U.S. Environmental Protection Agency - October 2007
FY08 – FY10 Compliance and Enforcement National Priority for Mineral Processing

What is the Environmental Problem?

The mineral processing and mining sectors generate more wastes that are corrosive or contain toxic metals than any other industrial sector. Over the past decade, EPA has found that many of the facilities that manage these wastes have contaminated groundwater, surface water and soil either through failure to comply with state or federal environmental requirements or legally permissible waste management practices. Large-scale mineral processing and mining operations often severely affect water supplies and wildlife and create environmental damage. Many facilities are located in populated areas, making health risks a significant concern for EPA. EPA has listed over 80 mineral processing and mining sites on the Superfund National Priorities List (NPL) and, along with states, undertaken expensive cleanups using a variety of legal authorities. A detailed description of mining and mineral processing activities and the resulting environmental damages can be found at www.epa.gov/superfund/programs/aml/index.htm and www.epa.gov/epaoswer/other/mining/minedock/damage/damage.pdf. The facilities that EPA plans to investigate have the potential to cause the environmental problems described in these documents.

How Is The Problem Being Addressed?

The Mineral Processing national priority strategy aims to achieve maximum compliance with environmental regulations in order to protect human health and the environment. The strategy has a special emphasis on mineral processing facilities that dispose of hazardous wastes in surface impoundments. EPA has found a growing body of evidence showing that even if a portion of the hazardous waste is continuously recycled on-site, the surface impoundments leak and cause widespread environmental damage. The object of the strategy is to reduce risk to human health and the environment by achieving increased compliance rates throughout the mineral processing sectors and by ensuring that existing and potential harm are being appropriately addressed through enforcement and compliance assistance.

Highlights from the FY 2005-2007 Planning Cycle

From 2004 to 2007, EPA completed inspections at 20 phosphoric acid facilities, 25 other mineral processing facilities (e.g., titanium), and 5 mine sites. While most of the investigations are on-going, the most common violations found were illegal disposal of hazardous waste and failure to identify and characterize hazardous waste. EPA is working closely with these facilities to ensure they achieve compliance.

Any enforcement in the mining sector that was initiated during the FY2005-2007 strategy cycle, either under RCRA or other regulatory authorities, will proceed forward as planned. EPA, however, will need to evaluate regulatory tools other than Resource

Conservation and Recovery Act (RCRA), such as the Clean Water Act, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Emergency Planning and Community Right-to-Know Act (EPCRA), to address environmental risks from mining operations before planning additional mining inspections. In addition, EPA will need to further evaluate injunctive relief options and their associated environmental benefits. Further, states and federal land management agencies (i.e., Bureau of Land Management (BLM) and Forest Service) have widely varying mining regulations. Some are more stringent than federal standards. EPA will need more time and resources to work with these states, BLM, and the Forest Service to forge partnerships and combine resources devoted to mining. Finally, significant resources are needed to assess environmental risk at mining sites, such as sampling and laboratory analysis.

EPA will continue to develop appropriate assistance tools for the businesses operating within the gold and copper mining and mineral processing sectors, and for state, federal and tribal inspectors. Building on information gathered under this priority, these tools will (1) highlight the common environmental problems associated with these sectors; (2) help the industry employ sound management practices to better handle their wastes and prevent future releases; (3) help the industry conduct more thorough self-audits; and, (4) help the regulators better focus their resources and conduct inspections more efficiently. In addition, some of the materials will identify opportunities for implementing "beyond compliance" activities that are designed to reduce the environmental impacts of mining and mineral processing operations. EPA will provide opportunities for interested parties to review and/or participate in such tool development.