OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

****PROCEDURE DIRECTIVE****

REGULATORY 2014-01

(This procedure directive replaces policy/procedure directive Regulatory 93-4)

SUBJECT: Remining Inspection of Pollution Abatement Areas

EFFECTIVE: July 7, 2014

PURPOSE: To clarify procedures for the monitoring and inspection of remining permits with pollution abatement areas and modified Remining NPDES water quality effluent limitations.

Ohio Administrative Code (OAC) rule 1501:13-4-15 allows for coal operators that remine previously disturbed areas to obtain authorization for a modification from technology-based National Pollutant Discharge Elimination System (NPDES) effluent limits on areas designated as pollution abatement areas. This procedure directive (PD) outlines guidelines and procedures for monitoring of pre-existing pollutional discharge, exceedances of numeric Remining NPDES effluent limits, and procedures for processing performance security release on these permits. This PD will outline the following inspection responsibility for the pollution abatement area:

I. ABATEMENT PLAN
II. DRAINAGE CONTROLS
III. PERFORMANCE SECURITY RELEASES

I. ABATEMENT PLAN

The "abatement plan" as defined in OAC 1501:13-1-02 (A) means any individual technique or combination of techniques, the implementation of which may result in reduction of the baseline pollution load. Abatement techniques may include but are not limited to best management practices (BMP) such as: addition of alkaline material, daylighting old underground mines, special plans for managing toxic- and acid-forming materials, regarding and revegetation. The abatement plan is a site specific plan found in Parts "D" and "E" of the coal mining and reclamation permit that addresses the reclamation of the pollution abatement area.

In order for a mine operator to obtain a modified (numeric and non-numeric) Remining NPDES permit, a pollution abatement area must be designated on the mine application map and an abatement plan must be approved and become part of the overall reclamation plan. Pursuant to OAC 1501:13-4-15 (E)(3), the applicant must identify characteristics of the pollution abatement area and the pre-existing discharges. The pollution abatement plan must be designed to reduce the pollution load from pre-existing discharges through a series of identified BMPs. The operator must describe each step of the

abatement plan, including design and construction specifications, maintenance schedules, criteria for monitoring and inspection, and expected performance of the BMPs.

It is important that the Division of Mineral Resources Management (MRM) regulatory inspector ensure and document that each step in the approved abatement plan has been properly implemented. Certain construction steps of the abatement plan may need to be certified by a supervising professional engineer. Those steps requiring certification will be listed in the abatement plan. Upon completion of these steps, progress reports certifying that these construction steps have been completed as designed must be submitted to the appropriate district office within thirty (30) days for DMRM approval. The regulatory inspector should also provide documentation in their monthly inspection reports on the implementation of the approved abatement plan.

II. DRAINAGE CONTROLS

A. Sedimentation Pond Criteria

As specified in OAC 1501:13-4-15 (D) (4), the modified effluent limitations apply only to drainage from the pollution abatement area. The modified effluent limitations are based on loading (flow) and not concentration measurements for net acidity, total iron, total manganese, and total suspended solids and will be listed in the issued Remining NPDES permit. The individual ponds with provisions for modified effluent limitations will be located at the final downstream discharge point prior to leaving the permit area. It is important for the regulatory inspector to check the issued modified Remining NPDES permit as ponds located within the pollution abatement area may have different prescribed alternate effluent limits.

During active mining, pre-existing discharges from the pollution abatement area that are physically encountered or is commingled with new discharges from the active mining area must meet the most stringent effluent standards. Waters that are directed to the same sediment pond are considered to be commingled. If waters from the pollution abatement area can be completely separated from active mine water, the modified effluent limitations will apply to those discharges. Once the pre-existing discharges are no longer physically encountered or commingled, the alternative, or modified effluent limits can be applied. Note that the modified limits do not apply until backfilling and grading have been completed in the entire drainage area of a pond. The operator shall inform the inspector of any changes in the commingling or segregation of drainage.

B. Water Quality Monitoring

The pollution load established as part of a numeric Remining NPDES permit has been determined through statistical analyses of long-term monitoring data that includes at least 12 months of sampling submitted by the applicant. The pollution load triggers are established and must be monitored to ensure that the total iron, total manganese, net acidity, and total suspended solids (TSS) do not exceed baseline loadings. The determination of the pollution load is highly dependent upon accurate flow measurements of the pre- existing discharges. Therefore, accurate flow measurements during the post-mining period are extremely important in order to compare post-mining to baseline pollution loads.

If a numeric Remining NPDES permit has been issued by the Ohio Environmental Protection Agency (OEPA) pursuant to OAC 1501:13-4-15 (C)(4), non-compliance will be determined by a DMRM inspector, with assistance from a DMRM hydrologist or the Division's Remining Coordinator (RC), through a comparison of the statistical analyses performed on the discharge monitoring samples with the statistical analyses determined from the baseline samples, using the procedures at 40 CFR Part 434 Appendix B described in the January 23, 2002 Federal Register and in United States Environmental Protection Agency document EPA-821-B-01-011, "*Coal Remining Statistical Support Document*," December 2001.

Based on the requirements of 40 CFR Part 434 Appendix B, two methods have been developed to compare the baseline pollution and monitoring statistics:

- Single Observation Method -- The single-observation (**monthly**) method is applied to each new measurement and compared to the annual data;

- Annual Method -- The **annual** method is applied once per year, using all measurements for the previous year.

The methods provide limits for both single observations and annual triggers of exceedance. The more samples available for both baseline and monitoring comparison provide for fewer opportunities of error in the data.

The single observation trigger is applicable to monthly NPDES monitoring and is the highest loading value based on the 12 months of baseline sampling, taking all of the applicable sites into consideration. The individual monthly monitoring loadings would be compared to this value. If, during remining, two (2) successive monthly monitoring results exceed the single observation trigger, weekly monitoring will commence by the applicant and continue for four (4) consecutive weeks. If, during the four (4) consecutive weeks sampling, any sample does not exceed the single observation trigger, the permit remains in compliance, and monthly monitoring may be resumed. If all four weekly observations exceed the single observation trigger, the baseline pollution load has been exceeded and the permit is in non-compliance. Thus, the single observation trigger must be exceeded six consecutive times before the treatment requirement of OAC 1501:13-4-15 (F) is triggered.

The annual trigger is based on the median baseline pollution loading value calculated from the 12 months of baseline loading values. Twelve (12) months of monitoring will be used to determine if the median baseline pollution loading has been exceeded. If it has, then the baseline pollution load will have been exceeded, and treatment of the discharges based on OAC 1501:13-4-15 (F) is required. In both instances, DMRM staff may collect their own representative or duplicate samples for verification of water quality.

If a non-numeric Remining NPDES permit as defined in OAC 1501:13-1-02 (QQ) has been issued, the above water-monitoring procedures are not applicable although the operator must implement the abatement plan discussed in **Section I** of this PD. Compliance with the Remining NPDES permit will be based on successful documentation

and completion of the best management practices described in the abatement plan. Standard water monitoring (Quarterly Monitoring Sites – QMR) sites also will be used to evaluate the performance of the best management practices and to ensure that the water quality is no worse that baseline. In order to ensure proper documentation, the operator should notify the inspector upon completion of each major step in the abatement plan.

III. CRITERIA FOR PERFORMANCE SECURITY RELEASE

The criteria and schedule for the release of performance security are specified in OAC 1501:13-4-15 (H). The inspector will be primarily responsible for evaluation of performance security releases, but should request assistance from the DMRM RC or a DMRM hydrologist. Prior to each request for performance security release, recent water monitoring data must be compared to the pollution abatement load or changes from baseline to post-mining for QMR sites (non-numeric permits) for all stages of performance security release.

If a non-numeric remining NPDES permit is issued, the provisions of OAC 1501:13-4-15 (H)(2)(c) and (H)(3)(c) do not apply. For the purposes of phase releases, non-numeric NPDES permits are evaluated based on the complete implementation of all of the best management practices described in the permit application as well as standard water monitoring.

Requirements for **Phase I** performance security release – The Division will release up to fifty (50) percent of the amount of performance security for the authorized pollution abatement area if the operator demonstrates that:

- The coal mining operations were conducted on the permit area, including the pollution abatement area, under the provisions of OAC 1501:13-4-15;
- Each step of the approved abatement plan has been properly implemented and documented in the permit file;
- Backfilling, regarding and drainage control has been accomplished in accordance with the approved reclamation plan.

Requirements for **Phase II** performance security release – The Division will release an additional amount not to exceed thirty-five (35) percent of the amount of performance security for the authorized pollution abatement area if the operator demonstrates that:

- Pollution load calculations are performed for the purpose of comparing baseline pollution loads to post-mining monitoring for those permits with modified numeric Remining NPDES permits. The quality of the discharge from the pollution abatement area must not exceed the modified effluent limitations for a period of twelve months after discontinuance of treatment pursuant to OAC 1501:13-4-15 (F)(5). (Note: *The permittee must notify the appropriate regulatory inspector in writing at the beginning of the twelve month monitoring period prior to the Phase II performance security release*);

- The operator has replaced the topsoil, completed planting and established revegetation is accordance with the approved reclamation plan;
- The operator is not causing or contributing to any surface water pollution or ground water degradation by reaffecting or mining the pollution abatement area; and,
- The operator has implemented any remaining steps provided in the approved abatement plan.

Requirements for Phase III performance security release – The Division will release the remaining portion of the amount of performance security on the authorized pollution abatement area if the operator demonstrates that:

- The operator has not exceeded the modified effluent limitations on numeric Remining NPDES permits from the time of Phase II performance security release for a period of twenty-four (24) months from the discontinuance of treatment;
- The operator has successfully completed all of the approved abatement plan and reclamation plan, and the pollution abatement area is capable of supporting the post-mining land use approved under the permit application; and,
- The operator has complied with all of the requirements of the permit under Chapter 1513 of the Ohio Revised Code and Ohio Administrative Code 1501:13.

For numeric Remining NPDES permits, the drainage control system can be removed and the area affected by the drainage control system reclaimed prior to the final performance security release when the pollution abatement area has met the requirements of OAC 1501:13-4-15 (H)(3)(c). For non-numeric Remining NPDES permits, the drainage control system can be removed and the area affected by the drainage control system reclaimed prior to the final performance security release when the pollution abatement area has met the other requirements of OAC 1501:13-4-15 (H)(3).

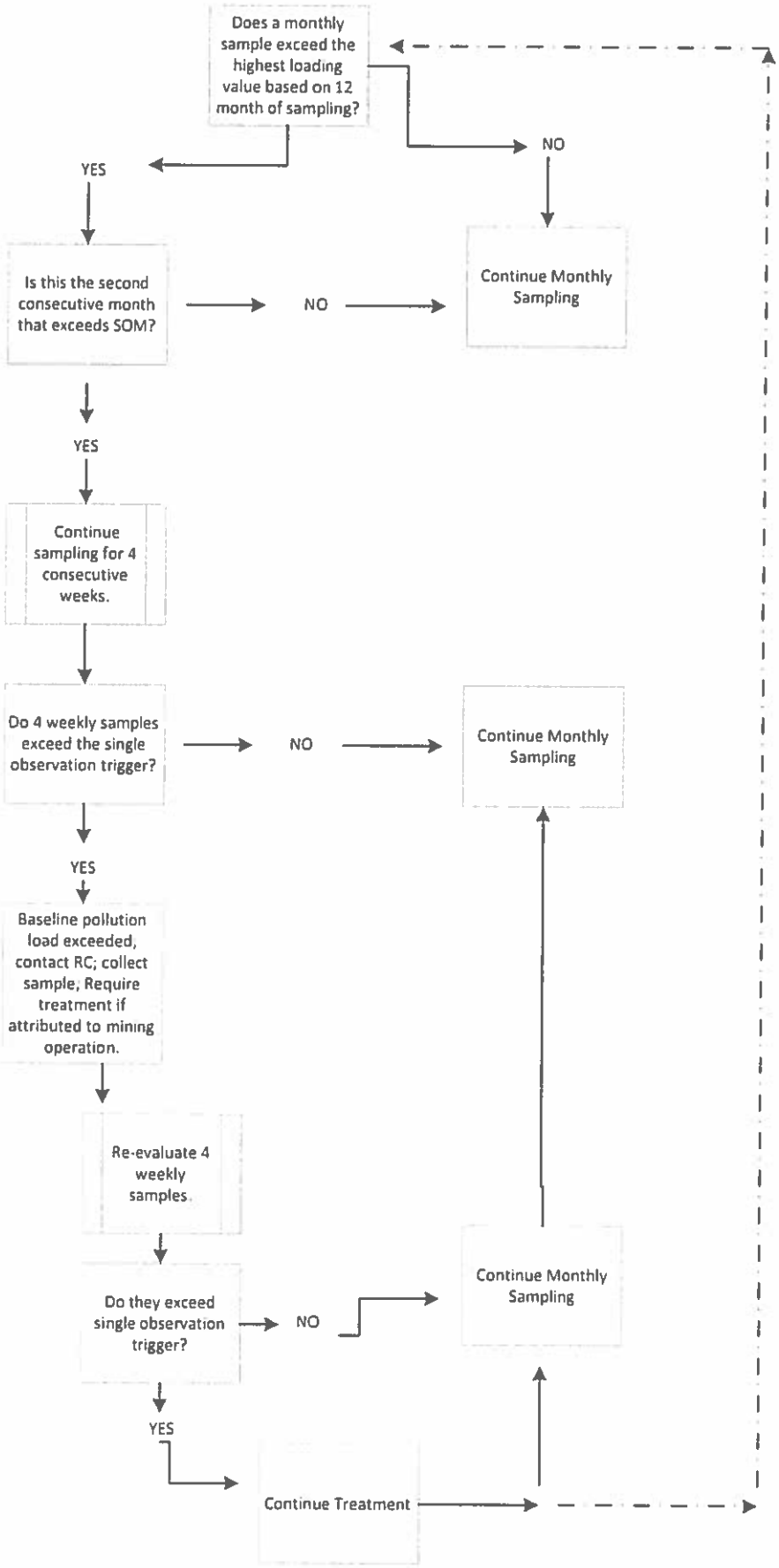
Any questions concerning the remining program should be directed to the Division's Remining Coordinator, Cheryl Socotch at (330) 339-2207.

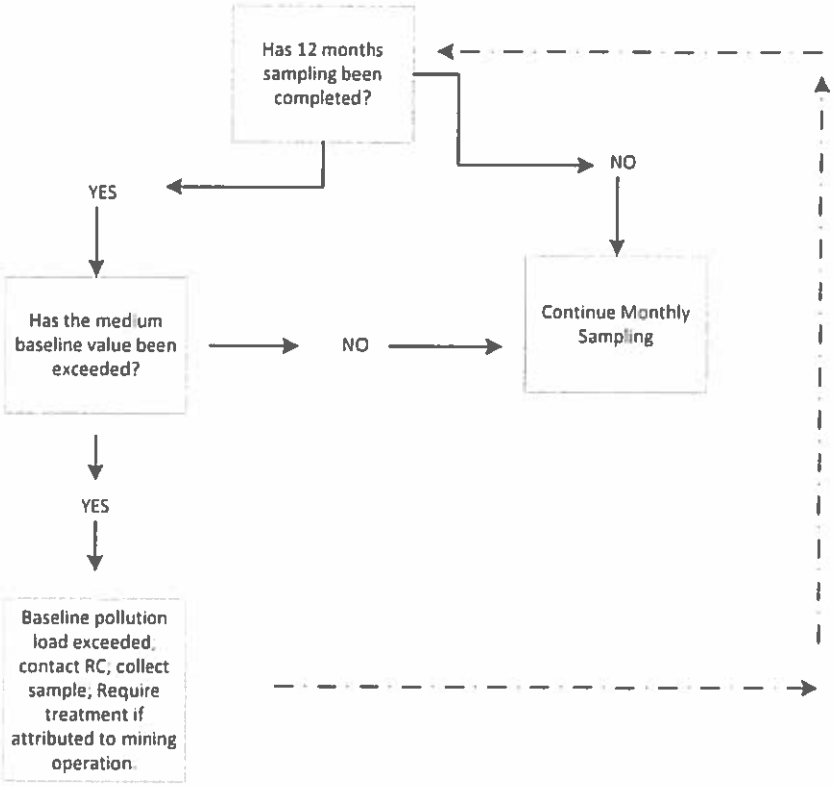
Lanny E. Erdos

Lanny E. Erdos,
Chief, ODNR - Division of Mineral Resources Management

Single Observation Method (SOM)

*Based on highest loading value for 12 months sampling



Annual Trigger Method

Medium baseline pollution loading (Based on 12 months baseline data)