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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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Michael O. Leavitt
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Lowell P. Braxton
Division Director

September 4, 1998

Kenneth E. May, General Manager
Canyon Fuel Company, LLC
SUFCO Mine
397 South 8th West
Salina, Utah 84564

Re: Deficiencies in Link Canyon Substation Revision, Canyon Fuel Company, LLC, SUFCO Mine, ACT/041/002-98A, Folder #2, Sevier County, Utah

Dear Mr. May:

The Division has conducted a technical analysis (TA) on your application to allow construction of a portal and substation in Link Canyon. You will find a copy of the TA enclosed for your information and files. The purpose of this TA is to determine the Technical Adequacy of your application. As you will note, there are a few areas of deficiency in your application that prevent us from approving it at this time. Please review the TA carefully to make sure you understand the concerns. The deficiencies will need to be adequately addressed before your application can be approved. In order for us to further process your application, please provide a response by no later than October 20, 1998.

If you have any questions please call.

Sincerely,

Daron R. Haddock

Daron R. Haddock
Permit Supervisor

tam
Enclosure: Technical Analysis
cc: Price Field Office
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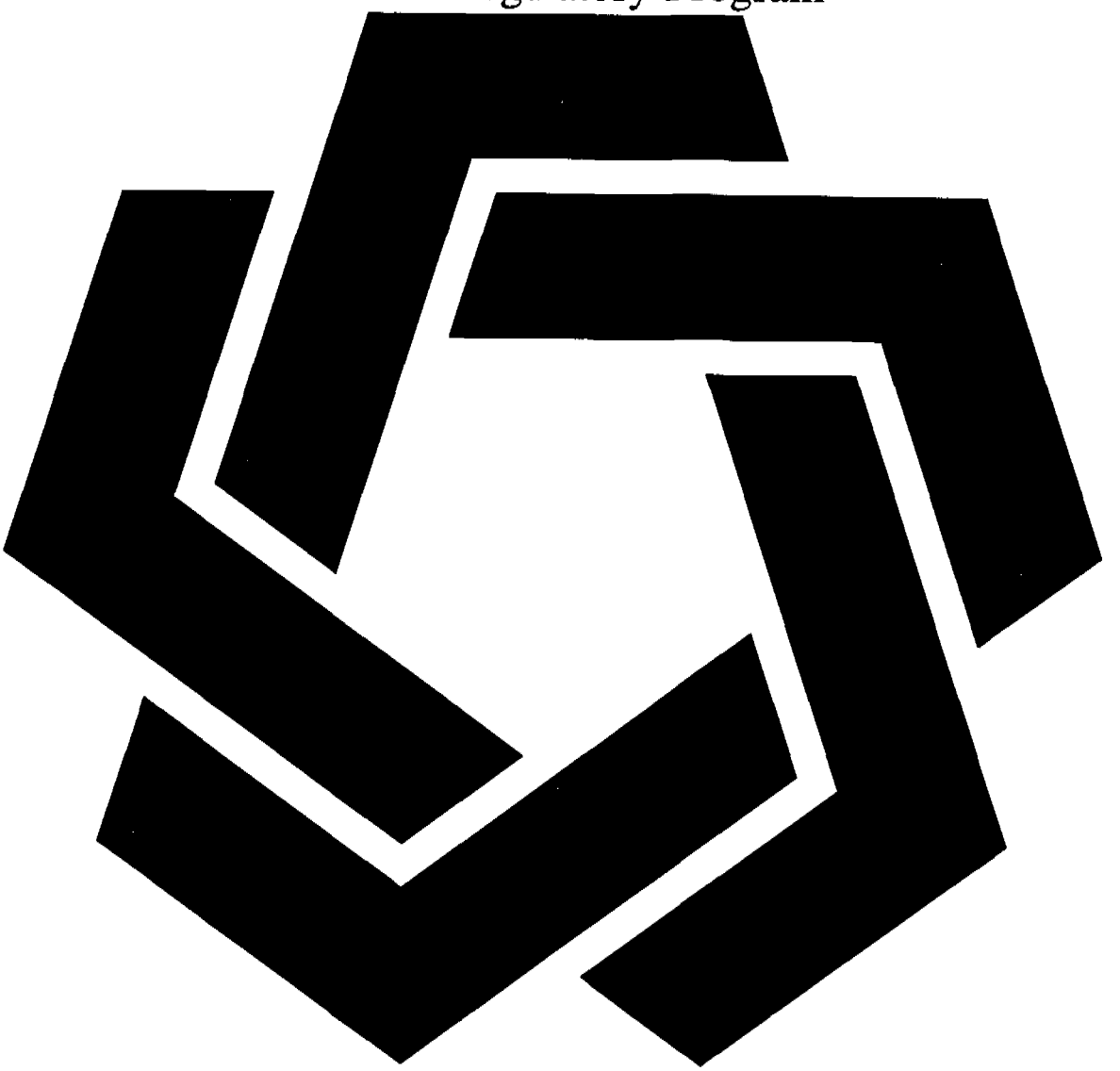
State of Utah
Division of Oil, Gas and Mining
Utah Coal Regulatory Program



Technical Analysis and Findings
Sufco Mine
ACT/041/002-SR98-1
Link Canyon Substation Revision
September 2, 1998

TABLE OF CONTENTS

INTRODUCTION

This Technical Analysis (TA) is written as part of the permit review process. It documents the Findings that the Division has made to date regarding the application for a permit and is the basis for permitting decisions with regard to the application. The TA is broken down into logical section headings which comprise the necessary components of an application. Each section is analyzed and specific findings are then provided which indicate whether or not the application is in compliance with the requirements.

Often the technical review of an application finds that the application contains some deficiencies. The deficiencies are discussed in the body of the TA and are identified by a regulatory reference which describes the minimum requirements. In this Technical Analysis we have summarized the deficiencies at the beginning of the document to aid in responding to them.

It may be that not every topic or regulatory requirement is discussed in this version of the TA. Generally only those sections are analyzed that pertain to a particular permitting action. TA's may have been completed previously and the revised information has not altered the original findings. Those sections that are not discussed in this document are generally considered to be in compliance.

SUMMARY OF OUTSTANDING DEFICIENCIES

The Technical Analysis regarding the proposed permit changes is not complete at this time, pending submittal of additional information by the applicant and further review by the Division, to address outstanding deficiencies in the proposal. A summary of those outstanding deficiencies is provided below. Additional comments, concerns and deficiencies may also be found within the analysis and findings made in this Technical Analysis which have not been presented in this summary. Upon finalization of this review, any outstanding deficiencies will be evaluated for compliance with the regulatory requirements. Such deficiencies may be conditioned to the requirements of the permit issued by the Division, result in denial of the proposed permit changes, or may result in other executive or enforcement action as deemed necessary by the Division at that time to achieve compliance with the Utah Coal Regulatory Program.

Accordingly, the applicant must address those deficiencies as found within this Draft Technical Analysis and provide the following, prior to approval, in accordance with the requirements of:

R645-301-115, The application needs to show evidence of approval from the entity with jurisdiction over the Link Canyon road for mining within 100 feet of the road.

R645-301-222.100, Map unit descriptions are given, but no soils map is provided for the Order-2 soil survey. Therefore, the Division is unable to correlate the mapped soils with the proposed disturbance areas for the breakout and substation pad areas. For the Order-1 soil survey, the soils were not classified and, therefore, no soils map for the substation area was generated.

R645-301-521, The limit of the Carbon-Emery Area soils survey ends at the Manti-La Sal National Forest boundary which is immediately below south of the proposed substation pad area as shown on Plate 5-2D. This map, however, does not show range and township identification for accurately locating the proposed site.

R645-301-140, The applicant needs to affirm the qualifications of those conducting the bat survey. The report does not give dates of data collection, and much of the information about the status of two species is incorrect. Either the application needs to give correct and complete information or the consultant's report needs to be changed.

R645-301-234.200, (1) Topsoil signs need to be placed on the Link Canyon Substation pad outslopes identifying the outslopes as "TOPSOIL." (2) Additionally, since the Link Canyon Substation disturbed area is located within cattle grazing areas of the U.S. Forest Service, the pad outslopes need to be fenced to prevent damage from cattle grazing to the stockpiled topsoil.

R645-301-242, The applicant needs to provide additional measures and other soil stabilization techniques (e.g., deep gouging) to help assure reclamation success and which will accomplish the following:

- alleviate soil compaction
- increase soil stability

- increase water harvesting

R645-301-244, Fence reclaimed pad, access road, and affected slopes to prevent damage form cattle grazing during reclamation.

TECHNICAL ANALYSIS:

ADMINISTRATIVE INFORMATION

UNSUITABILITY CLAIMS

Regulatory Reference: R645-301-115

Analysis:

The Link Canyon facilities would be built within 100 feet of a public road; therefore, the permittee is required to obtain approval from the public road authority with jurisdiction over the road. The application contains a copy of a letter to Janette Kaiser, supervisor for the Manti-Lasal National Forest requesting the approval. The applicant acknowledges in the letter that approval from the Forest Service is contingent on the results of an Environmental Analysis and a decision by the Forest Service and Bureau of Land Management whether to give approval for the Link Canyon facilities. As soon as it becomes available, the applicant needs to show it has this approval.

The applicant has been advertising the amendment in local newspapers, and, the advertisement mentions that the facilities would be within 100 feet of a public road.

The Division is unaware of any petitions to designate the area as unsuitable for mining.

Findings:

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

R645-301-115, The application needs to show evidence of approval from the entity with jurisdiction over the Link Canyon road for mining within 100 feet of the road.

ENVIRONMENTAL RESOURCE INFORMATION

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.21, 817.200(c); R645-301-220, -301-411.

Analysis:

Chapter 2, Soils, has been amended to allow construction of a proposed breakout/ ventilation portal, substation and power line corridor in Link Canyon. The Analysis section discusses resource information as follows:

- Prime Farmland Investigation
- Soil Survey Information
- Soil Characterization

Prime Farmland Investigation

Appendix 2-1 contains a Prime Farmland determinations for the Quitchupah Lease Tract as performed by the Natural Resource Conservation Service. The Quitchupah Lease Tract includes Link Canyon; therefore, no Prime Farmland exists in Link Canyon.

Soil Survey Information

An Order-2 soil survey was completed for the proposed Link Canyon breakout and substation disturbed area and is included in Appendix 2-2. The soils for this area are classified as Strych Pathead Podo families Rockland complex with 30 to 80 percent slopes. The complex contains 30 percent Strych soils, 30 percent Pathead soils, 15 percent Podo soils, 15 percent Rubbleland and 10 percent rock outcrops and finer textured soils. Strych soils are 47 inches deep with rooting depths from 40 to 60 inches. Pathead soils are 60 inches deep with rooting depths 30 to 60 inches. Podo soils are thin at 11 inches deep with rooting depths 20 inches or less. *Map unit descriptions are given, but no soils map is provided for the Order-2 soil survey. Therefore, the Division is unable to correlate the mapped soils with the proposed disturbance areas for the breakout and substation pad areas.*

Additionally, an Order-1 soil survey was conducted for the substation pad area and is included in Appendix 2-6. This survey was completed on April 8, 1998 and includes two soil pits with profile descriptions. The investigation was completed by Chris Hansen and Mike Davis of Canyon Fuel Company, LLC and Robert Davidson of the Utah Division of Oil, Gas and Mining. Figure 1 illustrates the Link Canyon soil pit locations (LC-1 and LC-2) for the substation pad area. Both soil pits were hand excavated to 20 inches using a pick and shovel. *For the Order-1 soil survey, the soils were not classified and, therefore, no soils map for the substation area was generated.*

The limit of the Carbon-Emery Area soils survey ends at the Manti-La Sal National Forest boundary which is immediately below south of the proposed substation pad area as shown on Plate 5-2D. This map, however, does not show range and township identification for accurately locating the proposed site.

Soil Characterization

The Order-2 soil survey provides map unit descriptors for soil map unit 20, Strych-Pathead-Podo families-Rockland complex. Soil family descriptions identify taxonomic classifications, parent material, landscape position, slope, vegetation community, profile descriptions, rooting depths, hydrologic information, plus soil erodibility and

hazard.

For the Order-1 soil survey, the soil horizons at each sampling location were sampled and characterized according to the State of Utah Division of Oil, Gas and Mining (DOGM) guidelines for topsoil and overburden[1]. Sampled parameters included: soil texture; pH; organic matter percent; saturation percent; electrical conductivity; $CaCO_3$; soluble potassium, magnesium, calcium and sodium; sodium absorption ratio, and extractable selenium and boron. Soils in both pits (LC-1 and LC-2) have very similar characteristics, with all parameters in the DOGM acceptable range. Soil profile descriptions are provided and identify the volume and type of rock on the surface and within the soil profile. The A horizon contains 10% rock, principally pebbles. The C1 horizons contain 40 to 45% rock, principally pebbles and cobbles. The C2 horizon for LC-1 contains 50% rock fragments, predominantly cobbles. The surface has occasional boulders with a veneer of pebbles and cobbles.

Findings:

The permittee must provide the following, prior to approval, in accordance with the requirements of:

R645-301-222.100, Map unit descriptions are given, but no soils map is provided for the Order-2 soil survey. Therefore, the Division is unable to correlate the mapped soils with the proposed disturbance areas for the breakout and substation pad areas. For the Order-1 soil survey, the soils were not classified and, therefore, no soils map for the substation area was generated.

R645-301-521, The limit of the Carbon-Emery Area soils survey ends at the Manti-La Sal National Forest boundary which is immediately below south of the proposed substation pad area as shown on Plate 5-2D. This map, however, does not show range and township identification for accurately locating the proposed site.

LAND USE RESOURCE INFORMATION

Regulatory Reference: R645-301-411

Analysis:

The mining and reclamation plan contains land use information about the existing mine, and the application also has information about the Forest Service classification of the Link Canyon area. The proposed Link Canyon facilities appear to be in compliance with Forest Service management plans.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: R645-301-411.140

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[1]Leatherwood, J., and Duce, D., 1988. Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining. State of Utah Department of Natural Resources, Division of Oil, Gas and Mining.

Analysis:

The application includes a copy of a cultural resources survey report. No cultural resources were found in Link Canyon, so the Division can recommend a determination of no effect to the State Historic Preservation Officer (SHPO). Also, since no cultural resources were found in the Link Canyon area, it is not necessary to keep the report confidential.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: R645-301-321

Analysis:

The application contains no new vegetation resource information. The area in Link Canyon that would be disturbed has a pinyon/juniper/mountain mahogany community similar to vegetation near the main facilities in East Spring Canyon. Considering the size of the new disturbance, the existing information is considered adequate.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: R645-301-322

Analysis:

Wildlife Information

The current mining and reclamation plan contains results of raptor surveys and has been updated through 1997. There are two golden eagle nests in Link Canyon, but both were inactive in 1997. One is within about 1500 feet of the proposed disturbance, and the other is about 3000 feet away.

According to information in the existing mining and reclamation plan, Link Canyon contains critical deer winter range but marginal elk habitat.

The application includes a survey for bats done in Link and Box Canyons and in some adjacent areas. Spotted bats were heard in some areas of lower Box Canyon but not in the area that would be subsided. Townsend's big-eared bats were not seen or recorded. Several other bat species were recorded, but no maternal roosting sites or hibernacula were identified in the permit area.

Most of the basic information in the bat survey about the status classifications of Townsend's big-eared and spotted bats is incorrect. The study says spotted bats are classified as a category 2 species for listing as

threatened or endangered, but this category has not existed for about two years. Also, the Utah Natural Heritage Program ranking is shown as G4SI, but the actual ranking is G4S2.

Townsend's big-eared bats are also ranked as G4S2, but the study says the ranking is SX. The SX ranking would mean the species is extirpated or extinct, but George Oliver of the Natural Heritage Program said he considers Townsend's big-eared bats to be widespread, fairly common, and present in most habitats. The report also says UDWR considers it a category 2 species, but this ranking is not given by Wildlife Resources.

The information in the application should be corrected, preferably by the consultant in the report or at least with a statement in the application showing the correct status of these species.

There are other problems with the report. The literature citations are incomplete and not properly done. The consultant claimed to have identified six species of *Myotis* using the ANABAT, but it is very difficult to identify species of *Myotis* in this manner. The report should have discussed the possible errors in identification. Also, the report does not give the dates when the bat survey was done. Dates can be critical for work of this nature.

Assuming the study was done at the proper times, most of these problems are not of great consequence to the study's conclusions. Nevertheless, the applicant needs to affirm the qualifications of those conducting the bat survey.

Threatened or Endangered Species

According to information in the existing mining and reclamation plan, there are no known occurrences of threatened or endangered species in the permit area. In 1997, there was an active peregrine falcon nest about two miles from the proposed Link Canyon facilities, but because of the distance and topography, it is unlikely this nest would be adversely affected.

Findings:

Information provided in the proposal is not considered adequate to meet the requirements of this section of the regulations. Prior to approval, the applicant must provide the following in accordance with:

R645-301-140, The applicant needs to affirm the qualifications of those conducting the bat survey. The report does not give dates of data collection, and much of the information about the status of two species is incorrect. Either the application needs to give correct and complete information or the consultant's report needs to be changed.

GEOLOGIC RESOURCE INFORMATION

Analysis:

Geologic resource information is contained in the MRP. The information is complete to define and characterize the substation site.

Findings:

Information provided in the proposed amendment is considered adequate to meet the requirements of this section.

HYDROLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 701.5, 784.14; R645-100-200, -301-724.

Analysis:

Link Canyon is an ephemeral drainage. Canyon Fuel Company has designed a sampling program for their minesite that is incorporated in the MRP. Baseline information is not available for the ephemeral drainage. Since the disturbed is small, the applicant has planned to contain or treat all runoff on site using silt fences and straw bales. Undisturbed drainage will be routed around the site where it will drain into the main channel. Hydrologic structures will be installed to control the runoff from a design storm of 10 yr-6 hr event Undisturbed drainage ditches were designed using the Soil Conservation Service's Curve Number method.

An access road already exists. Minor construction will take place to widen the road at the substation entrance. Access road drainage will be controlled by the use of swales which will collect and divert runoff into the main channel.

Development of the site will not contact or involve groundwater sources.

Findings:

Information provided in the proposed amendment is considered adequate to meet the requirements of this section.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

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

Analysis:

The applicant has supplied maps detailing the substation site and route of the power line to the breakout. The maps show the premining topography and planned facilities. All hydrologic controls are identified. There are no existing structures on the proposed site. Mine workings are not part of this proposal, thus subsidence is not an issue for this review.

Findings:

Information provided in the proposed amendment considered adequate to meet the requirement of this section.

OPERATION PLAN

COAL MINE PERMITTING: ADMINISTRATIVE PROCEDURES

Regulatory Reference: R645-300-121.150 and R645-301-521.133.1

Analysis:

Management of Mine Openings

The permittee is proposing to install an electrical substation adjacent to the Link Canyon public access road. As indicated above, Link Canyon is part of the Manti-Lasal National Forest, and, as such in under management by that agency. Appendix 1-1 contains a letter from Mr. Ken May, General Manager of SUFCO to Ms. Janette Kaiser, Forest Supervisor of the Manti-LaSal National Forest requesting approval from that agency to construct the substation within a hundred feet of the Forest Service development road as required under R645-300-234.100. As of the date of this writing, the status of that request is unknown, as it is dependent upon an environmental assessment being conducted by the U.S. Bureau of Land Management.

The permittee has posted notice in the Sevier County and Emery County newspapers requesting comments and/or concerns from the public concerning the installation of this substation. The comment period closed on June 20, 1998, with no comments (according to the permittee) being received.

There will be no relocation or closure of the forest development road during the construction of the substation access road.

Analysis:

The permittee has completed the administrative procedures necessary according to the R645 rules for conducting mining activities within 100 feet of a public access roadway.

Findings:

Upon acceptance of the environmental assessment by the U. S. Forest Service, and in consideration of their recommendation for approval or denial, it is recommended that the Division approve the engineering sections of this submittal regarding the operation and reclamation plan for the Link Canyon portal breakout, substation and power line.

As noted above, the portal breakout will be made from inside the mine utilizing continuous mining methods. Upon breakthrough, coal and development waste will be cleaned up to the best extent possible using the continuous miner/shuttle car scenario. All material will be shipped through the mine exiting at the East Spring Canyon processing plant. The area will then be supported initially with conventional techniques. Additional support in the form of beams and/or crossbars may be necessary to support this area over it's expected life.

MANAGEMENT OF MINE OPENINGS

Regulatory Reference: R645-301-529, R645-301-513.500, 30 CFR 75.1711-3

Analysis:

The permittee has committed to barring unauthorized entrance to the Mine by indicating that chain link gates will be installed to protect the public. The Link Canyon portal is approximately 325 feet (slope length)

from the Link Canyon public access road to the portal. As Link Canyon is an isolated area, the barring of the portal area is mandatory for the protection of the public.

The Link Canyon portal breakout, substation and power line will create an additional 0.367 acres of disturbance.

Findings:

ACT/041/002-98-1 fulfills the requirements of the R645 rules regarding the management of mine openings during the mines operation phase.

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

Analysis:

The Analysis section discusses operation information for the proposed breakout/ventilation portal, substation and power line corridor in Link Canyon as follows:

- Topsoil and Subsoil Removal
- Topsoil Substitutes and Supplements
- Topsoil Storage

Topsoil and Subsoil Removal

In the Link Canyon Substation disturbed area, the A and C horizons will be removed together and stored on the pad outslope. The A horizon is between 6 to 8 inches deep with the C horizons extending down to 20 inches. Therefore, topsoil and subsoil will be salvaged together to an average depth of at least 19 inches across the site during construction of the Substation pad and access road. In-situ rock, cobbles and boulders, will be left in and on the surface of the side cast soils as resource protection.

Topsoil Substitutes and Supplements

Since the topsoil is thin (6 to 8 inches), the C horizon subsoil will be salvaged with the A horizon topsoil. Based on analysis results for the C horizon subsoils as shown in Table 1 of Appendix 2-6, there are no problems associated with the C horizon subsoils being used as substitute topsoil.

Topsoil Storage

Soils salvaged from the Link Canyon Substation area will be stored on the pad outslope. The outslope stockpiled soil will be protected by placing berms and/or silt fences at the base of the slope. Additionally, the soil will be seeded with the seed mix specified in Section 3.30 of the MRP.

Topsoil signs need to be placed on the Link Canyon Substation pad outslopes identifying the outslopes as "TOPSOIL." Additionally, since the Link Canyon Substation disturbed area is located within cattle grazing areas of the U.S. Forest Service, the pad outslopes need to be fenced to prevent damage from cattle grazing to the stockpiled topsoil.

Findings:

The permittee must provide the following, prior to approval, in accordance with the requirements of:

R645-301-234.200, (1) Topsoil signs need to be placed on the Link Canyon Substation pad outslopes identifying the outslopes as "TOPSOIL." (2) Additionally, since the Link Canyon Substation disturbed area is located within cattle grazing areas of the U.S. Forest Service, the pad outslopes need to be fenced to prevent damage from cattle grazing to the stockpiled topsoil.

AIR QUALITY

Regulatory Reference: R645-301-420

Analysis:

The applicant proposes an increase in production above what is allowed in the existing Air Quality Approval Order, and the application says a request for modification of the Air Quality Approval Order has been filed with the Division of Air Quality to obtain approval for this increase.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

INTERIM STABILIZATION

Regulatory Reference: R645-301-331

Analysis:

The existing mining and reclamation plan contains a plan for interim revegetation of disturbed areas. Grasses and forbs from the final reclamation seed mix will be seeded according to the plan for final revegetation. These species should provide adequate erosion control.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

FISH AND WILDLIFE RESOURCE PROTECTION

Regulatory Reference: R645-301-333

Analysis:

Golden eagles are sometimes sensitive to human disturbance during the nesting period from February 1 to July 15. The applicant commits to avoid the nests in the Link Canyon area and to delay construction until after August 15. After the facilities are in place, most maintenance would occur from within the mine with minimal activity on the surface.

Link Canyon also contains critical deer winter range that should not be disturbed from November 1 through May 15. The current plan says surface activities will be curtailed from November 1 through April 1, and given the new commitment to not begin construction until after August 15, big game should be adequately protected. The applicant should avoid visiting the site as much as possible during the winter, and it would be best to avoid disturbance during the morning and evening hours.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

TRANSPORTATION FACILITIES

Regulatory Reference: R645-301-527.100-250

R645-301-527.100 and .110

The plan classifies the Link Canyon substation access road as an ancillary road.

R645-301-527.210 Road Specifications

The length of the access road from the public road to the substation fence is 100 feet. Roadway width is 14 feet. Gradient, and cut and fill calculations are depicted on Plate 5-2D, as is the ditch design for the diversion routing the drainage from the undisturbed watershed LINK and ASCA-1. The specifications for the parabolic road swale draining ASCA-1, LINK, and ASCA-3 are indicated in Table 7-9, (Page 7-75). Page 5-41, paragraph 1 indicates that the access road will have a dirt surface.

Analysis:

The requirements of the R645 rules for road specifications have been met.

Findings:

The requirements of the R645 rules have been met regarding road specifications.

MAINTENANCE PLAN

Regulatory Reference: R645-301-527.230

Page 5-42
SUFCO has committed to maintaining the Link Canyon substation access road within the limits of the disturbed area perimeter. The USFS maintains the public road in this area. SUFCO has committed to repair damage to the public road in the Link Canyon area from impacts associated with mining.

Analysis:

The requirements of the R645 rules for a road maintenance plan have been met.

Findings:

The submittal is adequate to address the R645 rules regarding the requirement to have a road maintenance plan.

COMMITMENT TO REPAIR CATASTROPHIC DAMAGE

Regulatory Reference: R645-301-527.240

Pages 5-41 and 42
SUFCO is committed to repair damage created by catastrophic events for the mine access roads within

the permit area. They also have a cooperative agreement with the Sevier County Road Department to repair road damage from any catastrophic event outside of the mine permit area.

Analysis:

The requirements of the R645 rules have been met with regard to committing to repair roads both within and outside the mine permit area due to damage caused by catastrophic events.

Findings:

The submittal is adequate to address the requirements of the R645 rules regarding the repair of roads due to catastrophic damage.

GEOTECHNICAL ANALYSIS

Regulatory Reference: R645-301-527.250

The Link Canyon public access road has been in place for many years. The permittee is not requesting alternative road specifications, nor are steep cut slopes necessary. No geotechnical analysis is therefore necessary.

Findings:

The requirement of the R645 rules to conduct a geotechnical analysis for the installation of the Link Canyon access road is not necessary, because alternative road specifications and steep cut slopes have not been requested or designed.

RECLAMATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

Analysis:

The Analysis section discusses reclamation information as follows:

- Soil Redistribution
- Soil Stabilization

Soil Redistribution

Final reclamation of the pad will include the removal of the substation equipment and replacement of the soils in the pad area. The pre-existing slopes will be restored to AOC using the soil stored in the pad outslopes.

Soil Stabilization

Link Canyon is a steep canyon area with an average rainfall of only 11 inches. Therefore, the applicant needs to provide additional measures and other soil stabilization techniques (e.g., deep gouging) to help assure reclamation success:

- *alleviate soil compaction*
- *increase soil stability*
- *increase water harvesting*

Finally, since the reclaimed area is within a USFS grazing unit, the reclaimed slope needs to protected from grazing (e.g., fencing).

Findings:

The permittee must provide the following, prior to approval, in accordance with the requirements of:

R645-301-242, The applicant needs to provide additional measures and other soil stabilization techniques (e.g., deep gouging) to help assure reclamation success and which will accomplish the following:

- alleviate soil compaction
- increase soil stability
- increase water harvesting

R645-301-244, Fence reclaimed pad, access road, and affected slopes to prevent damage form cattle grazing during reclamation.

REVEGETATION

Regulatory Reference: R645-301-341

Analysis:

The current mining and reclamation plan includes plans for revegetating the main mine facilities area, and

this plan, including the success standards, is mostly adequate for the proposed Link Canyon facilities.

Link Canyon is used to trail cattle to the top of the plateau, and it is anticipated they would graze on vegetation in the reclaimed area. This could reduce vegetation establishment and success, so the Division recommends the applicant fence the reclaimed area

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

LAND USE RECLAMATION PLAN

Regulatory Reference: R645-301-412

Analysis:

No changes to the postmining land use are proposed, and the reclamation plan appears to be in compliance with the management plan of the Forest Service.

Findings:

Information provided in the proposal is considered adequate to meet the requirements of this section of the regulations.

BACKFILLING AND GRADING

Regulatory Reference: R645-301-553

Analysis:

The reclamation plan includes how backfilling and grading will be accomplished when the substation is no longer needed.

Findings:

Information provided in the proposed amendment is considered adequate to meet the requirements of this section.

UTILITY INSTALLATION AND SUPPORT FACILITIES

Regulatory Reference R645-301-540

Page 5-34 SUFCO MRP Section 5.2.6.2 Utility Installation and Support Facilities.

Utility Installations

"All utility installations associated with the SUFCO Mine will be removed following mining in accordance with the reclamation plan discussed in Section 5.40."

Regulatory Reference R645-301-542.200 Backfilling Plan

Page 5-58 "The regrading plan for the Link Canyon substation facility area will be to reclaim it for it's entire length. This substation facility area will be regraded by removing fill from beneath the pad to the natural ground surface and placing the fill against the adjacent cut slope. Following regrading of the substation facility area the site will be revegetated as indicated in Section 3.4.1.2.

Plate 5-2D Detail of Link Canyon Surface Facilities shows cross sections A-A', B-B', and C-C' and dirt volumes for cut and fill of 409.93 and 408.78 cubic yards respectively. Lines indicate that the reclamation of the substation access road and pad will return this fill to the approximate original contour of the area. Plate 5-2D has been P. E. certified by Mr. Wes Sorensen, (see 542.310).

Findings:

The reclamation plan for the area adequately addresses the requirements of the R645 rules.

ROADS

Regulatory Reference R645-301-543.600

Page 5-66 The permittee has committed to the following; "The Link Canyon substation access road will be reclaimed for its entire length." "This road will be closed to traffic following reclamation by virtue of its non-existence", (see 542.610).

Findings:

The reclamation plan for the area adequately addresses the requirements of the R645 rules.

FINAL ABANDONMENT OF MINE OPENINGS AND DISPOSAL AREAS

Regulatory Reference R645-301-542.700

Page 5-67 SUFCO MRP Section 5.4.2.7. The permittee has committed to seal the Link Canyon portal area in accordance with the R645 rules and CFR 30, Part 75.1711-2.

Analysis:

The permittee has fulfilled the requirements of the R645 regulations with regard to the reclamation plan necessary to reclaim the Link Canyon substation and it's associated access road.

Findings:

The reclamation plan for the area adequately addresses the requirements of the R645 rules.

BONDING

Regulatory Reference: R645-301-820

Page 5-68, Section 5.4.2.8 Estimated Cost of Reclamation

The permittee has provided reclamation cost estimates in Appendix 5-9.

Appendix 5-9 indicates that an amount of $13,730 will be necessary to reclaim the Link Canyon substation and it's associated access road. An amount of $272,593 currently exists as contingency dollars in the

SUFCO reclamation bond amount. This would be reduced by $13,730 to cover the reclamation in the Link Canyon area. Therefore, it is not necessary to increase the total bond amount for the SUFCO Mine at this time.

Analysis:

It appears that, assuming that the reclamation cost figures for the Link Canyon substation and its associated access road are accurate, the permittee has met the bonding requirements necessary as indicated by the R645 rules.

Findings:

The submittal is (assuming the reclamation cost figures are accurate) adequate to meet the requirements of the R645 rules requiring the posting of a reclamation bond.

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