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In The Main

DEP Division of Water Supply
One Winter Street
Boston, MA 02108-4746

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■ **Energy, continued from page 7** protective sleeve. Several hundred gallons of fuel can be released by a leaky feed line only a few feet long.

Underground heating oil tanks must be upgraded with spill containment and overflow prevention, but should be replaced as soon as possible with a non-corroding or corrosion-protected tank.

Propane

Because of the gaseous nature and lesser potential to contaminate water, propane and natural gas are the preferred choices for backup fuel at water supplies. When propane is used, it may be stored either above or below ground safely. Like petroleum fuel tanks, however, propane tanks also corrode and have been known to leak, resulting in low levels of propane entering a water supply.

At water supplies, propane is therefore best stored above-ground and away from the supply so that equipment can be inspected and leaks more easily detected. Above ground storage systems should be inspected regularly for corro-

sion or leaks, which, if not visible, can be heard or smelled. Buried or mounded tanks (above ground, but covered with earth), should be located above the normal fluctuations of the water table whenever possible.

Removing Tanks

According to federal and state law, when removing most underground fuel tanks, the area around the tank must be checked for contamination. You may also wish to document the removal by taking photographs and recording any observations of soil conditions, tank conditions, etc.

For more information on fuel storage near water supplies and the specific regulations that govern your storage tanks, contact DEP's Underground Storage Tank Program at (617) 292-5886 or 5790. □

■ **Awards, continued from page 1** during the "Presidents Night" meeting on November 15 at Lantanas in Randolph.

The Department feels that the benefits of a PWS Awards program are many, such as increasing pride in public water systems, public recognition of a job well done, and improving relations and cooperation between DEP and water suppliers. □

■ **Additives, continued from page 1** to the Department's satisfaction.

Any technologies approved by the Department prior to April 1990 will not appear on a New Technology Approval list but can be identified by contacting the Department.

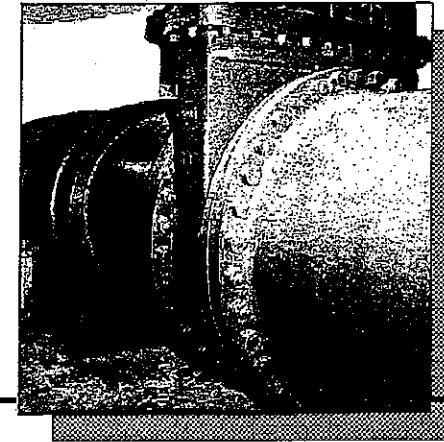
If you have any questions on this, feel free to call me at 617/292-5875. □

In The Main.

The Technical Assistance
Newsletter for Public
Drinking Water Professionals

Volume 4, Number 4

Fall 1991



Division of Water
Supply
Department of
Environmental Protection
Executive Office of
Environmental Affairs
Commonwealth of
Massachusetts

Drinking Water Additives Regulations Change

Julie Smith

It came to Water Supply's attention that 310 CMR 22.04(6), the regulation that deals with approval of new technology products, did not accurately agree with the Department's original *New Product or Technology Review Policy* (Policy No. 89-01). As such, the Division proposed an amendment to our regulations.

The regulation will now state that a supplier of water may not add any chemicals, treatment processes, pumping facilities, storage structures, piping and water mains, or any appurtenances that come

into direct contact with drinking water without Department approval unless it can be documented to the Department's satisfaction that these products have been previously approved by the Department in writing or have been successfully used in Massachusetts on a public water system.

These products will then be considered approved by the Department and all other new technologies and additives will have to submit information on their product for Department approval.

To be approved and included on a

New Technology Approval list, the manufacturer must demonstrate that the product or technology conforms to ANSI/NSF Standard 60 or 61, whichever is applicable, or to EPA approval prior to April 1990 and the American Water Works Association's standards, or field tested by an independent testing laboratory to the Department's satisfaction. If these approvals have not been secured, then the Department will request either three other states' approvals, including a New England state or New York, or that a pilot study be conducted on the product

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Awards To Be Held For Public Water Systems

Heidi Feusi

The Department of Environmental Protection is aware of the many challenges that face Public Water Systems (PWS) today in complying with the Safe Drinking Water Act Amendments. As a way of acknowledging and thanking those suppliers who have successfully complied with the regulations and drinking water programs, DEP will be co-sponsoring its first annual PWS awards program.

All suppliers will be automatically rated on a

points system, which is based on compliance with the regulations, overall evaluation of Sanitary Surveys, Statistical Reports, Cross Connection Control programs, and attendance at state water supply training events between January 1 and December 31, 1990. The PWS list has been divided into ten categories for the 1991 awards. These categories are classified by PWS population size, water source (ground or surface), and Community/Noncommunity definition. The top two finalists from each category will be

chosen based on the highest number of points scored.

Suppliers will be notified in mid-October when scoring is complete. Ten winners and runners up (one from each system category) will be awarded plaques donated by the Northeast Rural Water Association (NeRWA).

These awards will be presented by the Massachusetts Water Works Association (MWWA), the New England Water Works Association (NEWWA) and DEP

Continued on page 8



Training Schedule Sent to Water Suppliers

All public water suppliers have been sent a comprehensive listing of training programs available through June 30, 1992. The publication is called *Massachusetts Statewide Public Water Supply Training Schedule*. If you have not received your copy, call George Zoto at 617/292-5966. □

For Communities in DEP's Central Region... Groundwater Protection Consultations

The Massachusetts Department of Environmental Protection (DEP) will be providing technical assistance on wellhead protection for communities in DEP's central region as part of the continuation of the "Circuit Rider" concept.

Staff from the DEP Division of Water Supply Community Technical Assistance Program will be available to address issues and answer specific questions on water supply protection planning and bylaw preparation for town meetings.

The consultations will take place in either the DEP Worcester Office or at the Montachusett Regional Planning Agency in Fitchburg through February, 1992. For more information, or to schedule appointments, please call Jude Hutchinson in DEP's Boston Office at 617/292-5931. □

WORKSHOPS Technical Assistance

Workshops for SOC/IOC and Lead & Copper Rules

DEP will be holding workshops during the month of October for Water Suppliers on the new Lead & Copper and Synthetic Organic Chemicals & Inorganic Chemicals (SOC/IOC) Rules. These workshops are free; however, advance registration is required. All water suppliers have been sent a copy of the registration form, workshop locations, and schedule. If you need more information, please call Jim Holeva at 617/556-1191 or Chuck Larson at 617/292-5927.

Lead and Copper

Community and Non-Transient Non-Community Public Water Suppliers will be required to start new sampling

procedures under the Lead and Copper rule beginning in January, 1992 (for systems serving more than 50,000 persons). DEP recommends that suppliers attend, regardless of system size. Topics will include: sample site selection, monitoring schedules, and corrosion control.

SOC/IOC

Beginning January, 1993, all Community and Non-Transient Non-Community Public Water Suppliers are required to start sampling for 38 Inorganic and Synthetic Organic Chemicals under the new rule (Phase II National Primary Drinking Water Regulations).

Suppliers are encouraged to attend in order to initiate monitoring data for grandfathering and waiver requirements. Evening meetings are being held for the convenience of small system operators. □

MPHA to Co-Sponsor Drinking Water Quality Conference

The Environmental and Occupational Health Section of the Massachusetts Public Health Association (MPHA) is co-sponsoring a program entitled "Drinking Water Quality-Strategies for Preservation." The conference will focus on potential threats to drinking water supply; local solutions; and comprehensive approach to water supply protection.

The program will take place on Saturday, October 26, 1991, from 8:30 a.m. to 4:15 p.m. at The Department of Public Health State Laboratory, 305 South Street, Jamaica Plain. Please call 617/524-6696 if you would like more information. □

Training For New Guidelines and Policies

The Division of Water Supply will be providing all public water suppliers with the latest copies of the *Guidelines and Policies for Public Water Systems* (October 1991) at two upcoming workshops. New policies, regulations, and practices will be outlined and implementation methods will be discussed.

The first workshop will be held November 19, 1991 at 9:30 a.m. in the Selectmens Meeting Room at the Natick Town Hall. The second workshop will be held November 21, 1991 at 9:30 a.m. at the DEP Springfield Office on 436 Dwight Street in the third floor Court room. For more information, contact Mike Rapacz at 617/292-5952. □

★ Salute To Communities ★

Mary Wheeler

Lincoln

In April, 1991, the town of Lincoln voted overwhelmingly to pass a strong Underground Storage Tank (UST) Bylaw. This initiative was led by the **Aquifer Protection Study Committee**, chaired by **Warren Flint**. Active volunteer **Andre Vagliano** spearheaded the effort, and was responsible for gathering large amounts of data on USTs in Lincoln as well as information from other towns and the tank service industry. This enabled the committee to deal effectively with all sorts of questions raised by the community about the need for the bylaw and its effect on each of them.

Some highlights of the bylaw are:

- ☆ All USTs must be registered with the Fire Department by 10/1/91;

- ☆ All USTs installed prior to 1975 must be removed by 12/31/94;

- ☆ Other USTs must be removed at age 20 years; and

- ☆ No new USTs are allowed town-wide (replacements are allowed).

We applaud the efforts of the Town of Lincoln in dealing with this regulatory issue in a sensitive and effective manner: by providing cost information for tank owners, holding numerous public meetings to inform and educate their citizens, and pursuing the passage of the bylaw diligently.

Hudson

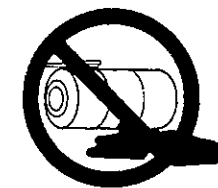
The Town of Hudson recently became the second town in the Source

Approval process to meet the requirements for wellhead protection under 310 CMR 22.21.

Anthony Marques, the **Director of Public Works** for Hudson, is to be commended for his efforts to have necessary revisions incorporated into the Zoning and Town Bylaws. As a demonstration of its commitment to actively applying groundwater protection planning, Hudson recently removed a municipally owned gasoline storage tank at the Fire Station which is located within their Zone II. The Town is also planning to work with UST owners in their Watershed Protection District to encourage the removal or replacement of aging tanks. Congratulations are in order for Hudson for its active implementation of wellhead protection! □

Backup Energy Choices for Water Suppliers

Dixie Yonkers



Water suppliers can pollute their own supplies! Should they lose the electricity that normally powers their operations, suppliers turn to either gasoline, diesel or other fuel oil, heating oil, propane, or natural gas to run emergency generators and heat buildings. Each of these fuels has inherent risks and safety factors associated with it that should be considered in choosing the best backup fuel for the supplier. Management practices should be followed to prevent, detect and contain potential spills or leaks.

DEP's Division of Water Pollution Control offers the following guidelines:

Gasoline, Diesel or Other Oils

Though not recommended for use by water suppliers due to their potential to

contaminate water supplies, these fuels are now common. If it is not possible to switch immediately to a less environmentally threatening fuel such as propane or natural gas - gasoline, diesel or other fuel oils used to generate electricity should be stored above ground and as far away from the water supply as possible. These above ground systems should be equipped with spill containment, secondary containment such as diking, and inspected regularly for possible leaks in the piping and tanks.

According to Massachusetts law, however, gasoline must be stored underground. Diesel, gasoline or other oils used to generate electricity which are stored underground should be contained in a double-walled tank equipped with a system of leak detection, cathodic protection, overfill prevention, and spill containment. Water suppliers with underground tanks of these fuels that do

not have these protections *are required to test their tanks regularly* to monitor their soundness *and must ultimately upgrade or replace* the old underground systems according to deadlines specified in Board of Fire Prevention Regulations, 527 CMR 9.00.

Heating Oil

Like gasoline or diesel fuel, heating oil can also contaminate water supplies if leaked from a storage system. Therefore, heating oil tanks should also be located above ground and away from the water supply whenever possible. Above-ground tanks and pipes and fittings should be equipped with spill containment, secondary containment, and inspected regularly for corrosion and possible leaks. Be aware also that above-ground tanks may have an underground feed line which should be placed inside a

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DRINKING WATER PUBLICATIONS

Available from...

...U.S. EPA

Heidi Feusi

The Division of Water Supply has received camera-ready copies of fact sheets from EPA's Office of Drinking Water. Water utilities and others who request copies are encouraged to distribute them to the general public, and to put their name and address on them if they desire. Please indicate which fact sheet(s) interest you:

- ❖ *Lead Contamination Control Act;*
- ❖ *The Lead Ban: Preventing the Use of Lead in Public Water Systems and Plumbing Used for Drinking Water;*
- ❖ *Public Notification: Reporting Violations of Drinking Water Standards;*
- ❖ *Public Water Systems: Providing Our Nation's Drinking Water;*
- ❖ *Volatile Organic Chemicals: Are VOCs in Your Drinking Water?;*
- ❖ *Unregulated Contaminants Monitoring: A Special Program to Help Water Systems Protect Your Drinking Water;*
- ❖ *Bottled Water: Helpful Facts and Information;*
- ❖ *Home Water Treatment Units: Filtering Fact from Fiction;* and
- ❖ *Drinking Water from Household Wells.*

Copies are available on request from:
HEIDI FEUSI
DEP DIVISION OF WATER SUPPLY
ONE WINTER STREET
BOSTON, MA 02108
617/292-5770 □

...University of Massachusetts Cooperative Extension Service

Anthony Abruzese

Three Cooperative Extension publications have been developed to help consumers understand water quality standards and water testing, water treatment, and private well protection methods.

These publications have been developed as part of a University of Massachusetts Cooperative Extension education program to inform residents of water quality standards, sources of technical information, water treatment technologies and actions consumers can take to minimize the risk of contaminating public or private water supplies. Extension staff in county field offices can also assist in answering consumer questions.

Copies of these publications:

- ❖ *Understanding Water Quality Standards;*
- ❖ *Water Testing and Treatment;* and
- ❖ *You and Your Well: How To Be Responsible for Your Private Water Supply,*

are available free (up to 25 of each) from:

BULLETIN CENTER, COTTAGE A
UNIVERSITY OF MASSACHUSETTS
AMHERST, MA 01003

Individual residents can order by sending a stamped self-addressed envelope to the above address. Please attach two stamps if more than one fact sheet is requested. □

...DEP's Division of Water Pollution Control

Deirdre Doherty

Some of the most critical underground storage tank (UST) systems across the Commonwealth are located at the edges of reservoirs and over well-heads at water supplies. The storage of fossil fuels in close proximity to drinking water poses a serious threat.

To assist water suppliers in protecting recharge areas from UST leaks, the Department's UST Program has prepared a guide called:

- ❖ *Management Guidance for Diesel, Oil, and Gasoline Underground Storage at Water Supplies.*

This guide summarizes current requirements and preferred management practices for USTs at water supply facilities, and offers advice on topics ranging from fuel deliveries to tank removals.

In addition, homeowners near public water supplies may have heating oil tanks and lines of concern to you. Heating oil spills, overfills, and leaks number in the hundreds each year. The UST program has prepared a brochure for homeowners providing tips for avoiding costly contamination from these tanks and information on requirements. It is called:

- ❖ *Prevention is the Best-known Cure - A Homeowners Guide To Avoiding Costly Heating Oil System Leaks.*

For copies of either publication, contact:

UST PROGRAM
DEP DIVISION OF WATER POLLUTION CONTROL, ONE WINTER ST., BOSTON, MA 02108, OR CALL (617) 292-5886/5790 □

Issues in the Northeast Region



The following article consists of excerpts from an interview with Chester Masel, Water Supply Section Chief, and Butch Lord, Regional Engineer for DEP's Northeast Region, and the editor of this newsletter.

Surface Water Treatment Rule

"This region has more water treatment plants and the largest population served by surface waters compared to the other regions. We have several unfiltered systems that are going to have to install filtration and just as many seeking waivers. One community will have to upgrade.

"Communities are having a tough time financially and it's hard to convince people to appropriate monies for upgrading their systems when there seems to be no problem in the first place. It's hard for them to understand that a filtration plant will prevent problems from occurring and you can wait until after the fact. They have got to install filtration in spite of the fact that they can't get grants.

Bottled Water/Home Filtration

"Some people think that just because you put a filter on the tap, they're getting better quality water. They think that home purification is a miracle. Nevertheless, there are many problems consumers have encountered, such as bacteria, that can make these devices hazardous.

"Bottled water companies are making a lot of money because even a little taste or color in the water will turn people off. If people knew about the lack of water quality control and restrictions

on bottled water, they may not drink it. The amount of testing required of bottled water companies does not compare to that of public water systems. People also think that spring water is blessed by Mother Nature - this is simply not true.

Wellhead Protection

"The water suppliers in this region are doing an outstanding job... They are very cooperative under difficult circumstances. We wonder how they manage to keep track of everything. They are under a lot of pressure but do manage to keep up."

- Chester Masel

on bottled water, they may not drink it.

"We need to protect our recharge areas to avoid future contamination instances. There have been several high-yield wells closed due to volatile organic compounds and we are working to remedy those situations. Unfortunately, some of these well closures occurred in highly industrialized areas and it's nearly impossible to track down the exact source of contamination.

Cross Connection Control

"As a general rule, the Cross Connection Programs are pretty good. Of course, there are one or two towns that go the other way. We have 28 communities that are running delegated programs. We do a fair amount of plan reviews - about 400 a year. These reviews are a high priority, and recently we've managed to eliminate our backlog.

Radionuclides Rule

"We anticipate that this rule will be a problem. There are several small rock wells that will not be able to comply with the proposed standard. One town has voluntarily closed a well in anticipation of this rule. Repercussions of this rule are already being felt.

Sanitary Surveys

"Many of our suppliers look forward to doing sanitary surveys. Through these surveys, suppliers can point out problems that need to be corrected, although town government may be reluctant to allow improvements. Some superintendents need help convincing the town to make

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In The Main

One Winter Street
Boston, MA 02108

Commonwealth of Massachusetts
William F. Weld, Governor

Executive Office of Environmental Affairs
Susan F. Tierney, Secretary

Department of Environmental Protection
Daniel S. Greenbaum, Commissioner

Division of Water Supply
David Y. Terry, Director
Anthony B. Abruzese, Editor

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Wetlands & the Water Management Act

Andrew Gottlieb

Water Management Act (WMA) permit applications involving wells in or near wetlands are evaluated with respect to possible negative impacts on the wetlands due to the withdrawal. Division of Water Supply staff have approached this evaluation by asking for a drawdown analysis for these withdrawals. Recent discussions with other DWS staff as well as some Wetlands staff and wetlands specialists revealed questions about the usefulness of the kind of analysis that has been required.

Soil type and stratigraphic sequence are among the primary natural variables controlling the potential impact of the withdrawal on the wetland. Soil type and stratigraphic conditions vary all over the state, but two simple examples follow:

◆ *Wetlands that overlay thick layers of peat and thin layers of fine sediments have such low vertical permeability that they may be considered as hydraulically separated from the aquifer from which the withdrawal is made. These kinds of wetlands are precipitation-driven systems during the growing season and should not be negatively affected by drawdowns in the aquifer.*

◆ *Wetlands which rest on unconfined water table aquifers without intervening peat and clay layers are potentially vulnerable to negative impacts due to water table drawdown. Persistent and sustained drawdown in these aquifers during drought conditions could cause trouble. Given sufficient precipitation, the wetland could probably get through a period of extended drawdown, but this has not been quantified.*

Therefore, in order to evaluate potential effects of withdrawals on wetlands, the groundwater hydraulic analysis (GHA) required under the WMA must include an examination of the soils and stratigraphic sequence within the wetland/aquifer system. Additionally, pump test data showing the extent of drawdown and the rate of recovery should be included. WMA program analysis of withdrawals in the vicinity of wetlands is being modified to address these concerns. Concurrently, the DWS Technical Services Group is modifying the Source Approval Process to obtain information about the hydraulic connection between wetlands and the underlying aquifer.

In wetlands where a potential

hydraulic connection between the aquifer and the wetland exists, further examination will be required. Working jointly with the Division of Wetlands and Waterways, DWS has decided to include in Water Management permits an annual examination of potentially vulnerable wetlands as a permit condition for those withdrawals which may have a negative effect on nearby wetlands. The monitoring is to consist of physical inspection of the wetland(s) by a trained and qualified professional. Reports of the annual inspection are to include a listing of wetlands plant species distribution and relative abundance. These reports will be submitted to DEP at the time of the five year review of the permit.

If it is determined that a negative impact on the wetland has occurred, DEP may amend the withdrawal permit. The wetlands assessment will examine "negative impact" in regard to the loss of one or more wetland functions as a result of the *water withdrawal* that was the source of the negative impact. This amendment could, for example, require that the withdrawal be cycled in order to allow the water table to recover to the ambient level on a regular basis. □



Wooded Swamp

CONNECTION UPDATE

CROSS

Karen Doherty

On August 27 and 29, 1991, public hearings were held to collect comments on the proposed regulation changes to the cross connection requirements for

fire sprinkler systems. The proposed changes will apply to existing fire sprinkler systems.

The requirements for fire sprinkler systems are being changed to become consistent with the American Water Works Manual, M-14. The regulation change will require a site-specific analysis of each fire sprinkler system with an outside pumper connection to determine if a significant health hazard exists. Currently, all comments received are being reviewed and will be taken into consideration in the development of the

final regulation changes scheduled for promulgation in early November.

It is expected that the Cross Connection tester certification fee will be lowered to \$100 in late September. Once the fee is lowered, DWS will notify everyone waiting to be certified or recertified. DWS apologizes for the inconvenience this delay has caused.

The Division is planning to have a meeting for all delegated communities and a meeting for all third party cross connection consultants. These two meetings are tentatively scheduled for late November or early December. At that time cross connection responsibilities and any changes to the cross connection program will be discussed. DWS will mail announcements for this meeting when dates are established.

If you have any questions, please contact me at 617/292-5775. □

Issues, continued from page 3

changes. With the sanitary survey, the state can order a remedy and this compels the town to allow the changes.

Local Issues

"There are a couple of communities that are having unique problems with their water systems.

"We have a coastal community that is an interstate carrier. That is, they supply drinking water to ships, buses and trains and come under special federal purview. They are in danger of losing their interstate carrier status with the U.S. EPA due to violations at the wastewater treatment plant, and at the water supply reservoir. This would have dire consequences on the local economy. We'll be working with them in hopes that they can solve their problems and comply with the federal requirements.

"We have also have a system serving a population of about 60,000 people where some residents are fighting against covering the local water supply distribution reservoir. This reservoir stores

treated water from a filtration plant. Not only is this an EPA requirement, but with all the recreational activity taking place around the reservoir, water quality problems are bound to occur.

Closing Comments

"The water suppliers in this region are doing an outstanding job. They did very well in an emergency situation (Hurricane Bob). They are very cooperative under difficult circumstances. It is surprising, in the last few years of reporting coliform, VOCs, etc., although necessary, it is an awful lot to do in the short space of time. We wonder how they manage to keep track of everything. They are under a lot of pressure but do manage to keep up. We have good communication with the water superintendents. We try to be helpful, but when they don't meet their obligations we have to take certain measures. But overall, the vast majority of the water suppliers are doing an outstanding job." □

Filtration Determinations Under the Surface Water Treatment Rule

Julie Smith

Under the requirements of the Surface Water Treatment Rule, the Department of Environmental Protection must determine by December, 1991 which Massachusetts surface water supplies must filter, upgrade their present filtration plant, or be granted a waiver from the filtration rule.

The Department has plans to provide its determination as early as October, 1991 to allow more time for public water supplies to determine their course of action and to comply with the requirements of the Rule. Out of 170 surface water supplies in Massachusetts (including MWRA communities), there are 11 systems pursuing the waiver from filtration, 48 systems currently filtering and possibly needing to be upgraded, and 115 surface water systems that will be either filtering their surface water supplies or installing groundwater wells.

To make these determinations for filtered systems, the regional offices are in the process of reviewing water quality results such as turbidity and CT inactivation calculations. For systems seeking the waiver, these and other criteria will have to be fulfilled and reviewed, such as source water quality results, an approved Watershed Resource Protection Plan, minimum disinfection residual entering and within the system, disinfection facility redundancy, waterborne disease outbreak, and compliance with total trihalomethanes, the total Coliform Rule, and whether the water supplier has signed a consent order with the Department. □

