

Chapter 11

The Regulatory "Toolbox"

11.1 Introduction

This chapter discusses the primary tools available to EPA project managers in developing strategies for investigation and cleanup of an abandoned mine site. These same tools may also be available to other federal agency and state personnel. In addition, there are a variety of other tools available to state and federal resource managers and regulators that are not discussed in this text. The site manager is encouraged to refer to additional agency or state resources to choose the best tools for a given site.

Regulation of mining activities occurs via a complex web of sometimes overlapping jurisdictions, laws, and regulations covering several environmental media. Land ownership and tenancy issues further complicate regulatory issues. Each abandoned mine site faces a somewhat unique set of regulatory requirements, depending on State statutes or regulations; whether it is on Federal, State, Tribal or private land; local regulations; and the specific environmental considerations unique to the site. Although this chapter focuses on the various tools provided by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and its remediation process, especially as it relates to the unique characteristics of mine site remediation, the use of other tools should be considered where appropriate. An overview of some of the other tools available to the site manager are included in the later sections of this chapter.

11.2 Background

Historically, CERCLA has been used as a tool to implement cleanup activities at a large number of mining and mineral processing sites across the country. CERCLA authorities have been used for cleanups ranging from the removal of drums of hazardous substances from long-abandoned sites, to major privately funded cleanup actions at sites on the National Priorities List.

The joint and several liability provisions of CERCLA are powerful tools in compelling private parties to conduct cleanup actions at many sites. The availability of federal money to conduct work when efforts to induce privately funded cleanups fail allows EPA an independent ability to respond to public health and environmental threats. The cost recovery provisions of CERCLA make it possible for the government to be reimbursed for the cleanup costs it incurs.

CERCLA is a very flexible tool for addressing the environmental risks posed by mining and mineral processing sites. Other chapters of this document discuss technical aspects of conducting cleanup work at mining and mineral processing sites. Equally important, however, are the policy and administrative decisions regarding how CERCLA or other authorities can best be utilized to implement site cleanup. If CERCLA is selected as an administrative tool to implement site characterization and cleanup, it is critical to develop an overall strategy to determine how CERCLA can best be utilized for cleanup of a mining or mineral processing site, or a watershed affected by mining or mineral processing. Other programs at EPA, appropriate state agencies, tribes, local government, and other federal agencies also need to be involved in determining how best to develop an integrated site management strategy.

11.3 CERCLA Jurisdiction/Applicability

11.3.1 Jurisdictional Conditions

CERCLA applies any time there is a release or threatened release of: 1) a hazardous substance into the environment or 2) a pollutant or contaminant "which may present an imminent and substantial endangerment to the public health or welfare." The term "release" is defined broadly in the statute, including any type of discharging or leaking of substances into the environment. This also includes the abandonment of closed containers of hazardous substances and pollutants or contaminants.

The definition of hazardous substance is extremely broad, covering any "substances," "hazardous constituents," "hazardous wastes," "toxic pollutants," "imminently hazardous chemicals or mixtures," "hazardous air pollutants," etc., identified under other federal environmental laws, as well as any substance listed under Section 102 of CERCLA. The fact that a substance may be specifically excluded from coverage under one statute does not affect CERCLA's jurisdiction if that substance is listed under another statute or under Section 102 of CERCLA. A comprehensive list of these substances is provided in 40 CFR 302.4. From a mining perspective, certain sulfates are not listed, and thus may be excluded from the broad coverage of "hazardous substances." Contaminants such as sulfates, however, can be covered under the more limited provisions of CERCLA relating to "pollutants and contaminants," as will be discussed below. It should be noted that although all mineral extraction and beneficiation wastes, and some mineral processing wastes are excluded from RCRA Subtitle C regulation by the Bevill Amendment, these wastes may be addressed under CERCLA.

11.3.2 Media

CERCLA is not media-specific. Thus, it may address releases to air, surface water, ground water, and soils. This multi-media aspect of CERCLA makes it possible to conduct environmental assessments and design cleanup projects that address site contaminants in a comprehensive way.

11.3.3 Constituents

CERCLA covers almost every constituent found at mining and mineral processing sites. Exceptions include petroleum (that is not mixed with a hazardous substance) and responses to releases of a naturally occurring substance in its unaltered form. It should be noted, however, that the latter exception does not include any of the releases typically dealt with at mining sites, such as acid mine drainage, waste rock, or any ore exposed to the elements by man.

11.4 Implementation Mechanisms

11.4.1 Permits

CERCLA does not include any formal permit mechanism. CERCLA was essentially designed as a tool to address problems in a "relatively" short period of time. It was not intended to be an ongoing "regulatory or permit" authority; thus, an infrastructure was not set up for long-term regulatory compliance (e.g., more than 30 years).

Section 121(e) of CERCLA waives any requirement for a federal, state, or local permit for any portion of a removal or remedial action that is to be conducted entirely on site. Typically, however, that action must be performed in accordance with the substantive environmental

requirements of the regulatory authority for which the permit was required. EPA usually has taken the position that "on-site" includes a discharge to surface water within the site boundaries, even though the water eventually flows off site. Some concern has been expressed regarding the extent to which this waiver is valid after the CERCLA action is completed. The Section 121(e) exemption is essential for ensuring that EPA can carry out remedial actions in a timely manner.

11.4.2 Review/Approval

Typically, no review or approval is afforded under Superfund at new or existing facilities unless there is a release or threat of release addressable under CERCLA. However, once jurisdiction is established, the Agency has the capacity to review and approve any plans that address or affect that release (See the Administrative and Injunctive Authorities section below).

Section 108(b) of CERCLA does give the Administrator the authority to promulgate regulations that would require adequate financial assurance from classes of facilities that is consistent with the degree and duration of risk associated with the production, transportation, treatment, storage, or disposal of hazardous substances. The statute describes ways in which the financial responsibility can be established (insurance, guarantee, surety bond, letter of credit, or qualification as a self-insurer), and authorizes EPA to specify policy or other contractual terms, conditions, or defenses for establishing evidence of financial responsibility. EPA has not, as yet, used this authority.

11.4.3 Response Authorities

CERCLA's main strength is its response authorities. EPA can either use the Superfund (funded primarily by an industry tax) to perform response (removal or remedial) activities (Section 104) or require private parties to perform such activities (Section 106). CERCLA gives EPA the flexibility to clean up sites based upon site-specific circumstances. EPA's cleanup decisions are based upon both risk assessment and consideration of "applicable or relevant and appropriate requirements" (ARARs). As long as the jurisdictional prerequisites have been met, CERCLA gives EPA the ability to perform any activity necessary to protect public health and the environment.

CERCLA provides EPA with the authority to perform "removal" actions, and "remedial" actions. Assessments evaluate contaminants of concern, exposure pathways, and potential receptors. The assessment process includes the review of all available information as well as sampling for any other necessary information. The process is broad in its application and is a powerful tool in evaluating environmental risks posed by a site. Removal actions can be performed on mining and mineral processing sites of any size in an emergency situation (e.g., implementation can occur within hours) or over a long period of time. Removal actions are subject to limits on time (12 months) and money (\$2,000,000) under the statute; however, these limits are subject to broad exceptions. For example, the Agency has implemented removal actions costing in the tens of millions of dollars at mining and mineral processing sites.

Remedial actions are typically long-term responses performed at those sites placed on the National Priorities List. Remedial actions may be performed at non-NPL sites only if they are privately financed. Remedial actions are not subject to the time or dollar limitations imposed on removal actions, but require a more detailed and formal decision process. Unlike removal actions, however, remedial actions to be implemented with Superfund dollars (when there are no viable responsible parties) require a 10% state share in costs and a state assurance of operation and maintenance before remediation can commence.

Land management agencies, such as the Forest Service and BLM have CERCLA response authority, particularly when the site is not listed on the NPL. The land management agencies and other natural resource trustees, such as the National Marine Fisheries Service and the Fish and Wildlife Service, also have Section 106 order authority, to be exercised with EPA concurrence, when response is needed on federal land or is needed to prevent an adverse impact on natural resources.

11.4.4 Standard Setting

Under the current statute, CERCLA has no uniform national standard-setting authorities. The NCP, at 40CFR300.430(e)(9)(iii)(A-H), lists nine criteria, through which EPA can set site-specific standards for clean-up and maintenance to minimize risk and satisfy ARARs.

ARARs, discussed below in Section 11.4.5, can be a very useful tool, as they give the Agency the authority to impose standards that would not otherwise be applicable, if those standards are determined to be relevant and appropriate under the circumstances. Of particular interest in the mining context, EPA has the authority to use appropriate regulations adopted under RCRA Subtitle C despite the fact that most mining wastes are excluded from regulation under RCRA Subtitle C by the Bevill Amendment. Nonetheless, EPA can only require attainment of the substantive aspects of relevant and appropriate standards, not the procedural requirements.

11.4.5 Applicable or Relevant and Appropriate Requirements

Under Section 121(d) of CERCLA, remedial actions must comply with substantive provisions of federal environmental laws and more stringent, timely identified state environmental or facility siting laws. Removal actions must comply with ARARs also, but only to the extent practicable. "Applicable" requirements are those federal or state laws or regulations that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. "Relevant and appropriate" requirements are not "applicable," but address problem or situations similar enough to those at the CERCLA site that their use is well suited to the site. State requirements are not considered ARARs unless they are identified in a timely manner and are more stringent than federal requirements.

ARARs are contaminant, location, or action specific. Contaminant specific requirements address chemical or physical characteristics of compounds or substances on sites. These values establish acceptable amounts or concentrations of chemicals which may be found in, or discharged to, the ambient environment.

Location specific requirements are restrictions placed upon the concentrations of hazardous substances or the conduct of cleanup activities because they are in specific locations. Location specific ARARs relate to the geographical or physical positions of sites, rather than to the nature of contaminants at sites.

Action specific requirements are usually technology based or activity based requirements or limitations on actions taken with respect to hazardous substances, pollutants or contaminants. A given cleanup activity will trigger an action specific requirement. Such requirements do not themselves determine the cleanup alternative, but define how chosen cleanup methods should be performed.

EPA has published a manual outlining all potential federal ARARs that may be requirements at Superfund sites. Published in two parts, the manual is entitled *CERCLA Compliance with Other Laws Manual*, Part I, August 1988, and Part II, August 1989, and is available at EPA libraries. In addition, Appendix D discusses ARARs that are commonly utilized at mining and mineral processing sites.

11.5 Compliance/Enforcement

11.5.1 Administrative and Injunctive Authorities

CERCLA Section 106 provides for the issuance of administrative order or injunctive relief under the following conditions: (1) there may be an imminent and substantial endangerment to the public health or welfare or the environment; (2) because of a release or threat of a release; (3) of a hazardous substance; (4) from a facility. See CERCLA Section 106. (Note there are conflicting opinions regarding authority under Section 106 for ordering cleanup of pollutants and contaminants.) EPA typically only issues orders to parties that are potentially liable under CERCLA Section 107. The scope of liability under CERCLA is broad. Anyone fitting the following categories is liable under CERCLA: 1) current owner (including lessees) or operator of the facility; 2) past owner or operator at the time of the disposal of hazardous substances in question; 3) anyone who arranged for the treatment, transportation, or disposal of the hazardous substances in question; and 4) any transporter of the hazardous substances in question if the transporter chose the disposal location. Liability is strict. That is, if the party falls into one of the above four categories, it is liable, regardless of "fault." Liability for the government's response costs is joint and several so long as the harm is "indivisible," i.e., there is no rational basis for apportionment. The burden of proof as to whether harm is indivisible is on the defendant, not on the government. Liability is retroactive, thus CERCLA can reach those responsible for disposal activities prior to enactment of CERCLA.

Mining and mineral processing sites generally qualify as CERCLA facilities. A facility is defined as "any building, structure, installation, equipment, pipe or pipeline...well, pit, pond, lagoon, impoundment, ditch...or any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located..." Consequently, nearly any feature of a mine site fits within the definition of "facility." EPA has the discretion to define "facility" as broadly or narrowly as necessary to fit site-specific requirements. If the jurisdictional requirements are met, EPA may either proceed directly with an administrative order or request the U.S. Department of Justice to seek injunctive relief from a federal District Court. Historically, the vast majority of work performed under these provisions has been done administratively. Judicial intervention is relatively rare.

EPA has broad authority under CERCLA to require response actions. At existing facilities, EPA could enjoin production activities or order changes to those activities (unless the activity is a discharge pursuant to a federally permitted release). EPA can require the implementation of institutional controls meant to reduce the endangerment posed by the presence of hazardous substances or the removal of such substances to a more appropriate location (which must meet ARARs and the off-site rule). EPA has broad discretion to choose response actions most appropriate for particular sites (See Response Authorities above), provided such actions are not "inconsistent with" the National Oil and Hazardous Substances Pollution Contingency Plan (commonly referred to as the National Contingency Plan or NCP).

11.5.2 Cost Recovery

CERCLA Section 107 provides for the recovery of certain costs expended by the government in responding to environmental contamination from responsible parties (as defined above). These response costs must be incurred as a result of a release or threatened release of a hazardous substance from a facility. In order for the United States, a state, or Indian tribe to recover costs under this provision of CERCLA, the costs incurred have to be "not inconsistent" with the NCP. Liability for response costs is strict, joint and several, and retroactive. The burden of proof as to whether harm is indivisible is on the defendant, not on the government.

Like most recovery provisions in the law, EPA's cost recovery authority does have a statute of limitations. For removal actions, EPA must commence its cost recovery action within three years of completion of the removal action (unless the removal action proceeds into a remedial action). For remedial actions, EPA must commence its cost recovery action within six years of the initiation of physical on-site construction of the remedial action.

EPA has developed a "prospective purchaser" policy which affords a party interested in the purchase of contaminated properties with protection from CERCLA liability by entering into a settlement with the United States. Application of the policy can be difficult, as there are many criteria that must be met, including a federal interest in the contaminated property, substantial benefit to the Agency, the safety of continued operations, risk to persons at the site, municipal interest, environmental justice, etc. From a mining site perspective, however, it may be a worthwhile option to consider.

11.5.3 Civil Penalties

CERCLA imposes a fine of \$25,000 per day for failure to comply with an order issued under CERCLA (Sections 106(b) and 109). In addition, if EPA spends Superfund dollars performing work where a responsible party has failed to perform such work under order, that party may be liable for punitive damages in an amount equal to three times the costs incurred by the United States. (Section 107(c)(3)). When EPA enters into consensual agreements with responsible parties for the performance of work, it may also require stipulated penalties for the responsible party's failure to adhere to the requirements of the agreement.

11.5.4 Criminal Penalties

Criminal penalties exist under only two provisions of CERCLA. The first is for failure to provide notification of a release of a reportable quantity of a hazardous substance (Section 103(b)); the second is for destruction of records that are supposed to be maintained under the Act (Section 103(d)).

11.5.5 Information Collection

Section 104(e) allows for investigations, monitoring, surveys, testing, and other information gathering appropriate to identify the existence and extent of a release or threat thereof; the source and nature of hazardous substances or pollutants or contaminants; and the extent of danger to public health or welfare or the environment. Studies that may be conducted using the information gathering authorities of section 109 may include planning, legal, fiscal, economic, engineering, architectural, or others studies necessary or appropriate for planning and directing response actions, recovering costs, or enforcement.

Specifically, Section 104(e)(2) requires that parties provide EPA with all information or documents relating to (A) the identification, nature, and quantity of materials generated, treated, stored, or disposed of at a facility; (B) the nature and extent of a release or threatened release of a hazardous substance, pollutant, or contaminant; and (C) the ability of a person to pay for or perform cleanup.

Section 104(e)(3) provides the Agency with the authority to enter any place where a hazardous substance or pollutant or contaminant (A) may have been generated, stored, treated, disposed of, or transported from; (B) or from which there is a release or threatened release of a hazardous substance; (C) or any place where entry is needed to determine the need for response, the appropriate response, or to effectuate a response.

Section 104(e)(4) gives EPA the authority to inspect, and obtain samples from, any location or containers of suspected hazardous substances, or pollutants or contaminants.

If a party refuses to consent to EPA's information collecting activities, the Agency may issue orders and/or seek court intervention providing for the collection of information and provision of access. Access may be granted through a warrant (where short-term access is necessary) or by court order (for long-term or intrusive access circumstances).

CERCLA Section 103 also requires any person who is in charge of a facility from which a hazardous substance is released to report that release if it equals or exceeds the reportable quantity for that hazardous substance listed pursuant to Section 102 of the Act. Section 103 also requires any owner or operator of a facility, owner at the time of disposal at a facility, and transporter who chose to dispose of hazardous substances at a facility to notify EPA of the existence of such facility if storage, treatment, or disposal of hazardous substances have occurred at such facility. Thus, Section 103 provides broad authority for requiring the submission of information necessary to identify the location of sites needing EPA's attention.

11.6 Other Superfund “Tools”

11.6.1 Funding

The Superfund is funded by both a tax on the chemical industry and some smaller contribution of appropriated funds. The Superfund typically has enough money available to perform necessary investigatory and cleanup activities. CERCLA does contain fund-balancing criteria to ensure that the fund does not deplete its resources on any one site. Cost recovery by the government is a critical element of ensuring the adequacy of Superfund.

11.6.2 Natural Resource Damage Provisions

CERCLA Section 107(a)(4)(C) provides for the recovery of damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss. "Natural resources" as defined at CERCLA Section 101(16) means "land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States...any State or local government, any foreign government [or] any Indian tribe..." EPA is not responsible for recovering "natural resources" damages due the federal government, as this responsibility generally lies with those agencies that administer federal lands or are resource trustees. (See Section 107(f)(1) and (2) and 122(j).)

Highlight 11-1 ARCO Natural Resource Damage Settlement

In November 1998, ARCO settled their Natural Resource Damage Claims with the Federal government, State of Montana, and the Confederated Salish and Kootenai Tribes. The agreement sets forth terms under which ARCO will pay to remediate and restore Silver Bow Creek. In addition, ARCO resolved the State and Tribes natural resource damage claims for the Clark Fork River Basin.

11.6.3 Good Samaritan Provisions

Section 107(d) of CERCLA provides exceptions to liability for those rendering care or advice at the direction of an On-Scene Coordinator (OSC) or in accordance with the NCP. A private party who is not otherwise liable at the site, and provides advice or care at the direction of an OSC in accordance with the NCP, will be exempt from liability for any costs incurred as a result of actions or omissions by that party unless those actions or omissions are negligent.

State and local governments are exempt from liability under CERCLA for actions taken in response to an emergency created by the release or threat of release of hazardous substances from a facility owned by another person. Such exemption does not cover gross negligence or intentional misconduct. As with private parties, the state or local government cannot take advantage of this provision if it is otherwise liable for the release.

11.6.4 Native American Tribes

Section 126 of CERCLA provides that Indian tribes shall be afforded substantially the same treatment as states with respect to CERCLA's notification, consultation on remedial actions, information collection, health authorities, and consultation consistent with the National Contingency Plan. Section 104(d) of CERCLA also authorizes the Agency to enter into cooperative agreements with tribes. Section 107 also gives tribes equivalent authority as given to states and the federal government to recover response costs and damages to natural resources.

11.7 Limitations

11.7.1 Federally Permitted Release

EPA's ability to address environmental problems at mining and mineral processing sites may be limited when a release of concern has been granted a permit under a federal government program listed in Section 101(10). Even though such a release can be addressed under Section 104 of CERCLA (i.e., EPA may still perform any necessary remediation), EPA's authority to recover costs for such activities is removed (Section 107(j)) and its authority to order others to do the work is questionable.

11.7.2 Pollutants and Contaminants

As described above, some contaminants, such as sulfate, do not fall under the definition of "hazardous substance." These contaminants can be captured under the definition of "pollutant and contaminant," but the authority afforded the Agency under Section 104 of CERCLA to address such contaminants is significantly less than that afforded under Section 106 to address hazardous substances. EPA may not be able to order responsible parties to address pollutants and contaminants or be able to recover costs incurred in responding to their releases.

11.8 Ability to Integrate with Other Statutes

CERCLA is a powerful tool for investigation and cleanup of mining and mineral processing sites. Its applicability at mining and mineral processing sites is broad, and can often be used when other environmental statutes have failed to address environmental problems. CERCLA also can provide synergistic effects when combined with other statutes because of its 1) retroactive, joint, and several liability; 2) remedial capabilities through Superfund financing; and 3) site-specific flexibility through risk assessment and ARARs analysis. When evaluating the use of CERCLA at a site also consider integrating its use with other authorities to achieve the best mix of cleanup tools for each site.

11.9 Federal Facilities and Other Federal Issues

CERCLA Section 120 subjects federal agencies (e.g. USFS, BLM, NPS, and DOD) to CERCLA requirements. CERCLA requirements are similar for federal and private facilities; however, CERCLA Section 120 set out certain additional requirements applicable to federal facilities. For example, Section 120 requires that EPA establish the Federal Agency Hazardous Waste Compliance Docket listing federal facilities that are or may be contaminated with hazardous substances. EPA then evaluates the facilities on the docket and, where appropriate, places facilities on the NPL. If a federal facility is placed on the NPL, Section 120(c)(1) requires the federal agency that owns or operates the facility to commence an RI/FS within six months of the facilities placement on the NPL. Upon completion of the RI/FS, Section 120(c)(2) requires the federal agency to enter into an interagency agreement (IAG) with EPA for completion of all necessary remedial action at the facility. Under CERCLA Section 120(e)(4), IAGs must at a minimum include the selection of the remedy, the schedule for the completion of the remedy and arrangements for long-term O&M of the facility.

As a matter of practice, EPA and the responsible federal agency often agree to enter into an IAG during the initial study phase (RI/FS) or just after the placement of a facility on the NPL. States are encouraged to become signatories to IAGs where possible.

Funding for remedial actions at federal facilities generally must come from the responsible federal agency's appropriations because, with limited exceptions, CERCLA Section 111(e)(3) prohibits the use of Fund money for remedial actions at federal facilities.

Executive Order 12580 delegates and the President's CERCLA authorities among the various federal agencies. Under EO 12580, DOD and DOE have been delegated most of the President's Section 104 response authorities for releases or threatened releases of hazardous substances on or from facilities under their "jurisdiction, custody or control". Other federal agencies have been delegated Section 104 authorities for releases or threatened releases of hazardous substances on or from facilities under their jurisdiction, custody or control that are not on the NPL. EPA has been delegated the balance of the President's CERCLA response authorities (except for releases or threatened releases to the coastal zones, Great Lakes waters, ports or harbors, which are delegated to the Coast Guard). Executive Order 13016 amended EO 12580 to authorize certain federal agencies (including land manager agencies) to issue administrative orders under Sections 106 and 122 (with EPA concurrence) for releases or threatened releases at their facilities.

Thus, federal land manager agencies are authorized to address non-NPL mine sites on their property much in the same way EPA is authorized to address privately owned mine sites. Including issuing Section 106 orders for response actions or performing response actions themselves and seeking cost recovery from PRPs. Because of the limitation on the use of Fund money in Section 111(d)(3), the federal land manager agencies must rely on its own appropriations. The federal agencies most often associated with these sorts of actions are the Department of the Interior through the Bureau of Land Management (BLM) and the Department of Agriculture through the U.S. Forest Service (USFS). Both of these agencies are moving forward with a variety of programs to identify and characterize abandoned mines and processing facilities on lands under their jurisdiction. Mining sites often cross boundaries between federal and private ownership. Such "mixed ownership" sites require the presence of EPA since, although agencies other than EPA may issue Section 106 orders for response action on federally owned lands. Federal Land Managers will wish to help make decisions in devising remediation at mixed ownership sites, especially where long-term operation and maintenance of a remedy may be required. EPA may also wish to explore having federal land managers undertake some CERCLA enforcement actions using other authorities.

Because of their overlapping authorities, appropriate coordination must occur between EPA and the applicable federal agencies at mining and mineral processing sites. For a site which is located partly on federal and partly on privately owned land, a Memorandum of Understanding (MOU) may be used to define specific roles and responsibilities of each agency. In some cases it may be appropriate under an MOU to divide responsibilities, focusing CERCLA activity only on certain prescribed units. Whichever administrative vehicle is utilized, it is important to divide responsibilities in ways that make technical sense and in order to use federal dollars wisely.

11.10 Other Regulatory Tools

CERCLA is undoubtedly the most flexible and useful regulatory tool for addressing environmental problems at mining sites. CERCLA is not limited to a particular media, such as water, but it applies to all media; it provides flexible funding for cleanups, through payment for or direct implementation of cleanups by responsible parties or by the government; and it provides for the study and implementation of site-specific approaches to environmental problems. EPA and other federal agencies will often utilize CERCLA when attempting to address environmental problems at mining sites. However, in certain situations, other regulatory tools may also be appropriate. These are discussed briefly, and compared to CERCLA below. A detailed discussion of these authorities is contained in Appendix C of EPA’s National Hardrock Mining Framework.

11.10.1 Clean Water Act

After CERCLA, the Clean Water Act (CWA) is probably the next most widely used regulatory tool for addressing environmental problems at mining sites. Section 402 of the CWA authorizes EPA or delegated states to regulate “point source discharges” of “pollutants” to “waters of the United States.” Each discharge must be permitted. Section 404 of the CWA provides authority for regulating the discharge of “dredged or fill material.” Many mine sites suffer from the uncontrolled discharge of acidified water, which becomes contaminated as it flows through abandoned mine workings. Section 402, in particular, may be of use as EPA or states try to control this flow. Under Section 309 of the CWA, EPA or states may proceed administratively or judicially against “any person” discharging without a permit or in violation of a permit. Thus, if a mine site is discharging contaminated waters, and if a responsible person can be identified, EPA or a delegated state may be able to address the problem.

On the other hand, the utility of the CWA as a regulatory tool is limited compared to CERCLA. Where CERCLA applies to all media, the CWA applies to water only. Further, the CWA regulates only “discharges” to “waters of the United States” from “point sources.” In 1990, EPA promulgated the regulatory definition of industrial activity to include inactive mining operations. Under the stormwater program, runoff from mining operations requires a permit if it comes into contact with overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations. Also, action under the CWA to address water contamination depends on the existence of owner or operator who is responsible for obtaining a permit.

11.10.2 Resource Conservation and Recovery Act

RCRA governs the management of solid and hazardous wastes under two regulatory tracks. RCRA Subtitle D addresses “solid” wastes, while Subtitle C addresses “hazardous” wastes. In October, 1980, Congress excluded from regulation under Subtitle C “solid wastes from the extraction, beneficiation, and processing of ores and minerals” until such time as required studies were completed and reported to Congress. Referred to as the “Bevill amendment,” this provision effectively excludes “extraction” and “beneficiation” and 20 specific “processing”

wastes from regulation as “hazardous” wastes. Most processing wastes continue to be regulated under Subtitle C, provided they meet the requirement set forth in 40 CFR 261.24 for consideration as “hazardous” wastes, because they exhibit the toxicity characteristic.

Perhaps more useful for dealing with mining wastes are the requirements of Section 7003 of RCRA. A “miscellaneous” provision under RCRA, Section 7003 allows EPA to address any “imminent and substantial endangerment to health or the environment” arising from the past or present handling, storage, treatment, transportation or disposal of any solid waste or hazardous waste. The release need not be at a facility otherwise subject to RCRA regulation, and its application to solid waste as well as hazardous waste makes it available for mining waste despite the Bevill exclusion. In many respects, Section 7003 order authority is comparable to orders under Section 106 of CERCLA and may be issued to current or former handlers, owners, operators, transporters, and generators. EPA may issue an administrative order or seek an injunction in federal district court to stop the practice causing the danger and/or take any other action necessary. Violators of an administrative order under Section 7003 may be penalized up to \$5,000 per day. Although the operation of Section 7003 of RCRA is similar to that of Section 106 of CERCLA, RCRA does not contain funding mechanisms allowing for government funding of cleanups.

11.10.3 Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) allows EPA to regulate the manufacture (including import), processing, distribution, use, and disposal of chemical substances. Under TSCA, EPA may require health and environmental effects testing by manufacturers, importers and processors of chemical substances, which include organic and inorganic substances occurring in nature, as well as chemical elements. TSCA also authorizes EPA to require record keeping and reporting of information that is useful for the evaluation of risk, regulate chemical substances that present an unreasonable risk of injury to health or the environment, take action to address imminent hazards, require notification to EPA by prospective manufacturers of new chemicals, and make inspections or issue subpoenas when needed to implement TSCA authorities.

In practice, the most useful tool under TSCA has been the regulations pertaining to polychlorinated biphenyls (PCBs) promulgated under Section 6 of TSCA, as codified in 40 CFR Part 761. The mining industry has traditionally used high levels of PCBs as the dielectrics in transformers and capacitors, which are commonly found wherever there is a high electrical power demand. Transformers and capacitors can be found in any phase of surface or underground mining operations and the ore beneficiation process. PCB equipment has been replaced in many mines and all mines built after the ban on production of PCB equipment should no longer be using electrical equipment containing PCBs.

The disadvantages of TSCA at mining sites as compared with CERCLA are that its applicability is limited, and it contains no funding mechanisms that may be used where a viable responsible party is not present.

11.10.4 Miscellaneous Requirements

Other federal regulatory requirements which may be of some use for addressing environmental problems at mine sites include the Clean Air Act, the Emergency Planning and Right to Know Act, and the Safe Drinking Water Act. These are not discussed here as they are of relatively limited use to site managers when they are addressing environmental problems at mining sites. Although not discussed here, these provisions are discussed in detail in Appendix C of EPA’s National Hardrock Mining Framework. In addition to the federal regulations discussed here, there are numerous State, Tribal, and local regulations that can be utilized by the site manager.

11.11 Non-Regulatory Tools

In addition to the federal regulatory tools previously described in this chapter, there are a number of non-regulatory tools that may be available to the site manager. Non-regulatory approaches available to address environmental challenges posed by mining are typically employed to complement existing regulatory programs in addressing mining impacts; however, there have been some instances where they have been used independently of any regulatory framework. While current regulatory programs can often be adapted to address the environmental problems posed by mining, they can be cumbersome, expensive to administer, and understaffed. Non-regulatory tools have been developed to take advantage of the incentives created by a backdrop of enforcement oriented regulatory programs, or to coordinate these programs to maximize their overall impact. For example, when cleanups precede active enforcement of regulatory programs they may be easier and less expensive to implement. While recognizing that each non-regulatory effort is unique, there are certain themes that are common to the most successful efforts.

The purpose of this discussion of non-regulatory tools include the following:

Illustrate the key traits of effective non-regulatory tools. Sometimes these will be based on tools that have a regulatory connection, although the emphasis will be on the non-enforcement aspects of those authorities.

Using specific case examples, point out areas where these tools have filled gaps in the current regulatory framework.

Highlight model policies and approaches that could be the basis for future regulations or legislation.

Point out the main limitations or non-regulatory approaches.

While recognizing that each non-regulatory effort is unique, there are certain themes that are common to the most successful ones, both site specific and non-site specific. They include the following.

Active participation by principal stakeholders, including a recognition of the environmental problems and a willingness to take on the issues. This typically includes federal, state and local governments, tribes, industry, citizens, and affected landowners. Participation does not necessarily mean funding, but it does mean cooperation.

Creative use of limited funding resources, promoting coordination and research on mining issues. While little public money is specifically earmarked for mine site cleanup, other programs, such as EPA’s CWA Section 319 funds, have been successfully used to fund portions of cleanup projects. State programs, local contributions, and private funding by responsible parties have all been tapped for assessment and cleanup projects. Technology demonstrations have sometimes been used to get seed money to develop a new cleanup approach. These include the University of Montana’s Mining Waste Institute, a variety of groups comprising the Mining Information Network, and the Western Governors’ Association (WGA).

Site specific flexibility, in adapting non-regulatory tools to fit the specifics of the site and the interest of the stakeholders.

Pollution prevention, efforts supported by federal and state agencies, tribes, and other stakeholders limiting the generation and use of waste materials.

Prioritization of cleanup projects, often on a watershed basis, as a way of allocating limited resources and focusing on worst cases first.

Regulatory discretion as a tool to promote creative problem solving and early implementation of cleanup projects. For example, having a site listed as a Superfund site might reduce local involvement.

11.11.1 Key Characteristics of Non-regulatory Tools

Most non-regulatory approaches contain one or more of the following characteristics.

11.11.1.1 Financial

Financial support often comes from a variety of sources when non-regulatory approaches are used. Funds are often leveraged, and budgets are typically lean. Examples include the following.

Staff Resources. Non-regulatory approaches often take a large amount of staff time and energy to implement.

RCRA 7007 and 8001 Grant Funds. Section 7007 funds are grants for a wide range of training programs, for either states or individuals. Section 8001 funds cover research, training, and other studies related to solid and hazardous waste. Funds in both of these sections cover potentially a wide range of projects and have been used extensively to fund mining research and technical assistance throughout all EPA media program offices as well as the Office of Enforcement. Funding in recent years has been as high as \$2.5 million, in FY 95 it is expected to be \$500,000. In FY 89 and FY 90 most of the money went to support WGA related activities; now funds are used for a variety of media related projects. Categories of funding typically include research at the Colorado School of Mines on mine waste, funding to maintain an environmental network, and funding to regions on mining related projects.

CWA Section 319 Funds. Section 319(h) established a demonstration grant program to assist states in implementing specific projects to demonstrate effective NPS control projects. Approximately \$1,000,000 per year is spent through this mechanism on inactive mine projects, with oversight in the EPA Regional offices. Types of activities funded include: education, staff development, technical assistance, project demonstration, and ground water protection.

Other Federal Agency Funds. These are often used to either supplement EPA funds or to support specific pieces of a non-regulatory approach or initiative. In some instances land management agencies have large budgets devoted to mining related programs. These can be significantly greater than the EPA funds discussed above.

State/Local Partnerships. Although usually smaller in size than federal monies, support from state and local stakeholders can often fill financial holes in geographic based approaches.

Voluntary efforts. Good Samaritan work by private parties can contribute a significant amount towards cleanup of inactive and abandoned mines.

11.11.1.2 Institutional

Institutional support is critical for non-regulatory tools to be successful. These include the following.

Interagency Agreements. MOUs, MOAs, and IAGs are all tools that can be used to deal with the large number of agencies that regulate mining. When used effectively, they can help clarify roles and streamline the overall regulatory process. For example, as part of the Coeur d’Alene Restoration Project a MOA between EPA, the State of Idaho and the Coeur d’Alene Tribe was instrumental in helping reduce differences among the parties and focusing efforts on restoration goals.

External/Internal teamwork. At a less formal level, interagency groups are often an effective means of focusing attention on certain projects or issues. They provide a way for individuals with expertise to interact. These coalitions are also an important first step in breaking regulatory impasses. The WGA Mine Waste Task Force is such an example. Within a Region, internal EPA teams also help focus efforts on mining issues, such as in Regions 8, 9, and 10, where most of the staff participation on mining teams is voluntary.

Regional and National Initiatives. These are also a useful way of improving communications and focusing efforts on addressing mining problems. The site specific approaches described in more detail in Appendix C of EPA’s National Hardrock Mining Framework are all examples of such initiatives at the regional level.

Outreach. This ranges from detailed outreach to a local community to simply providing on-site staffing at critical junctures during a remediation. One type of outreach, involving community based environmental indicators, can provide an important link with strategically significant technical tool, watershed planning.

11.11.1.3 Technical

Technical assistance. This would include the dedication of either Agency staff or contractor hours to providing direct help to a stakeholder. This is often an effective tool in working with other agencies and states.

Analytic methodologies. These can range from predictive tools to well developed monitoring and testing standards that help make data analysis consistent. Examples include: resource assessment and goal setting methods, alternatives development, and cost effectiveness methodologies. One specific example of this is the State of Montana, which has developed an HRS type system used for priority setting.

Technical demonstration. Technology demonstration efforts have had a couple of roles in non-regulatory efforts. One is a traditional means of identifying new and effective treatment technologies. Another is that non-regulatory approaches themselves have been able to attempt less proven methods than more regulatory, Superfund type approaches to remediation.

Education and Training. Because of the multimedia nature of mining issues, training is often necessary to bring key players up to speed on technical or regulatory issues. Education efforts on a more broader scale have been used to highlight and respond to community concerns regarding the impacts of mining and regulatory activities.

Standardization Analysis and Monitoring Methods. Different agencies use different methods for measurement ranging from simple location data to kinetic testing methodologies. Efforts to standardize this information make priority setting and monitoring significantly easier.

11.11.2 Other Characteristics

Enforcement Discretion. Where there is a significant enforcement history in connection with non-regulatory initiative, enforcement discretion is often a factor in helping to build a working coalition amongst a variety of players.

Institutional Controls. These include a variety of approaches, such as deed restrictions and other local regulations, that can be useful as part of an overall strategy.

11.11.3 Limits

There are limits to what can be accomplished with non-regulatory tools. These would include the following.

Staff resources. One of the main drawbacks on non-regulatory tools are the large amount of staff time needed to make them successful. To some extent, though, this may be a matter of perception only. Although these approaches can require significant staff resources, they can avoid a much higher resource cost in the future if properly focused.

Enforcement related issues. As a result of the regulatory backdrop for many of these examples, enforcement and liability can obstruct or delay non-regulatory, cooperative or Good Samaritan efforts.

Liability concerns. Sometimes private parties are reluctant to take action under a non-regulatory framework as such effort often do not address potential liability concerns. Efforts are underway to address these concerns through amendments to the CWA and CERCLA.

NOTICE

This document provides a reference resource to EPA and other staff addressing abandoned mine sites. The document does not, however, substitute for EPA statutes, regulations and guidance, nor is it a regulation itself. Thus it cannot impose legally-binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based on the circumstances. EPA may change this reference document in the future, as appropriate.