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# Hospital Waste

## Tracking Waste Volumes to Manage Waste Better

There is an old economics adage that to manage something you must first measure it. That is certainly true with waste and healthcare facilities generate a wide variety of waste streams. These include:

- Food waste
- Cardboard waste
- Confidential paper waste
- Electronic waste
- Hazardous or dangerous waste
- Biohazardous waste
- Universal waste
- Scrap metal waste
- Radioactive waste
- Solid waste (trash)
- Recyclable waste

To know if staff and operations at your facility are reducing waste volumes you must first track these waste streams to develop a baseline from which to measure progress.

Your facility's waste vendors may already provide you with the raw data for managing waste streams. If they don't, ask them to provide you with this information. Monthly volumes can usually be obtained, entered into a spreadsheet, and then tracked using trendlines.

### *Reducing Waste: Step Two*

Waste disposal is usually assigned to one - or just a few—cost centers, rather than each department paying for its own. Without

accountability, waste disposal isn't a factor in material or process management. This becomes a fiscal liability for the facility as a whole when generators are oblivious to waste volumes. The effective management of waste and disposal costs can best be accomplished when the generators of waste become accountable for the amounts generated.

Once individual waste streams are identified and measured using vendor data and a spreadsheet, then the data can be parsed to individual generators. Parsing this waste may involve barcoding or otherwise identifying waste containers by departmental origin. It may involve waste workers simply tallying waste volumes or weights that they gather from each department.

### *Publicizing Results: Step Three*

Effective measurement and management of waste and waste costs must be publicized to the staff of your facility. Competition among departments is an excellent way to foster ownership of an issue. Staff want to reduce waste, but they must feel as though everyone is pulling together and not as though they're all alone.

People appreciate recognition and the entire facility can benefit from effective management of waste disposal costs.

But to involve everyone begins by just measuring your waste generation. It isn't hard, but takes some attention to find that raw data.

## About Your Reverse Distributor and Unwanted Pharmaceuticals ....

Virtually all hospital pharmacies use a reverse distributor to realize some monetary credit for unwanted pharmaceuticals.

Pharmaceutical manufacturers will credit pharmacies for some materials when returned via a reverse distributor.

This practice is allowed by state and federal government, provided the reverse distribution system is not intentionally used as a waste management system.

In today's world of electronic forms most reverse distributors now send their clients electronic spreadsheet receipts for unwanted pharmaceutical waste shipments. Unfortunately, it's all too easy to file these receipts in a folder and never bother to review them.

That is a mistake. Pharmacists are obliged to review those reverse distribution receipts and identify materials that are repeatedly destroyed by the reverse distributor because the manufacturer refuses to issue credit.

Both the Washington Department of Ecology and the U.S. Environmental Protection Agency have specifically ruled that reverse distributors may not function as waste

haulers, and do not have the necessary permits to haul hazardous waste.

The generator has the legal responsibility to identify materials that are truly waste and manage them properly as waste. If your reverse distribution receipt states that the manufacturer will not accept partials, a seal is required, the material is from a third party, the material is not within the in-date policy, or the expire date is unknown, and has destroyed the material, then pharmacy staff *may not* continue to put these materials into its reverse distribution container. The pharmacy can be cited and fined for failing to do so.

The reverse distributor is under no legal or contractual obligation to review the unwanted materials offered by the pharmacy before hauling them away. The onus is entirely upon the generating pharmacy.

The reverse distribution system is certainly convenient, but with it comes an obligation. Review your receipts regularly and train your staff to manage waste materials properly by not putting them into the reverse distributor containers.

## Eye Wash Stations: When Are They Required and What Should They Look Like?

Employers are required to provide emergency eye wash stations when employees will be exposed to:

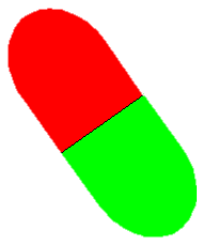
- Corrosives,
- Strong irritants, or
- Toxins

Washington Labor & Industries Division of Occupational Safety & Health (DOSH) regulates emergency eye wash equipment in Washington businesses (WAC 296-800-15030). Some emergency eye wash equipment that is commercially available meets DOSH requirements. If major portions of an employee's body could be also exposed to these chemicals, then emergency showers may be required.

The emergency washing facility must be located no farther than 10 secs and 50 feet from the site of potential exposure and the path free of obstacles. A door is considered an obstacle unless it has a panic bar.

Wash facilities must be capable of being activated within 1 second and delivering 0.4 gallon of water for 15 minutes.

Besides solvents, acids and bases, potential exposure to formalin requires access to an emergency eye wash. Formaldehyde is corrosive to eyes even in low concentrations.



## Dilution of Hazardous Waste: When it is Not Allowed and When It Is Allowed

**U**nder normal circumstances, most waste managers understand that “dilution is not the solution.” For example, when discharging an acid solution with a pH below 5.0, you may not run the faucet to dilute the waste solution to raise the pH to near 7.0 (neutral). However, there are circumstances when dilution is allowed.

### When Dilution is Not Allowed

The National Pollution Discharge and Elimination System (NPDES) pre-treatment standards do not allow the dilution of a hazardous waste as a means of mitigating toxicity, flammability, or any other hazardous waste characteristic.

I.e., when discharging a waste to the sewer you may not dilute it to mitigate a hazard.

### When Dilution is Allowed

Federal Land Ban Restrictions allow dilution to mitigate toxicity and flammability. RCRA, by reason of adopting the Land Ban Restriction standards, allows dilution as a means of mitigating hazardous characteristics of waste.

I.e., when wastes will be buried in a landfill RCRA and Land Ban standards allow a hazardous waste to be diluted to eliminate the effects of the hazard.

## Discharging Industrial Waste to the Sewer

**A**ll healthcare facilities discharge industrial waste to the sewer. For some facilities, this industrial waste constitutes the bulk of the dangerous waste that is generated. Dangerous waste is waste that is ignitable, corrosive, reactive, listed, toxic, or persistent in the environment.

It is usually the waste generator who manages the discharge of industrial waste to the sewer, so a facility waste manager may not even be aware that the waste is being generated and disposed of onsite. Only familiarity with the chemicals being purchased or the process itself will reveal evidence of the industrial discharge.

The Washington Department of Ecology does not allow the discharge of dangerous waste untreated to the sewer. This includes flammable solvents and aqueous solutions with a pH of less than 2.0 or greater than 12.5.

However, most wastewater treatment districts have more stringent pretreatment discharge standards than what defines a dangerous waste. This is because secondary wastewater treatment involves

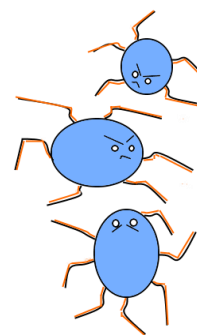
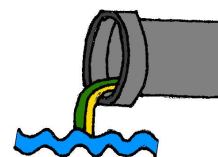
aerobic and anaerobic microorganisms which are sensitive to additional wastewater characteristics.

For example, most districts prohibit the discharge of acidic wastewater with a pH of less than 5.0. To raise the pH of acidic wastewater to a pH of at least 5.0 the generator must add a mild alkali such as sodium bicarbonate.

Additional prohibitions usually include polar FOG (fats, oils & grease from animal or vegetable sources), non-polar FOG (petroleum products), waste which does not dissolve in water, and heavy metals.

If Ecology inspectors discover wastewater being discharged from your facility that does not constitute dangerous waste but does violate the pretreatment standards of the local wastewater treatment authority, they will report the information to the wastewater authority.

In response, the wastewater authority may require the facility to complete an Industrial Wastewater Discharge Permit Application, an extensive and expensive effort. Such a permit application requires identifying all wastewater streams at your facility, a map of all wastewater pipes, and lab analyses of wastewater samples.





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## Draft Amendments to the Dangerous Waste Regulations Affecting Healthcare Facilities

**O**n December 2, 2019, Ecology held a webinar on draft amendments to the Dangerous Waste Regulations. Changes in the pharmaceutical waste regulations will comply with EPA's Subpart P rule on hazardous pharmaceutical waste.

When the proposed rule WAC 173-303-555 is adopted in September 2020, only law enforcement agencies will be allowed to manage

pharmaceutical waste under the Conditional Exclusion Rule (WAC 173-303-071(3)(nn)(i—iv)).

All regulated generators (MQG and LQG) will be required to manage their pharmaceutical waste under Part 555, including Washington State Only dangerous waste. This means that facilities that currently manage their non-hazardous pharm waste under the Conditional Exclusion Rule in blue-and-white containers co-mingled with sharps will be required to label

these containers with an Accumulation Start Date and can keep them onsite for just 180 days.

Non-hazardous pharm waste can be incinerated at medical or municipal waste facilities, as they are now. But all other regulations that currently apply to RCRA pharm waste will also apply to WSO dangerous pharm waste.

Pharmaceutical waste will not count towards a facility's generator status and will not be reported on the Dangerous Waste Annual Report.