Voluntary Remediation Program (VRP) | (307) 777-7752 | http://deq.state.wy.us/volremedi/index.asp

Technical Impracticability Determinations

In its 2000 session, the Wyoming Legislature created new opportunities, procedures, and standards for voluntary remediation of contaminated sites. These provisions, enacted as Articles 16, 17, and 18 of the Wyoming Environmental Quality Act and implemented by the Wyoming Department of Environmental Quality (DEQ), will govern future environmental cleanups in Wyoming.

This Fact Sheet provides general information related to how and when determinations of technical impracticability are made and what information DEQ needs in order to make technical impracticability determinations.

1. What does technical impracticability mean?

Technical impracticability refers to a situation where achieving cleanup standards is not practical using currently available cleanup methods or technologies. In these cases, DEQ may establish alternate site-specific, risk-based standards for soil or water after an evaluation where DEQ determines that it is technically impracticable to meet the cleanup standards established in §35-11-1605 (a)(ii). Cleanup at these sites may be technically possible, but because of factors such as feasibility, reliability, economies of scale, and safety, the cleanup is not practical.

In general, a Volunteer will need to provide clear and convincing information demonstrating technical impracticability for DEQ's evaluation (see Question 4 below for details on information needed). A technical impracticability determination is issued when DEQ concurs that cleanup standards cannot be achieved.

2. Are technical impracticability determinations available for all contaminated media?

Technical impracticability determinations may be made for either soil or water on a media specific basis. The purpose of this Fact Sheet, however, is to provide guidance for Volunteers who want to make a demonstration that remediation of contaminated soils is impracticable.

This Fact Sheet does not address technical impracticability determinations for groundwater, surface water or sediments. Technical impracticability determinations for groundwater will be consistent with EPA's *Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration, September 1993*. For sites overseen by the DEQ Hazardous Waste Permitting and Corrective Action Program and are required to be consistent with the Federal Resource Conservation and Recovery Act (RCRA) program, DEQ has the authority to require, on a case-by-case basis, that

cleanup requirements utilizing the technical impracticability provisions of §35-11-1605(d) will be appropriately re-evaluated as technology changes. Technical impracticability determinations for surface water and sediment will also be made on a case-by-case basis.

A Volunteer who receives a technical impracticability determination for soils is not automatically granted one for groundwater. A separate demonstration and evaluation must be made for groundwater.

3. When in the cleanup process will DEQ make a technical impracticability determination?

For the most part, technical impracticability demonstrations are made as part of the remedy evaluation process prior to remedy implementation (see Fact Sheet #21 *Remedy Selection*). However, there may be cases where a technical impracticability demonstration is made after a remediation system has operated and it is demonstrated to DEQ the cleanup objectives for soil cannot be met. The technical impracticability and associated institutional controls would be incorporated into a remedy agreement.

4. What should a technical impracticability evaluation for soils include?

There are multiple existing technologies available for cleaning up soils to the appropriate levels and DEQ generally prefers that these technologies be employed to ensure permanent remedies that meet soil cleanup levels. There may be cases, however, due to a variety of factors (e.g., contaminated soils located under a building, extremely large volume of contaminated materials), where a technical impracticability determination may be appropriate. In these cases, the following information will be considered as part of a demonstration that soil remediation is technically impracticable:

- The location (i.e., spatial area and depth) over which the technical impracticability decision will apply;
- The contaminants of concern for which the technical impracticability determination is sought;
- A conceptual model that describes site geology, hydrology, contaminant sources, contaminant fate and transport, and receptors;
- An evaluation of remediation potential of the site, including data and analyses that support any assertion that attainment of applicable statutes, regulations, standards, and guidance is impracticable. At a minimum this should include:
    - A demonstration of the degree to which any remaining contamination is acting as a source of contamination to groundwater or surface water in excess of applicable levels in §35-11-1605(a)(ii) of the Environmental Quality Act;
    - An analysis of the performance of any ongoing or completed remedial actions, including any site characterization studies, removals, pilot projects, or monitoring data;
    - An analysis of any modeling performed (e.g., predictive modeling); and

  - A demonstration that no other remedial technologies (conventional or innovative) can reliably and safely attain the cleanup objectives within a reasonable timeframe, at a reasonable cost.
- An evaluation of the risk to human health and the environment of leaving the contaminated soils in place at an alternate, site-specific, risk based level;
- The cost of remedy alternatives, including but not limited to present worth of construction, operation and maintenance costs, continued operation costs of the remedy selected, and costs of any proposed alternative remedy strategies;
- Land ownership or legal rights that are available to control human or environmental exposures to contaminated media;
- Current and future land use; and
- Any additional information or analyses that DEQ deems necessary for the technical impracticability evaluation.

5. What sites are not eligible for a soils technical impracticability determination?

Under Wyoming law, certain sites, or types of sites are not eligible to receive technical impracticability determinations for soils (see §35-11-1605(d) and 1605(g)). These include:

- Sites that have not been accepted into the VRP; and
- Sites undergoing cleanup under Subtitle C of the RCRA.

6. What happens once a site is deemed eligible for a technical impracticability determination?

Once a technical impracticability determination for soils has been made, alternative soil cleanup levels are established and a remedy capable of meeting the alternative levels (and deemed technically practicable) is selected. Technical impracticability determinations made before a final remedy has been identified and implemented will have the alternative cleanup levels incorporated into the final remedy agreement. At sites where a technical impracticability determination is made after a remedy has been implemented and its performance deemed not able to meet cleanup objectives, the alternative remedy will be incorporated into an amendment to the remedy agreement.

Alternative cleanup levels are established only if the site owner has or obtains rights to control human or environmental exposures to contaminated media and consents to impose such controls as are required to protect human health and the environment. Sites that make a demonstration of technical impracticability are not required to obtain a Use Control Area designation on the property, but are required to control exposures to protect human health and the environment.

At some sites where a technical impracticability determination has been made, natural attenuation may be appropriate as part of a remedial action package. DEQ will require specific site

characterization data and analyses that support the effectiveness of natural attenuation, along with the other requirements, such as institutional controls and contingencies associated with natural attenuation as a remedy option (see Fact Sheet #26 *Monitored Natural Attenuation*).

Remedy agreements with a technical impracticability determination at RCRA sites may include site-specific review timeframes (e.g., 2 years, 5 years) in order for DEQ to maintain RCRA primacy and take into consideration subsequent changes in remedial technology or changes in site conditions that might affect technical practicability. Non-RCRA sites that receive a technical impracticability waiver and meet the alternate cleanup levels specified in the remedy agreement are able to receive a Certificate of Completion.

7. What circumstances would reopen a remedy that included a technical impracticability determination for soils?

A remedy that includes a technical impracticability determination for soils is subject to the same reopening and termination clauses as any remedy under §35-11-1610. Specifically, a technical impracticability remedy may be reopened only where:

- The Volunteer fails to comply with the terms and conditions of the remedy agreement;
- The criteria, outlined in Question 4 and provided in the evaluation, are determined to be incorrect through fraud, material misrepresentation, or failure to provide material information;
- The property owner or operator loses the ability to impose controls or applies to remove the use restriction that are protective of human health and the environment;
- Contamination is discovered that was present on the site, but not known as of the date of the remedy agreement;
- The remedy fails to meet remediation standards, including alternate cleanup levels established through a technical impracticability determination; or
- The Volunteer applies for a no further action letter.

8. How can I get more information about the VRP?

To learn about VRP sites that may exist in your community, obtain copies of other VRP Fact Sheets/guidance documents, get answers to your questions, or volunteer for the program, contact DEQ at (307) 777-7752 or through the VRP web site at: http://deq.state.wy.us/volremedi/index.asp.

The VRP web site includes all of the Fact Sheets and other guidance documents for the VRP. This web site is updated frequently and includes the latest information about DEQ's progress in developing guidance, policy, and other supporting documents for the VRP.

9. References

For additional information regarding technical impracticability, the Volunteer is referred to the following document.

EPA. *Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration*. U.S. Environmental Protection Agency. EPA/540-R-93-080 OSWER Directive 9234.2-25. September 1993. Available at: http://www.epa.gov/oerrpage/superfund/resources/gwdocs/techimp.htm