

P. W. GROSSER
CONSULTING, Inc.

Autumn 2018

Special points of interest:

- **Working with Your Local Wastewater Treatment Facility.....Pg 2**
- **Legionella Disease Cases Continue to Rise.....Pg 4**

Inside this issue:

Gap Analysis: A Tool for Identifying Deficiencies, Risks, and Performance vs. Goals	2
Working With Your Local Wastewater Treatment Facility	2
Has Your Facility Implemented a Controlled Substance Collection System?	3
Waste Chiller Oil: What Happens to Yours?	3
Legionella Disease Cases Continue to Rise	4

Hospital Waste

The Joint Commission Stresses Appropriate Hazardous Material Management in Newsletter

In its September 2018 Environment of Care *EC Newsletter*, the Joint Commission stresses appropriate inventories, management and handling of hazardous materials and wastes. These include materials that can burn, corrode, blind, and/or emit harmful gases, mists or dusts. Hospitals typically have hundreds of products that designate as hazardous, yet don't know where they are, what they are, or how much of the products are onsite. The Joint Commission found that 62% of all hospitals are not compliant with this standard.

A helpful first step in the management of hazardous materials and waste is to survey your facility and compile the results into a Hazardous Material Inventory (HMI). An HMI can assist in numerous ways:

- Identifying where corrosive materials are stored can guide facilities staff in the placement of eyewash stations;
- Identifying where formalin is being stored and used can allow tighter control on inventory and wasteful "outdates";
- Knowing what hazardous materials you have that generate dangerous waste can guide more accurate reporting on your facility's *Dangerous Waste Annual Report* to Ecology;
- HMIs can be linked to Safety Data Sheet libraries using product or reorder numbers., product name and manufacturer; and
- Knowing what hazardous materials you have onsite can guide and prepare

your emergency response spill cleanup staff.

Surveyors familiar with the products used in healthcare can physically survey departments that use hazardous materials. These usually include biomedical engineering, clinical laboratories, endoscopy, environmental services, facilities engineering, morgue, nutrition services, pathology, pharmacy, sterile processing, and surgery.

Surveyors can identify products, departments in which they're stored, locations within the departments, product catalogue or reorder numbers, hazards, hazardous constituents, manufacturer, container size, number of containers and any comments on storage or handling that could improve management.

P.W. Grosser Consulting healthcare surveyors occasionally find products in use that are not sanctioned by hospital policy or approved by the infection control program. Invariably, these products were brought in by a staff person who believed that their product would do a better job. Occasionally, these products may even be illegal to use in a business in Washington.

The strategy of having a site-specific inventory of hazardous chemicals is recommended by The Joint Commission. If you would like to explore building a Hazardous Material Inventory at your facility, contact us at P. W. Grosser Consulting. This is what we do!

Gap Analysis: A Tool for Identifying Deficiencies, Risks and Differences between Performance and Goals

Are you unsure of how well your facility complies with accreditation standards and state agency regulations on the management of hazardous materials and waste? A gap analysis can reveal holes in performance and guide you and your staff towards compliance goals. It's the space between "where we are" and "where we want to be."

Gap analyses are simple, effective, intuitive tools that any staff person can understand.

So, where do you start? Surveyors familiar with standards and agency regulations can interview managers, survey operations and compile an overview of what is actually happening at your facility. Comparing these results with accreditation standards, agency regulations and hospital policies will highlight discrepancies and especially, risks. Finally, corrective actions will direct action plans for your staff to correct these deficiencies.

Whether it's petroleum storage, hazardous material management, dangerous waste disposal, or emergency spill response P. W. Grosser Consulting staff can conduct a gap analysis of your facility and its operations. It costs nothing to ask.



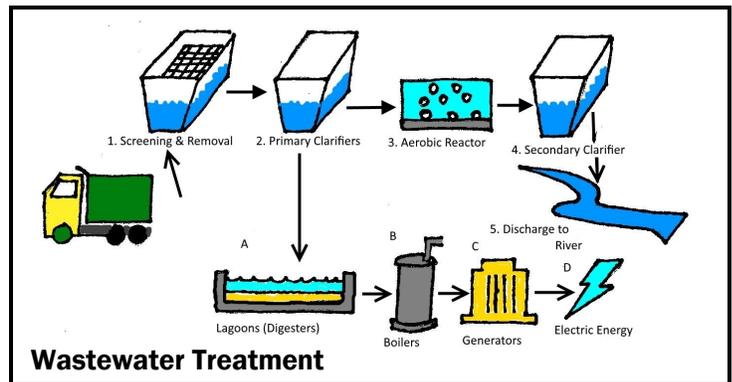
Working With Your Local Wastewater Treatment Facility

Whenever operations at your facility discharge waste into the sewer, it impacts your local wastewater treatment facility. Waste can come from automated facility processes, clinical laboratory instruments, and from the actions of individual employees.

Wastewater treatment facilities use both aerobic and anaerobic bacteria to digest the organic components of wastewater. Inorganic mol-

problem, but when the surface water into which a treatment facility discharges treated water is flowing slowly (for example, in the summer) more organic material may be discharged than is healthy for the surface water. The discharge may even violate EPA discharge standards.

It is incumbent upon the generators of wastewater to know what is in their wastewater. Obviously, hazardous materials like flammable, corrosive, explosive, or toxic chemicals



ecules are largely untouched by bacteria, as are complex molecules found in personal care products and pharmaceuticals.

Sometimes discharges can upset either anaerobic or aerobic processes. This can happen when the organic load increases suddenly from a slug of sewage, blood, or any organic material. Operating rooms may be equipped with suction systems that discharge blood and other bodily fluid from surgery into the sewer. Under normal circumstances this is not a

cannot be legally discharged into the wastewater treatment system. These chemicals can kill bacteria and injure treatment facility workers. Unwanted pharmaceuticals are now banned from discharge into the sewer because they are largely considered toxic.

The sewer is not a catchall for waste materials. The waste manager for your facility should be able to identify all waste streams discharging into the sewer system and to verify that these streams are not hazardous to wastewater treatment facility operations.

Have You Adopted a Controlled Substance Collection System?

If your facility dispenses controlled substance pharmaceuticals you must identify and implement a system to capture unwanted controlled substance waste. As of January 2018 you cannot dispose of unwanted controlled substances via the sewer. You may use a reverse distributor if the unwanted controlled substance has some economic value.

Washington's Dept. of Ecology allowed facilities 14 months to implement a controlled substance waste system from the rollout of the Interim Pharmaceutical Waste Policy in October 2016.

There are several commercially-available systems to capture such waste including:

- Cactus Smart Sink®
- CsRx™
- Rx Destroyer™

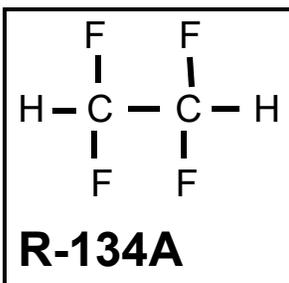
All of these systems accept both liquids and pills and render waste controlled substances ready for incineration.

The important task is to identify a system for your facility, implement it, and then train your caregivers to dispose of all unwanted controlled substances in these containers. No other pharmaceutical waste should be placed into the containers and no controlled substances should be wasted down the drain. Any container system adopted must be coupled with a vendor to have those containers incinerated when full. The U. S. EPA is expected to require the same in its hazardous pharmaceutical waste final rule later in 2018.

Waste Chiller Oil: What Happens to Yours?

Chiller oil is commonly replaced every 2 to 3 years to use every bit of its useful life. Because it circulates through the compressor with the refrigerant, when the oil is drained out for replacement it often contains some refrigerant. The most common chiller refrigerant is R-134A.

R-134A, or HFC-134A, is 1,1,1,2-tetrafluoroethane and a molecule of it looks like the structure shown here.



The problem is that halogenated (chlorinated, brominated, iodinated or fluorinated) organic compounds (HOCs) are very resistant to decay in the environment. That is, they last a very long time. A notorious example of this phenomenon is PCBs, or polychlorinated biphenyls, which were manufactured and used for years as insulating oils in electrical transformers.

In Washington these HOCs designate as *persistent dangerous wastes*. If waste oil contains no HOCs, then it may be recycled as with any other lubricating oil. If, however, your waste oil contains more than 0.01% but less than 1% HOCs it is given the waste code WP02 and must be managed as a Washing-

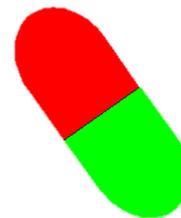
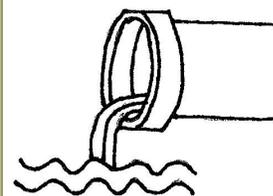
ton State-only dangerous waste (DW). If the total HOC concentration is greater than 1%, then the waste oil is given the waste code WP01 and must be managed as an extremely hazardous waste (EHW). The cost to dispose of EHW is considerably more than to dispose of DW.

Further, just 2.2 lbs of EHW in a single month can cause a generator to designate as a Medium Quantity Generator if it is otherwise a Small Quantity Generator, or

even throw the facility into Large Quantity Generator status.

The amount of R-134A in your waste chiller oil can vary markedly, depending upon the temperatures of the oil when it's withdrawn, the ambient temperature, and the skill of the engineer evacuating the oil.

The best management method is to capture the waste oil in a drum and manage it as a dangerous waste in your dangerous waste accumulation area. Have your hazardous waste vendor test the oil for R-134A (or whatever refrigerant your chiller uses) and then manage it accordingly. Depending upon the analysis, your oil could be merely recycled or managed as either dangerous or extremely hazardous waste.





600 N. 36th St., #225
Seattle,
Washington 98103

Phone: 425-883-0405
Fax: 425-895-0067
E-mail: ajones@pwgrosser.com



Hospital Waste is published quarterly for hospital, clinical and medical laboratory waste and hazardous material managers to assist them in managing these materials.

You can download .pdf copies of past issues of *Hospital Waste* from our website at <https://pwgrosser.com/newsletters>. Click on the Healthcare ▼ (Seattle/WA) arrow. Issues from the past five years are downloadable as portable document format (.pdf) files.



If you wish to receive this free quarterly newsletter, please notify us by telephone, fax or e-mail (contact information is shown adjacent). You will receive the newsletter as an e-mail on your smartphone with a hyperlink to a .pdf file on our website that you can download.



This newsletter is copyrighted by P. W. Grosse Consulting, but reprints are encouraged with acknowledgement to Alan B. Jones, PhD. Feel free to forward this newsletter to colleagues who may find the information useful.

While every effort was made during the development of this newsletter to insure accuracy, we make no warranties or certifications. We encourage you to contact P. W. Grosse Consulting or Alan B. Jones for further information about any topic mentioned in the newsletter. If you wish to no longer receive this newsletter, please let us know and we'll remove your name from the subscriber list. Subscriber names and e-mail addresses

Legionella Disease Cases Continue to Rise

According to both the Centers for Disease Control (CDC) and the Veterans Health Administration (VHA), the number of reported nosocomial *Legionella* disease cases has continued to rise since 2000. Most cases were preventable and a consequence of contamination of the potable water systems.

Commonly, after an outbreak chlorine levels were found to be very low. The disease itself is caused by a gram-negative bacterium and is

spread by the inhalation of aerosol droplets from contaminated showers, drinking fountains, sinks and ice machines. In particular, water lines that are infrequently used breed colonies of the bacterium in biofilms.

Often the best remedy is remedial superheating and hyperchlorination of the water system, followed by a chlorine drip. The *Legionella* bacterium can survive in a temperature range of 41° to 145° F, although it thrives in a narrower range.

The VHA, Centers for Medicare and

Medicaid Services (CMS) and the CDC now require water management programs in hospitals, critical access hospitals, and long-term care facilities. Testing chlorine levels and bacterial colony counts are important preventative measures for facilities staff. If your facility does suffer a *Legionella* outbreak, one of the first questions an investigator will ask about is your water management program.

If you need assistance, contact us at P. W. Grosse Consulting.