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Technical Analysis and Findings
Utah Coal Regulatory Program

PID: C0070013
TaskID: 4712
Mine Name: HORSE CANYON MINE
Title: REPLACE DITCHES WITH CULVERTS

Summary

The Division received a submittal from Utah American Energy (the Permittee) to replace some ditches and culverts with larger culverts at the Lila Canyon Mine as well as revisions to add above ground power lines.

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Operation Plan

Mining Operations and Facilities

Analysis:

SUPPORT FACILITIES AND UTILITY INSTALLATIONS
Regulatory Reference: 30 CFR Sec.784.30,817.180,817.181; R645-301-526
Analysis:
The proposed change to the electrical distribution system is to add surface power lines to the utility system within the surface facilities. The proposal is submitted as a blue line strike through / RED Line – underscore addition to Chapter 5, page 8, section 520. Operation Plan, Mine Facilities List, Utilities list, #5, Surface Power Lines. A revision with similar wording is proposed on Page 10, Underground Power Lines.
The paragraph labeled Mine Substation on Page 10 states that voltages of 110, 220, and 440 VAC will be used in the surface power lines, and 12,470 VAC will be transmitted to the underground mining and transportation facilities. This is a minor change to the Lila facilities power distribution system and it should be approved as submitted. Upon the completion of these secondary low voltage power installations, an updated P.E. certified Plate 5-2 “as-built” drawing will be submitted for incorporation into the Lila Canyon mining and reclamation plan in accordance with the requirement of R645-301-512.120.

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Mining Operations and Facilities

Analysis:

SUPPORT FACILITIES AND UTILITY INSTALLATIONS
Regulatory Reference: 30 CFR Sec.784.30,817.180,817.181; R645-301-526.222
Analysis:
On November 3rd the Division the Division received an application to add a power line (Above Ground) and make several changes to the existing drainage controls at the Lila Canyon mine. This memo will include a review of the power line

installation information. The proposed change to the electrical distribution system is to add surface power lines to the utility system within the surface facilities. Voltages of 110, 220, and 440 VAC will be used in the surface power lines, and 12,470 VAC will be transmitted to the underground mining and transportation facilities. The lines will span approximately 800' and include the installation of 8 poles. The Division is suggesting that the permittee provide a drawing of the pole configuration to be used at the mine. The drawing should be included as an appendix to chapter 3 of the current MRP.

Deficiencies Details:

R645-301-526.222; The Division is suggesting that the permittee provide a drawing of the pole configuration to be used at the mine for the transmission of high voltage electricity. The drawing should be included as an appendix to chapter 3 of the current MRP.

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Hydrologic Diversion General

Analysis:

The Division received a submittal from Utah American Energy (the Permittee) to replace some ditches and culverts with larger culverts at the Lila Canyon Mine. The Permittee has updated appendix 7-4, "Sedimentation and Drainage Control Plan", of the approved MRP with the changes to culverts, ditches, and drainage areas. Plate 7-5 "Proposed Sediment Control" was also updated. Culvert sizing was calculated using the latest version of Hydraulic Toolbox. It is noted in the MRP that all culverts are sized adequately to handle the expected runoff from a 100 year - 6 hour event.

The majority of changes to appendix 7-4 were made to Tables 1, 2, 3, 5, 6, 7, 8, and 9. These tables include undisturbed and disturbed watersheds, and to where these watersheds drain; watershed parameters; runoff summaries of the watersheds; ditches and culvert structures; flow summaries of these structures; as well as ditch and culvert design summaries.

The following are proposed changes to the site drainage:

Disturbed culverts 3, 4, 5, and 6 will be replaced by culverts 20, 21 and 22. Disturbed culverts 10 and 11 will be removed, and disturbed culverts 23, 24, 25, and 26 will be added. Disturbed ditches 1c, 2a, 2b, 2c, 4a, 4b, 4c, 5b, 5c, and 8c will be removed, although Table 8 still displays design specifications of ditches 5a-5c. Ditches 15a and 15b will be referenced only as ditch 15.

Plate 7-5 was updated to display changes to culverts and ditches, as well as changes to watershed boundaries at the facility. Plates 7-2, 7-6, 7-6a, and 7-6b should also be updated to include relevant updated information as well. Plates 7-2 and 7-6b show disturbed area watersheds that will be outdated if the changes shown on plate 7-5 are approved. Plates 7-6 and 7-6a display sediment pond #1, and it's associated features. These maps should be consistent, but currently display differing ditches, inlets and culvert alignments.

Plate 7-5 includes an undisturbed watershed, UA-6c, but it is not included on the relevant revised tables. Table 8 shows design summaries of ditches 5a, 5b, and 5c, but a note at the bottom indicates that these ditches will be removed. If these ditches will be removed, the design summary for these sections of ditches should also be removed.

Table 2 indicates that DA-15a will be changed to DA-15, but this information has not been updated on plate 7-5. DA-18b is still on plate 7-5 but is no longer in Table 2. The plates and tables should be consistent.

Changes have been made to the disturbed area watersheds, but the sediment yield calculations found on page 45 of appendix 7-4 have not been updated. Please ensure that the correct sediment yield calculations are included in this table.

Deficiencies Details:

R645-301-742.300 Table 8, of appendix 7-4, shows design summaries of ditches 5a, 5b, and 5c, but a note at the bottom indicates that these ditches will be removed. If these ditches will be removed, the design summary for these sections of ditches should also be removed.

Plate 7-5 displays an undisturbed watershed, UA-6c, but it is not included in the relevant revised tables of appendix 7-4.

Table 2 indicates that DA-15a will be changed to DA-15, but this information has not been updated on plate 7-5. DA-18b is still on plate 7-5 but is no longer in Table 2. The plates and tables should be consistent.

Changes have been made to the disturbed area watersheds, but the sediment yield calculations found on page 45 of appendix 7-4 have not been updated. Please ensure that the correct sediment yield calculations are included in this table.

R645-301-731.700 Plate 7-5 was updated to display changes to culverts and ditches, as well as changes to watershed boundaries at the facility. Plates 7-2, 7-6, 7-6a, and 7-6b should be updated to include relevant updated information as well. Plates 7-2 and 7-6b show disturbed area watersheds that will be outdated if the changes shown on plate 7-5 are approved. Plates 7-6 and 7-6a display sediment pond #1, and its associated features. These maps should be consistent, but currently display differing ditches, inlets and culvert alignments.

R645-301-121.200 As plate 7-5 currently is shown, it is very difficult to view the exact locations of ditches and culverts due to the large amount of information on this plate. This plate should either be clarified or split into multiple plates.

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Reclamation Plan

Bonding Determination of Amount

Analysis:

BONDING AND INSURANCE REQUIREMENTS

Analysis:

A reclamation cost estimate for Task ID # 4712 was calculated using the 2013 Midterm Permit Review cost estimate of \$ 1,676,252.00 as the basis.

Culvert lengths were totaled for the 24 inch and the 18 inch culverts and excavation costs, culvert removal, loading and disposal, and backfilling of the culverts were calculated using the 2014 R.S. Means Heavy Construction Cost Data Manual. A direct cost for these activities for all of the culverts submitted as part of Task ID # 4712 was calculated at \$ 16,464.00.

An indirect cost of \$ 4,412 was calculated using the OSM standard percentage of 26.8 %, for a total cost in 2014 dollars of \$ 20,876.00.

The Total Reclamation Cost for the Lila Canyon Mine in 2014 dollars is \$ 1,728,977.00.

The escalated reclamation cost until 2018 (the next midterm permit review) is multiplied by 1.019 to the 4 power is (4 years) $1.0782 \times \$ 1,728,977.00 = \$ 1,864,183.00$.

$\$ 1,864,183.00$ rounded to the nearest \$ 1,000 = \$ 1,864,000.00

The posted bond amount is \$ 1,799,000 (July 25, 2012, Task ID # 4100), which is \$ 65,000 LESS than the required bond amount of \$ 1,864,000.

However, since the \$ 65,000 is less than 5 %, no additional bond needs to be posted at this time.

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