

Data and Technology

Issues:

Since oversight data collection began in the early 1980s, it has been inconsistent, and the data elements have changed as oversight has matured and new requirements have been established.

Computer and other technologies provide significant opportunities to enhance the effectiveness and efficiency of SMCRA permitting, enforcement, and other regulatory activities; however, putting in place these technologies requires thorough front-end planning and considerable investment of time and resources.

Issue Resolution:

Effective oversight requires the regular collection and analysis of pertinent, accurate, and usable data. While it is neither effective nor efficient to attempt to collect every potential data need, OSM, states, tribes, and the public need real-time information in an easy-to-use, technology-based format. Improved data collection and analysis has significant benefits by making it easier to evaluate performance, spot trends, increase productivity of oversight staff, direct limited resources, and keep staff and the public better informed.

Oversight Data

Data must be uniform and standardized (i.e., normalized) to be useful. Data collected by some states is often unique to the state's program (e.g., some states, for underground mines, include the area above underground workings in the permit area; other states, and OSM, do not). Some states have the ability to provide the data specified in [Directive REG-8, Oversight of State Regulatory Programs](#), with minimal effort; however, other states have difficulty collecting and providing the data for a variety of reasons, including differences in state programs, limited resources of the state, and the statutory and regulatory ability of states to collect the data.

OSM is evaluating its oversight data collection, analysis, and reporting requirements and methodologies to ensure that oversight data collected by OSM are appropriate for the purpose for which it is being collected. The evaluation also will focus on establishing procedures to ensure data accuracy, completeness, and consistency.

Data Elements

OSM does not consistently collect data on the number of permitting actions related to special categories of mining (e.g., mountaintop removal mining, steep slope mining, permits incorporating variances from approximate original contour restoration requirements). Oversight data to be collected and reported in the annual state evaluation reports is specified in Directive REG-8, Appendix 1, section II. C. Measurement and Reporting of End Results, pages 1-3 to 1-14 and Appendix 2, Annual Report, pages 2-9 to 2-16 and pages T-1 to T-12.

OSM is seeking comments on collecting data on the number of permits issued and revisions approved annually for:

- special categories of mining, such as mountaintop removal operations and steep slope mining (see 30 CFR Part 785 for additional detail);
- permits incorporating variances from approximate original contour restoration requirements;
- permits allowing mining within stream buffer zones, and
- permits allowing mining on lands protected under section 522(e) of SMCRA, such as mining within 300 feet of an occupied dwelling or within 100 feet of a public road (see 30 CFR Part 761 for additional detail).

Data Collection

OSM and many states collect data from operators in annual reports, but the data collected varies from state to state. SMCRA Section 517(b)(1) authorizes regulatory authorities to require any permittee to establish and maintain appropriate records, make monthly reports to the regulatory authority, and provide such other information relative to surface coal mining and reclamation operations as the regulatory authority deems reasonable and necessary for the purpose of the administration and enforcement of any approved state or Federal program or the administration and enforcement of any permit, or determining whether any person is in violation of any requirement of a state or Federal program or any other requirement of SMCRA.

OSM is considering rulemaking to require that permittees submit an annual status report in electronic form to the regulatory authority. The report would include a map, data, and narrative including, at a minimum, annual and cumulative data for:

- the permit area;
- the bonded area;
- the disturbed area;
- backfilled and graded areas;
- areas where topsoil has been replaced;
- areas that have been planted;
- areas with Phase I bond release;
- areas with Phase II bond release; and
- areas with Phase III bond release.

Implementation of this annual reporting requirement would significantly improve state and OSM permitting, bonding, inspection, and enforcement of regulatory programs, and, coupled with establishment of national data and mapping standards, would resolve many data collection, consistency, and quality problems. The statutory basis for annual reports exists at section 517(b)(1) of SMCRA; however, Federal rulemaking will be needed to establish the proposed annual reporting requirements in state programs.

Technology

OSM is pursuing development of a national geographic information system (GIS) to store, maintain, and analyze data and to report on the status of coal mining and reclamation activities. A well-designed and maintained surface mining GIS will provide both regulators and the public with valuable information for administering regulatory programs. Annual status reports from permittees would provide basic information for this GIS. As envisioned, this GIS would be readily accessible to the public via the Internet, and information on reclamation progress and performance measures would be continuously updated and available at any time. OSM has established GIS data standards for some elements (e.g., permit area and underground workings) and will continue to develop data standards necessary for the implementation of a national GIS.

OSM, in collaboration with other Federal agencies, is conducting a remote sensing pilot project to explore and determine the best methods for acquisition and delivery of satellite image data, products, and services that will assist OSM's regulatory and inspection programs. OSM will continue to develop its capabilities to monitor mining and reclamation operations using remote sensing technology, supplemented with selective on-site examination, as necessary, to evaluate potential compliance issues.

[Discussion Papers Index](#)