

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

October 1, 2003

TO: Internal File

THRU: Priscilla Burton, Team Lead

FROM: Wayne H. Western, Environmental Scientist III

RE: 4th East Portal Abatement To N03-39-1-1, Consolidation Coal Company, Emery Deep Mine, C/0015/015, Task ID #1692

SUMMARY:

On September 12, 2003, the Division received an amendment from Consolidation Coal Company to implement a program to prevent coal fines from leaving the permit area, especially around the 4th East Portal Area. The program involves expanding the permit and disturbed areas for that coal fines can be removed and topsoil salvaged. In addition wind fences and other devices will be placed to minimize windblown coal fines.

The Division reviewed the plan to control wind blown fines. The Division does not have the experience to determine if the program will be adequate. However, the plan does appear to offer some solutions. If the plan proves to be inadequate then the Permittee will implement additional methods to control coal dust.

TECHNICAL MEMO

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

Analysis:

The Permittee will add 1.5 acres to the permit area of which 1.0 acre will be disturbed. The pre-disturbed contours are shown on Plate III-5, 4th East Portal Site Pre & Postmining Topography Plane View. The map is adequate to show the addition of the 1.5 acres at the 4th East Portal site.

Findings:

The information provided in the amendment is considered adequate to meet the minimum requirements of this section of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Affected Area Boundary Maps

The Division considers the affected area to be the permit area plus any additional areas that might be included. Plate UG Operations Plan shows the projected expansion areas. However, the 1.5 permit addition is not shown on that map. Not all of the affected area is shown on Plate UG-Operations Plan. The Permittee needs to show the affected area on one map.

Existing Structures and Facilities Maps

There are no existing structures or facilities in the permit expansion area.

Existing Surface Configuration Maps

Plate III-5 show the pre and post mining topography for the 4th East Portal area. The map scale is 1 inch equals 200 feet. The scale is inadequate for the Division to use to assess the pre-mining conditions. The Permittee needs to increase the scale to at least 1 inch equal 100 feet. In addition, Plate III-5 is not certified as required by the regulations.

Mine Workings Maps

There are no changes to the mine working areas.

Permit Area Boundary Maps

The Division needs one map that shows the entire permit boundary. Without that map, anyone reading the MRP would have a difficult time determining where the permit boundaries are.

Findings:

Information provided in the amendment is not considered adequate to meet the minimum requirements of this section of the regulations. Before approval, the Permittee must provide the following in accordance with:

R645-301-521.150 and R645-301-521.190, The Permittee must give the Division a maps that shows the pre and postmining topography at a scale of 1 inch equals 100 feet or smaller.

R645-301-512.130, The Permittee must have the pre and postmining topography maps and cross-sections certified by a registered professional engineer.

R645-301-521-141 and R6545-301-521.190, The Permittee must show on one map or a series of connected maps the affected area boundaries. Those boundaries include areas for which addition permits might be sought.

R645-301-521.132, The Permittee must give the Division one map that shows the entire permit boundary. The Permittee also needs to designate one map as the official permit boundary map, and state so in the text and on the map.

TECHNICAL MEMO

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR 784.2, 784.11; R645-301-231, -301-526, -301-528.

Analysis:

The Permittee submitted this amendment in response to a violation for allowing coal fines to blow outside of the disturbed area. The Permittee has developed a plan to control coal fines by modifying existing structures and adding new ones such as:

- Modify the topsoil stockpile and berm
- Add an access/haul road
- Jersey barriers
- Wind fence
- Water Cannon
- Cattle guard

The topsoil stockpile and berm modification is designed to store topsoil. The issues related to the stockpile will be discussed in detail in the soils and hydrology section of the TA. The addition of the access/haul road should be simple if the Permittee follows the existing designs.

The purpose of the haul road modification is to reduce the amount of time and length of travel that the coal truck have within the disturbed area. The coal trucks will kick up any coal fines that are on the roads. By decreasing the length and time the coal trucks are on the roads within the disturbed area, the less dust will be kicked up. Reducing road length is a practice that is recognized by the EPA to be effective in controlling dust.

Magnesium chloride will be applied to the haul road at the rate recommended by the vendor. Magnesium chloride is a standard industrial practice to control dust on roads.

Water cannons have been used to control dust emissions. The Division contacted vendors who stated that water cannons have been used world wide to control dust. The major concern at the Emery Deep Site is freezing. Freezing can be controlled by the use of drains that are activated when the system shuts down. To ensure that the system is working properly the Division will conduct inspection. As part of the inspection, the Division will require the Permittee to operate the water cannon manually.

The Jersey barriers will be used to prevent coal from spilling outside the coal stockpile area. Jersey barriers are used to prevent material movement. The Division will inspect the barriers to ensure there are no gaps.

Wind fences can reduce wind speed, which reduces the amount of coal fines that become airborne. A critical factor for the effectiveness of wind fences is placement. The Permittee committed in the maintenance schedule to evaluate the location of the wind fence after installation. The wind fences work by reducing the wind speed at or near the ground. Idaho Department of Environmental Quality recommends wind fences to reduce dust.

No literature could be found that specifically recommends cattle guards for reducing dust. If the cattle guards work by removing coal from the truck tires, the structures would be helpful. If the structures do not work, they would cause no harm

The best way to prevent coal fines from blowing off site is to prevent coal fines from being created. If the new crusher can reduce the amount of coal fines then the machines are helpful. The Division contact crusher manufactures and they recommended roll crushers for reducing coal fines. They did say that no matter what type of crusher is used, coal fines will be created and if nothing else is done, coal fines from the stockpile will be a problem.

The equipment and procedures proposed by the Permittee will reduce coal fines from going off site. Anyone item will no eliminate the problem. The Division does not know if a combination of the equipment and procedures will eliminate the problem. If they fail to do so the Permittee has committed to use additional means to solve the problem.

The additional features are to control coal fines. The Division does not have the expertise to evaluate the effectiveness of those structures to control windblown coal fines. If those structures prove to be inadequate, the Permittee has committed to add additional structures.

Findings:

The information provided in the amendment is adequate to meet the minimum requirements of the regulations.

EXISTING STRUCTURES:

TECHNICAL MEMO

Analysis:

There are no existing structures within the area that the Permittee wants to add to the disturbed area.

Findings:

The information provided in the amendment is adequate to meet the minimum requirements of the regulations.

RELOCATION OR USE OF PUBLIC ROADS

Regulatory Reference: 30 CFR 784.18; R645-301-521, -301-526.

Analysis:

The Permittee does not propose to relocate or use a public road within the disturbed area. The Permittee does propose to add a mine access/haul road that will join the county road know as "Cowboy Mine Road No.915 as shown on Plate IV-3b.

The Permittee does propose to extend the disturbed area so that disturbed area will be adjacent to part of the Cowboy Mine Road. The strip of land to be added to the disturbed area is triangular in shape and 490 feet long. The north 260 feet of the proposed disturbed area is already within 100 feet of the county road.

The only activities scheduled for construction in the newly disturbed area are: salvaging topsoil, removing coal fines, constructing a access/haul road and reclaiming the area during final reclamation. The Permittee has already made a commitment to use flagman during activities that are within 100 feet of a public road. The Division believes that procedure is adequate to protect the public.

The Permittee plans to widen the Cowboy Mine Road and construct part of the mine access road within the county's right-of-way. The Permittee must state who will do the construction within the county's right-of-way. If the Permittee will do the work, they must show an agreement with the county.

Findings:

The information provided in the amendment is not adequate to meet the minimum requirements of this section of the regulations. Before the amendment can be approved, the Permittee must the following in accordance with:

R645-301-526.116, The Permittee must state who will do the road construction within the county's right-of-way. If the Permittee does the work then they must show that they have an agreement with the county.

SUBSIDENCE CONTROL PLAN

Regulatory Reference: 30 CFR 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

Analysis:

Subsidence Control Plan

The new permit and disturbed area are outside the subsidence limits. Therefore, the subsidence plan does not have to be modified.

Findings:

The information provided in the amendment meets the minimum regulatory requirements of this section of the regulations.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 784.24, 817.150, 817.151; R645-301-521, -301-527, -301-534, -301-732.

Analysis:

Road Classification System

The Permittee has classified the new section of the access/haul road as primary. This is consistent with the regulation for road classification and the existing plan.

Plans and Drawings

The Permittee has shown the addition to the access/haul road on several maps including Plate IV-3b. The Permittee did not show any new road designs. The Division assumes that the Permittee will use the existing road designs.

Appendix X. C-3, prepared by Norwest, show a typical cross-section for the new haul road. The cross-section was not certified but is similar to the current road configuration.

TECHNICAL MEMO

Performance Standards

The Permittee will be required to keep all performance standards.

Primary Road Certification

The location of the new access/haul road is shown on several maps that have been certified, including Plate II-3, 4th East Portal Surface Facilities. The typical cross-sections for the road are shown in the MRP.

Other Transportation Facilities

The Permittee does not propose to change the basis layout for the conveyor system. They do propose to replace the existing crusher with a roller crusher to reduce dust and to enclose the transfer point. Those changes are stated in the text but would not show up on the maps.

Findings:

The information provided in this amendment is adequate to meet the minimum requirements of this section of the regulations.

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:

The Permittee does not propose to change how waste materials are handled. There will be no spoil produced because of the addition of the 1.5 acres.

Findings:

The Permittee has met the minimum requirements for this section of the regulations.

SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

Analysis:

The Permittee will add the following facilities to the 4th East Portal area:

- Jersey barriers - keep the coal within the storage areas.
- Wind fence - should reduce the wind speeds and the coal particles that become windborne.
- Water cannon - reduce the amount of coal particles that become windborne.
- Cattle guard - reduce the amount of coal that is spread by truck tires, by removing the material from the tires.

In addition to those facilities, the Permittee will replace the crusher with a double-roller or other type of non-pulverizing device. The new crusher should reduce the amount of coal fines that are created.

Those facilities might eliminate coal fines from leaving the permit boundaries. The Division does not have the resources to determine if those facilities will prevent coal fines from leaving the permit area. If those facilities are inadequate then the Permittee will install additional facilities.

The surface facilities are shown on several maps including Plate II-3, 4th East Portal Surface Facilities. The Permittee did not include the location of the Jersey barriers or the water cannon on that map. The Permittee did show the Jersey barriers on other maps, Figure 14. However, the Division needs to have all surface facilities shown on one map when possible.

Findings:

The information in the amendment is not considerate adequate to meet the minimum requirements of this section of the regulations. Before approval, the Permittee must give the Division the following information in accordance with:

R645-301-521.161 and R645-301-141, The Permittee must show of the support facilities and utilities on one map, such as Plate II-3.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

TECHNICAL MEMO

Analysis:

Affected Area Maps

The Division considers the affected area to be the permit area plus any additional areas that might be included. Plate UG Operations Plan shows the projected expansion areas. However, the 1.5 permit addition is not shown on that map. No all of the affected area is shown on Plate UG-Operations Plan. The Permittee needs to show the affected area on one map.

This deficiency has already been addressed in the Environmental Resource Section of the TA and will not be repeated here.

Mining Facilities Maps

The Permittee shows the new facilities on Plate II-3. Some facilities are not shown on this plate. That issues is addressed in Support Facilities and Utility Installation section of the TA.

Mine Workings Maps

No changes will be made to the mine workings maps because of this amendment.

Certification Requirements

Certification issues have been addressed in other sections of the TA..

Findings:

The information in the amendment is not considerate adequate to meet the minimum requirements of this section of the regulations. Before approval, the Permittee must give the Division the following information in accordance with:

R645-301-521-141 and R6545-301-521.190, The Permittee must show on one map or a series of connected maps the affected area boundaries. Those boundaries include areas for which addition permits might be sought.

RECLAMATION PLAN

APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

Analysis:

On Plate III-5, 4th East Portal Site Pre & Postmining Topography Plan View, the Permittee shows the postmining contours. The map scale is 1 inch equals 200 feet. Because of the scale, the Division is unable to make a complete evaluation of the reclamation plan for the 1.5-acre addition.

The information on Plate III-5 shows that the pre and postmining topography will be similar. The existing topography is flat and the Permittee proposes to restore the area to the approximate pre-mining conditions.

The Division requires that the Permittee include maps of the pre and post-mining topography that are at a scale of 1 inch equals 100 feet or smaller in other sections of the TA. To prevent redundancy on deficiencies the Division address that issue in another section. If the new maps show that a problem exist the Division will address the issue at that time.

Spoil piles and highwalls will not be located on the 1.5-acre addition. Restoring the hydrology of the area for AOC purposes will be met if the Permittee can demonstrate that all hydrology issues have been addressed.

The Division did a complete evaluation of how the site would be reclaimed to AOC during the initial approval for the 4th East Portals. The addition of the 1.5 acres of which 1.0 acres will be disturbed is a minor adjustment to the reclamation plan that should not affect the Permittee's ability to restore the complete site to AOC.

Findings:

The Permittee has met the minimum requirements of this section of the regulations.

BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

TECHNICAL MEMO

Analysis:

General

The Division did a complete analysis of the backfilling and grading plan during the initial permitting of the 4th East Portal area. The addition of 1.5 acres of which 1.0 acre will be disturbed will not alter the overall backfilling and grading plan.

The backfilling and grading plan calls for the 1.0-acre area to be restored to the topography that existed before disturbance. The main reclamation activities for the site will be road removal and topsoil placement. Those issues will be address in other sections of the TA.

Previously Mined Areas

No previously mined areas exist within the 1.5-acre addition. Note: this section has to do with highwalls and no highwalls are associated with this area of the 4th East Portal facility.

Findings:

The information given in the amendment meets the minimum requirements of this section of the regulations.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 701.5, 784.24, 817.150, 817.151; R645-100-200, -301-513, -301-521, -301-527, -301-534, -301-537, -301-732.

Analysis:

Reclamation

The Permittee did not specifically address the reclamation of the road and cattle guard in the amendment. In the MRP, the Permittee committed to remove all roads and associated structures. The postmining maps show that the road and other structures will be removed. The Division believes that information is adequate to determine that the new access road will be removed and reclaimed according to the approved plan.

Retention

The Permittee does not propose to retain any roads associated with the 1.5-acre addition.

Findings:

The information given in the amendment is adequate to meet the minimum requirements of this section of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Bonded Area Map

The bonded area is considered by the Division to be the same as the disturbed area for the 4th East Portal facilities. That area is shown on several maps including Plate II-3.

Reclamation Backfilling And Grading Maps

The Permittee needs to update the backfilling and grading cross-sections so that they will show the additional 1.0-acres of disturbed area.

Reclamation Facilities Maps

No facilities that will be retained after reclamation is finished.

Final Surface Configuration Maps

The final surface configuration is shown on Plate III-5, 4th East Portal Site Pre & Postmining Topography Plan View. The map's scale is too small for the Division to evaluate the final surface configuration. This deficiency was stated in other sections of the TA and will not be repeated here.

Certification Requirements.

The reclaimed contour map was not certified. That issue was addressed in the Environmental Resource Section of the TA.

TECHNICAL MEMO

Findings:

The information in the amendment is not considerate adequate to meet the minimum requirements of this section of the regulations. Before approval, the Permittee must give the Division the following information in accordance with:

R645-301-542.200, The Permittee give the Division update cross-section for the 4th East Portal area that should the final configuration.

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

Determination of Bond Amount

The Permittee needs to include the demolition and removal costs for each item in the 4th East Portal Area. The missing items include but are not limited to:

- Wind fences
- Jersey Barriers
- Truck scale

The earthwork and vegetation costs for the 4th East Portal area is adequate.

Findings:

The information in the amendment is not considerate adequate to meet the minimum requirements of this section of the regulations. Before approval, the Permittee must give the Division the following information in accordance with:

R645-301-830.140, The Permittee give the Division detailed reclamation cost estimate that include all the facilities in the 4th East Portal Area.

RECOMMENDATIONS:

The Division should deny the amendment until all of the deficiencies have been adequately addressed.

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