UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MAR 5 2010

MEMORANDUM

SUBJECT: Preparedness and Prevention Requirements for RCRA TSDFs (Response to Chemical Safety Board Recommendation 2007-01-I-NC)

FROM: Matt Hale, Director
Office of Resource Conservation and Recovery

TO: RCRA Directors
EPA Regions 1-10

This memorandum provides guidance for Resource Conservation and Recovery (RCRA) permitting authorities to ensure that state and local authorities and first responders have sufficient information for emergency preparedness, prevention, and response at RCRA hazardous waste Treatment, Storage, and Disposal Facilities (TSDFs). As you are aware, most preparedness and prevention requirements for TSDFs are now imposed through authorized states via the RCRA permitting process. Therefore, we worked with states and Regional staff in developing this guidance. I encourage you to share this guidance with your state counterparts, and am providing a copy to the states through the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). In short, as discussed below, this guidance recommends that TSDF permits explicitly require that owners and operators provide up-to-date written information about the facility and hazardous waste located there to State Emergency Response Commissions (SERCs), Local Emergency Planning Committees (LEPCs)[1], local fire departments, and other state and local emergency response authorities, as appropriate. This guidance recommends also that owners of RCRA TSDFs that already have permits, and those that are operating under interim status, follow this practice as well.

Background

The U.S. Chemical Safety and Hazard Investigation Board (CSB) conducted a formal investigation into the fire that began on October 5, 2006 at the Environmental Quality Co. (EQ), Apex, North Carolina, hazardous waste facility. The CSB published a case study, *Fire and Community Evacuation in Apex, North Carolina* (2007-01-I-NC, April 16, 2008, http://www.csb.gov/assets/document/EQFinalReport.pdf). In its case study, CSB expressed a concern that the RCRA hazardous waste regulations do not explicitly state what information the

[1] LEPCs are responsible for developing a local contingency plan for chemical risks in their community.

owner of a RCRA TSDF must share with local authorities, whether the information should be written, or if updates are necessary.

According to the CSB, EQ "had not provided any detailed written information on the types, quantities, and location of hazardous materials in the facility to fire personnel or the Local Emergency Planning Committee." Furthermore, since the EQ facility "was unoccupied at the time of the incident, no emergency coordinator was on-site to initiate the facility contingency plan." EQ had addressed the RCRA regulatory requirement to "familiarize" local authorities with the facility and hazardous waste handled there by having the fire chief "tour the facility once."[2] The CSB explained that "because of the unknown nature" of the burning chemicals and exploding drums at the EQ Apex site, local responders "chose to take only defensive actions" to minimize risks to emergency personnel and the community; about thirty people, including 13 first responders, sought medical attention, and about 3,300 residences were evacuated for two days.

In addition to the EQ incident, CSB identified 21 fire and chemical release incidents at hazardous waste facilities nationwide over the last five years, resulting in injuries, fatalities, evacuations, and other disruptions. CSB also reviewed fire protection practices in use at 12 hazardous waste facilities and found wide variation. CSB noted in their analysis that, "while not required, had EQNC used fire barriers (walls) to separate the segregated waste bays, the fire would likely have been contained within the oxidizer bay, significantly mitigating the incident's consequences."

Based on its investigation, CSB recommended that EPA:

Ensure that the emergency response planning required for permitted hazardous waste treatment, storage, and disposal facilities (40 CFR 264.37) includes providing written information to state and local emergency response officials on the type, approximate quantities, and locations of materials within the facility (similar to reporting requirements of the Emergency Planning and Community Right-to-Know Act).

Additionally, ensure that permit holders periodically update this information throughout the ten-year permit period.

CSB's recommendation is intended to help address the apparent lack of communication between TSDFs and state and local emergency authorities regarding facility operations.

EPA's Response to CSB

In an October 2008 letter to the CSB, EPA agreed to "...encourage state Governors, SERCs, and LEPCs to exercise their authorities, as appropriate, to designate TSDFs as subject to the requirements of Subtitle A of EPCRA, and to consider requiring them to annually provide

[2] According to the NC Department of Environment and Natural Resources, other members of the fire chief's staff had routinely visited and inspected the EQ facility prior to the fire.

chemical inventory information to SERCs, LEPCs, and local fire departments."[3] EPA has since encouraged each state to exercise their authorities in this way under separate correspondence.[4]

In the same [October 2008] letter to the CSB, EPA expressed its intent to work with the states to develop guidance on how to accomplish CSB's recommendation under the existing RCRA regulations for TSDFs, and to explore whether a regulatory change is needed. After conducting a thorough review of the existing regulatory framework, the Agency has concluded that the existing regulatory framework under 40 CFR Parts 264 and 265 provides the authority to address the CSB's recommendation, and that the most effective and timely means of addressing a communications gap between TSDFs and state and local authorities is to provide additional guidance for TSDF permit writers under the existing regulations. Today's memorandum fulfills the commitment to develop that guidance.

Regulatory Framework

This section focuses on the federal RCRA hazardous waste regulatory framework; state RCRA programs may have additional requirements. Under section 3006 of RCRA, EPA authorizes qualified states to administer the RCRA program within the state. RCRA section 3009 allows states to impose standards more stringent than those in the federal program (see also 40 CFR 271.1).

The requirements for TSDF preparedness and prevention and contingency planning are inter-related, and together provide the basis for the guidance below. These topics were discussed together in the preamble to the final rule (45 FR 33153, May 19, 1980). The preamble makes clear that "[t]he final Part 264 and 265 Subpart C preparedness and prevention rules are intended to minimize the possibility and effect of a release, fire, or explosion which could threaten human health or the environment." (45 FR 33184). Also, with respect to contingency plans, the preamble states: "to protect human health and the environment in emergencies, it is vital that local authorities have up-to-date facility contingency plans in their possession." (45 FR 33186). EPA believes that, just as TSDF owners/operators must submit written contingency plans and revisions "to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services" (40 CFR §264.43(b), §265.53(b)), owners/operators also should submit **written preparedness and prevention information (PPI)** to these authorities, including SERCs and LEPCs, as appropriate.

RCRA's TSDF Preparedness and Prevention regulations in 40 CFR Parts 264 and 265 Subpart C (for permitted and interim status facilities, respectively) require owners and operators to make arrangements with local authorities for potential emergency response. The owner or operator of a TSDF "must attempt to make the following arrangements, as appropriate for the type of waste handled at [the] facility and the potential need for the services of these organizations" (40 CFR §264.37 and §265.37, for permitted and interim status facilities, respectively):

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[3] October 31, 2008 letter from Susan Parker Bodine, Assistant Administrator for the Office of Solid Waste and Emergency Response to the Honorable John S. Bresland, Chairman and CEO of the CSB.

[4] August 20, 2009 letters from Deborah Dietrich, Director, EPA Office of Emergency Management, to SERC chairperson in each State.

- Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of the hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;
- Where more than one police and fire department might respond to an emergency, agreements designating the primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;
- Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and
- Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

Furthermore, RCRA's TSDF Contingency Plan and Emergency regulations in 40 CFR Parts 264 and 265 Subpart D (for permitted and interim status facilities, respectively) include additional requirements that are relevant to responding to incidents in an informed and timely manner. The regulations in Subpart D - Contingency Plan and Emergency Procedures require that:

- The contingency plan (plan) be designed to minimize hazards to human health and the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous constituents to air, soil, or surface water (§§264.52(a), 265.52(a)).
- The plan describe arrangements agreed to by local police and fire departments, hospitals, contractors, state and local emergency response teams to coordinate emergency services (§§264.52(c), 265.53(c)).
- The plan list names, addresses, and phone numbers (home and work) of all persons qualified to act as emergency coordinators (§§264.52(d), 265.52(d)).
- The plan include a list of all emergency equipment at the facility, must include the location and physical description of each item on the list and a brief outline of its capabilities (§§264.52(e), 265.52(e)).
- Copies of the plan and all revisions to the plan be maintained at the facility (§§264.53(a), 265.53(a)).
- Copies of the plan and all revisions also be submitted to all local police and fire departments, hospitals, state and local emergency response teams that may be called upon to provide emergency services (§§264.53(b), 265.53(b)).
- The plan be reviewed, and immediately amended, if necessary, whenever a facility's permit is revised, the plan fails in an emergency, or the facility changes – in its design, construction, operation, maintenance or any other circumstances – in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency (§§264.54 and 265.54).
- There be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. They must be thoroughly familiar with all aspects of the contingency plan, all operations and activities

at the facility, the location and characteristics of waste handled, the locations of all records within the facility, and the facility layout (§§264.55 and 265.55).

The regulations clearly intend that, in the event of a fire, explosion or release, local responders have **current and specific** information to properly address the incident and minimize hazards to human health and the environment.

In addition, if there are facility-specific circumstances where the permitting authority determines that additional requirements are necessary to ensure protection of human health and the environment, then the RCRA "omnibus authority" (RCRA §3005(c)(3), codified at 40 CFR §270.32(b)(2)) may be used to incorporate additional conditions into the permit.

Guidance to RCRA Permitting Authorities

CSB's findings underscore that, to be useful when an actual emergency occurs, PPI for state and local responders must be available to responders in advance and in writing. Furthermore, CSB's recommendations are consistent with EPA's intent that local responders *have in-hand* the specific information they need for prompt and effective response, particularly when a facility is unoccupied or its emergency coordinator is not on-site (as in the Apex, N.C. incident).[5]

Therefore, EPA strongly encourages Regions and states to include permit conditions requiring TSDFs [subject to 40 CFR Parts 264 and 265 Subparts C and D] to provide **written** information regarding waste quantities, types, and locations, to state and local authorities (including SERCs and LEPCs) and first responders for the purpose of emergency preparedness and prevention, and to place a copy of this information in the facility's operating record, as well as to update such information as necessary, and provide the updates to state and local authorities and first responders. EPA also strongly encourages owners of TSDFs that already have permits or are operating under interim status to follow this practice (of providing written, up-to-date information) as well. Providing this information directly to local responders through an additional mode of communication (e.g., in addition to facility visits and walk-throughs) optimizes the capability of local authorities to mount a prompt and effective emergency response that can minimize the facility's potential damage and liability, and reduce the risk of harm to the community.

Necessary written information will vary from facility to facility, but should contain the following common elements:

- Waste types (ignitable, reactive, etc.)/names ;
- Approximate quantities of each waste type;
- General locations of waste at the facility;

[5] It is important to note that even when the emergency coordinator is not on-site, local responders should have 24-hour contact information for the designated emergency coordinator. As described in the Regulatory Framework section above, the contingency plan must include this information, and contingency plans must be provided to all local police, fire departments, and emergency response teams. Access to the emergency coordinator will aid in a timely and effective response.

- Layout of the facility;
- General locations within the facility where personnel normally work; and
- Entrances and roads inside the facility and possible evacuation routes.

TSDF owners and operators already are required to maintain or provide this type of information for other purposes, e.g., to include in the facility operating record (in accordance with §264.73) or to submit with the permit application (in accordance with §270.14).

Today, effective emergency planning and response relies on electronic storage and retrieval of information. Accordingly, most states require "written" emergency planning and response information to be submitted in an electronic format that is most useful to emergency responders. Increasingly, emergency responders use laptop computers, Personal Digital Assistants (PDAs), and other portable electronic devices to quickly retrieve facility hazard information using software tools, such as the Computer Aided Management of Emergency Operations (CAMEO) software suite developed by EPA. Therefore, EPA encourages Regions and states to include permit conditions requiring that TSDFs submit required emergency planning information in electronic format so that it can be easily integrated, stored, and retrieved along with other emergency response information, such as that submitted to the states under EPCRA.[6]

There are other advantages to having electronic versions of the contingency plans and PPI. For example, Regions and states could increase the availability of the plans by more readily sharing the material with communities and emergency responders. Electronic versions would also be easier to share with local fire departments for comment prior to approving the plan.[7]

Since the required contingency plan is inter-related with the PPI, we further recommend that EPA or the states require facilities to include a description of the preparedness and prevention measures as an appendix to the contingency plan. Contingency plans will likely be more effective when they include all relevant information, so that they exist as a "stand alone" document with no need to cross-reference other elements of the permit or permit application. Also, given the size of these plans, permitting authorities should consider having an executive summary included, and including in that summary the names and telephone numbers of all facility personnel qualified to act as emergency coordinators. This type of quick reference would facilitate prompt and effective response in an emergency situation.

Additionally, to ensure the accuracy and currency of PPI, we recommend that permits include conditions to have owners or operators of TSDFs update written information as necessary throughout the lifetime of the permit and provide this information to state and local authorities and first responders. Examples of events necessitating updating written information

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[6] Another national database to which States can submit data is "E-Plan," a database of State EPCRA Tier 2 annual chemical inventory report databases that can be used by emergency responders. Currently, just over half of the States contribute data to E-Plan and EPA is encouraging more States to contribute. The E-Plan form structure has an area for "additional information" which RCRA TSDFs can use to input daily inventory information. See http://erplan.net/eplan for additional information.

[7] In cases where facilities are located in rural areas, the plans should also be shared with the Mayor or Chief Executive Officer of the town where the facility is located, in case there is a voluntary fire department that may not be under the jurisdiction of the town.

include, but are not limited to: change in waste streams treated, significant changes in volumes or quantity of wastes handled, or significant design changes to the facility. Some of these types of events could trigger a permit modification, which under §264.54 would trigger a review and amendment (if necessary) of the facility's contingency plan.

The conditions recommended above all stem from the authority in 40 CFR Parts 264 and 265 to require PPI. As mentioned above, if there are additional facility-specific circumstances where the permitting authority determines that additional requirements are necessary to ensure protection of human health and the environment, then the RCRA "omnibus authority" (RCRA §3005(c)(3), codified at 40 CFR §270.32(b)(2)) may be used to incorporate additional conditions into the permit. For example, if a facility is not staffed outside of normal business hours, then the permitting authority may be able to use the omnibus provision to require a security monitoring system that would alert the facility's emergency coordinator (and possibly local police or fire departments) of any unauthorized entry or fire occurrence. Or, if the facility is not able to enter into arrangements with local authorities (see discussion under Regulatory Framework above), the permitting authority could explore using the omnibus provision to require the facility to contract with private emergency response coordinators.

As mentioned above, the CSB found wide variation in fire protection practices in use at hazardous waste facilities and commented that, "While not required, had EQNC used fire barriers (walls) to separate the segregated waste bays, the fire would likely have been contained within the oxidizer bay, significantly mitigating the incident's consequences." The RCRA omnibus authority is a tool that permitting authorities may use if there are situations like these where additional, facility-specific, requirements may be necessary to ensure protection of human health and the environment. There are examples of State permitting authorities using RCRA's omnibus authority to improve facility design as a first measure for ensuring preparedness and prevention in particular situations. For example, in response to a large-scale fire incident at an Alabama TSDF fuel blender in July 1980, the Alabama Department of Environmental Management (ADEM) has used the "Required Equipment" requirement at 264.32(c) and the RCRA "omnibus authority" to require that fuel blending facilities, and other treatment and storage facilities which treat or store large quantities of ignitable wastes, to be equipped with automated foam-generating fire suppression equipment sufficient to extinguish any fire which might occur in the facility (as opposed to allowing just portable or manual fire-fighting equipment in these areas). In addition, ADEM has imposed minimum aisle space between rows of containers, and limited stacking of containers exceeding 30 gallons capacity to no more than two containers high to enable more effective inspection and response to leaks, as well as more effective fire-fighting capability. ADEM believes the record shows that these measures have helped avoid a repeat incident at any of their facilities. These and similar measures all fall within the overall scope of preparedness and prevention.

Public Involvement and Environmental Justice

Requiring that the waste preparedness and prevention information be provided to local authorities (i.e., LEPCs) and first responders in writing also provides an avenue for public involvement on this important topic. The public involvement regulations in 40 CFR Parts 25, 124 and 270 are intended to foster public awareness and ensure that the Regions and states are

providing the public an opportunity to understand the issues that may have impacts within their community. If the Director of the permitting authority believes sufficient need exists, the regulations allow the Director to require a facility to establish and maintain an information repository in a location easily accessible to the community (see 40 CFR §§124.33 and 270.30(m)). This repository, if required, could hold copies of preparedness and emergency response plans. The public can use this information to better understand their potential risk in an emergency situation and work with local authorities to better understand possible evacuation strategies and emergency response plans.

The Agency's public involvement guidance materials promote interaction among all interested parties, recognizing that both facility owners and operators and regulators have a significant role in ensuring that communities are well-informed about neighboring facilities and their operations. Emergency preparedness and contingency planning are key areas of public interest. Communities expect their governments to take the necessary steps to plan and protect them in the event of an emergency and expect first responders to have the appropriate information on the nature, amount, location, and routes of exposure of hazardous materials and wastes at TSDFs so they can effectively respond to emergency situations. The recommendations included in this memorandum are consistent with the Agency's public involvement regulations and guidance, and will ensure that communities are able to implement timely and effective responses in the event of an emergency. The recommendation to include permit conditions that would require the TSDFs to provide written information to local authorities (i.e., LEPCs) and first responders will help ensure that emergency preparedness and prevention efforts minimize effects to communities that may be impacted by an emergency situation.

Promoting environmental justice for all communities often requires special efforts to connect with those communities that have been historically underrepresented in environmental decision-making. When thinking of meaningful ways to engage all segments of an affected population, facility owners and operators and regulators should be aware that not all communities have equal access to information or an equal opportunity to participate in decision-making processes. Having preparedness, prevention and contingency planning information available locally (and, if appropriate, in a language besides English) will likely provide additional opportunities for members of the community to review the plans and possibly offer suggestions for additions or improvements to response plans.

Additional guidance, including model permits and information on public involvement, is available on the Agency's Internet site at http://www.epa.gov/epawaste/hazard/tsd/permit/index.htm.

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