

are made through a process that provides adequate public involvement, the process of making a formal completion determination will assure the public an opportunity to review and comment on the cleanup activities, and to pursue available administrative and/or judicial challenges to the agency's decision.<sup>5</sup>

Under 40 CFR section 264.101, owners and operators seeking a permit for the treatment, storage or disposal of hazardous waste must conduct corrective action "as necessary to protect human health and the environment."<sup>6</sup> The ultimate goal of corrective action is to satisfy the "protection of human health and the environment" standard. Thus, a determination by EPA (or a State authorized by EPA to implement the Corrective Action Program) that corrective action activities are complete is, in effect, an announcement that the "protection of human health and the environment" standard has been achieved.<sup>7</sup>

With experience, the Agency has discovered that the universe of facilities subject to corrective action requirements includes facilities that vary widely in complexity, extent of contamination, and level of risk presented at the facility. To address this wide variation among corrective action facilities, the Agency has developed multiple approaches to achieving "protection of human health and the environment."

When conducting corrective action, however, one of the key distinctions among remedies is the extent to which they rely upon controls (engineering and/or institutional)<sup>8</sup> to ensure that

they remain protective. In some cases, the Agency selects a remedy that requires treatment and/or removal of waste and all contaminated media to levels that allow the facility to be used in an unrestricted manner.<sup>9</sup> At these facilities, no additional oversight or activity is required following cleanup. When implementation of the remedy is completed successfully, protection of human health and the environment is achieved.

In other cases, the Agency selects a remedy that allows contamination to remain on site, but imposes ongoing obligations concerning, for example, operation and maintenance of engineered controls (e.g., a landfill cap), and compliance with institutional controls (e.g., a restriction that land be used for industrial purposes only). Thus, in these situations, the goal of "protection of human health and the environment" often is achieved through use of a remedy (e.g., containment) that allows some contamination to remain in place, but requires controls (engineering and/or institutional) at the facility to prevent or to limit the risk of exposure through release of contamination that remains following cleanup. Following remedy implementation, maintenance of controls and continued corrective action related activities (such as monitoring) at such facilities are fundamental elements of meeting the standard of "protection of human health and the environment."<sup>10</sup>

An example of a situation where the Agency typically chooses a remedy that

Managers Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups," September 2000, OSWER Directive 9355.0-74FS-P).

<sup>9</sup> "Unrestricted use" refers to a walk-away situation, where no further activity or controls are necessary to protect human health and the environment at the facility. Generally, a cleanup of soil to residential standards and of groundwater to drinking water standards would be an example of an unrestricted use scenario. By comparison, a cleanup of soil to industrial soil levels, and/or containment or cleanup of groundwater to levels in excess of drinking water standards usually would not be an unrestricted use scenario. Under both scenarios, the Agency does not generally anticipate having to impose additional corrective action requirements because the remedy is protective of human health and the environment. The difference is that, under the second scenario, protection of human health and the environment is dependent on the maintenance of the remedy, including institutional controls.

<sup>10</sup> It should be noted that, at these facilities, cleanup to unrestricted use levels and a Corrective Action Complete without Controls determinations (see discussion below in section 2) ultimately could be achieved under a variety of scenarios—for example, the plan for land use at a facility might change; the owner or operator might decide to return the site to unrestricted use, or the facility might otherwise reach that state (e.g., through natural attenuation). At that time, the Agency could discontinue the requirement for controls.

relies on controls is a facility for which the reasonably foreseeable use is industrial.<sup>11</sup> At those facilities, the Agency may offer the facility the option to achieve long-term protection of human health and the environment by selecting a remedy that allows higher levels of contamination to remain at the facility, but requires the use of controls to limit the risk of unacceptable exposure. This remedy is considered the final remedy; however, protection of human health and the environment at the facility typically is dependent on maintenance of controls.

### *Types of Completion Determinations*

As was discussed above, a determination by EPA that corrective action activities are complete is a statement by the Agency that protection of human health and the environment has been achieved at a facility. As was also discussed above, the Agency takes different approaches to achieving protection of human health and the environment at facilities, depending on the site-specific circumstances. Completion determinations benefit the owner or operator, the community, and the regulatory agency. Therefore, EPA recommends that regulators implementing the corrective action program make completion determinations where corrective action activities have assured long-term protection of human health and the environment at a facility. EPA anticipates two types of completion determinations—Corrective Action Complete without Controls, and Corrective Action Complete with Controls. These two types of completion determinations, and recommended procedures for making them, are described below.

#### **1. Corrective Action Complete Without Controls Determination**

EPA believes that it is appropriate for it, or for an authorized State, to make a determination that Corrective Action is Complete without Controls where the facility owner or operator has satisfied all obligations under sections 3004(u) and (v).<sup>12</sup> The Agency recommends this terminology be used to indicate that either there was no need for corrective action at the facility or, where corrective action was necessary, the remedy has

<sup>11</sup> See *Reuse Assessments: A Tool to Implement the Superfund Land Use Directive*, June 4, 2001, OSWER Directive 9355.7-06p, for a discussion of reasonably foreseeable land use.

<sup>12</sup> Or the owner or operator has completed facility-wide corrective action, as necessary to protect human health and the environment, imposed through a section 3008(h) order.

<sup>5</sup> The Agency anticipates that at facilities where meaningful public involvement begins early in the corrective action process, challenges are less likely at the end of the process.

<sup>6</sup> Likewise, section 3008(h) establishes a standard of "protection of human health and the environment" for corrective action imposed through orders. This guidance is equally applicable at facilities where EPA addresses facility-wide corrective action through an enforcement authority, rather than a permit.

<sup>7</sup> Note that for facilities that continue to require a permit for the treatment, storage, or disposal of hazardous waste, a completion determination in no way affects the ongoing requirement to conduct corrective action for any future releases at the facility, and the Agency recommends that any completion determinations at such facilities be structured to make this clear.

<sup>8</sup> EPA has defined institutional controls as "non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination by limiting land or resource use." They are almost always used in conjunction with, or as a supplement to, other measures such as waste treatment or containment. There are four general categories of institutional controls: Government controls; proprietary controls; enforcement tools; and information devices. (See Fact Sheet entitled "Institutional Controls: A Site