making their way around a strange and devastated town,

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A Family's Sacrifice and a Chance of a Lifetime to Help Others in Great Need - *continued from page 14*

they talked about a terrible odor that kept getting worse until several people did a walk about the property and found a victim of Katrina buried in some debris and brush on the other side of the fence. The teams' respect and concern for the New Orleans crew was admirable. They spoke of how concerned they were for the mental well-being of the New Orleans employees. Being there was like walking up on to an accident and the witnesses were running interference so that the victims could have some space to reflect and regroup. It was a real pleasure to meet the Portland crew.

Karen Irion and I made our way into the treatment plant building. Seven treatment plant operators looked dazed and numb as they stood around the controls in a horseshoe shape watching more different faces parade through their workplace. I tried to give them a smile of encouragement and felt great admiration for them as I passed by each of them. I thought to myself, the comfort and familiar routine of their careers and daily lives must be a distant memory. It had been a month and a half since the hurricanes had hit. I could not help but think of the operators that I knew in Montana and how upsetting it would be to see them in this condition and state of devastation. Karen had told me that of the 1,200 employees for the Sewerage & Water Board of New Orleans, only 600 came back to work and of those 600, 80% of their homes had been destroyed or flooded. Their families now displaced and living elsewhere while they try to work. The workers had set up sleeping areas that were visible through the control room windows. As I left the treatment plant, I got several names and numbers and told them I would like to help provide some assistance even if it was just personal supplies.

Karen Irion and I made our way over to the potable water filling station that was set up. The filling station was vital because one of the biggest issues the Louisiana Safe Drinking Water Program had during the immediate relief efforts was the illegal hauling and use of non-potable water for drinking. In order to stop individuals from hauling water in sewage or chemical tankers and from unapproved sources, Karen Irion asked for help from the EPA to enforce the requirement that only designated sites with potable sources were to be used to fill water haulers.

As we left the city, Karen wanted to stop by her home that had been flooded to check on the reconstruction



"Do Not Drink the Water" signs posted in client facilities

efforts. Her and her family had to move into a rental 45 minutes away. In Karen's home, the studs half way down her first floor walls were standing bare with no floor coverings. She was just simply happy to have a contractor working on it. Debris piles were everywhere we went. A few streets in New Orleans were still completely impassible because of debris and flooded cars. One thing I saw, no matter how devastated an area was or wasn't, was taped up and abandon refrigerators that sat along the road side waiting to be picked up. When the power went out and people had evacuated, the food spoiled in the refrigerators. Debris collection sites were like man-made mountains with billowing dust plumes. The photos on the television cannot show you the vast spread of the devastation. Fortunately, the unusual dry weather spell was a blessing for clean up and minimizing mold growth.

During my relief tour, I was able to provide a map of water systems on boil orders, got US Public Health to invalidate an asbestos concern in a warehouse, guide four CDC officials through a high production mobile kitchen set up, ordered 30,000 masks to help mitigate respiratory issues due to mold and debris exposure, produced 250 kits (mask, gloves, sanitization wipes, and returning home brochures) for residents, worked with site managers to incorporate better sanitation practices, got USDA to send a box full of food safety information and thermometers to give out to the mobile kitchens, and assisted in disseminating 10,000 brochures (one on mold concerns and one on returning home) to distribution and client sites.

No one may ever remember my name or know who I was, but several people got kits to help them wipe their hands or masks to protect their faces. Someone may have used the

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A Family's Sacrifice and a Chance of a Lifetime to Help Others in Great Need - *continued from page 15*

map to better place a Red Cross facility in an area with potable water. Someone used one of the thermometers to check for safe food temperatures. I know that my family and I helped keep several people healthier and I am proud to have been part of the relief effort in Southern Louisiana. The disappearing Bayou country of the Deep South has wonderful family ties and epic survival struggles much like the great people and ranch/farm lands of Montana. As the DEQ, Public Water Security & Emergency Preparedness Specialist, I hope to continue to make a difference by helping Montana be prepared for an emergency.

I need to thank Governor Schweitzer and MT DEQ administrators for allowing employees to assist in the National Emergency. I greatly appreciate my supervisor, Greg Butts, for his assistance with information while I was in Louisiana and during my preparation to leave. Earl Hall of Missoula (also an ARC public health volunteer) was kind enough to share his digital photos of our experience. Thanks Earl! Most of all, I want to thank my entire family for their love and support "without you I

could not have done this." I have tried many times since my return to get information about what the New Orleans operators might need, but I believe they are still so busy with the recovery efforts that they do not have time to correspond for aid. The utility did manage to set up an employee fund that checks could be sent to if you wish to help. I would also recommend reading the articles that American Water Works Association (AWWA) has produced on the operators and the amazing emergency response efforts.

Payable to:

"Catholic Foundation of the Archdiocese of New Orleans, Benefit of SWBNO Employee Hurricane Katrina Relief Fund"

Mailing address:

Sewerage & Water Board of
New Orleans Hurricane Katrina Relief Fund,
ATTN: Shelley Levasseur, Chairperson,
822 Neosho St.
Baton Rouge, LA 70802 ■

Photos by
Earl Hall of Missoula



Dusti discussing sanitation practices with distribution center operator.

Portland, Oregon Response Team Supply Tents next to the Treatment Plant



A Family's Sacrifice and a Chance of a Lifetime to Help Others in Great Need - *continued*



ARC Public Health (pilot program) in Baton Rouge, LA at vacant Wal-Mart

Replacement backhoes, generator, and two of New Orleans storage tanks



Devastated homes and business scattered over miles and miles

Large Mobile Kitchen Unit



Wildfire in PWS Watersheds

The U.S. Department of Agriculture and the U.S. Department of Interior recently released a fact sheet entitled “Making a Difference, Community Wildfire Protection Plan, Ravalli County – Montana.” The plan was developed in follow-up to the large fires of 2000 and was seen as a necessary first step by local government in protecting valuable community resources such as roads, structures, and utilities including Public Water Supply (PWS) infrastructure. The community used a handbook entitled “Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities” as the starting point since this publication offers a detailed description of how to develop such a plan. This handbook was jointly developed by the Society of American Foresters, the National Association of State Foresters, the National Association of Counties, the Western Governor’s Association and the Communities Committee of the Seventh American Forest Congress.

The “Bitterroot Community Wildfire Protection Plan,” serving nine Montana communities, was approved by the

Ravalli county commission, eleven fire districts or departments, USDA-Forest Service and others. Not only does this plan target the reduction of hazardous fuels and fire damage to structures, it also addresses the restoration of fire-adapted ecosystems. The plan assesses forest insects and diseases and recognizes the impacts of noxious weeds. It should be noted that a plan of this sort is usually the very starting point required for any effort to procure funding or to ask large land managing agencies such as the US Forest Service to take an action on behalf of a local government or community. Some PWSs need to address the potential for fire in their watershed and should look at initiating or supporting the development of a community wildfire protection plan.

For more information on the Healthy Forests Restoration Act and the Healthy Forests Initiative, visit www.healthyforests.gov. ■

White House Seeks Increased Funding for Programs to Preserve, Restore Wetlands

The White House proposed funding increases to protect and restore wetlands in its fiscal year 2007 budget to support President Bush’s goal of protecting at least 3 million acres of wetlands by 2009. The budget request includes \$173 million for the U.S. Army Corps of Engineers to regulate wetlands under Section 404 of the Clean Water Act, and \$403 million for the U.S. Department of Agriculture’s Wetland Reserve Program. The Environmental Protection Agency’s budget request seeks almost \$37.8 million to limit wetland loss and to implement a planned wetlands banking rule it has jointly crafted with the Corps, as well as to implement wetlands program development through grants to states, tribes, and local governments intended to restore, improve, and protect wetlands.

To meet this year’s quota, the USDA budget proposal includes a \$403 million request to protect up to 250,000 acres under the agencies Wetland Reserve Program. That would increase total wetlands acreage enrolled in the program (across the nation) to more than 2 million.

Under the USDA program, landowners voluntarily agree to protect, restore, and enhance wetlands on their property. USDA’s Natural Resources Conservation Service provides technical and financial support to help landowners with their wetland restoration efforts. The increases are considered to be significant increases since in the past three years Congress has cut funding for the Wetlands Reserve Program by 40 percent.

Part of the President’s wetland budget would be used by EPA to follow through on a three-year pilot project to measure the environmental outcomes of wetland programs. Montana is just getting started on a three-year pilot project intended to demonstrate the effectiveness of the states non-regulatory wetland program. The major goals are to track wetland gains and losses in the state, and, at the end of three years, be able to quantify gains and losses in order to report comparisons between the two approaches. The effort will be applied to three target areas in the state including the Gallatin, Bitterroot, and Flathead valleys. ■

Water Sampling Tip

For those who have tried and tried to get ‘every last bubble out of the bottle’ when collecting Volatile Organic Compound (VOC) and Synthetic Organic Compound (SOC) samples, here is **Lockwood Water and Sewer District’s “Fool Proof Sampling Method” . . .**

- Fill bottle to rim with tap water;
- then fill the inside of the cap with water;
- pour entire cap full of water, to ‘top off’ the bottle and form a crown;
- then close, tighten the cap and Look No Bubbles!

(*Safety note: if you add drops of HCL to your VOC sample, be sure to rinse your hands, as there will be some overflow.)

Water Facts

Restaurants in the U.S. serve approximately 70 million meals a day. Every glass of water brought to your table requires another two to four glasses of water to wash and rinse the glass.

The “water upon request” approach saves restaurants water, time and money by eliminating unconsumed glasses of water. For every two glasses of water not served, about a gallon of water is saved.

The human body is more than three-quarters water. Water is essential to existence, not only for people but for plants and animals as well.

Water covers 70 percent of the earth’s surface. At least 97 percent of the world’s water is salty and undrinkable. Another two percent of the earth’s water is polluted, polar ice, or otherwise inaccessible and undrinkable. That leaves approximately one percent of the earth’s water for humans to use.

Water is a precious commodity and there is a limited supply. Remember to use only the amount you actually need. Look for ways to conserve water in and around your home and place of work. ■



EXAMS PASSED JULY 2005 - DECEMBER 31, 2005

CLASS 1's

BARRETT, MARK	MISSOULA	1A	CO
CAMPBELL, ERIC	BOZEMAN	1A	CO
GRAY, KENNETH	BOZEMAN	1A	OT
HOLLAND, RONALD	GREAT FALLS	1A	CO
MACHO, ROBYN	BOZEMAN	1A	OT
SIMPSON, MARK	BOZEMAN	1A	OT
TABBERT, NATHAN	HELENA	1A	CO
THUL, JOE	MISSOULA	1A	CO
HOLMLUND, KEITH	MILES CITY	1B	OT
JOHNSON, BOB	FORSYTH	1B	OT
MULONET, STEVEN	CHINOOK	1B	OT
CASEY, WILLIAM	EAST HELENA	1C	CO
KAPP, LEO	LEWISTOWN	1C	OT
LEE, LYNN	MISSOULA	1C	CO
NEW BREAST, SLOAN	BUTTE	1C	OT
STRAUSS, JAY	BILLINGS	1D	CO

CLASS 2's

BALDWIN, STEVEN	CULBERTSON	2A	OT
BENBROOK, JESSE	WHITEFISH	2A	CO
SOLOMON, ZANE	CULBERTSON	2A	OT
MARCINIAK, SUE	LEWISTOWN	2A3B	CO
SORRELL, PATRICK	POLSON	2A3B	OT
FLYNN, KEVIN	EUREKA	2B	OT
TURECEK, ELIZABETH	WHITEFISH	2B	CO
PALMER, PHILIP	YELLOWTAIL	2C	OT

CLASS 3's

FLYNN, KEVIN	EUREKA	3A	OT
DOLAN, MICHAEL	BELT	3A4B	CO
LYNCOLN, BENJAMIN	ROUNDUP	3A4B	CO
THUL, JOE	MISSOULA	3B	CO
FLYNN, KEVIN	EUREKA	3C	OT
LYNCOLN, BENJAMIN	ROUNDUP	3C	CO
STONE, JAMES	WISDOM	3C	OT
UTGAARD, ROBIN	GLENDIVE	3C	CO

CLASS 4's

ATTEBURY, GEORGE	BOZEMAN	4AB	CO
BECHTOLD, FLOYD	KALISPELL	4AB	CO
CHALLONER, WAYNE	WISDOM	4AB	CO
CUMMINGS, HELEN	SILVER BOW	4AB	CO
DOTY, DONALD	KALISPELL	4AB	CO
EGAN, MAURICE	EUREKA	4AB	CO
FISHER, DAMON	LIBBY	4AB	OT
GOLDSBY, RICHARD	MISSOULA	4AB	CO
GREEN, BRANDON	SILVER BOW	4AB	CO
HEWITT, TIMOTHY	GREENOUGH	4AB	CO
MILDENBERGER, JAMES	HAMILTON	4AB	CO
ROGINSKE, SCOTT	JOLIET	4AB	CO
SCHUSTER, CLEVE	BILLINGS	4AB	OT
SHYNE, DANIEL	BIG SKY	4AB	OT
STONE, JAMES	WISDOM	4AB	CO
THOMAS, PHILIP	GERALDINE	4AB	OT
WALKER, JAMES	CHOUTEAU	4AB	CO
WALKER, JAMES	CHOUTEAU	4C	CO

CLASS 5's

BARDWELL, DEAN	GREENOUGH	5AB	OT
BAUER, RICHARD	EMIGRANT	5AB	CO
FORCELLA, JOE	REED POINT	5AB	CO
GILMORE, LELAND	ZURICH	5AB	CO
HENDERSON, SEAN	ENNIS	5AB	CO
MORTON, DANA	CAMERON	5AB	CO
OSTER, LLOYD	VICTOR	5AB	CO
PRESTON, RONALD	MILLTOWN	5AB	CO

- A = Water Distribution
- B = Water Treatment
- C = Wastewater
- D = Industrial Wastewater
- CO = Fully Certified Operator
- OT = Operator-in-Training



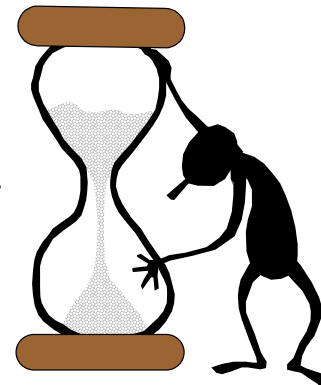
Congratulations!!

The exams for certification require considerable time in study and preparation. Passing represents a lot of hard work and initiative on the part of the individual. Be sure to show appreciation to your water and wastewater operator for working hard to ensure that they are properly trained to care for your system.

CEC NAGGINGS

(THAT YOU MAYBE SHOULDN'T IGNORE)

CERTIFIED OPERATORS: By now each of you should have received the CEC (continuing education credits) status reports, which were sent out in December. Remember these credits are due by May 31, 2006. This leaves only a few months to complete the requirements. There are several ways to obtain the needed CEC credits. You may attend an approved course (the METC calendar came out in January – look at courses January through May), complete an approved alternative training course listed in the METC calendar (i.e., on-line, CD-Rom, or correspondence), or apply for a course to be approved by our CEC approval committee. Operators-in-training are not required to earn CEC's.



TRAINING PROVIDERS: Application forms were mailed to existing and interested Approved Training Providers (ATPs) on January 27th. Please note that these applications are due by April 1, 2006. Why not fill it out now and send it in before it slips your mind?

If there are any problems or updates needed on the CEC status reports, information on any of the credit options, or additional ATP application forms wanted; simply contact Ashley Eichhorn, Water/Wastewater Operator Certification Technician at (406) 444-4584. I'm here to help!



Operator Examination Notification

DEPARTMENT OF ENVIRONMENTAL QUALITY
1520 EAST SIXTH AVE
PERMITTING & COMPLIANCE DIVISION
WATER & WASTEWATER OPERATOR CERTIFICATION

METCALF BUILDING,
PO BOX 200901
HELENA ,MT 59620-0901
406/444-3434 – FAX: 406/444-1374

OPERATOR NAME: _____ OPERATOR #: _____

(Please print)

NAME OF SYSTEM OPERATED: _____ PWS#: _____

MAILING ADDRESS: _____

CITY: _____ ZIP CODE: _____ DAYTIME PHONE #: _____

CLASSIFICATION OF EXAM REGISTERING FOR: Class _____ Type _____

To register for one of the examinations on this form, you must send the following to the above address 15 days before the exam date:

1. A completed application for certification as a water or wastewater operator;
2. Application fees: \$70 for water and/or \$70 for wastewater;
3. Examination fees: \$70 for water treatment, \$70 for water distribution (2A3B, 3A4B, 4AB, 5AB are combination exams and count as one exam) and/or \$70 for wastewater, and;
4. A completed copy of this form and the fees for each examination.

OPERATOR CERTIFICATION EXAM PREP TRAINING, CEC's & DEQ EXAMINATIONS

NOTE: You must also contact the training provider to register for the training (additional fees may be charged).

Training Provider	Location	Training Date	Exam Date	Registration Deadline	(X)
Montana Colony & Rural Water Systems (MRWS)*	Great Falls	01/18/06-01/19/06	01/20/06	01/05/06	
MRWS Conference	Great Falls	02/22/06 – 02/24/06	02/24/06 afternoon	02/09/06	
Kalispell Spring School (METC/DEQ) MRWS Annual Operator Certification & Math Review	Kalispell	03/15/06 – 03/17/06	03/17/06 afternoon	03/02/06	
Billings Spring School (METC / DEQ)	Billings	04/05/06-04/07/06	04/08/06	03/24/06	
METC Small Water/Wastewater Summer Certification School	Missoula	05/24/06 and 05/25/06	05/26/06	05/11/06	
72nd Annual Fall Water School (METC/DEQ/MSU)	Bozeman	10/02/06 – 10/05/06	10/06/06	09/21/06	

*Only Class 4 and 5 water or Class 3 and 4 wastewater exams will be given

Please bring a photo ID with you to the exam – you will be asked for one.

DEQ Spring Examinations

Examination Location	Exam Date	Exam Registration Deadline	(X)
*Billings	04/08/06	03/24/06	
Great Falls	04/08/06	03/24/06	
Havre	04/08/06	03/24/06	
Helena	04/08/06	03/24/06	
*Kalispell	03/17/06 Afternoon	03/02/06	
Miles City	04/08/06	03/24/06	
Missoula	04/08/06	03/24/06	

*Examination preparation training offered at Billings and Kalispell.

The deadline to sign up for all examinations is 15 days before the examination date. To sign up for an examination, contact Reta Therriault at 406/444-3434 or rtherriault@mt.gov for application information. An application is also available on the WWOc web site at: <http://www.deq.state.mt.us/wqinfo/opcert/index.asp>

Class 4 and 5 water exams and Class 3 and 4 wastewater exams can be taken in a DEQ office in Helena, Kalispell or Billings by appointment. Contact Reta Therriault at 406/444-3434 or rtherriault@mt.gov for application information.

Telephone numbers and links to trainers web sites:

1. Montana Environmental Training Center
(406) 390-3865
<http://www.msun.edu/grants/metc/>
2. Montana Rural Water Systems, Inc.
(406) 454-1151
www.mrws.org
3. Midwest Assistance Program
(406) 273-0410
www.map-inc.org
4. Montana Association of Water and Sewer Systems
(406) 273-3336
<http://www.nmclites.edu/grants/metc/!mawss.html>

Please bring a photo ID with you to the exam – you will be asked for one.

What is a Sanitary Survey?

EPA requires that public water systems receive sanitary surveys to make sure that the system can provide adequate, safe drinking water. Sanitary surveys are carried out to evaluate:

- (1) The capability of a drinking water system to consistently and reliably deliver an adequate quality and quantity of safe drinking water to the consumer, and
- (2) The system's compliance with federal drinking water regulations.

To prepare for a sanitary survey, a Public Water Supply (PWS) should be familiar with the elements that make up the inspection. Elements include: Source, Treatment, Distribution, Storage, Pump Facilities, Monitoring/Reporting/Data Verification, Management/Operation, and Operator Certification. The following is a summary of each of those elements.

SOURCE:

The system's source will be evaluated for quality, quantity, reliability, and susceptibility. The major items of concern are: is the source water being impaired by a discharge upgradient or upstream; are there significant potential contaminant sources in the control zone, inventory region, or surface water buffer? A review of the system's Source Water Assessment may be used to identify possible issues in the system's protection areas.

TREATMENT: Where treatment is applied, the condition and capacity of treatment facilities will be evaluated. In evaluating treatment capacity, each stage of the treatment will be assessed for size, chemical addition (type of chemical, application point, and application rate), and operational condition.

DISTRIBUTION:

An improperly maintained or designed distribution system can adversely impact public health. These conditions could lead to contamination of the distribution system through backflow from a cross connection or improperly maintaining a

chlorine residual. The following will be evaluated during the survey: 1) sampling plans/maps (*are samples representative of entire system*); 2) field sampling/measurement (*chlorine residual and pressures*); 3) water line repair practices; 4) system flushing procedures; 5) cross connection control program; 6) water loss control program; 7) distribution maps; and 8) adequacy of properly certified distribution system operators.

STORAGE:

Adequate above ground storage may be an essential part of any distribution system. If a system does not have adequate storage that provides satisfactory pressure, contamination through backflow could result. Storage tanks will be evaluated for location, capacity (correct size for service area), condition (inspected within last 5-7 years), and security.

PUMP FACILITIES:

Pumping facilities are essential to many water systems and especially those with large distribution systems. They provide the means for moving water from one section of the distribution system to another via storage tanks. Without pumping facilities to maintain adequate tank levels, water quality could become compromised if pressures fluctuate radically or drop below 20 psi. Evaluation will include pump facility capacity (with largest pump out of service), condition, chemical addition (if any), and security.

MONITORING/REPORTING/DATA VERIFICATION:

Quality control is important in any industry that produces a product. A water system's product is potable water. Improperly treated water can directly impact public health, so it is vital that a water system closely monitor its water quality. To ensure that the system is supplying water that meets or exceeds standards, the inspector will review all records submitted to the Department, all chemical monitoring within the past several years, verify that correct water quality data is being submitted to the Department (comparison of monthly reports with daily logs), and ensure that

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What is a Sanitary Survey? - *continued from page 24*

correct testing procedures are being followed by the system's certified operator.

SYSTEM MANAGEMENT/OPERATION

Water system management has a major effect on water system performance. Management provides direction for the system, sets specific quality goals and ensures adequate funding and support is available to enable the system to provide safe, reliable drinking water. This element focuses on water system management and operation. The inspector will review system funding, goals set by management, staffing requirements/staffing needs, O&M documents and SOP's to be used by system operators.

OPERATOR CERTIFICATION

As applicable to the PWS classification of your water system, the inspector will determine if the system has a certified operator to run the water system. Are enough operators available and do they have the proper operator classification for the type of system you operate?

These eight elements, when combined, form the basis of the Sanitary Survey. When the Sanitary Survey is completed the system will be provided with a letter which details the results of the Sanitary Survey listing deficiencies and recommendations. If necessary, the inspector may schedule a follow-up visit to ensure that the system is properly correcting the deficiencies.

To learn about performing a sanitary survey, you can take a training course through the Montana Water Center (go to <http://water.montana.edu/training/ssf/default.htm>). Or take a look at multiple resources available through EPA by going to: <http://www.epa.gov/ogwdw/dwa/resources.html>. ■

Fond Farewells

By Bill Bahr, DEQ – Technical and Financial Assistance Bureau

The following folks have long served Montana water and wastewater system operators and managers and have now retired or moved on to other professional positions. Most of these people have worked directly with operator training and the Montana Environmental Training Center (METC), DEQ's operator training outreach program jointly operated and administered with MSU-Northern. I don't recall every skill, professional degree or other awards and honors received by this group of dedicated public officials, but I have witnessed their unparalleled commitment to providing operators education, technical assistance and an ear to listen to your problems and desire to offer realistic solutions to difficult problems.

Doris Roberts retired in September (2005) from her position as the provider of technical on-site assistance under the EPA 104g program administered through MSU-N in Havre. Doris was instrumental in obtaining the EPA 109b grant for the wastewater training program that became METC. Doris served on the METC Steering Committee from its inception in 1988 until the fall of 2005. Doris may have been the most recognized person to Montana wastewater and water operators. She inspected many facilities and made many friends at those plants. She was very knowledgeable in plant operation and maintenance, having run the water and wastewater plants for Chinook for a few years. She became one of the strongest advocates for operator training and advancement, both through METC and through her cooperation with DEQ programs. Doris, along with Nick Clos of Montana Rural Water Systems, provided unbiased sludge level measurements in lagoons for communities in order for them to adequately plan for any system improvements or upgrades or to evaluate system performance problems.

It is difficult to assess Doris' overall contribution to our goal of preserving Montana's water environment and protecting public health through her efforts to assist operators as they perform their duties. I served with Doris on the METC Steering committee and watched as she worked to develop effective training programs, many of which we continue to deliver in our workshops. I have heard countless stories of how Doris would 'dig in' and help operators correct on-going system problems or offer long-term solutions to system deficiencies. I suspect that



Doris Roberts with Gary Hall, Director of Montana Environmental Training Center.

trying to cover all that Doris brought to those of us still working in wastewater and water plants and those of us at DEQ is, in the end, a futile effort because sometimes words are inadequate to the task. Lets just say thanks to Doris for all the help and appreciate that she did it all with a smile and with our best interests at heart.

Jan Boyle retired at the end of June 2005 due to the relocation of the METC offices to the MSU-Northern campus in Havre after having served as the METC Training Coordinator since the beginning in 1988. Jan had an educational background in adult education and brought that knowledge of learning behaviors to METC, helping develop its highly effective training program. Jan was a strong advocate for operators and insisted on high quality training strategies. As part of her continuing dedication to environmental protection, Jan received her PhD from MSU-Northern during the years of her service at METC. She also carried a strong environmental focus that yielded interesting workshops covering watersheds and water quality protection. She always felt that operators would want to broaden their training to issues that affect not only their own facilities and communities, but also look at the larger picture of what is happening to water and people elsewhere in the basins and watersheds where we all use water and dispose of that used water. Jan truly liked working with operators and managers. She is a down-to-earth person who developed organic practices at her farm and brought those same insights to bear in her professional position. Needless to say, METC and operator training in Montana were forever changed by Jan's work and we will all feel her presence for years to come.

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Source Water Protection: What's in It for You? - continued from page 26

Tom Slovarp served DEQ in the Construction Grants and in the State Revolving Fund programs that provide technical expertise in planning and designing wastewater treatment facilities, as well as the public financing for those plants. He retired in October 2005 to spend time with his grandchild, though he probably misses the excitement of reviewing plans and specifications and conducting O&M inspections, and no doubt misses writing the reports the most. Tom spent over twenty years helping operators, managers and public works officials through his position here at DEQ. He presented training to operators; offered technical assistance and advised community leaders about system needs; and, brought needed real world experience to our government programs from his experience as an engineer in Los Angeles and other places. Tom was well liked and respected throughout Montana by his peers for his calm deliberative demeanor and dedication to quality in the design, construction, and operation and maintenance of wastewater treatment plants. There is no question that we all enjoyed working with Tom in this office and from the many comments received in my travels, was an outstanding public servant.

Carole Mackin retired from DEQ in October 2005 and was best noted for her service as the watershed information coordinator for the TMDL program here at DEQ. I was fortunate to have Carole as a friend and co-worker during all my nearly 15 years of employment for the state of Montana. She presented sessions at many METC workshops, bringing understanding and insight to the complex world of water. Carole was a teacher in her previous life before DEQ and it was clear in her training sessions that she knew how to bring mind-numbing data, numbers, charts and reports to life in showing how we all fit into this water environment. Operators could relate well to the necessity of preserving the natural water resources we have. For those of us that have worked with Carole, and those of you who sat in her training sessions, we all could sense her dedication to people and to our environment. I relied on Carole for many things as a friend and a co-worker, but maybe most importantly, we all relied on her to help set our environmental ethics compass.

Rick Cottingham worked for many years as an operator for the City of Helena before he began working in the public water supply programs for DEQ and retired in November 2005. Rick served on the METC steering committee with me from 1992 till about 1998. Together we developed new strategies for operator certification and education. We started the METC Spring Schools, developed the annual METC training calendar, published the Big Sky Clearwater, developed the annual Fall School for Water and Wastewater Operators in Bozeman at MSU annually, initiated the backflow prevention training programs that METC conducts annually, and schemed up many, many other workshops and activities to benefit operators. Rick and I served as joint committee chairs for the safety programs promoted through MWEA and MSAWWA as well as the METC safety training classes. John Camden, Marc Golz, Donna Jensen, Scott Anderson, and other DEQ staff have spent untold hours with Rick traveling, collaborating, and working late into the evening preparing sessions and workshops to meet the training and technical assistance needs of operators. There will be few operators working in drinking water systems that don't know Rick or haven't been impacted by his efforts to bring ethics and good work practices to bear in supplying safe drinking water to Montana citizens.

Eric Minneti transferred from DEQ to the Department of Natural Resource Conservation in December 2005. Eric served with me on the METC steering committee from about 1998 to 2004, following Rick Cottingham as the DEQ public water supply representative. Eric and I worked to further develop METC training programs and traveled far and wide to reach operators in every corner of the state. Eric graduated from the water quality program at MSU-Northern and served as public works director for Stanford before coming to DEQ. He had experience working in wastewater plants as well as in the water systems through a variety of summer internships. Eric provided many operator-training programs covering water treatment and distribution systems. He and his cousin, Matt Usuriello, DEQ Billings, assisted in safety training programs and he used his life experiences to illustrate how the safety issues have actual consequences in our lives. He was able to draw on these experiences to help operators with technical problems. Eric brought intelligence and a fun nature to the workplace and he is missed and appreciated. ■

MSAWWA and MWEA “Protecting Montana’s Most Essential Resource – Water”

62nd MWEA Meeting & 81st MSAWWA Meeting

MWEA/MSAWWA Annual Conference

May 17 – 19, 2006

Colonial Hotel Red Lion • Helena, Montana



An Invitation to the Conference from our Association Chairs

Our annual joint conference is a special time devoted each year to allow members of MWEA and MSAWWA to gather and plan for future activities in each organization. The two groups have always cooperatively worked on drinking water quality and protection of the water environment. The annual conference is a great opportunity to touch base with friends and to make new friends. From building professional relationships, to enhancing friendships, the conference provides the base from which new ideas, initiatives, and goals are established.

Plan to attend our annual joint conference for some learning, some fun and some professional growth. MWEA and MSAWWA can only be as effective in meeting the goals of safe drinking water, public health, and protecting Montana’s waters as our joint efforts make us. We’re looking forward to seeing all of you at the joint conference on May 17-19th in Helena at the Colonial Hotel Red Lion.

*Carl Anderson, MWEA President and
John Camden, MSAWWA Chair*

Welcome to Helena from the Host City Committee

The Host City committee consisting of Bob Church, Barry Damschen, John Camden, Jon Dilliard, John Schwartz, Don Clark, Mark Fitzwater, Donna Jensen and I would like to take a moment to remind members of MWEA and MSAWWA to plan to attend our annual joint conference scheduled for May 17, 18 and 19 here in Helena. MSAWWA is putting together an excellent pre-conference session about “Membrane Technology: Solutions for Water & Wastewater” on the 17th that will be of interest to members of both organizations. The technical sessions planned for the 18th and 19th are also varied and will both educate and be of interest to the members of MWEA and MSAWWA. Social functions are planned for Wednesday and Thursday evening, with a local comedy duo providing

entertainment at the Thursday banquet. The conference luncheons will feature national officers of WEF and AWWA, along with awards presentations and prizes to be won. A golf contest geared to raising money for the **Water For People** project is scheduled for the 17th. Thanks!

Bill Bahr, Chair MSAWWA/MWEA Host City Committee

Visiting Dignitaries to Share News from WEF and AWWA

An AWWA member since 1984, Janice Skadsen has served her section as trustee, chair, and vice-chair, as well as serving on section and association committees. She has served on the Technical and Educational and the Administrative and Policy Councils. In addition to serving as Vice-President, Janice represents the Michigan Section on the AWWA Board of Directors and serves on the Executive Committee. In recognition of distinguished service, Janice received the Michigan Sections Fuller Award and the Faust Award. Janice is the water quality manager for the City of Ann Arbor, Michigan. She has a bachelor’s degree in chemistry and biology, a master’s degree in natural resources, and water and wastewater operator licenses. Janice and her husband, Jim, live in Ann Arbor, Michigan.

Mohamed Dahab is the 2005-2006 President-Elect of the WEF. He is currently Professor and Chair of the Department of Civil Engineering at the University of Nebraska, and director of the University’s Environmental Engineering Program. A WEF member since 1975, Mohamed served as WEF director from 2000-2003 and was a member of the 2001-2002 and 2002-2003 WEF Executive Committees (now Board of Trustees). He has worked extensively with the Federation’s student activities including establishing a WEF student chapter at the University of Nebraska in 1997 and serving as Vice-Chair of WEF’s Students and Young Professionals Committee. In addition, he has been an active member of the Nebraska Water Environment Association (NWEA) serving as chair on numerous committees, a member of the executive board, vice president, president-elect, and president. A 1998 recipient of WEF’s Arthur Sidney Bedell Award.

MSAWWA Preconference - Preliminary Agenda

Membrane Technology: Solutions for Water and Wastewater

Wednesday • May 17, 2006

- 7:30 - 8:00 a.m. Registration
 8:00 - 8:45 a.m. Clean Water Made Easy - The History & Advantages of Microfiltration
 8:45 - 9:30 a.m. Submerged Membranes: General Advantages & Disadvantages
 9:30 - 10:15 a.m. Pressure Membranes
10:15 - 10:30 a.m. BREAK
 10:30 - 11:15 a.m. Operation of 3 MGD WTP vs Conventional Filtration
 11:15 - 12:00 Membrane Bioreactors

12:00 - 1:00 p.m. LUNCH – On Your Own

- 1:00 - 1:30 p.m. Sizing, Operation & History of Membranes in Wastewater
 1:30 - 2:00 p.m. Unit Processes in a Membrane Bioreactor Plant
 2:00 - 2:30 p.m. Secondary Effluent Wastewater Membranes
2:30 - 2:45 p.m. BREAK
 2:45 - 3:15 p.m. A Different Approach to Membranes
 3:15 - 4:00 p.m. Bridgewater WWTP - Seattle, WA
 4:00 - 5:00 p.m. Panel Discussion – All Presenters

- 3:00 p.m. Board Meetings for MSAWWA and MWEA
 5:00 p.m. Ice Breaker
 7:00 p.m. Joint Executive Board Meeting

MWEA/MSAWWA 2006 Joint Conference - Preliminary Agenda

“Protecting Montana’s Most Essential Resource - Water “

Thursday • May 18, 2006

- 7:00 - 5:00 Registration Desk Open

General Session

- 8:00 - 8:30 a.m. Welcome and Opening Session
 Introduction of AWWA and WEF Guests
 Welcome Address – Mayor Jim Smith, City of Helena
 8:30 - 9:15 a.m. Guest Speaker -Mohamed Dahab, WEF President-Elect
 9:15 - 10:00 a.m. Guest Speaker -Governor Brian Schweitzer (invited)
10:00 - 10:30 a.m. BREAK - Exhibitors Expo
 10:30 - 11:15 a.m. Montana Department of Environmental Quality - Richard Opper, Director MDEQ
 11:15 - 12:00 The Impact of Montana’s Impact Fee Legislation -Erling Tufte, Morrison-Maierle
- 12:00 - 1:15 p.m LUNCH**
Guest Speaker -Janice Skadsen, AWWA Vice-President
Drawing: Early Bird Prize
Awards: MSAWWA/MWEA Scholarship, MWEA Small Systems, AWWA Operator’s Meritorious Service, MWEA Biosolids Award, & Stockholm Jr. Water Prize

MSAWWA Preconference - Preliminary Agenda - continued from page 29

Thursday • May 18, 2006 – continued

Afternoon Concurrent Sessions -continued

Water Sessions

- 1:15 - 2:00 p.m. Summary of EPA's New Long Term 2 Enhanced SWT Rule – Jim Melstad, Cadmus
2:00 - 2:45 p.m. Summary of EPA's New Stage 2 D/DB Rule/Emphasis on IDSE – Linda Hills, Cadmus
2:45 - 3:15 p.m. BREAK - Exhibitors Expo
3:15 - 3:45 p.m. Arsenic Treatment Evaluation for Small Water Systems – Jeff Ashley, Morrison-Maierle
3:45 - 4:30 p.m. Look Out! Stage 2 D/DBP Rules are Here! – Tina Whitfield/Sara Clark, HDR Engineering
4:30 - 5:00 p.m. Virtual Exploration of Water Systems: A New Training Technique – Ben Cichowksy, Montana Water Center

Wastewater Sessions

- 1:15 - 2:00 p.m. Maintaining Reliability & Managing Growth – Eric Dodds, Advanced Engineering
2:00 - 2:45 p.m. Managed Irrigation Using Treated Wastewater Effluent – Craig Pozega Great West Engineering & Neil Fehringer, Fehringer Agricultural Consulting
2:45 - 3:15 p.m. BREAK – Exhibitors Expo – Shana Adams, HDR Engineering
3:15 - 3:45 p.m. Facing Growth – Whitefish Stormwater Planning
3:45 - 4:30 p.m. Small Lift Station Design – Dr. Robert Sanks, Retired – MSU-Bozeman
4:30 - 5:00 p.m. Headworks: Transformation from Old School to State-of-the-Art – Craig Habben, HDR

Multiple Topic Sessions

- 1:15 - 2:00 p.m. Thrust Restraint Design - Harry Niles, Ductile Iron Pipe Research Association
2:00 - 2:45 p.m. Developing an Odor Control Strategy - Dale Richwine, MWH Americas, Inc.
2:45 - 3:15 p.m. BREAK – Exhibitors Expo
3:15 - 3:45 p.m. Pumps: The Heart of a Water System - Lee Venum, Sulzer Pumps
3:45 - 4:30 p.m. HDPE Piping Systems – A Leak Free Alternative – Robert Patterson, Performance Pipe
4:30 - 5:00 p.m. Spreadsheet Based Water Loss Audit Tool – Stuart Browns, AWWA Water Loss Committee
OR
1:15 - 5:00 p.m. Tours
1:15 p.m. Helena Water Treatment Plant; and
3:15 p.m. Wastewater Treatment Plant

5:00 - 6:30 p.m. Hosted Beer & Wine Bar

AWARDS BANQUET & ENTERTAINMENT

- 6:30 p.m. Dinner & Awards:
AWWA Fuller, WEF Hatfield Award, & MSAWWA/MWEA Lifetime Achievement
Entertainment: Two Funny

Exhibitor Drawing for Free Booth at 2007 Conference – Must Be Present to Win

MSAWWA Preconference - Preliminary Agenda - *continued from page 30*

Friday, May 19, 2006

7:30 - 9:00 a.m. Joint MWEA/MSAWWA Membership Meeting

8:00 - 10:00 a.m. Late Registration

Water Sessions

9:00 - 9:45 a.m. Mini Wiconi Water Project – Craig Nowak, Morrison-Maierle

9:45 - 10:30 a.m. River Bank Filtration Study, Kennewick, WA – Mark Cunnane, Western Groundwater Serv.

10:30 - 11:00 a.m. BREAK - Exhibitors Expo

11:00 - 11:30 a.m. Building a Large Concrete Water Tank in 54 Days – Eric Magee, DYK Incorporated

11:30 - 12:00 Whitefish Water System Planning: Boom or Bust – Craig Caprara, HDR Engineering

Wastewater Sessions

9:00 - 9:45 a.m. Sludge Bulking in BNR Systems – Ray Armstrong, HKM Engineering

9:45 - 10:30 a.m. Total Daily Maximum Load (TMDL) - Tom Reid, Montana Dept. of Environmental Quality

10:30 - 11:00 a.m. BREAK - Exhibitors Expo

11:00 - 11:30 a.m. Integrated Fixed Film/Activated Sludge Technology – Wayne Hovney, Entex Tech.

11:30 - 12:00 Lake Louise WWTP Update: Tertiary Filtration – Thomas Sichz, Aqua Aerobic Systems

Multiple Topic Sessions

9:00 - 9:45 a.m. Montana Codes Annotated Update: 2005 Damage & Dig Law -Bud Criner, UULC

9:45 - 10:30 a.m. Wireless Communications for Water & Wastewater Systems - Troy Hertog, US Filter

10:30 - 11:00 a.m. BREAK - Exhibitors Expo

11:00 - 11:30 a.m. Ion Exchange Removal of Nitrate & Nitrite Metals from Mine Water –
Logan McInnis, Morrison-Maierle, Inc.

11:30 - 12:00 US Public Health Service Drinking Water Engineer's Mission -Carole Boerner,
US Public Health Service, IHS

12:15 p.m. **LUNCH & PRIZES**

Introduction of New MWEA President and MSAWWA Chair Prizes:

Committee Sign-up, Membership Recruiting, Photo Contest, and Vendor Recognition: Committees

1:30 p.m. CONFERENCE ADJOURNS

MSAWWA Preconference - Preliminary Agenda - *continued from page 31*

Water For People Silent Auction (*to be held during the conference*). If you would like to donate items to the WFP Silent Auction, please contact Shelley Nolan at (406) 265-4773 or e-mail her at watertech@havremt.net. Bring your auction items (*large or small – all items are appreciated*) to the registration desk by 8:00 a.m. Thursday, May 18. Then join in the fun and bid on WFP Silent Auction items during the conference. All proceeds go towards supporting WFP projects in Malawii and Honduras.

Student Poster Displays – MSAWWA would like to invite college students to present posters of projects they may be working on or research they have done that relates to the water industry. The best poster will be awarded a \$100 prize. Posters must be submitted by April 15, 2006 for consideration. They should measure 24" by 36". Each display may have no more than 3 posters. Students do not have to attend the conference but are encouraged to attend the Thursday evening social and be present at their displays.

For more information contact Barb Coffman (406) 265-9753 or bcoffman@hi-line.net or Linda Hills at (406) 457-5227 or lhills@cadmusgroup.com.

Photographers -The 5th annual photo contest will also take place at this year's conference. Please enter your water or wastewater related photos at the registration desk by 8:00 a.m. on Thursday, May, 18.

Water For People Golf Tournament – A golf tournament is planned for the afternoon of May 17, 2006 to benefit Water For People. See registration and information form inside this newsletter.

**Our 2006 MWEA/MSAWWA Joint Conference
Registration Form and Preliminary Agenda are
Enclosed. You may also download the registration form
on-line at www.montana-awwa.org**



METC 'On the Move'

As most of you reading this are probably aware, the Montana Environmental Training Center (METC) has changed locations over the summer of 2005. METC has been housed on the MSU-Northern Great Falls campus since its creation in 1988. The burgeoning student population at the combined facility serving MSU-N and the Great Falls College of Technology (COT) forced the relocation due to need for space. The METC Steering committee, made up of DEQ representatives, Jenny Chambers and Bill Bahr; MSU-Northern representatives, Dr. Carol Reifschneider and Dr. Gregg Hester; and the at-large representative, Kevin Kundert, Montana Water Center in Bozeman, decided that, after review of possible locations in the Great Falls area, the only fiscally reasonable option was to locate the offices on the main MSU-N campus in Havre.

The METC office, equipment, files, training tools and all the other materials were moved at the end of June. However, a training center relies mainly on the staff, so the impact on the two METC employees was more critical. Jan Boyle, who had served as the training coordinator for METC since 1988, decided not to move to Havre to continue her work with the center and retired. Her efforts on behalf of operators across the state are greatly appreciated. Reorganization within the MSU-N structure landed METC under the wing of the MSU-N Extended Studies program. Janice Brady, Extended Studies Program Director, now provides management oversight for METC. As a result, the steering committee, which oversees METC training programs and provides guidance for the METC staff, combined the duties of both

training coordinators into a single position called the Director of METC.

Gary Hall, previously a training coordinator for METC, accepted the position of Director at the Havre location, since he was already an MSU-N employee and fit the qualifications described in the new position. Following the short summer hiatus when METC activities were placed on hold while the director position duties were delineated and the campus offices were established, Gary was placed in charge of METC in October.

The steering committee welcomes Gary to the new METC structure as Director and encourages operators, managers, community leaders, engineers and government officials to support METC training programs. We hope that the established Spring, Summer and Fall schools will continue to offer high quality educational opportunities for certified water and wastewater professionals, along with the specialty sessions the METC offers throughout each calendar year. The 2006 METC Training calendar has been issued and you should all have a copy. In it you will also note workshops by Montana Rural Water Systems, Midwest Assistance program, the MWEA and MSAWWA joint conference and others. Please continue to support the efforts of these agencies as we all strive to provide a tapestry of different continuing education classes.

METC steering committee members are shown in the photo and include new member Dr. Carol Reifschneider, who is replacing the retiring Doris Roberts. ■



New Location

METC has moved and is now located on the main MSU-N Campus Havre, Montana



L to R - Dr. Carol Reifschneider, Gary Hall, Jenny Chambers, Bill Bahr, Doris Roberts, Keven Kundert



Photo by Montana Department of Transportaton