Table 1: Interim Corrective Action Quick Reference Table

Result	Description	Ref. Notes
General Performance Standard for Interim Measures	Control, Minimize, or eliminate releases that pose actual or potential threats to human health and the environment; and, to the extent practicable, should be consistent with final remedies	1
Environmental Indicators	Current Human Exposures Under Control, and Migration of Contaminated Groundwater Under Control	2
Stabilization	As situations warrant, control or abate threats to human health and/or the environment from releases at RCRA facilities, and/or to prevent or minimize the further spread of contamination	3
Supporting Topics	**Description**	**Ref. Notes**
Action or Screening Levels	Represent contaminant- and media-specific concentrations above which further action (e.g. additional characterization, risk assessment, and or remedial action) is generally warranted	4
Public Participation prior to and in support of interim measures	Should occur at the initiation of Corrective Action, and for the selection of “significant” interim measures	5
Institutional Controls	See Corrective Action Results Table 2	See Table 2

Reference Notes for Table 1: Interim Corrective Action

1. **Interim Measures**

One of EPA's primary goals for the corrective action program is to expedite risk reduction through implementation of interim measures to control or minimize ongoing threats to human health or the environment. In many state and Federal remedial programs, interim measures are used to address risks to human health or the environment in advance of final remedy selection. EPA believes that the concept of interim measures is especially appropriate at facilities subject to RCRA corrective action, since they are generally operating industrial facilities, where a final facility cleanup might not be completed for many years.

Recommended Interim Measure Performance Standard

(1) control, minimize, or eliminate releases(s) or potential release(s) that pose actual or potential threats to human health and the environment and, (2) to the extent practicable, be consistent with remedies that meet the remedy performance standard.

EPA believes that the recommended performance standard for interim measures to "control, minimize or eliminate" covers the broad range of actions that might be needed at a site-specific level in the short term to address risk to human health and the environment during interim measures. The Agency continues to believe, as discussed in the 1990 proposal, that interim measures should, to the extent practicable, be consistent with final remedies. In choosing interim measures, program implementors should be aware of the primary elements of what would be acceptable as a final remedy for the site, including preference for treatment of principal threats, and consider this when they implement interim measures. Since the corrective action program was initiated, a variety of types of interim measures have been implemented. In most cases, these measures, such as source removal, supply of alternate water supplies, plume containment or access controls, are consistent with any final remedy and are an effective use of remedial resources.

In a minority of cases, interim measures are not entirely consistent with the site-specific approaches chosen to meet the goals of the final remedy. A common example is a temporary cap to address direct exposure that later has to be removed as part of a final remedy. However, in such cases, in view of a final remedy that would not be implemented quickly, interim actions would be undertaken in the near term to reduce risk or to prevent further migration of contamination.

In some circumstances, an interim measure or measures may become the final remedy. For example, an interim measure that involves removal of only highly contaminated soils ("hot spots"), might, after more comprehensive site investigation, be sufficient for a final remedy. Of course, for an interim measure to be approved as a final remedy it would have to meet the remedy performance standard, including the opportunity for public input.

2. **Environmental Indicators**

General Definition of Environmental Indicators

Environmental Indicators (EIs) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved) to track improvement in the quality of the environment. The two EIs developed to-date are

designed to indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater.

"Current Human Exposures Under Control" EI:
A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA Corrective Action at or from the identified facility (i.e., site-wide)).

"Migration of Contaminated Groundwater Under Control" EI:
A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA Corrective Action at or from the identified facility (i.e., site-wide)).

3. **Stabilization**

The Stabilization Initiative started in 1991 as the primary implementation strategy for the RCRA Corrective Action Program. Through the Stabilization Initiative, EPA is seeking to achieve an increased overall level of environmental protection by implementing a greater number of actions across many facilities rather than implementing final, more comprehensive remedies at a few facilities. Stabilization activities can occur at a unit or specific area, in contrast to the site-wide EI determinations.

Controlling exposures or the migration of a release may “stabilize” a problem or even an entire facility, but does not necessarily mean that the facility is completely cleaned up. Overseeing regulatory agencies should make it clear to facility owner/operators that while stabilization, as well as achievement of EIs, are appropriate interim goals, it is not necessarily the final goal for RCRA Corrective Action.

More detailed explanation and guidance regarding RCRA stabilization is included in the October 21, 1991 Memo titled, “Managing the Corrective Action Program for Environmental Results: The RCRA Stabilization Effort,” which is found in the Corrective Action Workshop toolbook.

4. **Action or Screening Levels**

EPA recognizes that using action or screening levels continue to be a valuable tool to help focus resources on contamination at a facility that warrants some further action. Using action levels can be particularly helpful to focus interim remedial actions and site characterization, but can also be useful to focus final remedy evaluation and selection. When relying on action levels to focus resources, contamination found in a particular medium below an appropriate action level would not generally be subject to remediation or further study.

Action levels are health- or environmental-based concentrations typically derived using chemical-specific toxicity information and standardized exposure assumptions. Action levels are often established at the more protective end of the risk range (e.g., $1x10^{-6}$) using conservative exposure and land use assumptions. However, action levels based on less conservative exposure assumptions could be appropriate for certain sites, such as facilities where the land use has been

designated non-residential. Such use of non-residential-based action levels may be particularly helpful to focus interim actions which are often based more on current exposures and land uses.

EPA recognizes that there are no national lists of action levels; however, numerous lists produced by EPA regional offices and specific states are available and routinely used. As stated in the 1996 ANPR, EPA cautions program implementers to ensure that action levels reflect up-to-date toxicity information and the assumptions used to develop the action levels are reasonably consistent with the physical conditions and current or reasonably anticipated exposure assumptions at a given facility. The latest national EPA guidance dealing with the action level concept can be found in the Superfund Soil Screening Guidance at http://www.epa.gov/superfund/resources/soil/index.htm .

5. **Public Participation for Interim Measures**

EPA's strong preference continues to be for full, fair and equitable opportunities for public participation throughout the process of cleaning up corrective action facilities. EPA expects that some form of public involvement will be appropriate when developing and implementing most interim measures. Due to the diversity, scale, and time-critical nature of some actions that have been taken as interim measures, EPA does not specify the types of public participation activities that would be appropriate during all interim measures, nor does EPA believe public participation should be required for all interim measure decisions. However, the Agency believes that the public should be involved during the selection of "significant interim measures," The Agency believes that a tentative "significant" interim measure should be provided to the public for review and comment and that the opportunity should be provided for a public meeting. Interim measures that the Agency would consider to be significant are discussed below.

In addition to the recommended public involvement for significant interim measures, the Agency continues to encourage frequent, meaningful public involvement for corrective action activities in general. Because of the diversity of potential interim measures, the types of public participation activities that would be appropriate during interim measures will vary, and in some cases, public participation may not be necessary. For example, EPA anticipates that a straightforward source removal, where small volumes of hazardous wastes are removed from a corrective action facility and sent for disposal at a facility permitted to accept hazardous waste, would not generally require public involvement for the decision, but public notice of the action may be appropriate. However, at some sites, due to risk factors or other community concerns, the owner/operator or oversight agency may provide the opportunity for public input into the decision to undertake a small volume, straightforward removal.

As discussed above, some significant interim measures may, in time, be demonstrated to be sufficient to serve as the final remedy for the site. Of course, a decision that an interim measure should be approved as a final remedy should go through the same type of public notice and provide the same opportunities for public review and comment that EPA would expect during remedy selection.

Significant interim measures.

In EPA's experience, many activities undertaken as interim measures may be significant actions or may for other reasons warrant public involvement in the decision to undertake the action. EPA recognizes that defining which interim measures are significant is best determined on a site-

specific basis. However, EPA's current thinking is that significant interim measures are those such as soil removals or groundwater extraction that affect a large part of a facility, measures that will be implemented a year or more prior to implementation of a final remedy, or measures that will involve transport of large volumes of remediation waste through the local community.

EPA's Public Participation Manual

EPA's most comprehensive public involvement guidance for RCRA Corrective Action under permits and 3008(h) orders are identified in Chapter 4 of RCRA Public Participation Manual, EPA 530-R-96-007, September 1996. In addition, Chapter 5 provides good information on how to involve the public. Chapter 4 of the manual calls for: early participation, consistency with Superfund, and shared responsibility for public participation activities. A copy of Chapter 4 of this manual is provided in the Communication section of the Corrective Action Tool Book.

Early participation

The need for public information and involvement varies from site to site. By canvassing the public early in the Corrective Action process, the regulatory agency and facility can determine the level of public interest and need for information. This, in turn, increases the likelihood of a public participation effort tailored to meet the specific community needs. Public participation is often most effective if initiated early in the Corrective Action process. An important benefit of early participation is an increased likelihood of gaining the public's trust. Parties that trust one another can more easily communicate and cooperate to achieve a Corrective Action.

Consistency with Superfund

EPA encourages permitting agencies and facilities to make public participation activities during Corrective Action consistent with those activities required under Superfund. For example, public participation activities for a significant interim action should generally equal or exceed those required for a Superfund removal action.

Shared responsibility for public participation activities

The Corrective Action process may involve several steps initiated by a regulatory agency or a facility. Thus, public participation is an activity shared by the regulatory agency and the facility.