

# Recommendations for the Management of Wastewater During Decontamination at the Hospital Site

State Expert Panel on the Management of  
Biological, Chemical and Radiological Waste Water<sup>1</sup>

August 2005

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<sup>1</sup> This is the 2<sup>nd</sup> version of this document. The only change in this 2<sup>nd</sup> version has been to substitute in this version the words “wastewater” instead of “effluent”, which was used in the 1<sup>st</sup> version.

## 1. Decontamination Enhancements at Wisconsin Hospitals

All hospitals<sup>2</sup> in the State of Wisconsin have enhanced their ability to provide decontamination for patients, who have been exposed to biological, chemical and radiological agents. This has been made possible through funds, awarded to the Wisconsin Division of Public Health, Hospital Bioterrorism Preparedness Program, from the Health Resources and Services Administration (HRSA), beginning with the FY 2003 Cooperative Agreement in April of 2002. Through these funds, hospitals have been able to purchase portable two-lane decontamination shelters, funds to build and/or renovate fixed decontamination rooms and also funds to help subsidize the training of staff in HAZWOPER Awareness and Operations.

In addition, through a collaborative effort with the State of Wisconsin, Office of Justice Assistance, hospitals have each received 18 Level C decontamination suits, 6 powered air-purifying respirators (PAPR) and 100 pre-decontamination and post-decontamination kits, which contain bags for contaminated clothing and valuables and garments to wear prior to and after decontamination.

There are also stockpiles of additional decontamination suits that can rapidly be made available to hospitals, whose supply may be depleted in a mass decontamination incident.

The State Expert Panel on Decontamination provided recommended standards for the decontamination of patients at hospitals:

- Each hospital is to have Level C decontamination equipment
- Each hospital is to have at least a portable decontamination shelter or a fixed decontamination room
- Each hospital is to have a plan for the holding of patients prior to and after decontamination, if there are large numbers of patients in need of decontamination
- Each hospital must have the ability to begin the decontamination of contaminated patients “immediately” (defined as within 3 minutes of the patient presenting to the Emergency Department)
- Each hospital must have the ability to decontaminate 4 ambulatory patients within 20 minutes
- Each hospital must have the ability to decontaminate 2 non-ambulatory patients within 20 minutes

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<sup>2</sup> It should be noted that some tribal clinics and federally qualified community health centers have also been the recipients of funds to enhance their decontamination capabilities. For the sake of brevity, the term “hospitals” in this document also includes those tribal clinics and federally qualified community health centers with decontamination capability. (see **Appendix E**: Hospitals, Tribal Clinics, Federally Qualified Community Health Centers with Decontamination Capability; see **Appendix G**: Map of Hospital Preparedness Regions)

The State Expert Panel on Decontamination also developed the specifications for the portable decontamination shelter, the fixed decontamination room and added recommendations to enhance the HAZWOPER curriculum to train hospital staff in specific issues related to the decontamination of patients in the hospital setting.

## **2. Present Capability of Hospitals to Manage Waste Water**

The State Expert Panel on Decontamination did not specifically address the management of wastewater from the decontamination process due to the lack of any guidance at that time and the inconsistent manner, in which various states, which were contacted, were managing this wastewater.

The portable decontamination shelter provided to each hospital has a basin that can be placed in the floor of the tent, including risers or duckboards, to keep the victims from walking in the wastewater. However, this basin will be quickly filled in an event, involving even small numbers of contaminated patients. The portable decontamination shelter has a flow rate of 11 gallons per minute and a basin capacity of 160 gallons. Thus, with hospitals decontaminating patients according to the recommended standard (4 per 20 minutes), the basin would be filled at 14 minutes into the incident. The basin does contain a valve to redirect the wastewater to another containment resource.

Given this problem and the lack of any specific guidance, the State Expert Panel on the Disposal of Biological, Chemical and Radiological Wastewater was formed in the Spring of 2005 (see **Appendix A: State Expert Panel Membership**). A draft document from the Association of Metropolitan Sewerage Agencies<sup>3</sup> (AMSA), “*Managing Decontamination – A Utility Planning Checklist*” (see **Appendix B**) was used as a resource by the Expert Panel members. The final version of the “*Utility Planning Checklist*” has not yet been published.

Discussions and agreements between hospitals and their Publicly Owned Treatment Works (POTW)<sup>4</sup> showed that different sewerage districts managed the wastewater in different manners, based on the capabilities of the POTW to manage different types of contaminants. This led to a perception of inconsistency of wastewater management by the POTW, when, in reality, it is the capability of the POTW to manage the wastewater that serves as the basis of the following recommendations of the State Expert Panel.

## **3. Legal Basis for Wastewater Management**

Wisconsin Administrative Code NR 211.20 (see **Appendix C**) and Federal General Pretreatment Regulations, 40 CFR 403.8(a) (see **Appendix D**) provide the basis for a pretreatment program. These statutes require each POTW to have a Sewer Use Ordinance, which directs users such as hospitals as to what type of wastewater they can or cannot allow to enter into the wastewater stream. Because each POTW has different capabilities,

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<sup>3</sup> AMSA has undergone a name change and is now known as *National Association of Clean Water Agencies (NACWA)*.

<sup>4</sup> (see **Appendix F**: List of POTWs by HRSA Region by County)

based on the size of its sewer district, the amount of wastewater flow coming into the POTW and other variables, the Sewer Use Ordinance requires that each POTW have a plan for the management of the various contaminants that may enter the sewerage system. Based on the capabilities of the POTW, the hospital is also to have a plan to manage the wastewater. This is then the first recommendation of the State Expert Panel:

**Recommendation #1: Each hospital is to meet with its POTW and develop a plan for the management of wastewater from its decontamination shelter/room.**

The Wastewater Management Plan will be unique to each hospital and POTW. Even if the POTW allows the hospital to drain the wastewater into the sanitary sewer, it is still recommended that all applicable parts of this Plan be completed by both the POTW and the hospital. The Hospital Wastewater Management Plan Template (see **Appendix I**) contains recommended issues that the hospital and the POTW are to consider for insertion into the Hospital Wastewater Management Plan (the issues in this Template are not meant to be inclusive):

Because of the potential for an accidental spill of the wastewater, it is important that the DNR also be invited, as a courtesy, to participate in this planning process. The POTW will be able to identify the appropriate DNR contact for the particular sewer district. The DNR Spill Coordinator is also to be invited to participate in this planning process.

**Recommendation #2: The DNR is to be invited, as a courtesy, to participate in this planning process with the POTW and the hospital.**

#### **4. Levels of Incident**

It was discussed by the Expert Panel that there are different levels of incidents that may require the need for decontamination and also differences in the decontamination operational processes. It was felt that discussions between the hospital and POTW and others will benefit, if there is common understanding of these levels of incidents.

**Recommendation #3: There are four levels of incidents that will require decontamination:**

**Level 1:** Substantial decontamination has occurred at the industrial, research or educational site of the incident. Thus, there is very little residual contamination on the person, who presents to the hospital for decontamination before treatment. Decontamination at the hospital is precautionary.

**Level 2:** There has been little or no decontamination in the field at the incident site. Based on the contaminant or the expected number of persons exposed, the hospital does not expect to exceed its on-site wastewater containment capacity.

**Level 3:** The incident is large and the hospital expects that it will exceed its wastewater containment capacity

**Level 4:** an event of national significance<sup>5</sup> such as a nuclear explosion, dirty bomb or other WMD, involving biological, chemical or radiological agents

## **5. Local Emergency Planning Committee (LEPC)**

Each Hospital Wastewater Management Plan, which will be developed by the hospital and the POTW, will be unique to the capabilities of that particular sewerage district. Although the primary responsibility for the plan and the management of the wastewater is that of the hospital and the POTW, there may be other resources in the county that could aid both the hospital and the POTW in their efforts to manage the wastewater.

The LEPC is a county organization, charged with developing and implementing an emergency response plan for the county. Included in these planning responsibilities is the inventory of all hazardous materials that are within the county and also the hazardous materials that may be transported through the county. The LEPC is knowledgeable of the resources available within the county and in other counties, through mutual aid agreements that the LEPC has with other emergency response organizations, which may be able to augment the resources of the hospital and the POTW to manage the wastewater. Therefore, the State Expert Panel makes the following recommendation:

**Recommendation # 4: The hospital and POTW will present their plan for the management of wastewater from the decontamination shelter/room to their LEPC for review and comment.**

## **6. Notification of the POTW**

The first and most important element of this wastewater management plan is the IMMEDIATE notification of the POTW by the hospital that a Level 1, 2, 3 or 4 incident has occurred. “Immediate” is defined as within 3 minutes of the first patient presenting to the hospital, since this is the standard for hospitals to begin the decontamination process. In most cases, the decontamination process will begin by the person removing their clothing. This will accomplish the majority of the decontamination process. It is expected that the contaminated patient should be within the fixed decontamination room/portable decontamination shelter in less than 3 minutes. The portable decontamination shelter can be erected sufficiently to allow the patient to remove contaminated clothing, even before the water connections are completed and the shelter is completely secured and operational.

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<sup>5</sup> An “Incident of National Significance” is defined in the National Response Plan and will necessarily involve the Department of Homeland Security

This immediate notification of the POTW will require hospitals to have a protocol to assign this notification responsibility to a particular function<sup>6</sup>. If at all possible, this person, who notifies the POTW, should also be sufficiently knowledgeable about what is occurring to answer questions, posed to the hospital by the POTW about the incident and anything that may help in identifying the contaminant. Therefore, the State Expert Panel makes the following recommendation:

**Recommendation # 5: Each hospital is to have a notification protocol which addresses**

- **the immediate notification of the POTW and the County Emergency Management Director when there is a Level 1, 2, 3 or 4 incident**
- **the identification of the function at the hospital responsible for this notification**
- **the function is sufficiently engaged in the decontamination process so as to answer knowledgeably questions, posed by the POTW about the incident**
- **the function has immediately available the 24/7 contact information for the POTW**

Depending upon the individual Hospital Wastewater Management Plan, in certain POTW districts, it is possible that the plan may allow the hospital to bypass the holding tank or bladder and discharge the wastewater into the sanitary sewer. Each POTW is required to have knowledge of contaminants in their district and the protocols to be implemented for the management of these contaminants should they enter the wastewater stream. This immediate discharge of the wastewater into anything other than a holding tank assumes that the agent is known and an evaluation has been made by the POTW that it can appropriately manage the discharged wastewater.

If direct discharge of the wastewater into the sanitary sewer is not the directive to the hospital by the POTW, the hospital will then know that it needs to implement its containment protocols and also that the POTW may need to take further steps within the sewerage system or the sewerage facility, itself, to manage the wastewater.

The hospital is also to notify its local Emergency Management Director, once the decision has been made to begin the decontamination process.

## **7. Containment of Wastewater**

If the contaminant is unknown, then it is most likely that the POTW will request that the hospital contain the wastewater until an identification of the contaminant has been made and the resulting determination for the management of the wastewater and its method of disposal.

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<sup>6</sup> The word “function” refers to the position that has this responsibility rather than the name of the person.

There are multiple options available for the containment of the wastewater by the hospital. The LEPC will be a valuable resource in assisting the hospital in determining the assets that can be utilized for the containment of the wastewater. These resources range from purchasing an inexpensive “kiddie pool” to the use of large holding tanks, supplied by waste management companies.

Even hospitals with holding tanks are to consider back-up options for the containment of wastewater should their holding tanks reach their capacity in a large scale incident. Therefore, the State Expert Panel makes the following recommendation:

**Recommendation # 6: Each hospital is to have a plan for the containment of wastewater, including notification of the appropriate authorities, once the capacity of their existing containment system has been reached.**

It is very possible that even with a containment protocol in place, either the incident occurs so rapidly that the hospital has not the opportunity to implement its containment protocols or the incident is of such a magnitude that even the containment protocols are not sufficient to manage the volume of wastewater. When the hospital projects that its containment systems will not be able to manage the volume of wastewater and it is evident that further containment assets may not be immediately available, the hospital is immediately to notify the POTW that its capacity has been reached. The Emergency Management Director will be able to assist the hospital with the procurement of additional wastewater holding resources. The Emergency Management Director will also contact the HAZMAT team to assist, if necessary.

In addition, the Emergency Management Director will be responsible for notifying the Wisconsin State Laboratory of Hygiene (WSLH), which will perform testing to determine the contaminant.

The POTW has jurisdiction over the sanitary sewer and the DNR has jurisdiction over the storm sewer. The DNR is to be notified if there is an accidental spill of the wastewater into the storm sewer or into the ground. If this occurs, the hospital may be considered as the “spiller.” The DNR will evaluate the incident and determine if there was intent to spill or if the spill was accidental and also if there is a need for remediation. The DNR will need to know the quantity of the wastewater that was spilled is and the nature of contaminant, if known. If the spill was accidental, the hospital will have the protections of CERCLA.

The projection of reaching full capacity is to be made as soon as possible so that the POTW and DNR have the opportunity to respond to this situation before the wastewater begins to flow out of the containment assets. These projections can be made by looking at the flow rate of the decontamination showers, the expected number of persons to be decontaminated and the capacity of the containment assets. This equation should result in the estimated time for all the containment assets to reach maximum capacity.

The POTW and DNR then can provide guidance to the hospital in conjunction with other local authorities for developing contingency plans for the hospital. This could include options to contain the wastewater through the use of tanker trucks or to discharge the overflow wastewater into the sanitary or storm sewer or to have the wastewater flow into the ground for removal at a later date. Therefore, the State Expert Panel makes the following recommendation:

**Recommendation #7: The hospital is to have a protocol for a function at the hospital to monitor the volume of wastewater and the maximum capacity of its containment system. Once it is projected that this capacity is expected to be exceeded, the function is to immediately notify the POTW and DNR of this situation so as to receive directions about the disposal of excess wastewater.**

If the incident is of this magnitude, it is very possible that the Emergency Operations Center (EOC) will have been activated, which will provide a further resource for decision-making regarding the management of the wastewater. If the EOC has not been activated, then the hospital and the POTW must include in their plan the protocol that will be implemented, if the hospital can no longer contain its wastewater and what actions then may be taken by the POTW and other agencies to manage this overflow of wastewater.

Therefore, the State Expert Panel makes the following recommendation:

**Recommendation #8: The Wastewater Management Plan is to have a protocol for involving other agencies, if necessary, when the capacity of the hospital to manage the volume of wastewater is being threatened.**

**Recommendation #9: The Wastewater Management Plan is to have pre-identified options so that the hospital can plan in advance for the implementation of these options if needed.**

**Recommendation #10: The Wastewater Management Plan is to include the marking and numbering of all sewers in the area where the decontamination process will occur as either sanitary or storm.**

## **8. Responsibility for Non-Containment of Wastewater**

Homeland Security Presidential Directive 8 (HSPD 8) (see **Appendix H**) recognizes hospitals as first responders. Thus, hospitals have the protections and benefits of first responders. In a letter, dated September 17, 1999 from the United States Environmental Protection Agency (EPA) to the U.S. Army Soldier and Biological Chemical Command, Aberdeen Proving Grounds in Maryland, the EPA Emergency Coordinator writes:

“EPA will not pursue enforcement actions against state and local responders for the environmental consequences of necessary and appropriate emergency



response actions. During a hazardous materials incident (including a chemical/biological agent terrorist event), first responders should undertake any necessary emergency actions to save lives and protect the public and themselves. Once an imminent threat to human health and life is addressed, first responders should immediately take all reasonable efforts to contain the contamination and avoid or mitigate environmental consequences and an expanded scope of work for mitigative response actions.”

The EPA Emergency Coordinator also references CERCLA:

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Section 107 (d) Rendering Care or Advice, addresses this issue. Section 107 (d)(1), often known as the “Good Samaritan” provision, states: “No person shall be liable under this subchapter for costs or damages as a result of actions taken or omitted in the course of rendering care, assistance or advice in accordance with the National Contingency Plan (NCP) or at the direction of an On-Scene Coordinator appointed under such a plan, with respect to an incident creating a danger of public health or welfare or the environment as a result of any release of a hazardous substance or the threat thereof.”

It can reasonably be assumed that if the hospital and POTW have taken due diligence to develop and implement a plan for the management of the wastewater, then both entities will have the protections of the law as referenced above, assuming that any release of the wastewater by the hospital or the management of the wastewater by the POTW was not due to negligence.

## **9. Other Considerations**

The State Expert Panel will not address other decontamination considerations that will need to be addressed in an incident involving biological, chemical and radiological agents. These considerations include, but are not limited to, such protocols as “lockdown procedures” for the hospital or closure of the sewerage systems or the personal protective equipment necessary for hospital and wastewater treatment staff during an incident involving hazardous contaminants.

It is assumed that both hospitals and POTWs will address these and other such considerations under their individual Emergency Management Plans.

## **10. Special Considerations for Radiological Contaminants**

All recommendations previously mentioned also apply to the wastewater that may contain radiological agents. In addition to the guidance provided to the hospital by the POTW, there will also be guidance provided both to the hospital and to the POTW by the Radiation Protection Section, Bureau of Environmental Health, Wisconsin Division of Public Health should there be an incident involving a radiological agent.

There are some differences in the decontamination of patients contaminated with radiological agents as compared to those contaminated by biological or chemical agents. This document will not address these differences. Hospitals are referred to Operations Section 10 of the Wisconsin Hospital Emergency Preparedness Plan for directives specific to the management of patients contaminated with radiological agents.

## Appendix A: State Expert Panel Membership

**Daniel Alldridge**, Security Coordinator, Bureau of Watershed Management, Wisconsin Department of Natural Resources

**Ronald Bresell**, Associate Director for Campus Safety, University of Wisconsin – Madison

**Tracy Buchman**, Director of Safety & Hazard Control, University of Wisconsin Hospital

**David Drummond**, Safety Department Director, University of Wisconsin - Madison

**Teri Engelhart**, Radiological Emergency Preparedness Planner, Wisconsin Emergency Management

**Ralph Erickson**, Pretreatment & Waste Acceptance Coordinator, Madison Metropolitan Sewerage District

**Cheryl Glomp**, ED EMS Safety & Preparedness Coordinator, St. Mary's Hospital Medical Center

**Timothy Jackman**, Volunteer, Safety & Health Office, William S. Middleton Memorial Veteran's Hospital

**Janice Lee, Ph.D.**, Toxicologist, Wisconsin Division of Public Health

**Don Lythjohan**, Field Superintendent & Safety Director, Madison Metropolitan Sewerage District

**Bill Oldenburg**, Pretreatment Program Coordinator, Green Bay Sewerage District

**William Otto**, Environmental Health Hazard Evaluation, Wisconsin Division of Public Health

**Robert Ritger**, Wisconsin HRSA Region 4 Project Coordinator

**Paul Schmidt**, Nuclear Engineer, Wisconsin Division of Public Health

**Duane Schuettpelez**, Section Chief, Permits & Pretreatment Section, Wisconsin Department of Natural Resources

**John Straughn**, Chemist- Senior Waste Management Specialist, Safety Department, University of Wisconsin – Madison

**Susan Sylvester**, Chief, Permit Section, Bureau of Watershed Management, Department of Natural Resources

**Dennis Tomczyk**, Director, Hospital Bioterrorism Preparedness, Wisconsin Division of Public Health

**Chuck Warzecha**, Health Risk and Drinking Water Issues, Bureau of Environmental Health, Wisconsin Division of Public Health

## Appendix B: “Managing Decontamination – A Utility Planning Checklist”<sup>7</sup>

### **Understanding the Threat of Decontamination**

#### **Substances that may be contained in decontamination**

- Chemical warfare agents such as blood, nerve, blistering, choking, or tear-inducing agents, as well as toxic industrial chemicals
- Biological warfare agents including disease causing bacteria, viruses and toxins
- Radioactive materials

#### **Means of decontamination entering the sewer system**

- Runoff from decontamination activity by inflow around manhole covers, through catch basin inlets in the case of combined sewer systems, or through floor drains in the case of interior decontamination activities.
- Direct discharge into a manhole or inlet by the personnel responsible for decontamination activities.
- Decontamination showers at hospitals or other facilities that drain to the building sewer connecting to the sewer system.
- Sewerage from a building in which persons exposed to Chemical, Biological or Radioactive (CBR) substances had bathed or laundered clothes.
- Excreta from persons exposed to CBR agents via plumbing fixtures that are connected to the sewer system.
- Disposal of contaminated drinking water from reservoirs, water treatment facilities and water distribution systems.

### **Minimizing the Threat through Planning, Coordination and Communication**

#### **Within the utility**

- Develop an Emergency Response Plan that includes: (1) A decision-making framework for responding to incidents where decontamination may be generated; (2) Procedures for preparedness, response and incident management for such incidents; (3) Contact information for organizations to assist with recovery, and agencies to notify in case of a decontamination event.
- Maintain and distribute supplies and equipment that could be used to contain decontamination, and reduce its impacts on the system.
- Provide personal protective equipment for those employees that are appropriately trained, and may be assigned to assist emergency personnel
- Develop mutual aid agreements with adjacent utilities, and contracts with hauling companies to assist in providing services should a portion of the system be temporarily out-of-service.

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<sup>7</sup> This is a draft document only. AMSA has not yet published a final version of this checklist.

### **With local emergency managers and first responders**

- Establish protocols, agreements and memoranda of understanding with local emergency management agencies and first responders to assure the utility is notified of incidents that may generate decontamination .
- Invite representatives from local emergency management agencies and first responders to train with utility staff, and request utility participation in their training exercises.
- Assist local emergency managers and first responders to develop procedures and identify laboratories for rapidly determining type and concentration of CBR substances in decontamination .
- Collaborate with local emergency managers and first responders in designing methods for containing as much decontamination on-site as possible, or diverting decontamination to holding tanks or diked-in areas, where testing and treatment can be accomplished.
- Provide local emergency management managers and first responders with the information they need to acquire and deploy equipment and materials to prevent decontamination from entering the sewer system.
- Encourage first responders to add a safe tracer dye to water used for decontamination so that the resulting can be tracked prior to and after entering the sewer system.
- With the water utilities assistance of local emergency managers, prepare “standby” public notices to be used to inform persons involved in an incident the steps to take to avoid discharge of CBR wastes into the sewer system.

### **With customers and agencies that may discharge decontamination**

- Meet with key staff members of hospitals, clinics, laboratories and industrial customers to explain the possible impacts of decontamination and offer assistance in developing methods for notification, analysis and containment.
- Incorporate into pretreatment permits, the appropriate requirements for customers to immediately notify the utility of any incident that may result in decontamination treatment and resulting discharge from their building or facility.
- Amend pretreatment regulations to require all appropriate users such as hospital, clinics, laboratories and other selected non-domestic customers to develop and maintain plans for containment, testing and decontamination of .
- Work with water utilities to establish to establish procedures for disposing of contaminated water in ways that would not adversely impact the sewer system, such as isolation and in-situ treatment, or temporary storage prior to discharge.

## **Minimizing the Threat through Physical Measures**

### **Preventing decontamination from entering the sewer system**

- Barrier methods prevent decontamination from reaching the collection system by placing a physical obstacle in the way of the runoff (e.g., drain seals, manhole shields, pan inserts, berms and drain plugs.)
- Containment methods keep contamination at the location where it is generated. Examples consist of sumps, pools, of dikes that retain the runoff from decontamination activities.
- Sorbents can absorb and retain small amounts of decontamination . They are available in a wide variety of materials such as gels, foams and solids that are specifically designed for individual classes of hazardous materials.

### **Mitigating the impact of decontamination that reaches the sewer system**

- In many cases, the adverse impacts of CBR substances on the sewer system will be minimized by dilution from water used in the decontamination activities and from existing in the sewer system. However, some CBR substances will still be harmful at very low concentrations.
- The effects of many chemical agents can be minimized through the use of calcium hypochlorite, sodium hydroxide or the U.S. Military's Decontamination Solution No. 2, depending on the specific agent.
- Many, but not all, bacteria, viruses and toxins can be inactivated with a sufficient contact time with chlorine compounds such as sodium hypochlorite.
- Radioactive materials can be removed from decontamination only through advanced treatment processes such as ultra-filtration and reverse osmosis.
- In any instance where decontamination is disposed of through the sewer system, all efforts should be made to control the rate of entry to minimize surges and shock-loading in the treatment processes.

### **Minimizing the Threat through Training and Information Updates**

- Provide periodic training for utility staff in emergency preparedness, response and recovery, including an overview of CBR substances and courses such as FEMA's National Incident Management System (NIMS).
- Test and evaluate emergency plans and procedures through tabletop, functional and full-scale exercises. Participate with other utilities, local emergency management agencies, regulators and first responders.
- Stay abreast of new legislation and regulations, industry research and newly developed guidance and protocols.

The response to a CBR attack will be managed by personnel from local, state and federal agencies who have received extensive training, and are equipped with protective and specialized equipment. During such an incident, utility managers are urged to take direction from the on-site lead agencies, and make all efforts to keep their employees safe.

## Appendix C: Wisconsin Administrative Code NR 211.20

### **NR 211.20 Establishment of pretreatment programs.**

The department may require any POTW with a design flow greater than 5 MGD which receives indirect discharges which pass through or interfere with the POTW's operations or are subject to pretreatment standards to establish a POTW pretreatment program in accordance with the provisions of ss. NR 211.21 through 211.26. In addition, the department may require any POTW with a design flow of 5 MGD or less to establish such a program or part of such a program if the nature or volume of industrial user contributions, treatment process upsets, violations of POTW wastewater limits, contamination of municipal sludge, or other circumstances warrant such a program in order to prevent interference with POTW treatment operations or the pass-through of untreated pollutants or in order to improve opportunities for disposal of municipal sludge. The pretreatment program shall be developed in accordance with a compliance schedule established by the department in the POTW's WPDES permit which calls for the completion by specific dates of major events leading to the development and implementation of the pretreatment program.

**History:** Cr. Register, July, 1983, No. 331, eff. 8-1-83.

Appendix D: Federal General Pretreatment Regulations,  
40 CFR 403.8(a)

**§ 403.8 Pretreatment Program Requirements: Development and Implementation by POTW.**

(a) *POTWs required to develop a pretreatment program.* Any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 million gallons per day (mgd) and receiving from Industrial Users pollutants which Pass Through or Interfere with the operation of the POTW or are otherwise subject to Pretreatment Standards will be required to establish a POTW Pretreatment Program unless the NPDES State exercises its option to assume local responsibilities as provided for in § 403.10(e). The Regional Administrator or Director may require that a POTW with a design flow of 5 mgd or less develop a POTW Pretreatment Program if he or she finds that the nature or volume of the industrial influent, treatment process upsets, violations of POTW wastewater limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent Interference with the POTW or Pass Through.



Appendix E: Hospitals, Tribal Clinics, Federally Qualified  
Community Health Centers with Decontamination Capability

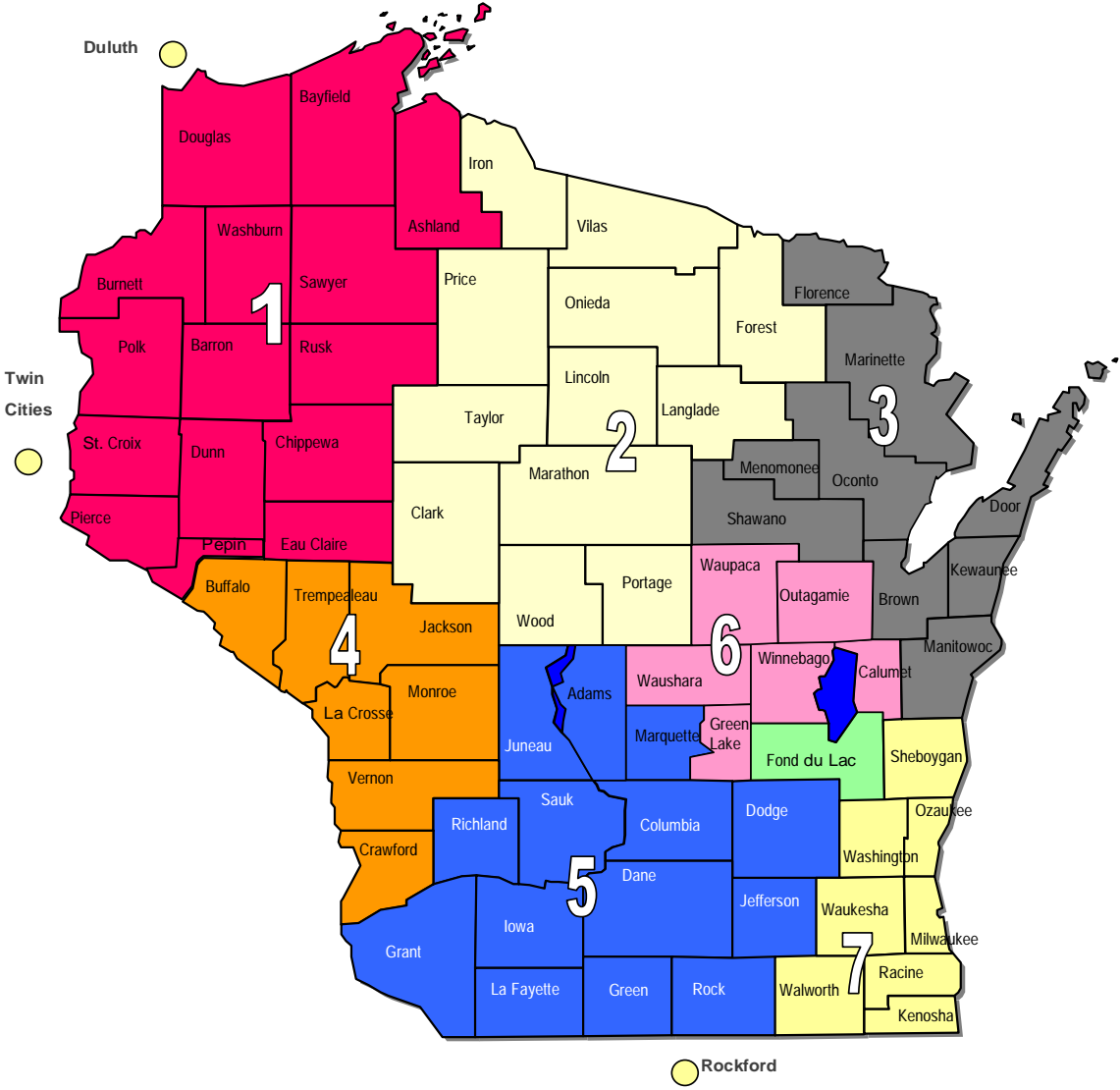
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## Appendix F: POTWs by HRSA Region by County

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Appendix G: Map of Hospital Preparedness Regions

# HRSA Hospital Preparedness Regions



## Appendix H: Homeland Security Presidential Directive 8 (HSPD 8)

### December 17, 2003 Homeland Security Presidential Directive/HSPD-8

Subject: National Preparedness

#### Purpose

(1) This directive establishes policies to strengthen the preparedness of the United States to prevent and respond to threatened or actual domestic terrorist attacks, major disasters, and other emergencies by requiring a national domestic all-hazards preparedness goal, establishing mechanisms for improved delivery of Federal preparedness assistance to State and local governments, and outlining actions to strengthen preparedness capabilities of Federal, State, and local entities.

#### Definitions

(2) For the purposes of this directive:

(a) The term "all-hazards preparedness" refers to preparedness for domestic terrorist attacks, major disasters, and other emergencies.

(b) The term "Federal departments and agencies" means those executive departments enumerated in 5 U.S.C. 101, and the Department of Homeland Security; independent establishments as defined by 5 U.S.C. 104(1); Government corporations as defined by 5 U.S.C. 103(1); and the United States Postal Service.

(c) The term "Federal preparedness assistance" means Federal department and agency grants, cooperative agreements, loans, loan guarantees, training, and/or technical assistance provided to State and local governments and the private sector to prevent, prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies. Unless noted otherwise, the term "assistance" will refer to Federal assistance programs.

(d) The term "first responder" refers to those individuals who in the early stages of an incident are responsible for the protection and preservation of life, property, evidence, and the environment, including emergency response providers as defined in section 2 of the Homeland Security Act of 2002 (6 U.S.C. 101), as well as emergency management, public health, clinical care, public works, and other skilled support personnel (such as equipment operators) that provide immediate support services during prevention, response, and recovery operations.

(e) The terms "major disaster" and "emergency" have the meanings given in section 102 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122).

(f) The term "major events" refers to domestic terrorist attacks, major disasters, and other emergencies.

(g) The term "national homeland security preparedness-related exercises" refers to homeland security-related exercises that train and test national decision makers and utilize resources of multiple Federal departments and agencies. Such exercises may involve State and local first responders when appropriate. Such exercises do not include those exercises conducted solely within a single Federal department or agency.

(h) The term "preparedness" refers to the existence of plans, procedures, policies, training, and equipment necessary at the Federal, State, and local level to maximize the ability to prevent, respond to, and recover from major events. The term "readiness" is used interchangeably with preparedness.

(i) The term "prevention" refers to activities undertaken by the first responder community during the early stages of an incident to reduce the likelihood or consequences of threatened or actual terrorist attacks. More general and broader efforts to deter, disrupt, or thwart terrorism are not addressed in this directive.

(j) The term "Secretary" means the Secretary of Homeland Security.

(k) The terms "State," and "local government," when used in a geographical sense, have the same meanings given to those terms in section 2 of the Homeland Security Act of 2002 (6 U.S.C. 101).

#### Relationship to HSPD-5

(3) This directive is a companion to HSPD-5, which identifies steps for improved coordination in response to incidents. This directive describes the way Federal departments and agencies will prepare for such a response, including prevention activities during the early stages of a terrorism incident.

#### Development of a National Preparedness Goal

(4) The Secretary is the principal Federal official for coordinating the implementation of all-hazards preparedness in the United States. In cooperation with other Federal departments and agencies, the Secretary coordinates the preparedness of Federal response assets, and the support for, and assessment of, the preparedness of State and local first responders.

(5) To help ensure the preparedness of the Nation to prevent, respond to, and recover from threatened and actual domestic terrorist attacks, major disasters, and other emergencies, the Secretary, in coordination with the heads of other appropriate Federal departments and agencies and in consultation with State and local governments, shall develop a national domestic all-hazards preparedness goal. Federal departments and agencies will work to achieve this goal by:

(a) providing for effective, efficient, and timely delivery of Federal preparedness assistance to State and local governments; and

(b) supporting efforts to ensure first responders are prepared to respond to major events, especially prevention of and response to threatened terrorist attacks.

(6) The national preparedness goal will establish measurable readiness priorities and targets that appropriately balance the potential threat and magnitude of terrorist attacks, major disasters, and other emergencies with the resources required to prevent, respond to, and recover from them. It will also include readiness metrics and elements that support the national preparedness goal including standards for preparedness assessments and strategies, and a system for assessing the Nation's overall preparedness to respond to major events, especially those involving acts of terrorism.

(7) The Secretary will submit the national preparedness goal to me through the Homeland Security Council (HSC) for review and approval prior to, or concurrently with, the Department of Homeland Security's Fiscal Year 2006 budget submission to the Office of Management and Budget.

#### Federal Preparedness Assistance

(8) The Secretary, in coordination with the Attorney General, the Secretary of Health and Human Services (HHS), and the heads of other Federal departments and agencies that provide assistance for first responder preparedness, will establish a single point of access to Federal preparedness assistance program information within 60 days of the issuance of this directive. The Secretary will submit to me through the HSC recommendations of specific Federal department and agency programs to be part of the coordinated approach. All Federal departments and agencies will cooperate with this effort. Agencies will continue to issue financial assistance awards consistent with applicable laws and regulations and will ensure that program announcements, solicitations, application instructions, and other guidance documents are consistent with other Federal preparedness programs to the extent possible. Full implementation of a closely coordinated interagency grant process will be completed by September 30, 2005.

(9) To the extent permitted by law, the primary mechanism for delivery of Federal preparedness assistance will be awards to the States. Awards will be delivered in a form that allows the recipients to apply the assistance to the highest priority preparedness requirements at the appropriate level of government. To the extent permitted by law, Federal preparedness assistance will be predicated on adoption of Statewide comprehensive all-hazards preparedness strategies. The strategies should be consistent with the national preparedness goal, should assess the most effective ways to enhance preparedness, should address areas facing higher risk, especially to terrorism, and should also address local government concerns and Citizen Corps efforts. The Secretary, in coordination with the heads of other appropriate Federal departments and agencies, will review and approve strategies submitted by the States. To the extent permitted by law, adoption of approved Statewide strategies will be a requirement for receiving Federal preparedness assistance at all levels of government by September 30, 2005.

(10) In making allocations of Federal preparedness assistance to the States, the Secretary, the Attorney General, the Secretary of HHS, the Secretary of Transportation, the Secretary of Energy, the Secretary of Veterans Affairs, the Administrator of the Environmental Protection Agency, and the heads of other Federal departments and agencies that provide assistance for first responder preparedness will base those allocations on assessments of population concentrations, critical infrastructures, and other significant risk factors, particularly terrorism threats, to the extent permitted by law.

(11) Federal preparedness assistance will support State and local entities' efforts including planning, training, exercises, interoperability, and equipment acquisition for major events as well as capacity building for prevention activities such as information gathering, detection, deterrence, and collaboration related to terrorist attacks. Such assistance is not primarily intended to support existing capacity to address normal local first responder operations, but to build capacity to address major events, especially terrorism.

(12) The Attorney General, the Secretary of HHS, the Secretary of Transportation, the Secretary of Energy, the Secretary of Veterans Affairs, the Administrator of the Environmental Protection Agency, and the heads of other Federal departments and agencies that provide assistance for first responder preparedness shall coordinate with the Secretary to ensure that such assistance supports and is consistent with the national preparedness goal.

(13) Federal departments and agencies will develop appropriate mechanisms to ensure rapid obligation and disbursement of funds from their programs to the States, from States to the local community level, and from local entities to the end users to derive maximum benefit from the assistance provided. Federal departments and agencies will report annually to the Secretary on the obligation, expenditure status, and the use of funds associated with Federal preparedness assistance programs.

#### Equipment

(14) The Secretary, in coordination with State and local officials, first responder organizations, the private sector and other Federal civilian departments and agencies, shall establish and implement

streamlined procedures for the ongoing development and adoption of appropriate first responder equipment standards that support nationwide interoperability and other capabilities consistent with the national preparedness goal, including the safety and health of first responders.

(15) To the extent permitted by law, equipment purchased through Federal preparedness assistance for first responders shall conform to equipment standards in place at time of purchase. Other Federal departments and agencies that support the purchase of first responder equipment will coordinate their programs with the Department of Homeland Security and conform to the same standards.

(16) The Secretary, in coordination with other appropriate Federal departments and agencies and in consultation with State and local governments, will develop plans to identify and address national first responder equipment research and development needs based upon assessments of current and future threats. Other Federal departments and agencies that support preparedness research and development activities shall coordinate their efforts with the Department of Homeland Security and ensure they support the national preparedness goal.

#### Training and Exercises

(17) The Secretary, in coordination with the Secretary of HHS, the Attorney General, and other appropriate Federal departments and agencies and in consultation with State and local governments, shall establish and maintain a comprehensive training program to meet the national preparedness goal. The program will identify standards and maximize the effectiveness of existing Federal programs and financial assistance and include training for the Nation's first responders, officials, and others with major event preparedness, prevention, response, and recovery roles. Federal departments and agencies shall include private organizations in the accreditation and delivery of preparedness training as appropriate and to the extent permitted by law.

(18) The Secretary, in coordination with other appropriate Federal departments and agencies, shall establish a national program and a multi-year planning system to conduct homeland security preparedness-related exercises that reinforces identified training standards, provides for evaluation of readiness, and supports the national preparedness goal. The establishment and maintenance of the program will be conducted in maximum collaboration with State and local governments and appropriate private sector entities. All Federal departments and agencies that conduct national homeland security preparedness-related exercises shall participate in a collaborative, interagency process to designate such exercises on a consensus basis and create a master exercise calendar. The Secretary will ensure that exercises included in the calendar support the national preparedness goal. At the time of designation, Federal departments and agencies will identify their level of participation in national homeland security preparedness-related exercises. The Secretary will develop a multi-year national homeland security preparedness-related exercise plan and submit the plan to me through the HSC for review and approval.

(19) The Secretary shall develop and maintain a system to collect, analyze, and disseminate lessons learned, best practices, and information from exercises, training events, research, and other sources, including actual incidents, and establish procedures to improve national preparedness to prevent, respond to, and recover from major events. The Secretary, in coordination with other Federal departments and agencies and State and local governments, will identify relevant classes of homeland-security related information and appropriate means of transmission for the information to be included in the system. Federal departments and agencies are directed, and State and local governments are requested, to provide this information to the Secretary to the extent permitted by law.

#### Federal Department and Agency Preparedness

(20) The head of each Federal department or agency shall undertake actions to support the national preparedness goal, including adoption of quantifiable performance measurements in the areas of training, planning, equipment, and exercises for Federal incident management and asset preparedness, to the extent permitted by law. Specialized Federal assets such as teams, stockpiles, and caches shall be maintained at levels consistent with the national preparedness goal and be available for response activities as set forth in the National Response Plan, other appropriate operational documents, and applicable authorities or guidance. Relevant Federal regulatory requirements should be consistent with the national preparedness goal. Nothing in this directive shall limit the authority of the Secretary of Defense with regard to the command and control, training, planning, equipment, exercises, or employment of Department of Defense forces, or the allocation of Department of Defense resources.

(21) The Secretary, in coordination with other appropriate Federal civilian departments and agencies, shall develop and maintain a Federal response capability inventory that includes the performance parameters of the capability, the timeframe within which the capability can be brought to bear on an incident, and the readiness of such capability to respond to domestic incidents. The Department of Defense will provide to the Secretary information describing the organizations and functions within the Department of Defense that may be utilized to provide support to civil authorities during a domestic crisis.

#### Citizen Participation

(22) The Secretary shall work with other appropriate Federal departments and agencies as well as State and local governments and the private sector to encourage active citizen participation and involvement in preparedness efforts. The Secretary shall periodically review and identify the best community practices for integrating private citizen capabilities into local preparedness efforts.

#### Public Communication

(23) The Secretary, in consultation with other Federal departments and agencies, State and local governments, and non-governmental organizations, shall develop a comprehensive plan to provide accurate and timely preparedness information to public citizens, first responders, units of government, the private sector, and other interested parties and mechanisms for coordination at all levels of government.

#### Assessment and Evaluation

(24) The Secretary shall provide to me through the Assistant to the President for Homeland Security an annual status report of the Nation's level of preparedness, including State capabilities, the readiness of Federal civil response assets, the utilization of mutual aid, and an assessment of how the Federal first responder preparedness assistance programs support the national preparedness goal. The first report will be provided within 1 year of establishment of the national preparedness goal.

(25) Nothing in this directive alters, or impedes the ability to carry out, the authorities of the Federal departments and agencies to perform their responsibilities under law and consistent with applicable legal authorities and presidential guidance.

(26) Actions pertaining to the funding and administration of financial assistance and all other activities, efforts, and policies in this directive shall be executed in accordance with law. To the extent permitted by law, these policies will be established and carried out in consultation with State and local governments.

(27) This directive is intended only to improve the internal management of the executive branch of the Federal Government, and it is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity, against the United States, its departments, agencies, or other entities, its officers or employees, or any other person.



# Appendix I: Template for a Hospital Wastewater Management Plan

## Part A: Contact Information

1. The contact information for the person at the hospital, who has primary responsibility for this plan.
2. The contact information for the person at the POTW, who will be notified when there is a decontamination incident at the hospital. This is also to include a 24/7-telephone number.
3. The contact information for the person at the DNR, who is to be contacted, if there is an accidental spill of the wastewater into the ground or the storm sewer. This is also to include a 24/7-telephone number.
4. The contact information for the person at the Wisconsin Division of Public Health, Bureau of Environmental Health, Radiation Section, if there is decontamination of a suspected or known radioactive contaminant. This is also to include a 24/7-telephone number.
5. The contact information for the local Emergency Management Director. This is also to include a 24/7-telephone number.
6. The identification of the person at the hospital, who is responsible for notifying the POTW of a decontamination incident.
7. The identification of the person at the hospital, who is responsible for notifying the DNR, if there is a spill of the wastewater into the ground or the storm sewer, (if different from the person in #6).
8. The contact information for the person at the hospital, who can be called by the POTW, DNR, Radiation Section or others outside agencies, if further information is required about the decontamination incident (if different from the person in #1)
9. The hospital is also to consider having the contact information for the local HazMat Team to assist, if necessary.

## Part B: Physical Layout

1. Identification of sewers: The plan is to include a diagram of where both the sanitary and storm sewers are located in relation to both the fixed decontamination room and the portable decontamination shelter. It is recommended that all sewers in these areas be marked to designate whether it is a sanitary or a storm sewer. It is also recommended that these sewers be numbered for ease of identification.
2. Siting of Portable Decontamination Shelter: It is recommended that the hospital invite both the POTW and the DNR to assist in establishing the site and alternative sites for siting the portable decontamination shelter.
  - a. This siting is to take into consideration the potential for an accidental spill of the wastewater and in which directions the wastewater will flow and into which sewers or ground areas.

- b. This siting should also take into consideration where additional wastewater storage tanks might be placed or where a tanker truck may be parked if necessary.
3. Decontamination Room/Portable Decontamination Shelter: The plan is to include a diagram of where the fixed decontamination room is located. The plan is also to include a diagram of where the portable decontamination shelter is to be sited.

### **Part C: Notification of POTW**

1. The plan is to include protocols for the notification of the POTW “immediately” upon the decision that a patient(s) is in need of decontamination.
2. This person, notifying the POTW, is to be prepared to provide the POTW with the following information. (The following questions are meant to be examples only and each plan is to identify those questions unique to that environment.)
  - a. What substance is involved?
  - b. Where did the event occur?
  - c. How much contaminant is involved?
  - d. How many people were involved?
  - e. Has decontamination begun?
3. The hospital may need to have further discussions with the POTW at a later time as more information about the contaminant, the incident, the number of persons involved becomes available.
4. The plan is also to include protocols for notifying the local Emergency Management Director after the POTW is contacted.

### **Part D: Notification of the DNR**

1. The plan is to include protocols for the hospital to notify the DNR “immediately”, if there is a spill of the wastewater into the ground or the storm sewer.
2. It is also recommended, as part of the planning process, that the hospital, DNR and local Public Works discuss any options for protecting the storm sewer inlets, if possible or feasible.

### **Part E: Decontamination Operations**

1. The hospital and POTW are to develop a plan for the decontamination of patients, based on the 4 levels of incident (see Section 4) so that both the hospital and POTW are aware of the operational differences involved and the amount of wastewater expected to be discharged in each of these levels.
2. If feasible, these operational differences are to be included on the Job Action Sheets of the decontamination staff or in other easily accessible policies so that decontamination staff are aware of any differences in the decontamination process, based on the level of incident.
3. The hospital is to include in its plan the protocols for the decontamination of any equipment involved in the decontamination processes and the removal of all contaminated clothing and other items.

### **Part F: Additional Resources**

1. The plan is to identify additional wastewater holding resources that the hospital may have available on-site.
2. The plan is to identify where additional wastewater holding resources can be obtained when needed. The plan is to include contact information for such resources, including: names of organizations that can supply these resources, names of contact persons, 24/7 contact telephones.
3. (It is planned that there will be an inventory of additional Level C decontamination suits stockpiled and available for hospitals, should the hospital supply be depleted. Information on how to access this stockpile is to be included in the plan, when this information becomes available.)

### **Part G: Participants and Date of Plan**

The Plan should include the names of the participants and the date the plan was agreed to. This will be documentation of the “due diligence”, taken by both the hospital and POTW so as to take advantage of the protections of CERCLA, mentioned in Section 8.