

ENVIRONMENTAL SELF-ASSESSMENT FOR HEALTH CARE FACILITIES

**A QUICK AND EASY CHECKLIST OF
POLLUTION PREVENTION MEASURES
FOR HEALTH CARE FACILITIES**

February 2000

Prepared for Health Care Facilities in New York State
by
New York State Department of Environmental Conservation
Pollution Prevention Unit



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ACKNOWLEDGMENTS

The New York State Department of Environmental Conservation (NYSDEC), Pollution Prevention Unit would like to acknowledge the cooperation of the U.S. Environmental Protection Agency Region II Office; NYS Department of Health, Albany, NY; Strong Memorial Hospital, Rochester, NY; Citizens' Environmental Coalition, Albany, NY; Beth Israel Medical Center, New York, NY; and the New York State Nurses Association, Latham, NY in the preparation of this document. The Pollution Prevention Unit would also like to acknowledge the following NYSDEC programs for their assistance in the preparation of the final copy: Division of Solid and Hazardous Materials; Division of Air Resources; and the Division of Public Affairs and Education, Bureau of Publications and Internet.

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INTRODUCTION

The purpose of this manual is to assist New York State Health Care Facilities in the development of an effective pollution prevention program or improve programs which may already be in place. Implementing an effective pollution prevention program requires a continuous commitment by a wide range of health care personnel.

Health care facilities that practice pollution prevention benefit the environment by reducing the volume and toxicity of material at its source before it becomes a waste. In addition, there are many benefits that health care facilities attain for implementing pollution prevention practices. Some of these include:

- ★ Improved environmental compliance.
- ★ Protection of human health by reducing the exposure of employees to chemicals in the workplace.
- ★ Enhanced community relations by demonstrating a commitment to environmental protection.
- ★ Economic benefits resulting from pollution prevention products that reduce and recycle waste.
- ★ Avoidance of long term liability. (Remember, you are responsible for proper management and disposal of the wastes that you generate.)
- ★ Positive press coverage for the health care facility.
- ★ Increased employee morale resulting from a healthier and safer work environment.

The *Environmental Self-Assessment for Health Care Facilities* is a tool to help evaluate a health care facility's present performance in preventing pollution and identify opportunities for additional pollution prevention measures. If your facility has

limited resources, the self-assessment should serve as a preliminary self-diagnostic tool that can be used before seeking any outside assistance.

Technical assistance and pollution prevention approaches may be available from vendors, consulting engineers, professional organizations and the Internet. Assistance is also available from state and local environmental agencies, such as the New York State Department of Environmental Conservation's Pollution Prevention Unit and the NYSDEC regional multimedia pollution prevention coordinators. The New York State Environmental Facilities Corporation also provides free, confidential technical assistance to health care facilities that qualify under its Small Business Assistance Program (see "A Resource Guide," page 35, for a list of agencies, organizations and sites on the Internet that can provide technical information and assistance).

An environmental self-assessment can prove worthwhile as a preventive strategy. It can identify procedure changes and housekeeping measures that will prevent damage to the environment and help your health care facility comply with environmental requirements.

The checklists found in the self-assessment are designed to test a facility's performance in pollution prevention, waste reduction and recycling. For information regarding compliance with environmental rules and regulations, contact your regional NYSDEC multimedia pollution prevention coordinator and the NYS Department of Health (see "A Resource Guide," page 35).

THE ENVIRONMENTAL SELF-ASSESSMENT FOR HEALTH CARE FACILITIES

The following checklist is a guide primarily intended for use by laboratory managers, administrators, environmental compliance personnel, purchasing officers, safety professionals, housekeeping managers, waste management supervisors and industrial hygienists involved with the day-to-day activities in a health care facility. To have a successful pollution prevention program, routine environmental self-assessments should be conducted. The self-assessments will help identify opportunities to incorporate pollution prevention measures in all aspects of administering medical services. Examples of health care facility areas and activities to be investigated can include, but are not limited to, laboratory services, patient floors, hemodialysis, intensive care and isolation units, cafeteria, purchasing, radiology and surgery areas.

Review each section of the self-assessment with the manager and staff members who are most familiar with that particular activity in the facility. Responses to the questions should show whether potential hazards or polluting activities are occurring that may be addressed by purchasing and operational changes, equipment substitution or changes to housekeeping procedures.

This self-assessment is only one in a series of steps that your facility should take to determine its regulatory compliance and to identify suitable methods of waste reduction. The checklist would be most effective when used with related tools, such as workshops and publications. For many facilities, the self-assessment will likely be as useful as a thermometer would be for a person with a fever: the symptoms may be measured, but an expert opinion may be needed to diagnose the problem and develop corrective measures.

Following the completion of the self-assessment, consult this guide for additional information on the nature and type of pollution prevention techniques successfully applied by other health care facilities.

Progressive health care facilities will use the environmental self-assessment to achieve the following goals: evaluate current pollution prevention practices and develop an ongoing pollution prevention program or strengthen a program which has already begun.

Don't be discouraged by the sometimes difficult process of identifying and addressing environmental problems. Over the long haul, the measurable benefits of conducting and responding to regular environmental self-assessments may include reductions in: environmental hazards, exposure to enforcement, fines, insurance rates, waste handling costs and accidents. Benefits may also include an improved compliance record, improved worker safety and a healthier work environment. Making the effort to reduce the generation of materials at the source, or recycling waste on- or off-site demonstrates that you are being environmentally responsible. In addition, pollution prevention programs support a health care facilities mission of protecting the health of it's patients and staff.

The *Environmental Self-Assessment for Health Care Facilities* provides useful information, but there is no guarantee, expressed or implied, that the information will identify all possible conditions and opportunities for pollution prevention. Compliance with environmental and occupational safety and health regulations is not the focus of this document and is the responsibility of the individual health care facility.

SELF-ASSESSMENT CHECKLISTS

Review each question carefully and check the appropriate box. A **Yes** answer indicates that your health care facility has incorporated pollution prevention, waste reduction and recycling measures into its day-to-day activities. A **No** or **Can't Determine** answer indicates that an opportunity to prevent or reduce pollution may exist. Take notes on the questions that received a **No** or **Can't Determine** response.

Use this self-assessment to create a working list of pollution prevention, waste reduction and recycling opportunities that should be explored in greater detail. You are encouraged to consult with the Department of Environmental Conservation's regional multimedia pollution prevention (M2P2) coordinators, the Pollution Prevention Unit located in Albany, medical associations, vendors and other pollution prevention coordinators for additional information and assistance (see "A Resource Guide," page 35, for a list of agencies and organizations that provide technical assistance on pollution prevention).

Getting Started

	Yes	No	Not Applicable	Can't Determine
Has a project leader been designated who will be responsible for collecting information and organizing the self-assessment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have all of the areas in the health care facility that will undergo the self-assessment been identified? (Some facility areas to consider include nursing, surgery, analytical and clinical laboratories, patient floors, burn units, hemodialysis, ICU, pathology, histology, purchasing, maintenance, radiology, admissions, medical equipment, cafeteria, chemotherapy and antineoplastics, pharmacy, nuclear medicine and autopsy.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you established short-term and long-term audit and implementation goals? (It may be easier and more rewarding to initially focus pollution prevention activities on specific areas or waste streams at the health care facility. The long-term goal should be to eventually establish pollution prevention programs for all applicable areas and waste streams throughout the facility.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Has a coordination team consisting of staff members familiar with the daily operations of their area been asked to assist in the self-assessment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Will the audit consist of a thorough review of each area to identify the types, quantities and rates of the waste generating activities? (Preparing material balances for the targeted activities is helpful for tracking the waste streams.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Procurement of Commodities and Services

	Yes	No	Can't Determine	Not Applicable
Does the health care facility have a central system in place for tracking and quantifying the amount of chemicals purchased, dispensed and disposed of?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the current inventory system minimize the amount of waste that will be generated due to overpurchasing ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Upon arrival of purchased materials, is a central receiving department or person in charge for verifying that the order is correct?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are records kept of chemicals, medical supplies and equipment beginning with their arrival, the history of their use and final destination?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are procurement of chemicals and medical supplies done through a central department or a person familiar with the health care facility's pollution prevention and waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Are products and materials that are brought into the facility by practitioners, who have acquired them from vendors, identified and tracked through a central department or a person familiar with the health care facility's pollution prevention goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the acceptance of free samples, which most likely become waste, minimized?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are smaller quantities, as compared to past purchases, of infrequently used materials purchased?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the inventory system designed to ensure that purchased materials are used in a first-in first-out order to avoid expiration of their shelf life?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are Material Safety Data Sheets (MSDS) maintained and made readily available to employees for all materials used in the health care facility? (This is an OSHA requirement.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have employees been trained to safely handle the types of packages and chemicals that the health care facility receives?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility have a procurement policy that requires vendors use minimal, reusable, recyclable, or returnable packaging containers when possible?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility have a system in place to monitor the flow of shipments within the facility from receipt of raw material to disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility considered establishing a computer tracking system for monitoring chemical inventories and wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility use a standard procedure for the labeling of chemicals and wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Do you use a supplier which will allow the health care facility to return unopened, surplus, obsolete or outdated supplies? (Note: Returning some medical supplies may be prohibited if the material is a hazardous waste and destined for disposal instead of evaluation/recycling by the manufacturer. Please contact the NYSDEC, Division of Solid and Hazardous Materials for further guidance.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you perform an inventory of the amount, type, purchase date and location of all chemicals on a regular basis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the chemical inventory used to assure that excess chemicals are not purchased?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you perform an inventory of all waste streams on a regular basis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the waste inventory used to keep track of the types, amounts, locations and storage times for wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility have a procurement policy that requires using environmentally responsible products and purchasing least toxic alternatives when possible?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility have a procurement policy that requires the purchase of postconsumer recycled-content paper and plastic where available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility have a program in place to phase out the purchasing of devices and products containing PVC plastic when alternatives exist?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Is the health care facility working towards eliminating mercury waste generation by the year 2005 as outlined in the Memorandum of Understanding--Voluntary Partnership between the American Hospital Association and the Environmental Protection Agency? (More information on this partnership can be found on http://www.epa.gov/grtlakes/toxteam/ahamou.htm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility made a commitment to purchase mercury-free products whenever alternatives exist?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are these efforts and commitments reviewed regularly and are the results provided to the staff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there acknowledgment of pollution prevention improvements and successes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Medical Waste Incinerators

Emissions from medical waste incinerators can be a source of dioxin, mercury, lead and hydrochloric acid pollution. According to the Environmental Protection Agency, the incineration of medical waste is one of the major contributors of dioxin to the environment. In September 1997, the Environmental Protection Agency issued guidelines to control air emissions from hospital/medical/infectious waste incinerators. The New York State Department of Environmental Conservation (NYSDEC) has implemented these regulations. To meet these emission standards, hospitals may need to upgrade their incinerators with effective air pollution control devices or switch to affordable and effective alternative treatment technologies combined with pollution prevention strategies. Waste management plans must be developed and submitted to the NYSDEC from those facilities with regulated hospital/medical/infectious waste incinerators, as required in 40 CFR Part 60. (See Appendix B for NYS Department of Health information regarding Alternative Treatment Technologies.)

	Yes	No	Can't Determine	Not Applicable
Have alternative technologies for treating regulated medical waste*, such as autoclave treatment, chemical/enzyme disinfection, plasma/pyrolysis, thermal, biological, heat/steam/electro/radiation or microwave irradiation been explored to replace incineration? (* Refers to regulated medical waste as defined in the Public Health Law 1389 _{AA-GG} .)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has staff been informed of the environmental and human health impacts of improper waste segregation and disposal? (The improper disposal of certain wastes can result in toxic releases, therefore, employee education is vital.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Can your health care facility determine how much of its waste stream is incinerated? Lbs. per year: _____ Percentage of all waste: _____%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility taken steps to eliminate the nonessential incineration of medical waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Hazardous and Solid Waste

One of the best means of reducing and eliminating hazardous wastes that are generated or result from a spill is through better operating procedures and preventive maintenance. When conducting the self-assessment, keep in mind the following pollution prevention ideas and practices which can be applied at health care facilities of all sizes.

General Recommendations

	Yes	No	Not Applicable	Can't Determine
Has your health care facility assessed whether nontoxic alternatives exist for each hazardous material utilized?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the quantity of hazardous waste being generated each month been determined? (The amount of hazardous waste generated and stored each month will determine which of the three categories of hazardous waste generator applies to your health care facility. The environmental compliance requirements will differ for each category. Assistance in determining your generator status and the applicable regulatory requirements should be directed to your regional NYSDEC office.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have all the wastewater discharges been identified and evaluated to determine whether they are managed properly? (If the facility discharges directly into a municipal sewer system you should check with your local publicly owned treatment works (POTWS) to determine if there are certain discharge restrictions. Wastewater that is directly discharged into surface water or groundwater requires a State Pollutant Discharge Elimination System (SPDES) Permit.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have employees been trained in the hazardous waste regulations (e.g., labeling, storage, spill prevention and manifesting requirements) related to the job they are doing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have a written spill prevention plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Have employees been trained in spill reporting requirements? (Contact your regional NYSDEC office for spill reporting information.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are spill and cleanup kits available nearby?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have employees been trained in identifying waste types and appropriate waste segregation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all waste streams properly segregated and labeled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are chemicals stored in accordance with OSHA and manufacturers' recommendations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are chemical containers returned to the supplier for reuse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are hazardous wastes stored in a central location?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are mechanical aids used in handling drums to reduce spills?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is one person responsible for tracking the waste that is generated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you label everything to avoid contaminating waste streams that would normally be nonhazardous? (Large quantities of hazardous waste can be generated by inadvertently mixing waste streams.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are containers kept closed, well organized and away from people and equipment that can cause it to spill? (Improper storage may cause a health risk.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you maintain a waste stream tracking system which includes information on the area of generation, quantity, waste constituents, storage time, container and ultimate disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Do you return obsolete or surplus supplies to the vendor? (Note: Returning some obsolete or surplus supplies may be prohibited if the material is a hazardous waste and destined for disposal instead of evaluation/recycling by the manufacturer. Please contact the NYSDEC, Division of Solid and Hazardous Materials for further guidance.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do the virgin/waste materials storage areas have a berm and sump drain to contain spills and leaks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If your storage area does not have a berm, do you use a self-contained spills management method, such as pallets that have built-in spill containment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you sealed all floor drains in areas that are used for the storage of hazardous materials (when practical) or made other preparations for containment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility store all hazardous materials and empty containers separate from nonhazardous materials and containers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ethylene Oxide (EtO)

Ethylene oxide or a mixture of EtO and chlorofluorocarbon (CFC) is used to sterilize medical devices. Ethylene oxide is a probable human carcinogen, as well as being flammable and explosive. In addition, chlorofluorocarbon (CFC) is an ozone depleting chemical.

	Yes	No	Not Applicable	Can't Determine
Are OSHA regulations and manufacturers recommendations for ethylene oxide being followed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the ethylene oxide equipment inspected regularly including checking the seal on the sterilizer doors and maintained according to manufacturers' recommendations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Is the ethylene oxide equipment and air quality in the room tested regularly for possible leaks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility investigated the utilization of other sterilization methods? (Some possible alternatives include: radiation, vapor-phase hydrogen peroxide, steam, ozone and microwave radiation.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility have an EtO spill cleanup policy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have the employees been properly trained in the use of EtO sterilization equipment and handling of EtO cylinders and cartridges?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Glutaraldehyde

Glutaraldehyde is primarily used in the cold sterilization of surgical, medical and dental equipment. It is also used in embalming, electron and light microscopy as a tissue fixative and in x-ray film processing solutions as a fixative.

	Yes	No	Not Applicable	Can't Determine
Have the employees who work with glutaraldehyde been trained in its hazards, safe use, proper handling, spill cleanup procedures and waste reporting practices?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is emergency response equipment suitable for glutaraldehyde incidents available nearby?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the containers storing glutaraldehyde kept closed when not in use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is glutaraldehyde stored in appropriate containers which are in good condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are glutaraldehyde containers always checked for leaks and damage before moving or manipulating?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Is appropriate first aid equipment (i.e., eye wash) available in the areas where glutaraldehyde is being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the employees handling glutaraldehyde provided with personal protective equipment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is appropriate first aid equipment (i.e., eye wash) available in the areas where glutaraldehyde is being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is air monitoring being performed to prevent worker exposure to glutaraldehyde?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the areas where glutaraldehyde is being used and stored equipped with proper ventilation systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are glutaraldehyde solutions being used in accordance with manufacturer's directions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are employees instructed to use only the smallest amount necessary of glutaraldehyde solution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility investigated the utilization of other sterilization methods?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PVC (polyvinyl chloride) Plastics

Concerns about the health impact from the incineration of disposable chlorinated products, due to the potential formation and release of dioxin to the environment, has prompted the USEPA to issue guidelines to control hospital medical and infectious waste air emissions.

Products that may contain PVC plastic include:

- | | |
|---------------------------|-----------------------------|
| <i>IV bags and tubing</i> | <i>Patient ID bracelets</i> |
| <i>endotracheal tubes</i> | <i>Compression sleeves</i> |
| <i>oxygen tents</i> | <i>Thermal blankets</i> |
| <i>vinyl gloves</i> | <i>Resuscitation bags</i> |
| <i>catheters</i> | <i>Blood bags</i> |
| <i>basins</i> | <i>Packaging</i> |
| <i>Mattress covers</i> | <i>Bedpans</i> |
| <i>Catheters</i> | <i>Inflatable splints</i> |

The use of alternatives products, an effective waste segregation program and pollution prevention strategies can help eliminate this discharge.

	Yes	No	Not Applicable	Can't Determine
Has the health care facility developed and implemented a PVC free purchasing policy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have all of the products which contain PVC plastic been identified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have PVC products been replaced by non-PVC products where possible?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have alternatives to PVC plastics products been explored?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility considered switching from vinyl gloves to nitrile gloves?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does your health care facility recycle unused PVC plastic apparatus? (i.e., washbins, water pitchers, cups, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are sharps containers PVC-free (i.e., polyethylene or reusable)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If not, have these alternatives been considered?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Solvents

Health care facilities typically generate solvents in a variety of their daily functions, including pathology, histology, maintenance, embalming and laboratories. Many of these solvents may be classified as hazardous waste, and therefore are required to be properly treated and/or disposed. Pollution prevention strategies can be used to eliminate solvent use by using nontoxic alternatives, or to reduce both the toxicity and the quantity of spent solvents.

	Yes	No	Not Applicable	Can't Determine
Has the use of aqueous reagents, simple alcohols and ketones (instead of petroleum hydrocarbons) and sonic or steam cleaning been considered to replace solvent-based cleaning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are different solvent waste streams segregated so that they can be recycled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are waste solvents being recycled off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Has the use of an on-site distillation unit to recover waste solvents been considered? (Contact the NYSDEC for distillation unit regulatory information. Also, the quality and effectiveness of the recovered solvent should be evaluated before purchasing a distillation unit.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If different solvents are used for cleaning, can they be replaced with a multipurpose solvent that can be used for a variety of applications?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you investigated nontoxic alternatives to replace solvents, where possible?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you considered switching to less-toxic and less-flammable solvents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the use of premixed containerized kits for tests involving solvent fixation been explored?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you investigated alternatives to using xylene in histology?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you considered using calibrated solvent dispensers for routine tests?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If solvents are utilized for cleaning, is it possible to reuse used solvent for initial cleaning of other areas and fresh solvent only for final cleaning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Mercury

Mercury is bioaccumulative and persists in the environment. It is toxic to humans in all forms (organic and inorganic). The inappropriate disposal of mercury can cause it to be released to the air, water or land from wastewater discharges, spills, landfilling and incineration. The release of mercury to the environment can be reduced by using alternatives to medical devices containing mercury, cleaning up spills properly, recycling mercury containing products and properly handling and disposing of mercury containing equipment. See Appendix A for medical products and equipment that may contain mercury.

	Yes	No	Not Applicable	Can't Determine
Does the health care facility have a Mercury Management Program?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility have a purchasing policy which includes a commitment to purchase mercury-free products whenever possible?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the health care facility working towards eliminating mercury waste generation by the year 2005 as outlined in the Memorandum of Understanding--Voluntary Partnership between the American Hospital Association and the Environmental Protection Agency? (More information on this partnership can be found on http://www.epa.gov/grtlakes/toxteam/ahamou.htm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have equipment and supplies that contain mercury been identified? (See Appendix A for a listing of potential mercury sources.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have laboratory chemicals been identified that may contain mercury? (See Appendix A for a listing of potential mercury sources.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are mercury-free laboratory reagents being used that will achieve the same diagnostic results?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility stopped sending mercury containing thermometers home with new mothers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are mercury thermometers being phased out through the use of electronic sensors or temperature strips?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Is mercury-containing equipment, such as thermometers and blood pressure instruments, being replaced with mercury-free alternatives? (Possible alternatives for thermometers and blood pressure instruments include digital or disposable strips and electronic vacuum gauge, expansion or aneroid, respectively.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility completely drain and recycle all residual mercury from thermometers, blood pressure reservoirs, and other medical devices prior to discarding the equipment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you replaced mercury containing esophageal dilators (bougie tubes), cantor tubes, feeding tubes and Miller Abbott tubes with mercury-free alternatives?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are mercury vacuum apparatus (with the proper mercury vapor controls) and spill absorbent kits readily available to clean up mercury spills? (Residue from mercury cleanups must be properly disposed or recycled.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have employees been trained in the hazards of mercury, spill cleanup and the proper handling and reporting of mercury waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have employees been trained on the correct procedures for segregating mercury waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are cantor tubes from the operating rooms and surgical units being disposed of properly by personnel?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If mercury still exists in your hospital, is there a regular inspection of sewer traps and catch basins to prevent release of mercury to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Chemotherapy & Antineoplastic Chemicals

Chemotherapy and antineoplastic chemical waste can be generated during drug preparation, drug administration and spills.

	Yes	No	Not Applicable	Can't Determine
Are the procedures outlined in OSHA Instruction PUB 8-1.1, January 28, 1986, Guidelines for Cytotoxic (Antineoplastic) Drugs being followed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are unopened, surplus, obsolete or outdated drugs returned to the manufacturer? (Note: Returning some medical supplies may be prohibited if the material is a hazardous waste and destined for disposal instead of evaluation/recycling by the manufacturer. Please contact the NYSDEC, Division of Solid and Hazardous Materials for further guidance.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are separate distinctively labeled containers available to keep chemotherapy wastes apart from other waste streams?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are chemotherapy wastes placed into a leakproof, rigid container and kept segregated from other wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are drug containers purchased in amounts that minimize the amount of out-of-date material?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are drugs purchased in container sizes that permit formulation of daily dosages with the least quantity of excess product leftover?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Can chemotherapy compounding stations be centralized to improve management of chemotherapy waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are appropriate personnel trained to transport and handle chemotherapy waste in a safe manner to prevent exposure?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are chemotherapy drugs prepared under a biological safety hood?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Not Applicable	Can't Determine
Have employees been trained in chemotherapy drug handling, safety, waste minimization and, spill containment and cleanup procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are spill cleanup kits available in the compounding area that contain both small and large absorbent devices?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Batteries

Batteries are used in a number of medical devices, such as defibrillators, hearing aids, fetal monitors, pagers, temperature alarm, blood analyzer, spirometer alarm, telemetry transmitter, hofler monitor and pacemakers. The batteries used in a health care facility can include: alkaline, mercuric oxide (mercury zinc), lead acid, lithium, zinc air button batteries, silver oxide button batteries and rechargeable nickel-cadmium. The inappropriate disposal of batteries may result in toxic releases occurring from medical waste incinerator emissions or landfill leachate.

	Yes	No	Not Applicable	Can't Determine
Does the health care facility have written procedures regarding the proper management of used batteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do employees receive training on the health care facility's procedures for proper management of used batteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility determined which types of used batteries are hazardous waste? (A battery is a hazardous waste if it exhibits one or more of the characteristics defined in section 371.3 of 6 NYCRR Part 371, Identification and Listing of Hazardous Wastes. Some used batteries are likely to be classified as hazardous waste due to the various amounts of heavy metals such as lead, mercury and cadmium that they contain.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are used batteries that are determined to be a hazardous waste handled in accordance with 6NYCRR Subpart 374-3 Standards for Universal Wastes? (Assistance with applicable regulatory requirements should be directed to your Regional NYSDEC office.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Not Applicable	Can't Determine
Is it determined before purchasing batteries, which ones contain the lowest levels of heavy metals? (Possible alternatives include lithium, zinc-air, silver-oxide and alkaline.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all batteries inventoried and tracked?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility use rechargeable alkaline and nickel-cadmium batteries? (A hazardous waste determination must be made on spent rechargeable batteries if they are no longer rechargeable and will be discarded.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility implemented a battery collection program? (Batteries that are determined to be hazardous must be managed in accordance with 6NYCRR Subpart 374-3 Standards for Universal Wastes. However, the collection program should take in all batteries. The hazardous waste manager can then sort through the batteries to determine appropriate waste management options. The NYSDEC, Division of Solid and Hazardous Materials, Bureau of Waste Reduction & Recycling at (518) 457-7337 maintains a list of battery recyclers.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are employees trained in the proper management and segregation of used batteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are employees required to exchange a spent battery in order to receive a new battery?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: For medical devices, there are Food and Drug Administration and Underwriters Laboratory certification concerns with replacing a battery. Please contact the equipment manufacturer before replacing a battery with a substitute to ensure that the device has been approved for use with the alternative battery.

Lamps

Many lamps frequently contain mercury and sometimes lead, principally because of the use of lead solder. Various lamps used in a health care facility include fluorescent, mercury vapor, high pressure sodium vapor, incandescent, high intensity discharge, metal halide, cathode ray tubes and ultraviolet. Mercury is a toxic, bioaccumulative pollutant; therefore, the proper management of spent mercury-containing lamps is essential for minimizing mercury releases. Management controls include safe handling to prevent breakage and keeping hazardous waste lamps from being disposed of in landfills and incinerators.

	Yes	No	Not Applicable	Can't Determine
Have all of the various types of lamps used at the health care facility been identified? (These can include, but are not limited to, fluorescent, mercury vapor, high pressure sodium vapor, metal halide, incandescent, high intensity discharge and neon lamps.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility determined which types of spent lamps are hazardous waste? (A spent lamp is a hazardous waste if it exhibits one or more of the characteristics defined in section 371.3 of 6NYCRR Part 371 Identification and Listing of Hazardous Wastes. Many fluorescent, mercury vapor, high intensity discharge and other lamps frequently contain mercury, and sometimes lead, principally because of the use of lead solder.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are there several convenient collection points for spent lamps throughout the health care facility? (Spent lamps from the collection points should be taken to a secure area for sorting and to prevent accidental breakage.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are spent lamps being collected for recycling? (Contact the NYSDEC--Division of Solid and Hazardous Materials, Bureau of Waste Reduction & Recycling at (518) 457-7337 for a list of recyclers.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are employees trained in the proper management and safety procedures for reporting and responding to broken or nonworking lamps?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
<p>Are spent lamps that are determined to be a hazardous waste being handled in accordance with the Standards for Universal Wastes? (On July 6, 1999, the USEPA issued a final rule for inclusion of hazardous waste lamps in the Universal Waste Rule of 40 CFR Part 273. New York State has established a policy of enforcement discretion, effective January 6, 2000, with regard to the management of hazardous waste lamps as universal waste. This enforcement discretion policy will remain in effect until New York adopts the provisions of 40 CFR Part 273, for lamps, into 6 NYCRR Subpart 374-3. Broken or crushed lamps determined to be hazardous cannot be handled as Universal Wastes and must be handled in accordance with applicable hazardous waste regulations. Assistance with applicable regulatory requirements can be directed to the NYSDEC Division of Solid and Hazardous Materials.)</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Are new as well as waste lamps being stored to prevent breakage?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Are broken lamps separated, placed in a heavy plastic bag and put inside a sturdy container for disposal?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Has the health care facility developed a plan to phase out mercury-containing lamps?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Can lighting systems be upgraded to be more efficient? (The New York State Energy Research and Development Authority (NYSERDA) works with businesses, institutions, and municipalities to provide energy engineering and technical assistance. In addition, the Environmental Protection Agency's Green Lights program promotes energy efficiency in buildings. Participants are provided with unbiased technical information, customized support services, public relations assistance, and access to a broad range of resources and tools.)</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Photographic Chemicals and Scrap Film

The radiology department may generate wastewater containing photographic chemicals and silver from film processing, scrap film, fixer solution and outdated chemicals.

	Yes	No	Not Applicable	Can't Determine
Are all employees whose jobs involve contact with photographic chemicals and scrap film trained in the safety and the appropriate handling and disposal of these substances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you store photographic chemicals correctly to prolong their shelf life? (Some photographic chemicals are light and temperature sensitive.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are lead foil film packets sent to a recycler?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are damaged and used x-ray films sent to a recycler?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the silver from x-ray fixer solution recovered by an on-site silver recovery unit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If not, is the fixer solution collected and sent off-site for recycling?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In nonautomated processing systems, is a squeegee used to wipe excess liquid from the film? (This procedure helps minimize the chemical contamination of baths and increases bath life.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is countercurrent washing used in photographic processors to reduce wastewater generation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are materials that have an expired shelf life tested for effectiveness prior to being disposed of or returned? (Note: Returning some medical supplies may be prohibited if the material is a hazardous waste and destined for disposal instead of evaluation/recycling by the manufacturer. Please contact the NYSDEC, Division of Solid and Hazardous Materials for further guidance.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Are the usefulness of the solutions in the photographic processing baths being extended by the following methods?				
- adding ammonium thiosulfate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- using acid stop bath prior to fixing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- adding acetic acid to fixing bath to keep pH low	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Keeping baths in covered, airtight containers to reduce evaporation and oxidation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you require that all photographic containers be clearly labeled with their contents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Formaldehyde/formalin

Formaldehyde is used in embalming, autopsy, dialysis (formalin), specimen preservation and pathology.

	Yes	No	Not Applicable	Can't Determine
Have all areas been identified where formaldehyde/formalin is being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you standardized formalin cleaning solutions in order to use the minimum strength required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are proper air emission controls being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you considered automating the dispensing of formalin to reduce excess amounts generated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you collect waste formaldehyde and formalin for proper disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the use of reverse osmosis waste treatment to reduce the dialysis cleaning demands with formaldehyde been explored?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the reuse of formaldehyde in pathology and autopsy labs been explored?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Radioactive Waste

In health care facilities, radioactive material is used in conducting in-vitro and in-vivo biomedical research work, clinical laboratory studies, and medical diagnostic and therapeutic procedures performed on patients. The types of radioactive waste that may be generated include solids, liquids, animal carcasses, or equipment contaminated with short-lived or long-lived radionuclides. Every health care facility that uses radionuclides may only do so in accordance with the authorization granted under its radioactive material license. The license requires that all resultant radioactive waste be properly managed and that waste minimization procedures be practiced. The health care facility's radiation safety officer is the person listed on the radioactive materials license who is responsible for ensuring that radioactive materials and wastes are properly managed, and that any disposal or discharge of radioactive materials to the environment is conducted in accordance with the 6 NYCRR Part 380 regulations issued by the NYS Department of Environmental Conservation. Any questions regarding the Part 380 regulations should be directed to the Department's Radiation Section at (518) 457-2225.

	Yes	No	Not Applicable	Can't Determine
Is radioactive waste managed in accordance with the facility's waste minimization plan, as required by the radioactive materials license?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all radioactive waste generating procedures periodically evaluated to ensure that radioactive waste is not created unnecessarily?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is radioactive waste disposed of by any of the following methods, in accordance with Section 380-4?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is radioactive waste disposed of by any of the following methods, in accordance with Section 380-4?				
- Returned to vendor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Decayed in storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Released to the municipal sanitary sewer system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Under the biomedical exemption	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Another method as authorized in a Part 380 permit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Shipped to a licensed disposal facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Medical Waste Stream

Segregating nonregulated medical waste from regulated medical waste, at the point of generation, can significantly reduce the impact it has on the environment. Regulated medical waste should always be kept separate from hazardous, radioactive and chemotherapy wastes, whenever possible, to avoid mixtures that are difficult to treat and properly dispose of. In addition, the incineration of regulated medical waste should be limited to those waste streams requiring incineration as a treatment technology. Alternative technologies that are more environmentally friendly should be used for all other regulated medical waste streams. (Regulated medical waste is defined in Public Health Law 1389_{AA-GG})

	Yes	No	Not Applicable	Can't Determine
Has the health care facility established written standards for handling and disposing of regulated medical waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have all appropriate health care facility employees received training on proper waste stream characterization and segregation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are employee's made aware of the reasons and need for segregating wastes properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are training programs provided to all appropriate staff on the proper management and safety procedures for handling and disposing of radioactive waste, hazardous waste (including chemotherapy), hospital waste and regulated medical waste streams?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has a comprehensive survey been conducted at the health care facility to determine the location of waste containers, the items deposited in each bag or container and the waste liner color? (Overuse of red bags may be taking place in some areas.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the health care facility staff separating waste streams into the correct waste stream categories?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are regulated medical wastes that contain hazardous or radioactive wastes segregated from nonhazardous and nonradioactive regulated medical wastes for proper disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Not Applicable	Can't Determine
Is the regulated medical waste stream further separated into "sharps" and "nonsharps" waste to accommodate the proper treatment, recycling and disposal destinations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are human pathological wastes and sharps, in the regulated medical waste stream, further segregated to accommodate proper treatment and disposal destinations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Whenever possible is regulated medical waste stored separate from hazardous or radioactive waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is regulated medical waste properly containerized as close as is practical to the point of generation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has a modification of the regulated medical waste container layout at the facility been considered to reduce the volume of red bag waste resulting from the improper segregation of wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have clear bag-receptacles been provided in appropriate areas to prevent the disposal of nonregulated medical waste into regulated medical waste red bags?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you renegotiated contracts with regulated medical waste haulers to provide decontaminated, clean reusable containers? (Reusable containers should not be used for any other purpose).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you use cadmium-free red bags? (Cadmium is used as a colorant in some red bags that can then be released during incineration.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are waste containers clearly marked and easily accessible to facilitate proper waste segregation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are soiled, broken or rusted waste receptacles replaced on a regular basis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Not Applicable	Can't Determine
Has the health care facility considered reducing the volume of infectious waste by placing alternative receptacles in the operating rooms? (Receptacles can be used to collect, under sterile conditions, the plastic packaging material that is used to seal the surgery supplies and instruments. These receptacles can then be closed and isolated from the main area to eliminate the risk of contamination from infectious/medical waste.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are soiled, broken or rusted waste receptacles replaced on a regular basis?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the appropriate size receptacles being used for the volume of waste generated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are regulated medical waste containers properly sealed and labeled before they are moved to another location at the health care facility for storage, treatment or disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there a designated biohazard waste storage area clearly labeled with the word <i>biohazard</i> or the <i>universal biohazard symbol</i> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the biohazard waste storage area securely controlled with access limited to authorized personnel?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the storage area have proper ventilation and mechanical controls (i.e., refrigeration) to maintain waste in a nonputrescent state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is liquid biohazard waste discharged to a sanitary sewer in compliance with applicable state and/or local regulations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the biohazard waste storage area protected from the weather to ensure that the storage containers remain intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the biohazard waste storage area maintained in a sanitary condition, free of rodents and insects and secure from vandalism?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Recycling and Reuse

Reuse and recycling programs can significantly reduce the amount of waste that your health care facility has to ship off-site for disposal, in addition to conserving our natural resources and eliminating the generation of hazardous waste that would otherwise result during manufacturing.

	Yes	No	Not Applicable	Can't Determine
Does the health care facility have a purchasing policy that requires postconsumer recycled content products be purchased when available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility replaced disposable supplies with reusable products, when the safety and health of patients and staff are not compromised? (Some reusable products to consider include: utensils and plates, sharp containers, rechargeable batteries, sterilization trays, bed pans, emesis basins, cloth gowns and drapes, slippers, male urinal basins, packaging totes, biohazard containers, recharged toner cartridges, bedpans, diapers and underpads).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility use reusable decubitus mattresses to eliminate the need for disposable egg-crate pads?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the health care facility currently have recycling programs in place for the administrative offices, waiting rooms and cafeterias? (Some of the items which can be considered for recycling programs include: office paper, newspaper, books, magazines, aluminum, bottles, glass, plastics, corrugated cardboard, junk mail. Contact the NYSDEC, Division of Solid and Hazardous Materials to find out how to start a recycling program at your facility.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the possibility of sending unused medical equipment overseas been explored? (Items suitable for donation can include syringes, gauze, gowns, sponges, operating room tables, wheelchairs and stretchers.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Housekeeping

	Yes	No	Not Applicable	Can't Determine
Are housekeeping employees trained in the proper management and safety procedures for radioactive waste, hazardous waste (including chemotherapy), hospital waste, regulated medical waste and cleaning chemicals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have employees been trained in spill containment and cleanup procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are employees aware of the health care facility's recycling programs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Can multiple brands of cleaning compounds be replaced by a few detergents whose disinfecting strength is adjusted by the housekeeping staff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility considered limiting the variety of housekeeping solutions used? (i.e., Implementing a metering dispensing system for dispensing fewer chemicals in the proper amount and concentration.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have less toxic cleaning products been identified and used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have alternatives to cleaning chemicals and degreasers that contain mercury been explored? (To ascertain the mercury content of materials being used, request a copy of the Certificates of Analysis from all suppliers. Certificates of Analysis should list the mercury content in parts per billion (ppb), not as a percentage.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Facility Maintenance

	Yes	No	Not Applicable	Can't Determine
Are mercury thermostats, covered under the requirements of 6 NYCRR Subpart 374-3 <i>Standards for Universal Wastes</i> , being managed in accordance with these regulations? (Assistance with applicable regulatory requirements should be directed to the NYSDEC Division of Solid and Hazardous Materials.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are pesticides, covered under the requirements of 6 NYCRR Subpart 374-3 <i>Standards for Universal Wastes</i> , being managed in accordance with these regulations? (Assistance with applicable regulatory requirements should be directed to the NYSDEC Division of Solid and Hazardous Materials.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the health care facility developed and implemented an integrated pesticide management plan that reduces to the greatest extent possible the use of chemical pesticides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is it possible to reduce the amount of pesticide applications and/or use nonchemical pest control methods?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If the health care facility generates used oil, are they in compliance with 6 NYCRR Subpart 374-2 <i>Standards for the Management of Used Oil</i> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the maintenance department collect and recycle waste cleaning solvents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has an on-site solvent distillation system been considered as a way to recycle waste solvent? (Check with your local NYSDEC office regarding regulations that apply to distillation systems.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are vendors required to take back pallets and/or packaging material?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	Can't Determine	Not Applicable
Are the concrete floors of the maintenance areas sealed with an impervious material to facilitate cleanup without using solvents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are maintenance areas cleaned with a biodegradable detergent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are your employees required to wipe up small spills as soon as they occur?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do maintenance personnel use dry methods for clean-up of small spills?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are maintenance personnel required to pick up absorbent material as soon as possible after the leak or spill has been immobilized?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the maintenance department considered using water-based paints?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are waste towels being stored in a closed, metal safety container?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are instruments and products which contain mercury being collected and properly managed? (See Appendix A for additional maintenance equipment that may contain mercury).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does your maintenance department send its dirty shop towels to a commercial laundry service for cleaning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

P2 Pays

The University of Rochester's Strong Memorial Hospital implemented an effective mercury reduction program in which mercury-containing equipment was substituted with electronic and mercury-free equipment, and mercury compounds were eliminated from certain activities within the clinical labs.

Mercury thermometer usage was the primary target of the mercury reduction program. Even though Strong Memorial Hospital performed approximately 750,000 temperature readings per year using electronic thermometers, there were still areas or situations where significant usage of mercury thermometers existed. These situations were evaluated and mercury thermometers were replaced wherever possible with electronic thermometers. During the course of the implementation, there were other opportunities to replace mercury containing items with mercury-free equipment. For example, mercury-filled sphygmomanometers were replaced with aneroid sphygmomanometers during the course of new construction, renovation, or as existing equipment was replaced. Also, mercury-filled gastrointestinal tubing was replaced with tungsten-filled tubing. Existing staff educational programs were upgraded to include mercury specific facts and handling procedures. In addition, the nursing policy was revised to discourage the practice of allowing patients to take mercury thermometers home with them.

Other mercury reduction initiatives included the elimination of mercury compounds within the clinical labs whenever there is an alternative. Histopathology discontinued the use of mercury compounds in 1992. The same was also true for the installation of energy efficient lighting and the management of mercury-containing fluorescent lamps.

In addition to the economic benefit to Strong Memorial Hospital as a result of the mercury reduction program, the real driver, in their opinion, was the win-win situation afforded by being mercury-free. All of the problems associated with using and disposing of a hazardous material were eliminated by replacement with nonhazardous materials.

NEXT STEPS

Following the completion of the self-assessment, you should be left with a list of operational areas where there are opportunities for pollution prevention. The next step is to obtain additional information to allow you to explore these opportunities and to determine which are cost effective and technically feasible without reducing service quality. A good first step is to consult the publications listed in the references section (see page 46). You should also check with vendors and request information about hospital supplies and medical equipment that are more “environmentally friendly.” Other sources of information regarding pollution prevention are the trade organizations and local, state and federal programs listed in “A Resource Guide,” page 35.

RESOURCE GUIDE

The following organizations provide technical assistance, publish information, conduct workshops and conferences; and provide telephone and on-site information on pollution prevention and better management of medical waste, air, water, solid and hazardous waste issues.

Trade Organizations

Joint Commission on Accreditation of
Healthcare Organizations (JCAHO)

One Renaissance Boulevard
Oakbrook Terrace, IL 60181
Phone: (630) 792-5000
Fax: (630) 792-5005
Internet: <http://www.jcaho.org>

American Hospital Association (AHA) -

Chicago Headquarters
One North Franklin
Chicago, IL 60606
Phone: (312) 422-3000
Fax: (312) 422-4796
Internet: <http://www.aha.org>

Greater New York Hospital Association
(GNYHA)

555 West 57th Street, 15th Floor
New York, New York 10019
Phone: (212) 246-7100
Fax: (212) 262-6350
Internet: <http://www.gnyha.org>

Healthcare Association of New York State
(HANYS)

74 North Pearl Street
Albany, New York 12207
Phone: (518) 431-7600
Fax: (518) 431-7915
Internet: <http://www.hanys.org>

New York State Nurses Association (NYSNA)

11 Cornell Road
Latham, New York 12110-1499
Phone: (518) 782-9400
Fax: (518) 782-9530
E-mail: infor@nysna.org
Internet: <http://www.nysna.org>

Western New York Healthcare Association

1876 Niagara Falls Blvd.
Tonawanda, NY 14150
Phone: (716) 695-0843
Fax: (716) 695-0073
E-mail: wnyha@wnyha.com
Internet: <http://www.wnyha.com>

North Metropolitan Hospital Association

400 Stony Brook Court
Newburgh, NY 12250-5162
Phone: (914) 562-7520
Fax: (914) 562-0187
Internet: <http://www.normet.org>

Lowell Center for Sustainable Production
Sustainable Hospitals Project

Kitson Hall, Room 2000
One University Avenue
Lowell, MA 01854
Phone: (978) 934-3259
E-mail: lcsp@uml.edu
Internet:
<http://www.uml.edu/centers/LCSP/hospitals/>

Iroquois Healthcare Organization
Clifton Park Office
17 Halfmoon Executive Park Drive
Clifton Park, NY 12065
Phone: (518) 383-5060
Fax: (518) 383-2616
Syracuse Office
5740 Commons Park
East Syracuse, NY 13057-9400
Phone: (315) 445-1851
Fax: (315) 445-2293
Internet: <http://www.iroquois.org>

Health Care Without Harm
National contact: Health Care Without Harm
c/o Center for Health, Environment and Justice
P.O. Box 6808
Falls Church, VA 22040
Phone: (703) 237-2249
Fax: (703) 237-8389
E-mail: noharm@iatp.org
Internet: <http://www.noharm.org>

NYS Nurses Association
11 Cornell Road
Latham, NY 12110
Phone: (518) 782-9400
Fax: (518) 782-9530
E-mail: info@nysna.org
Internet: <http://www.nysna.org>

Physicians for Social Responsibility/NYC
475 Riverside Drive #551
New York, NY 10115
Phone: (212) 890-2980
Fax: (212) 890-2243
E-mail: psrnyc@igc.apc.org
Internet: <http://www.psr.org.index.html>

Medical Society of the State of New York (MSSNY)
MSSNY Office
420 Lakeville Road, P.O. Box 5404
Lake Success, NY 11042-5404
Phone: (516) 488-6100
Fax: (516) 488-1267
E-mail: mssny@mssny.org
Albany Office
1 Commerce Plaza
99 Washington Avenue, Suite 2103
Albany, NY 12210
Phone: (518) 465-8085
Fax: (518) 465-0976
E-mail: mssnyalb@ix.netcom.com
Internet: <http://www.mssny.org>

Health Care Without Harm
New York State contact:
Citizens' Environmental Coalition
33 Central Avenue
Albany, NY 12210
Phone: (518) 462-5527
Fax: (518) 465-8349
E-mail: cehcwh@juno.com

New York Committee on Occupational Safety & Health (NYCOSH)
275 7th Avenue
New York, NY 10001
Phone: (212) 627-3900
E-mail: nycosh@nycosh.org
Internet: <http://www.nycosh.org>

Local Assistance

NEW YORK STATE:

University at Buffalo
Center for Integrated Waste Management
Jarvis Hall, Room 207
Buffalo, NY 14260-4400
Phone: (716) 645-3446, Ext. 2340
FAX: (716) 645-3667

METROPOLITAN AREA:

NYC Dept. of Environmental Protection
Environmental Economic Development
Assistance Unit
59-17 Junction Boulevard, 11th Floor
Corona, NY 11368-5107
Phone: (718) 595-4462
FAX: (718) 595-4479

MONROE COUNTY:

Monroe County Department of
Environmental Services
444 East Henrietta Road, Bldg. #15
Rochester, NY 14620
Phone: (716) 760-7523
FAX: (716) 324-1213

ONONDAGA COUNTY:

Onondaga County Resources Recovery
Agency
100 Elwood Davis Road
North Syracuse, NY 13212
Phone: (315) 453-2866
FAX: (315) 453-2872
Hotline #: (315) 453-2870

BROOME COUNTY:

Broome County
Division of Solid Waste Management
Edwin L. Crawford County Office Building
P.O. Box 1766
44 Hawley Street
Binghamton, NY 13902
Phone: (607) 778-2250
FAX: (607) 778-2395

ERIE COUNTY:

Erie County Department
of Environment & Planning
Office of Pollution Prevention
95 Franklin Street, Room 1077
Buffalo, NY 14202-3973
Phone: (716) 858-7583
FAX: (716) 858-7713

CHAUTAUQUA, CATTARAUGUS AND ALLEGANY COUNTIES:

The Southwestern New York
Environmental Compliance Network
Jamestown Community College
525 Falconer Street, P.O. Box 20
Jamestown, NY 14702-0020
Phone: (716) 665-5220 ext. 446
FAX: (716) 665-2585

The Center for Business and Industry
SUNY at Fredonia
Lograsso Hall
Fredonia, NY 14063
Phone: (716) 673-3177
FAX: (716) 673-3175

New York State Department of Environmental Conservation

Pollution Prevention Unit

Phone: (518) 457-2553

Small Quantity Generator P2 Hotline
(800) 462-6553, Out of State: (518) 485-8471

This technical assistance unit provides P2 information, develops industry sector manuals and other publications, offers workshops/training, holds annual pollution prevention conferences, coordinates NYS Governor's P2 Awards, and prepares annual toxic release inventory (TRI) reports.

Division of Solid and Hazardous Materials

Bureau of Hazardous Waste Management

(518) 485-8988

This bureau is responsible for making hazardous waste determinations, for reviewing hazardous waste reduction plans, hazardous waste permitting, and for hazardous waste compliance.

Bureau of Waste Reduction & Recycling

(518) 457-7337

This bureau is responsible for the waste tire program, the beneficial use program, the composting program, and other solid waste recycling and waste reduction issues.

Bureau of Solid Waste & Land Management

(518) 457-1859

This bureau administers the Part 360 Program, performs enforcement and monitoring, and conducts regulatory compliance inspections for landfills, waste-to-energy facilities, transfer stations and regulated medical waste facilities. Provides information on transporting and/or disposal

of regulated medical waste as well as regulated medical waste generated in non-Article 28 and non-Part 58 facilities.

Division of Water

Bureau of Water Facilities Design

(518) 457-1157

Responsible for managing the State Pollutant Discharge Elimination System (SPDES) permits, the SPDES program for storm water discharges, the water resources programs, and the municipal water supply permits.

Division of Environmental Remediation

Bureau of Spill Prevention and Response

(518) 457-9412

This office is responsible for the registration of tanks, presenting workshops and training, developing publications, receiving spill notifications, and serves as an information clearinghouse for industries and the public.

Spill Response Hotline

(800) 457-7362

To report releases of petroleum products or hazardous substances to air, land or water in New York State. Regulations require reporting within 2 hours if certain conditions are not met. Also, the National Response Center should be notified (see listing on page 41).

Petroleum Bulk Storage Hotline

(888) 457-4351

Provides technical assistance on chemical and petroleum aboveground and underground storage tanks.

Division of Environmental Permits

Phone: (518) 457-2224

This office is responsible for issuing permits to waste haulers that transport solid and hazardous, industrial & commercial, sewage and septage waste.

Division of Air Resources

Bureau of Stationary Sources

(518) 457-7688

This bureau is responsible for source review, permitting, MACT, NASHAP implementation, and air toxics assessments.

NYSDEC - Regional Offices

REGION 1

Nassau & Suffolk Counties
SUNY Campus
Loop Road, Building 40
Stony Brook, NY 11790-2356
Phone: (516) 444-0354

REGION 2

Bronx, Kings, New York, Queens & Richmond Counties
1 Hunters Point Plaza
47-40 21st Street
Long Island City, NY 11101-5407
Phone: (718) 482-4900

REGION 3

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster & Westchester Counties
21 South Putt Corners Road
New Paltz, NY 12561-1696
Phone: (914) 256-3000

REGION 4

Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady & Schoharie Counties
1150 Westcott Road
Schenectady, NY 12306-2014
Phone: (518) 357-2234

REGION 9

Allegany, Cattaraugus, Chautauqua, Erie, Niagara, & Wyoming Counties
270 Michigan Ave.
Buffalo, NY 14203-2999
Phone: (716) 851-7000

REGION 5

Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren & Washington Counties
Route 86, PO Box 296
Ray Brook, NY 12977-0296
Phone: (518) 897-1200

REGION 6

Herkimer, Jefferson, Lewis, Oneida & St. Lawrence Counties
State Office Building
317 Washington Street
Watertown, NY 13601
Phone: (315) 785-2238

REGION 7

Broome, Cayuga, Chenango, Cortland, Madison, Onondaga, Oswego, Tioga & Tompkins Counties
615 Erie Blvd. W.
Syracuse, NY 13204-2400
Phone: (315) 426-7400

REGION 8

Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne & Yates Counties
6274 East Avon-Lima Road
Avon, NY 14414
Phone: (716) 226-2466

Other State Agencies

Empire State Development (ESD),
Small Business Division,
Clean Air Act Small Business Ombudsman
633 3rd Avenue, 32nd Floor
New York, NY 10017
Phone: (800) STATENY
For assistance in determining how regulations may affect a business and in communicating with state regulatory agencies; sets up workshops; and handles complaints.

NYS Department of Health
Corning Tower
Empire State Plaza
Albany, New York 12237
Phone: (518) 485-5378
For questions concerning the management of regulated medical waste as it pertains to the Public Health Law 1389 AA-GG.

NYS Environmental Facilities Corporation
Small Business Assistance Program
50 Wolf Road, Albany, NY 12205
Hotline: (800) 780-7227
Phone: (518) 457-9135
FAX: (518) 485-8494
Provides fee-free technical assistance, interprets requirements, provides advice on pollution prevention and control strategies and conducts environmental audits. EFC also provides fee-based contractual technical advisory services for a broad range of environmental issues.

NYS Department of Health
Wadsworth Center -
Regulated Medical Waste Program
Phone: (518) 485-5378
Provides a list of approved treatment technologies and information on the application procedures to obtain approval for alternative treatment systems, as well as questions related to efficacy test methods and results.

Federal Assistance

Pollution Prevention Information Clearinghouse
Phone: (202) 260-1023
Fax: (202) 260-9780
E-mail: ppic@epamail.epa.gov
Provides a library and an electronic bulletin board dedicated to information on pollution prevention.

U.S. EPA Region II Compliance Assistance & Program Support Branch
290 Broadway, 22nd Floor
New York, NY 10007-1866
Phone: (212) 637-3268
To receive technical assistance and guidance on compliance, pollution prevention and waste minimization issues on a multimedia basis.

U.S. EPA Asbestos and Small Business Ombudsman Hotline
Phone: (800) 368-5888
Helps private citizens, small businesses and smaller communities with questions on all program aspects with EPA.

National Response Center
Phone: (800) 424-8802
EPA's 24-hour hotline for reporting oil and chemical spills to the Federal Government. This hotline is manned by the U.S. Coast Guard.

RCRA/Superfund/EPCRA Hotline
Phone: (800) 424-9346
To obtain information on matters related to solid waste, hazardous waste, or underground storage tanks. Also can be used to order EPA publications.

Internet Resources

Organization	Internet Address
Joint Commission on Accreditation of Healthcare Organizations	http://www.jcaho.org
American Hospital Association	http://www.aha.org
Greater New York Hospital Association	http://www.gnyha.org
Healthcare Association of New York State, Inc.	http://www.hanys.org
Iroquois Healthcare Alliance	http://www.iroquois.org
Medical Society of the State of New York	http://www.mssny.org
Northern Metropolitan Hospital Association	http://www.normet.org
Western New York Healthcare Association	http://www.wnyha.com
World Health Organization	http://www.who.int
Health Care Without Harm	http://www.noharm.org
Centers for Disease Control and Protection	http://www.cdc.gov
U.S. Department of Veterans Affairs	http://va.gov
New York State Nurses Association	http://www.nysna.org
Tellus Institute	http://www.tellus.org
North Carolina's Division of Pollution Prevention and Environmental Assistance	http://www.p2pays.org
<i>NEW YORK STATE</i>	
Empire State Development Services to Business	http://www.empire.state.ny.us
NYS Department of Environmental Conservation	http://www.dec.state.ny.us
NYS Environmental Facilities Corporation	http://www.nysefc.org
NYS Energy Research and Development Authority	http://www.nyserda.org
<i>U.S. EPA</i>	
Green Lights Partnership	http://www.epa.gov/greenlights.html
Enviro\$en\$e	http://www.es.epa.gov
Technology Transfer Network	http://www.epa.gov/ttnsbap1/index.html
Climate Wise	http://www.ega.gov/climatewise
<i>U.S. DEPARTMENT OF ENERGY</i>	
Pollution Prevention Information Clearinghouse	http://epic.er.doe.gov/epic

PACIFIC NORTHWEST LABORATORIES
Green Guide
Pollution Prevention Resource Center

<http://www.pnl.gov>
<http://www.pprc.org>

Appendix A

Health Care Facilities Instruments And Products That May Contain Mercury

The following information was obtained from: Reducing Mercury Use in Health Care, Promoting a Healthier Environment, A How-to Manual, prepared by Monroe County Department of Health, in cooperation with Strong Memorial Hospital, Rochester, NY and the Monroe County Department of Environmental Services, with funding by a grant from the U.S. Environmental Protection Agency.

This list should not be assumed to be complete.

Thermometers

- Body temperature thermometers
- Clerget sugar test thermometers
- Heating and cooling system thermometers
- Incubator/water bath thermometers
- Minimum/Maximum thermometers
- National Institute of Standards and Technology calibration thermometers
- Tapered bulb (armored) thermometers

Sphygmomanometers

Gastrointestinal tubes

- Cantor tubes
- Esophageal dilators (bougie tubes)
- Feeding tubes
- Miller Abbott tubes

Dental amalgam

Pharmaceutical supplies

- Contact lens solutions and other ophthalmic products containing thimerosal
phenylmercuric acetate or phenylmercuric nitrate
- Diuretics with mersalyl and mercury salts
- Early pregnancy test kits with mercury containing preservatives
- Merbromin/water solution
- Nasal spray with thimerosal, phenylmercuric acetate or phenylmercuric nitrate
- Vaccines with thimerosal (primarily in hemophilus, hepatitis, rabies, tetanus, influenza,
diphtheria and pertussis vaccines)

Cleaners and degreasers with mercury-contaminated caustic soda or chlorine

Batteries (medical uses)

- Alarms
- Blood analyzers
- Defibrillators
- Hearing aids
- Meters
- Monitors
- Pacemakers
- Pumps
- Scales
- Telemetry transmitters
- Ultrasound

Appendix A - Continued

Health Care Facilities Instruments And Products That May Contain Mercury

Ventilators

Batteries (nonmedical uses)

Lamps

Fluorescent

Germicidal

High-intensity discharge (high pressure sodium, mercury vapor, metal halide)

Ultraviolet

Electrical equipment

Tilt switches

Air flow/fan limit control

Building security systems

Chest freezer lids

Fire alarm box switches

Lap-top computer screen shut-off

Pressure control (mounted on bourbon tube or diaphragm)

Silent light switches (single-pole and three-way)

Temperature control (mounted on bimetal coil or attached to bulb devices)

Washing machine (power shut off)

Float control

Septic tanks

Sump pumps

Thermostats (nondigital)

Thermostat probes in electrical equipment

Reed relays (low voltage, high precision analytical equipment)

Plunger or displacement relays (high current/high voltage application)

Thermostat probes in gas appliances (flame sensors, gas safety valves)

Pressure gauges

Barometers

Manometers

Vacuum gauges

Other

Devices, such as personal computers, that utilize a printed wire board

Blood gas analyzer reference electrode (Radiometer brand)

Cathode-ray oscilloscope

DC watt hour meters (Duncan)

Electron microscope (mercury may be used as a damper)

Flow meters

Generators

Hitachi Chem Analyzer reagent

Lead analyzer electrode (ESA model 3010B)

Sequential Multi-Channel Autoanalyzer (SMCA) AU 2000

Vibration meters

Appendix B

Alternative Treatment Technologies

The following information was obtained from: New York State Department of Health (NYSDOH), Managing Regulated Medical Waste, Interpretive Guidelines for Implementing Revisions to Public Health Law 1389^{AA-GG}.

There are numerous alternative technologies which are currently available from over forty manufactures within the United States and Europe. They vary in capacity from those designed for use in physician/dentist offices, capable of treating twenty-five to one hundred pounds per cycle, to systems to be used in major medical centers or regional treatment facilities, which are able to treat one ton or more of waste per cycle (generally a cycle is one to one and one-half hours in length). In many instances these alternative technologies simultaneously treat, destroy, and reduce the volume of regulated medical waste through the use of pre- or post-treatment grinders/shredders or by the use of extremely high temperatures (upwards of 15,000°F) to reduce the waste to ash. They vary in cost from less than \$2,000 per unit to approximately \$750,000 per system. The larger the capacity, the greater the waste reduction and the more automated the technology, the higher the initial cost of the unit. However, regardless of the capacity, the extent of the automation, or overall volume reduction, all alternative systems treat regulated medical waste using one of three methods; (a) heating the waste to a minimum of 210°F by means of microwaves, radio waves, hot oil, hot water, steam or superheated gases; (b) exposing the waste to chemicals such as sodium hypochlorite (household bleach) or chlorine dioxide; or (c) by subjecting the waste to heated chemicals.

All alternative technologies must be approved by the NYS Department of Health prior to being offered for sale in New York State. The Regulated Medical Waste Program (RMWP) is the unit within the Wadsworth Center which evaluates all alternative treatment systems for the Department of Health. Each manufacturer seeking approval of an alternative treatment system for use in the State must test the efficacy of the product in accordance with the recommendations contained in the *Technical Assistance Manual: State Regulatory Oversight of Medical Waste Treatment Technologies*. A list of such approved treatment technologies and information on the application procedures to obtain approval for alternative systems, as well as questions related to efficacy test results can be obtained by calling the Regulated Medical Waste Program at (518) 485-5378.

It is important to understand that a form that evidences treatment by an approved technology must accompany the treated waste to a solid waste management facility authorized to accept the treated regulated medical waste. The Department of Health has developed a form for this purpose which must be used by those facilities that treat on-site by incineration or autoclaving. The Department of Health does not require the use of this specific form with waste treated by some alternative treatment technologies.

REFERENCES

U.S. Environmental Protection Agency (August, 1991). *Project Summary*, "Hospital Pollution Prevention Case Study." EPA/600/S2-91/024.

U.S. Environmental Protection Agency (June, 1990). *Guides to Pollution Prevention: Selected Hospital Waste Streams*. EPA/625/7-90/009.

Riggle, David (February, 1994). "Solid Waste Surgery: Advanced Hospital Recycling." *BioCycle*, pages 34-37.

North Carolina Department of Environment, Health, and Natural Resources (August, 1996). *Waste Reduction and Disposal Options for Specific Hospital Wastes*.

Tickner, Joel, Lowell Center for Sustainable Production, University of Massachusetts Lowell (revised June 14, 1999). *The Use of Di-2-Ethylhexyl Phthalate in PVC Medical Devices: Exposure, Toxicity, and Alternatives*.

Monroe County Department of Health, in cooperation with Strong Memorial Hospital, Rochester, New York and the Monroe County Department of Environmental Services (1998). *Reducing Mercury Use in Health Care: Promoting a Healthier Environment*.

Federal Register, Environmental Protection Agency (July 6, 1999). "40 CFR Parts 260, 261, 264, etc. Hazardous Waste Management System; Modification of the Hazardous Waste Program; Hazardous Waste Lamps; Final Rule."

Waste Management Assistance Division; Nelson, Julie A., Gibson, Larry A. (January, 1996). *Pollution Prevention Works for Iowa: Health Care Case Summaries*. From: Iowa Waste Reduction Assistance Program, Waste Management Assistance Division, Iowa Department of Natural Resources, 900 East Grand Avenue, Des Moines, IA 50319-0034; (515)281-8927.

Boston University Corporate Education Center (1998). *A New Prescription: Pollution Prevention Strategies for the Health Care Industry*, proceedings of a workshop held in October, 1998. From: Boston University Corporate Education Center, Tyngsborough, Massachusetts.

Department of Veterans Affairs (1998). *VHA Program Guide 1850.1 Recycling Program*. From: Environmental Management Programs Office, Veterans Health Administration, Washington, D.C.

New York State Department of Health (December, 1995). *Managing Regulated Medical Waste, Interpretive Guidelines for Implementing Revisions to Public Health Law 1389AA-GG*. Kansas Small Business Environmental Assistance Program. *Medical Facility Waste*.

U.S. Environmental Protection Agency Fact Sheets:

- #1 *Keeping Mercury Out of Medical Waste (1995)*
- #3 *Use of Alternative Products (1995)*
- *Keep Mercury Out of the Wastewater Stream*

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