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TO: Internal File

FROM:  Priscilla Burton, Reclamation Specialist/ Team Lead

RE: Vegetation Information Winter Quarters North Lease, Canyon Fuel Company, LLC, Skyline Mine, C/007/005 SR02I-1

SUMMARY:

The Division received the application for a significant revision on September 4, 2002. The application proposes to redirect mining to the north in Winter Quarter Lease UTU-67939, assigned to Coastal States Energy Company in 1996. The Division has titled this application the North Lease. The U.S. Forest Service (USFS) and Bureau of Land Management (BLM) refer to the lease area as the Winter Quarters tract in their Environmental Assessment (EA) written dated July 1995. The baseline wildlife and vegetation information supplied for the North Lease was gathered in 1992 and 1993.

A Joint Bureau of Land Management/Forest Service Finding of No Significant Impact/Decision Notice/Rationale (FONSI) is dated January 23, 1996. The FONSI states that Alternative C as described in the EA best meets the management objectives of the USFS. To meet the objectives, 18 Forest Service Special Stipulations, in addition to the standard lease terms (BLM Lease Form 3400-12) were attached to the Lease.

The following Forest Service Stipulations attached to the Lease require vegetation baseline information: Lease Stipulation #2 (T & E species), Stipulation #3 (baseline data), Stipulation #7 (monitoring of effects), Stipulation #9 ("Except at specifically approved locations, underground mining operations shall be conducted in such a manner so as to prevent surface subsidence that would:(3) damage or alter the flow of perennial streams.")

The application indicates that a survey of riparian plant communities will be undertaken in early summer 2003. The results of the 2003 vegetation survey should be provided to the Division before longwall mining.

TECHNICAL MEMO

The application should evaluate the occurrence of Threatened and Endangered plant species within the permit area.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

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

GENERAL

Regulatory Reference: 30 CFR 783.12; R645-301-411, -301-521, -301-721.

Analysis:

The North Lease is in a montane area of elevation 8300 –9300 feet. Slopes are well vegetated with aspen and conifers. Two main drainages (Winter Quarters and Woods Canyon) flow northeast emptying into Mud Creek (or Pleasant Valley Creek). Each drainage has several reaches contributing flow. Winter Quarters Creek has a wide floodplain vegetated with grasses.

The seam of interest in the North Lease is the Lower O’Conner “A” seam in the Blackhawk Formation, which in the North Lease lies in a zone of compression. The compression appears to limit the ground water inflow to the mine.

Findings:

The information provided is adequate.

CLIMATOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.18; R645-301-724.

Analysis:

Climatological information for the mine site is outlined in Section 2.6 of the approved MRP. The North Lease permit area is immediately adjacent to the north boundary of the existing permit area. The climate for the North Lease is the same as the existing permit area. No new addition has been provided.

Findings

The information in the Mining and Reclamation Plan is adequate for the purposes of the Regulations.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

The following Forest Service Stipulations attached to the Lease require vegetation baseline information: Lease Stipulation #2 (T & E species), Stipulation #3 (baseline data), Stipulation #7 (monitoring of effects), Stipulation #9 ("Except at specifically approved locations, underground mining operations shall be conducted in such a manner so as to prevent surface subsidence that would:(3) damage or alter the flow of perennial streams.")

Baseline vegetation is discussed in Section 2.7 of the MRP and in Appendix A2. In Section 2.7.1, the application summarizes the vegetation communities for the North Lease as outlined in the Environmental Assessment (1995). The application indicates that the ridgetops are mountain grassland communities (where mountain brome *Bromus carinatus* and slender wheatgrass *Elymus trachycaulus* are dominant) and sagebrush-grass (where Vasey sagebrush *Artemisia tridentata* var. *vaseyana*; rabbitbrush *Chrysothamnus viscidiflorus*; Louisiana sagewort *Artemisia ludoviciana* are also dominant.)

Section 2.7.6 adds that the Aspen community is the most common vegetation type of the Winter Quarters tract area (North Lease). Along with snowberry *Symphoricarpos oreophilus* or Oregon grape (*Mahonia repens*) are the dominant understory. Also important by relative acreage are the communities of Engelman spruce *Picea engelmannii* and subalpine fir *Abies lasiocarpa* with an understory of gooseberry currant *Ribes montigenum*.

Vegetation types are illustrated on Drawing No. 2.7.1-1a. Section 2.7.6 page 2.63e of the application indicates that although no quantitative information was gathered and no ground-truthing techniques have yet been employed in gathering baseline information, ground-truthing will be conducted in the early Summer of 2003 along the perennial streams within the North Lease. This commitment indicates on page 2-63e that the survey will include productivity measurements, plant community descriptions and mapping of the riparian areas along perennial streams in the North Lease. Total acreage of each vegetation type for the North Lease area will be provided after ground-truthing.

TECHNICAL MEMO

Section 2.7.1 indicates:

- There are a few, productive, small meadows dominated by bluegrass with some sedges and carex.
- Riparian areas exist along streams and at seeps and springs.
- The vegetation along the waters edge consists of species of carex, bluegrass, and to a lesser extent sedges.
- Some willow is present along the streams.

Exhibit 2.7.5 of Appendix A2 contains a May 1992 report by Mount Nebo Scientific Research & Consulting (Springville, Utah) summarizing existing Forest Service vegetation information. The report concludes that "riparian and wetland vegetation was not specifically mapped" by the USFS and "these areas should be mapped if the lease area is pursued..."

The USFS is progressing towards electronic mapping of the Manti LaSal National Forest. In 2002, the Division previewed the electronic mapping information available in draft form and found that riparian and wetland designations have yet to be added.

Section 2.1.2 indicates that there have been no threatened or endangered (T & E) species identified on the project or adjacent areas. Section 2.7.6 indicates that there will be no surface impacts within the permit area and therefore no impacts to threatened, endangered, endemic or sensitive species.

The Intermountain Proposed Endangered, Threatened, and Sensitive Species List, last updated in January 1999, indicates that the following endangered species may inhabit the Manti La Sal:

- Clay phacelia *Phacelia argillacea*

The following threatened species may also inhabit the Manti La Sal:

- Heliotrope milkvetch *Astragalus montii*
- Ute ladies' tresses *Spiranthes diluvialis*
- Winkler cactus *Pediocactus winkleri*

Several more sensitive species are listed for the Manti La Sal:

- Chatterley Onion *Allium geyeri chatterleyi*
- Sweet-flowered rock jasmine *Androsace chamaejasme carinata*
- Link Trail columbine *Aquilegia flavescens rubicunda*
- Bicknell Milkvetch *Astragalus consobrinus*
- Creutzfeldt-flower cryptanth *Cryptantha creutzfeldtii*
- Pinnate spring-parsley *Cymopterus beckii*

- Abajo daisy *Erigeron abajoensis*
- Carrington daisy *Erigeron carringtonae*
- Kachina daisy *Erigeron kachinensis*
- LaSal daisy *Erigeron mancus*
- Canyonlands lomatium *Lomatium latilobum*
- Canyon sweetvetch *Hedysarum occidentale var. canone*
- Arizona willow *Salix arizonica*
- Musinea groundsel *Senecio musiniensis*
- Maguire campion *Silene petersonii*

In researching the potential occurrence of each of these species in more detail, the Permittee approached Bob Thompson, U.S.F.S. Manti La Sal District Botanist who stated "none of the currently listed Threatened and Endangered species or sensitive species are found in the Winter Quarters Lease Area" (page 2-63f).

Findings:

The information provided meets the minimum requirements of Environmental Resource Vegetation for development mining and the application contains a commitment to survey the riparian areas for baseline information in the early summer of 2003. Therefore in accordance with R645-301-320, a stipulation will be placed on the permit to provide the Division with ground truthing, description, map and productivity information for riparian and wetland areas along the perennial reaches of all stream channels within the permit area before longwall mining may occur.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

Dwg. No. 2.7.1-1b Permit Area Order III Soil Survey Map covers the additional permit area. No additional surface disturbance is planned.

Findings:

The information provided is adequate for the purposes of the regulations.

TECHNICAL MEMO

LAND-USE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.22; R645-301-411.

Analysis:

Land Use is discussed in Section 2.12 of the Application. The existing land use for the North Lease area is wildlife habitat, grazing, recreation, forestry and mining. Previously mined areas are shown on Drawing 2.2.7-7. Land Use for the area is shown on Drawing No. 2.12.1-1.

Findings

The information provided is adequate for the purposes of the Regulations.

ALLUVIAL VALLEY FLOORS

Regulatory Reference: 30 CFR 785.19; 30 CFR 822; R645-302-320.

Analysis:

Alluvial Valley Floor Determination

There is no alluvial valley within the permit area. The CHIA evaluation has determined that there are quaternary deposits at the mouth of Wood Canyon and Winter Quarters Canyon which is downstream of and outside of the permit area.

Findings:

The Division finds that there is no alluvial valley floor within the permit area. The Division will require an analysis of the potential affects of subsidence on the alluvial valley floor downstream of ther permit area in Woods Canyon and Winter Quarters Canyon prior to longwall mining.

PRIME FARMLAND

Regulatory Reference: 30 CFR 785.16, 823; R645-301-221, -302-270.

Analysis:

Section 2.14 and Appendix Volume A-2 has a prime farmland determination letter for the area. There is no historical use of cropland within the proposed permit area. There is no planned surface disturbance within the additional permit area.

Findings:

The Division concurs with the Natural Resource Conservation Service that there is no prime farmland within the permit area.

GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

Analysis:

The seam of interest in the North Lease is the Lower O'Conner "A" seam. Drill logs for holes 91-26-1 and 91-35-1 were received with this application and placed in the Confidential Folder for the mine.

Findings:

The adequacy of the drill logs to supply acid/toxic information was reviewed by another member of the technical staff.

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:

Vegetation Reference Area Maps

No surface disturbance is planned within the North Lease. No reference area is required.

TECHNICAL MEMO

Findings:

The application meets the requirements of the regulations.

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

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

Analysis:

There will be no mining facilities located in the North Lease permit area. Therefore, there will be no change to the Air Quality permit. There will be no anticipated surface disturbance and no soils handling operations.

Findings:

The information provided is adequate for the purposes of general information.

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

The plan indicates in Section 2.7.6 that there are no anticipated surface effects to the North Lease permit area. Regardless, the Forest Service Lease Stipulation # 7 requires monitoring of effects of mining, as follows:

“The Lessee shall be required to establish a monitoring system to locate, measure and quantify the progressive and final effects of underground mining activities on the topographic surface, underground and surface hydrology and vegetation. The monitoring system shall utilize techniques which will provide a continuing record of change over time and an analytical method for location and measurement of a number of points over the lease area. The monitoring shall incorporate and be an extension of the baseline data.”

The approved MRP indicates in Section 4.17.5 that an aerial photogrammetric monitoring program will be used to “determine the effects of underground coal mining on surface renewable resources. The plan indicates that the monitoring program secures adequate baseline data prior to any subsidence to quantify the existing surface renewable resources....”

The application indicates on page 2-63d that aerial photographs were taken in August 2002 of the North Lease Tract to provide a baseline information. Aerial photographs will be taken annually, be interpreted by a qualified person, and a report will be provided in the Annual Report for the Skyline Mine. Provide the results of the baseline data collected by this aerial phtogrammetric monitoring for the North Lease. Scale of the initial aerial photography is described within the section.

The plan further describes the use of color infrared aerial photography (CIR) of the permit area of the same scale as the photogrammetric monitoring. This photography should also be made available in the application.

When monitoring identifies surface effects are diminishing habitat, protective measures are required to be developed (R645-301-333.200) for species identified under R645-301-322.

Findings:

Information provided in the application is not adequate for the purposes of species and habitat protection during Operations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-332, (1) The application must provide the results of the baseline data collected by aerial photogrammetric and color infrared aerial photography (CIR) monitoring for the North Lease as planned in the MRP Section 4.17.5 for the permit area.

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.

TECHNICAL MEMO

Analysis:

Refuse Piles

Page 3-57 of Section 3.2.8 of the application indicates that the Scofield waste rock site has been filled to 70% of its 300,000 tons capacity. The Permittee anticipates 40,000 tons of waste rock being generated during development mining in years 2002 and 2003, leaving only 40,000 tons of capacity at the waste rock site. After development, the Permittee anticipates generating 10,000 tons of waste annually. Thus, the Scofield waste rock site has four years of remaining capacity after development mining.

Future approvals mining the Lower O'Conner A seam will evaluate the Permittee's plans for life-of-mine disposal requirements.

Findings:

Information provided in the application is adequate for the purposes of Spoil and Waste Material Operation Plan during development mining. The Division will evaluate the Permittee's plans for life-of-mine disposal requirements prior to approval of longwall mining the Lower O'Conner A seam

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

No surface disturbance is proposed within the North Lease Permit Area. Therefore there is no information in the submittal for reclamation of a disturbed area, stabilization of surface areas or post-mining land use. There will be only small areas associated with drill hole disturbance that received reclamation. Reclamation of the drill holes is outlined under the exploration permit.

Findings:

The information provided is adequate for the purposes of the regulations.

RECOMMENDATIONS:

The application contains a commitment to survey riparian areas within the North Lease during the early summer of 2002. This commitment has been refined to indicate that the survey will include productivity measurements, plant community descriptions and mapping of the riparian areas along perennial streams in the North Lease.

Mine waste disposal information is adequate for development mining. Future approvals mining the Lower O'Conner A seam will evaluate the Permittee's plans for life-of-mine disposal requirements.