

Off-Site Impacts Evaluation Protocol Team Report Summary

The Off-Site Impacts Evaluation Protocol Team was assigned the task of reviewing and evaluating current OSM policies and protocols associated with off-site impact (OSI) data collection, reporting and analysis for effectiveness and consistency, and to assess whether new policies needed to be established or existing policies clarified in order to improve existing methodologies for identifying the root causes of OSIs. To evaluate how consistently and effectively OSM collected, reported, evaluated OSI data, the Team analyzed all available EY 2009 OSI reports prepared for the Regulatory Authorities (RAs) to identify inconsistencies and assess data quality. The Team also reviewed the OSI reporting requirements set forth in REG-8, the EY 2009 REG-8 Table 4's for each state, and the OSI EY 2009 Summary Reports for each state.

The Team found that adequate procedures are in place for the collection of OSI data for active and unreleased reclaimed sites, and with the exception of performing root cause analyses, the review and analysis of OSI data has generally proved to be adequate. However, inconsistencies do exist within and between the regions with regard to how responsible OSM offices collect data from the RAs, how root causes of OSIs are evaluated, and how OSIs are reported. There is a difference in regional use of joint State/OSM oversight teams to review and determine root causes of OSIs. Many OSM offices do not follow current REG-8 reporting instructions regarding OSIs, and root causes of OSIs are not always discussed in the topical and annual reports. In some instances it was found that data in the topical reports did not match the figures reported in REG-8's Table 4. REG-8, written so as to provide flexibility, has inadvertently created many of the inconsistencies that were identified. There is no requirement in REG-8 that a RCA be conducted on identified OSIs.

Recommendations

- Ensure that each responsible OSM Field Office/Area Office adheres to the REG-8 requirements regarding the preparation of topical reports;
- Revise REG-8 to mandate the inclusion of OSI's identified on bond forfeiture sites;
- When applicable, require that all annual state reports contain detailed information regarding OSI's found at bond forfeiture sites;
- Table 4 and the required reports should reflect the total number of inspectable units that existed during the EY, and not the number of inspectable units that exist at the end of the EY;
- Re-write REG-8 to emphasize the need to identify the root cause of OSIs in the topical Reports;
- Remove the REG-8 requirement that OSIs identified at bond forfeiture sites be footnoted in Table 4; REG-8 tables no longer allow footnoting;
- Add a listing of reporting requirements in the OSI section of REG-8 that are to be included in the topical report narratives and carried forward into the Annual State Evaluation Reports; and
- Where appropriate, encourage the formation of joint OSM/State oversight teams to determine the root causes of OSIs.

Off-Site Impacts Evaluation Protocol Team Report

Overview

On June 11, 2009, the U.S. Department of the Interior entered into a Memorandum of Understanding (MOU) with the U.S. EPA and U.S. Army Corps of Engineers to reduce the harmful environmental impacts of coal mining in six states in central Appalachia. Among other things, the MOU required that before the end of 2009, DOI would reevaluate and determine how it will more effectively conduct oversight of State permitting, State enforcement, and regulatory activities under SMCRA. As a part of this requirement, the Office of Surface Mining Reclamation and Enforcement (OSM) determined it would review its existing policies and protocols related to Off-Site impacts (OSIs).

In response to this mandate, the Off-Site Impact Evaluation Protocol Team (Team) was established, which was comprised of a representative from each region and the HQ's Program Support Directorate. The Team was tasked to evaluate whether OSI data is reported, collected and evaluated in a consistent manner agency-wide, and whether such collection, reporting and evaluation methods adequately serve to identify the root causes of OSIs. This report specifically addresses the existing policies/protocols associated with off-site impact data collection, reporting, and analysis. Such program oversight of this topic area will allow OSM to establish policies for improving consistency and effectiveness in conducting off-site impact evaluations, with an ultimate goal of minimizing such impacts.

Methodology

In order to thoroughly review how consistently and effectively OSI data reporting, collection, evaluation, and root cause methodologies are implemented, and to determine whether new policies need to be established or existing policies clarified in order to improve such methodologies, the Team developed the following set of objectives:

- Collect topic specific Evaluation Year (EY) 2009 Off-Site Impacts reports prepared for each Regulatory Authority (RA) and identify inconsistencies, quality of data, and whether the RA has developed an effective plan to reduce the number of future off-site impacts;
- Review REG-8 with regard to off-site impact requirements and suggest recommendations to improve the effectiveness of reducing off-site impacts;
- Review REG-8 Table 4's for each state, and the OSI EY 2009 Summary Report;
- Determine whether establishing collection and evaluation protocols will assist in the reduction of data inconsistencies; and
- Provide recommendations that will improve the effectiveness of off-site impact evaluations.

Team members gathered all OSIs topical reports, analyzed each of the reports and identified inconsistencies, created a web-portal to share data, evaluated the effectiveness of REG-8, and developed recommended strategies for improving the consistency of OSI evaluations.

Additionally, the Team reviewed the public comments regarding OSIs that were submitted to the OSM Oversight Improvement Team. Public commenters recommended that OSM revise and refine its measures of state regulatory program success and suggested that (1) OSM must not ignore violations that have not yet resulted in off-site impacts but that may cause such impacts in the future (e.g. a blasting violation that does not result in verifiable off-site damage); (2) the purpose of SMCRA is to avoid off-site damages, and one of the best ways for OSM to carry out this mission is to ensure that state programs prevent all violations and, where violations occur, fully enforce the law; and (3) OSM must treat any off-site impact not as an isolated incident, but as potential evidence of a broader systemic problem and determine the ultimate cause of any off-site impact. Commenters for the states that support or agree with the OSI policy/protocol review noted that the focus should be on off-site impacts, which is the clearest link to the SMCRA goal to protect the environment. Commenters for the states that do not support or disagree with the action replied that the proposal is redundant and an unproductive use of state and federal resources; and that imposing standard federal priorities would limit the ability of each state to specifically address the matters of concern to that state and hinder its ability to manage its own program. A commenter from OSM noted that any changes to Directive REG-8 concerning data collection and reporting will have significant consequences to the existing Data for States and Tribes (DST), which is the current electronic reporting system for the REG-8 Tables 1–12, and would require substantial coding revisions to the computer program that generates and collects the data in the DST. Pertinent suggestions for improving the effectiveness of OSI evaluations as a result of these comments have been included in the “Recommendations” section below.

Findings

The Off-Site Impact Evaluation Protocol Team found that inconsistencies do exist in the regions with regard to how responsible OSM offices collect data from the RA’s, evaluate root causes of potential OSIs, and report on OSIs whether it be through independent Topical Off-Site Impact Reports or State Annual Evaluation Summary Reports and REG-8 Table 4.

In the Western Region, OSM offices report on OSIs through various means. All offices create EY Program Evaluation Work Plans or Performance Agreements that discuss the assessment of potential off-site impacts. One office has developed joint State/OSM Oversight & Evaluation Teams that hold quarterly (or more as needed) meetings to discuss potential OSIs, make OSI determinations by consensus, and capture their root causes in both the minutes and supplemental tables. The Teams also jointly select an annual stand-alone OSI topic that is studied for purposes of evaluating State Program success. As a result of the oversight/evaluation team process, independent OSI oversight reports are not created. Some offices do not prepare topical off-site impact reports as required by REG-8, but only report OSIs in the State Annual Evaluation Summary Report and REG-8 Table 4. One office develops an EY OSI Oversight Report independent from the annual report that is used as supporting documentation for the annual report, but it includes other subjects that have nothing to do with off-site impacts (e.g., reclamation success and bond release information). Root causes of the impacts are not always discussed in the reports. Western Region offices generally identify OSIs by conducting Federal oversight inspections, reviewing civil penalty assessments and State-issued inspection and enforcement information/data, and

communicating directly with RA staff via follow-up discussions and the joint oversight/evaluation team process.

In the Mid-Continent Region, there is variation in the way the OSM offices report on OSIs; however, the team found that all offices do prepare topical OSI reports as required by REG-8. Some of the reports include subject matter that is not directly related to OSIs. The team also found two instances where the data in the reports did not match the figures reported in Table 4. Root causes of the impacts are not always discussed in the reports. Off-site impacts are most often identified in the Mid-Continent Region through federal oversight inspections and review of state inspection reports and enforcement documents. Many states fill out off-site impact forms when an off-site impact is observed and send the forms with the required information to the jurisdictional OSM office. No joint State/OSM teams are used in the Mid-Continent Region to review identified OSIs for the purpose of determining root causes.

In the Appalachian Region, a variety of means are used to report OSIs. Some joint State/OSM teams are used to review OSIs in order to determine the root causes of an impact. Although a separate off-site evaluation report is required under REG-8, some offices have combined their evaluations into the larger annual performance evaluation report. Root causes of the OSIs are not always discussed in the reports. Not all of OSM offices in the Appalachian Region regularly inspect bond forfeiture sites to determine OSIs.

In addition to analyzing the topical reports for each RA, the Team reviewed REG-8 as it pertains to OSI reporting and evaluation. The Team found that REG-8, written so as to impart a measure of flexibility, has inadvertently created many of the inconsistencies that were identified by the Team. For example, REG-8's Bond Forfeiture Site section (1-6) contains language that allows for "optional reporting" of OSI's that are found on bond forfeiture sites. As a result, comparison of the reported data among OSM's topical reports tends to raise questions. For instance, EY 2009 Table 4 for one state reported 60 forfeiture sites with no sites free of OSIs. Yet, Table 4 for another state reported 41 forfeiture sites with all sites free of OSIs. Neither topical report for these two states adequately described how these figures were determined. The Team found that while some RAs account for these OSI's, others do not. The Team also determined that some OSM topical reports did not differentiate between active sites and bond forfeiture sites in the report narratives.

Further, REG-8 does not specify that a Root Cause Analysis (RCA) for OSIs needs to be performed and reported. Consequently, many of the OSI topical reports did not discuss the root causes of OSIs. Although REG-8 does require that the oversight report will "...provide a general evaluation of causes of repetitive impacts where possible", this instruction is buried in the text and has apparently been overlooked by a number of OSM's offices. Also, REG-8 does not describe how to account for inspectable units with OSI's when the units are eliminated from the inspectable units list before the end of the EY.

In summary the Team reached the following conclusions:

- There are adequate procedures in place for the collection of OSI data for active and unreleased reclaimed sites;

- In general, OSM's offices rely on federal oversight inspections and review of state inspection reports and enforcement actions to determine the number of off-site impacts;
- Adequate procedures for collection of OSI data for bond forfeiture sites may not have been established for some states;
- OSM is communicating with the various RA's, although there are differences in the manner and extent to which such communications occur (this is probably acceptable and can be attributed to varying modes of interaction);
- There is inconsistency across the regions regarding the use of Joint State/OSM teams to review OSIs and determine their root causes. The Western Region uses such teams beneficially, while the teams are used sporadically in the Appalachian Region, and not at all in the Mid-Continent Region (It is noted, however, that the use of joint teams is not required by REG-8 or any other directive);
- Inconsistencies exist in and across the regions with how OSM offices collect and report OSI data;
- Some of the OSI reporting inconsistencies can be attributed to the manner and style in which REG-8 is currently written;
- REG-8 fails to require that a RCA be conducted on identified OSIs; and
- With the exception of performing RCAs, the review of OSI data has generally proved to be adequate.

Recommendations:

The Team determined that OSM has most of the appropriate policies/protocol structure in place for making OSI determinations, but modifications to the current REG-8 are necessary in order to improve nationwide consistency and increase the effectiveness of the OSI Evaluations.

1. Each responsible OSM Field Office/Area Office must ensure adherence to the requirements of REG-8 (i.e. the preparation of topical reports and required information).
2. REG-8 (1-6) needs to be changed to mandate the inclusion of OSI's identified on bond forfeiture sites, with a determination of the extent of evaluation and reporting of such impacts being based on the site(s) significance within the individual State. Also, this section should be revised to require that, when applicable, all annual state reports contain detailed information regarding OSI's found at bond forfeiture sites.
3. Table 4 should not report the number of inspectable units as of the end of the EY. Table 4 and the required reports should reflect the total number of inspectable units that existed during the Evaluation Year, including those units that existed at the start of the year but were removed during the year and those units that were added to the list during the year (this is intended to address OSIs that occur on a unit that is released prior to the end of an EY). The Team realizes that if this recommendation is adopted, substantial coding revisions will have to be made to the computer program that generates and collects data for the DST system (such coding revisions would also address a pertinent public comment submitted to the OSM Oversight Improvement Team).
4. REG-8 should be re-written to emphasize the need to identify the root cause of OSI's. This analysis should be presented in the topical reports. The report narrative should include a discussion of the root causes of the OSIs as well as a trend analysis and

methodology for reducing the number of OSIs based on identified trends (a trend analysis discussion would also address a pertinent public comment submitted to the OSM Oversight Improvement Team). The types of root causes contributive to OSIs can include, but are not limited to:

- Improper permitting action
 - Operator negligence
 - Improper construction certification
 - Unanticipated natural event
5. REG-8 currently requires that OSIs identified at bond forfeiture sites and reported in prior years should be clearly footnoted in Table 4. Because REG-8 tables no longer allow footnotes, this requirement should be removed from REG-8 instructions.
6. In the Off-Site Impacts section of REG-8, a bulleted listing of reporting requirements that are to be included in the topical report narratives and carried forward into the Annual State Evaluation Reports should be added for clarity to ensure national reporting consistency. This section should include the following:
- The number and percentage of inspectable units free of OSIs;
 - The number, type, and degree of OSIs identified and the resources affected;
 - Detailed information should be included with regard to data collection and analysis of the data;
 - A discussion of any conclusions on the effectiveness of the state program in preventing OSIs;
 - Discuss measures that will be taken to correct program deficiencies that are identified through a trend analysis with the goal being to reduce the number and degree of OSIs;
 - Report on and address OSIs at bond forfeiture sites in Table 4; and
 - Previously identified OSIs at bond forfeiture sites, and the degree of impact for perpetual OSIs at such sites (those that continue to exist year after year), should be reported.

In addition to the recommended modifications to REG-8, and in an effort to improve the quality of RCA's, the Team recommends, where appropriate, that joint OSM/State teams be established to determine the root causes of OSIs as they occur. These teams could meet quarterly, monthly, or informally via conference calls as necessary to discuss recent OSIs, determine the root causes, and identify trends for inclusion in both the topical and Annual State Evaluation Reports.

Summary:

The Team identified wide variation in the way OSM's field offices are reporting on OSIs. Many offices are not following current REG-8 reporting instructions. Reporting improvements could be achieved by re-writing REG-8 to clarify reporting requirements and place emphasis on the need to identify root causes of OSIs. In general, OSM has established adequate

procedures for collection of OSIs data for active and unreleased reclaimed sites, but not for bond forfeiture sites.

REG-8 currently allows for flexibility with respect to the extent of evaluating and reporting on OSIs based on the significance of these sites in individual States. The Team believes this flexibility should be retained in any modification to the current instructions; however, the Team also thinks that topical reports should include a discussion concerning the relative importance of bond forfeiture sites in a given State. For example, if OSIs at bond forfeiture sites in a given State pose a significant threat to the environment, the OSM office with oversight responsibilities should establish appropriate OSI data collection procedures for forfeiture sites and include a discussion of identified problems in the topical OSIs report.

The Team determined that most of the inconsistencies with regard to OSI reporting result from not accounting for OSIs at bond forfeiture sites. Reporting consistency can be achieved through modification of REG-8. The Team also found that improving the effectiveness of Off-Site Impact Evaluations can be made by requiring that a RCA be performed for each OSI. OSI-related trend analyses can then be utilized by evaluating RCA's to determine inadequacies in state programs and identify areas of needed improvement while reducing both the number and degree of OSIs. Upon approval from the Director, the Team will submit language incorporating its recommended off-site impact evaluation protocol changes to OSM's REG-8 Team for consideration.