

## ***USEPA Corrective Actions Initiatives Under GPRA***

### **INTRODUCTION**

The United States Environmental Protection Agency (USEPA) Resource Conservation and Recovery Act (RCRA) Corrective Action process has developed slowly since its enactment as part of the 1984 Hazardous and Solid Waste Amendments (HSWA). To date, facilities have trudged through the RCRA Corrective Action process as a requirement of a RCRA Part B or RCRA Post-Closure permit. For most other RCRA sites that are not securing permits, it has been called the “Black Hole” process because it has languished with no apparent activity since it was enacted. Management reform initiatives like the 1993 Government Performance and Results Act (GPRA) as a part of Vice-President Gore’s “Government Reinvention Programs” have upped the ante for a high level of USEPA activity at the more than 2,400 RCRA sites throughout the country. The USEPA is taking aggressive action, requiring owners and operators of RCRA sites to investigate and prevent releases of hazardous waste constituents to the environment. The actions are part of USEPA’s overall strategy for increasing its effectiveness and accountability. One of USEPA’s stated goals in its mandated Five-year Strategic Plan is to restore contaminated waste sites. The means by which USEPA measures its performance (and its budget utilization) is by controlling human exposures and groundwater releases at a specified number of RCRA sites, annually. By, 2005, USEPA’s goal is to control human exposures and groundwater releases at over 2,200 sites. To accomplish these goals, EPA is using all of its authorities to require RCRA facilities to investigate and control exposures and, if necessary, implement Corrective Measures.

### **GPRA BACKGROUND AND THE USEPA STRATEGIC PLAN**

Several government reform initiatives have been recently passed in an attempt to force federal agencies to use resources wisely and establish clear goals and performance measurements. One of the most aggressive measures is the Government Performance and Results Act of 1993. Under GPRA, federal agencies are required to prepare five year Strategic Plans which include goals, milestones and performance measurements and prepare Annual Performance Plans and Annual Performance Reports. Clearly, poor plans or poor performance will jeopardize an agency’s mission and its funding; therefore, there is tremendous and unprecedented incentive to perform as planned.

The USEPA is subject to GPRA and, as such, has developed a 5 year Strategic Plan (1997-2002) which outlines 10 goals including Clean Air, Clean Water, Sound Science, Credible Deterrents and Better Waste Management. In its 2000 Budget Request, USEPA asked for \$1,656,719,500 in funding for its Waste Management Programs. Of that amount, it requested \$22,755,500 to fund its own RCRA Corrective Action Initiatives and \$24,808,800 to fund RCRA State Grand Programs for a total of over \$47,500,000 in RCRA funding. This represents an 11% increase in funding over 1999 levels. Clearly USEPA sees an opportunity to make progress in RCRA Corrective Action and is requesting (and receiving) more resources in this area.

In January 1999, USEPA established a baseline of 1,700 high priority RCRA Corrective Action facilities. In order to measure USEPA’s performance in achieving its stated goal of Better Waste Management, USEPA has committed to controlling human exposures and

groundwater releases at 90% of all 2,475 RCRA Corrective Action sites by 2005 (2,228 sites). To begin this process, USEPA stated that it plans to control exposures and releases from 83 high priority sites in 1999 and 170 high priority sites in 2000. The remaining 1,975 will need to be addressed in the next 5 years at a rate of 395 per year to keep with its current stated goal.

## **USE OF ENVIRONMENTAL INDICATOR FORMS AS USEPA PERFORMANCE MEASUREMENTS**

Traditionally the EPA has emphasized processes and reports mandating impractical or unrealistic clean up goals. This is the first time that the EPA will be held accountable for meeting performance goals specified in its Annual Performance Plans. To prove that RCRA facilities have controlled human exposures and groundwater releases, USEPA intends to use Environmental Indicator (EI) Forms to document that exposures and releases are under control. These are forms that must be filled out by USEPA to determine if exposures and releases are under control. Only after a positive determination (i.e. USEPA can reasonably conclude that exposures and releases are under control) is made can USEPA take credit for making progress toward the goals stated in its Strategic Plan. In order to minimize the impacts that this program has on regulated facilities, it is critical to develop the data necessary to support this determination. It is important to note that the forms for determining both human exposures and groundwater releases rely on currently available data and current land uses. These forms can be completed by the EPA or by the delegated state. Some key components of the EI determinations are provided below.

### ***Human Exposures Determination***

For the Human Exposures Determination, the USEPA must use the currently available data to establish whether groundwater, soil, surface water, sediments or air media are contaminated or reasonably expected to be contaminated from releases from Solid Waste Management Units (SWMUs), Areas of Concern (AOCs) or Regulated Units (RUs). As part of this determination, the regulated facility must, therefore, know the contaminants that are associated with each of these areas and the relevant protective risk-based levels for each type of potentially impacted media. A comparison must then be made between the known or suspected contaminant levels and the risk-based criteria. For those media and areas that exceed the criteria, USEPA must then determine whether a complete pathway exists for the contamination to reach human receptors. Identified receptors that must be considered include residents, workers, day-care, construction, trespassers, recreation and food. This will involve a qualitative evaluation of the mechanisms by which any of these receptors can be exposed to the contaminants (inhalation, ingestion of soil or groundwater, etc.) For those exposures that are identified, USEPA must then determine whether the exposures are “significant.” Significant is defined as potentially unacceptable exposures resulting from excessively high contaminant concentrations or exposure frequencies. The exposure frequency is high if the frequency is greater than that assumed in the derivation of the risk-based criteria. Contaminant concentrations are considered high if they are “substantially” above acceptable levels. Finally, if the exposures are deemed significant, the USEPA may consider a site-specific Human Health risk assessment to prove that the exposures are within acceptable limits given site-specific factors. If USEPA determines that human exposures are not under control, it is likely it will order Interim Measures to bring the exposures

under control. Only after a facility can demonstrate through this process that human exposures are under control will USEPA be allowed to take credit for this facility as a part of its performance measurement.

### ***Groundwater Releases Under Control Determination***

For a groundwater release determination, the USEPA must use the currently available data to establish whether groundwater is contaminated or reasonably expected to be contaminated from releases subject to RCRA Corrective Action, anywhere at, or from, the facility. As part of this determination, the regulated facility must, therefore, know what contaminants are present in any form - non-aqueous phase liquids and/or dissolved vapors or solids - that are subject to RCRA and what the relevant protective risk-based levels for the contaminants are. A comparison must then be made between the known or suspected contaminant levels and the risk-based criteria. If contaminated groundwater is present, USEPA must determine whether the migration of contaminated groundwater has stabilized. To prove stabilization, the facility must know the nature and extent (horizontal and vertical) of contamination and have monitoring data showing that it is not migrating or that there are physical barriers to migration. The facility must also prove that the contamination will remain within the horizontal and vertical "existing area of contamination." An evaluation of the potential discharge to surface water bodies must also be made. If groundwater discharges to surface water, USEPA must determine whether the discharge is insignificant. USEPA defines the discharge as insignificant if the maximum contaminant concentration in the discharge is less than 10 times the appropriate groundwater level. If the discharge is not insignificant, the USEPA must determine whether the discharge can be shown to be currently acceptable by proving the discharge is protective of surface water, sediment and eco-systems. Finally, the facility must commit to ongoing groundwater monitoring to prove that the groundwater contamination remains within the "existing area of contaminated groundwater." Again, if the USEPA determines that groundwater migration is not under control, it will likely order Interim Measures to contain the impacted groundwater. Only after a facility can demonstrate through this process that contaminated groundwater is under control will USEPA be allowed to take credit for this facility as a part of its performance measurement.

### ***Analysis***

For most sites, it will be relatively straightforward to demonstrate that human exposures are under control and, it is recommended that facilities gather the data to support successful completion of the form. Obviously, if human exposures are not under control, it is in the facility's best interests to implement a remedy to mitigate this condition as soon as practical. Proving that contaminated groundwater is under control is another matter. It will be very difficult, without a natural or constructed physical or hydraulic barrier to groundwater flow, to prove that contaminated groundwater is under control. Furthermore, if groundwater is discharging to surface water and the concentrations are above 10 times the groundwater standard, it will be very difficult to prove, without an ecological risk assessment, that the discharge is protective of the surface water, sediment and eco-systems. It is recommended that RCRA

facilities, especially high priority facilities, conduct the process of completing the forms to identify data gaps and begin filling them so that a positive demonstration can be made.

## **USEPA IMPLEMENTATION**

USEPA is under tremendous pressure to make these determinations to receive credit for achieving its goals and objectives in its Strategic Plan. The USEPA's mission, budget and livelihood depend on it. As such USEPA will use every means at its disposal to accomplish these objectives. Recently, USEPA has offered Voluntary Cooperative Agreements to high priority sites to enable these determinations to be made on a "non-enforcement" basis. These agreements are voluntary but have very specific and committed timetables to make EI determinations and, if the determinations are not favorable, to commit to Corrective Measures to either contain groundwater or mitigate human exposures. If facilities do not participate in the voluntary efforts, the USEPA will use its authority under RCRA to order such a determination be made. Facilities should expect contact by the USEPA soon to offer these options.

This article was prepared by *Geoffrey A. Glanders, P.G., president and founder of August Mack Environmental, Inc., a frequent author and speaker on environmental topics,* and previously appeared in the November, 2000 edition of the Michigan Environmental Compliance Update, a monthly newsletter prepared by the Environmental Department and published by M. Lee Smith Publishers.