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

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March 3, 2000

HAND DELIVERD

David Miller, Resident Agent
Loadstar Energy Co.
HC 35 Box 370
Helper, UT 84526

Re: Conditional Approval of 160 Acre Incidental Boundary Change, Loadstar Energy Co. White Oak Mine, ACT/007/001-IBC99F, Outgoing File

Dear Mr. Miller:

Enclosed is a copy of the Division's review of your proposal to add 160 acres to the existing mine permit area. The proposal contains no deficiencies and can be approved upon concurrences by the surface managing agency. Please note that we have not yet received the required number of updated plates. In addition, the submittal only contained redline/strikeout pages for the reviewers. Before final approval can be issued we'll need to receive 7 updated plates and clean text copies, properly paginated, for insertion into the Mining and Reclamation Plan.

I've included a copy of the Submittals Format which outlines all the Division requirements for submittals. This can also be found on our Division Internet Website **http://dogm.nr.state.ut.us/**. Feel free to contact us if you if you have any questions about these requirements. Please respond by March 22, 2000.

Sincerely,

Daron R. Haddock

Daron Haddock
Permit Supervisor

sm
Enclosure
cc: Joe Wilcox, OSM
Richard Manus, BLM
Jeff Walters, USFS
Mark Page, Water Rights w/o
Dave Ariotti, DEQ w/o
Derris Jones, Wildlife Resources w/o
Price Field Office
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State of Utah

Utah Oil Gas and Mining

Coal Regulatory Program

White Oak Mine
160 Acre Incidental Boundary Change
ACT/007/001 - IBC99F(2)
Technical Analysis
February 29, 2000

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INTRODUCTION

On December 10, 1999 the Division received a request to amend the approved Mining and Reclamation Plan (MRP) to include an additional 160 acres. This action required a lease modification to Federal Coal Lease No. U-017354 which was jointly approved by the Forest Service and Bureau of Land Management on September 29, 1997. The Bureau of Land Management and Forest Service manage the coal and surface resources, respectively. The added coal reserves would extend the life of mine by about five years.

On January 18, 2000 the division responded to the submittal with a Draft Technical Analysis which outlined the areas where the submittal did, and in some instances, did not meet regulatory requirements. On February 15, 2000 the Applicant met with the Division to review and discuss revisions to the amendment. A second submittal was received by the Division on February 17, 2000. This Technical Analysis explains the manner in which the submittal meets the regulatory requirements of the Utah Coal Regulatory Program. All pertinent regulatory requirements have been met and the amendment can be approved.

In 1997, the Forest Service prepared a biological assessment to determine whether any listed threatened or endangered species would be adversely affected by modification of the lease. The biological assessment concluded there would be no effect, so it was not necessary to perform consultation with the Fish and Wildlife Service.

ENVIRONMENTAL RESOURCE INFORMATION

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

OWNERSHIP AND CONTROL

Regulatory Reference: R645-301-112

Analysis:

The current mining and reclamation plan contains land ownership information for areas within and contiguous to the permit area, and, according to information on Plates R645-301-112.500 and R645-301-112.600, this information does not need to be updated. The incidental boundary change should not affect any other parts of this section of the plan.

Findings:

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

RIGHT OF ENTRY

Regulatory Reference: R645-301-114

Analysis:

Right of entry information has been updated to include the lease modification. Table 114.100b has a legal description of Lease U-017354, including the portion that has been modified.

Findings:

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

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 783.12; R645-301-411.

Analysis:

The application includes no new historic and archaeological information. Since no subsidence is anticipated, there would be no effects on cultural resources, so no information is required.

As documented in a letter to the State Historic Preservation Office dated August 4, 1997, the Forest Service conducted a literature search to identify known or suspected cultural resource sites in the area. A few historic sites have been found in or near the incidental boundary change area, but none of these is considered significant. The Forest Heritage Staff concluded the area has low potential to contain significant historic resources that will be affected by underground mining and related subsidence impacts.

Findings:

Information in the application is adequate to meet the requirements of this section of the regulations.

VEGETATION RESOURCE INFORMATION

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

Analysis:

The applicant has supplied a new map, Plate 3-1, showing vegetation communities in the main part of the permit area (not the loadout). The proposed addition contains grass/forb/elderberry, aspen, and spruce/fir communities.

More detailed information is not required since there would be no surface disturbance.

Findings:

Information in the application is 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 entire area contains critical deer and elk summer range.

The text discusses two buteo nests found in Boardinghouse Canyon in 1998, but no nests were found in 1999. Boardinghouse Canyon is not near the proposed addition to the permit area.

Most raptor nests in this area are in trees, and they are very difficult to find. There are almost certainly additional nests.

Threatened and Endangered Species

The Joint Decision Memorandum from the Bureau of Land Management and the Forest Service says no threatened, endangered, or sensitive species will be affected by modification of the lease. The current mining and reclamation plan says no threatened or endangered species are known to occur in the permit area, and although this information is from nearly twenty years ago, the lease modification area does not contain habitat for any listed or proposed threatened or endangered species.

Findings:

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

LAND USE RESOURCE INFORMATION

Regulatory Reference: R645-301-411

Analysis:

The application includes Plates 4-1 and 4-2 which show land uses and grazing allotments in the area. Land uses include timber, range, and recreation.

Findings:

Information in the application is adequate to meet the requirements of this section of the regulations.

GEOLOGIC RESOURCE INFORMATION

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

Analysis:

White Oak's mining operations have encountered igneous rock dikes and extensive faulting. The purpose of this proposed lease modification and IBC is to allow the mine to go around rather than through several fault systems. There is to be no subsidence in the IBC area, and only mining practices consistent with this requirement are to be allowed.

There are no changes to the text in Chapter 6 - Geology. Geology information in the current MRP covers the IBC area. Plates 5-2A - Interburden Isopach, 5-2B - No. 2 Mine Thickness, 5-3A - No. 1 Mine Overburden, and 5-3B - No. 1 Mine Thickness have been updated to include the IBC area.

Findings:

Information on geologic resources 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:

Coal Resource and Geologic Information Maps

Plates 5-2A - Interburden Isopach, 5-2B - No. 2 Mine Thickness, 5-3A - No. 1 Mine Overburden, and 5-3B - No. 1 Mine Thickness have been updated to include the IBC area. Geology maps in Chapter 6 in the current MRP include the IBC area.

Findings:

Information on coal resource and geologic information maps is considered adequate to meet the requirements of this section.

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

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

Analysis:

Type and Method of Mining Operations

Section 523, Mining Method(s), (page 500-9 of 43 of the currently approved MRP) has been revised to incorporate a mining plan revision which, if all criteria are met, should meet the requirements of the USFS/USBLM stipulation of "no surface impacts, including subsidence" for the 160 acre lease modification area of Federal coal lease U-017354.

The revised plan calls for the development only of coal pillars on 70 x 70 foot centers, with the extraction of bottom coal where seam thickness allows. Bottom coal extraction may occur either during the development stages of the lease area (primary mining) or during the retreat process from the area, depending on decisions made by the Mine's production management. The revised mining plan for the 1999 Modification to Lease U-017354 commits the permittee **to not conduct second mining on pillars** developed on 70 x 70 foot centers, either by "slabbing" or by pocket and wing extraction methods, which require MSHA approval as part of the Mine's roof and rib control plan.

The development only of coal pillars on seventy foot centers is indicative of a fifty percent extraction ratio by area, when twenty foot wide rooms are developed. Thus, one half (by area) of the upper and lower O'Connor coal seams (White Oak #1 and #2 Mines) will remain in place to support the surface.

Pillar designs with centers greater than 70 x 70 feet may be developed at the discretion of the mine's engineer and the MSHA approved roof and rib control plan. Secondary extraction on same may be implemented by either "slabbing" or pocket and wing extraction methods, **but the fifty percent extraction ratio by plan view area will be maintained,** regardless of the center design implemented.

Overburden depths vary from 200 feet to 3000 feet, with eighty percent of the lease modification area having more than 500 feet of cover. There should not be any "plug" type subsidence in this area, because fifty percent of the coal seam by plan view area will remain in place. Some pillars will be weaker than others because bottom coal will be removed where seam thickness allows. However, since both coal seams vary in thickness from seven feet to sixteen feet, and two foot top coal thicknesses are left in place for roof control considerations where seam height allows, pillar height may vary from seven to fourteen feet. Ten foot high pillars should be the norm.

The revised mining plan for the lease modification area in Federal coal lease U-017354 also refers to three monitoring plans to ensure extraction ratio, pillar stacking and subsidence monitoring. These monitoring plans will be discussed under the **SUBSIDENCE CONTROL PLAN.**

Findings:

The revised mining plan, as it has been submitted for implementation in the area of the 1999 lease modification area for Federal coal lease U-017354 accurately reflects a plan which has a much greater chance of not causing surface impacts, including subsidence than did the "room and pillar" mining method referenced in the original submittal.

The findings for this section of the first technical analysis referenced that the permittee needed to include the mining plan which was approved by the USBLM for review by all concerned agencies. Although this has not been done, the revised plan as submitted, has received concurrence from the USBLM, and does offer a much greater chance of success for not causing surface impacts than does the mining plan in the original submittal.

The requirements of R645-301-511.100, and 511.200 have been met.

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: 30 CFR Sec. 784.17; R645-301-411.

Analysis:

Because there should be no subsidence, there should be no effects on cultural resources. In a letter to the Forest Service dated August 20, 1997, the State Historic Preservation Office has given its concurrence with the project.

Findings:

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

AIR POLLUTION CONTROL PLAN

Regulatory Reference: 30 CFR Sec. 784.26, 817.95; R645-301-244.

Analysis:

The proposed addition to the permit area should have no bearing on the Air Quality Approval Order.

Findings:

Information in the application is adequate to meet the requirements of this section of the regulations.

SUBSIDENCE CONTROL PLAN

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

Analysis:

Subsidence Control Plan

The revised mining plan analyzed above refers to three monitoring plans which will be used to control the mining activities in the upper and lower O'Connor coal seams. These plans will provide accurate monitoring which in turn will effectively minimize or negate surface impacts due to mining of the two-seam Federal lease. The plans are as follows:

1) Subsidence Control Plan

The revision received February 17, 2000 includes two map revisions, Plates 5-1A, which is the five year mine plan for the White Oak #2 Mine (lower O'Connor seam) and Plate 5-1B, which is the five year mine plan for the #1 Mine in the upper O'Connor. Four subsidence monitoring points are indicated, one for each panel to be developed during 2000 through 2003. The monitoring points will be installed prior to development of the top seam for the establishment of baseline elevation data, and will be monitored throughout the mining of the bottom seam, until subsidence monitoring of the area is no longer deemed necessary by the UDNR/OGM and the surface management agency.

The subsidence monitoring points will be differentially surveyed twice during the first year of mining in the lease modification area. Pedestrian surface walk-overs will be conducted post-snow melt and pre-snow fall annually to inspect for mining related surface impacts in lease modification area U-017354. If no subsidence is detected during the first and second differential level survey, then the frequency for conducting same will be reduced to once a year. The frequency for conducting the pedestrian surface walkovers may also be reduced to an annual inspection. The information which is compiled, will be analyzed and submitted to the UDNR/OGM not more than 45 days after collection of the field data, when such data is gathered more than once a year. When data is only collected annually, it may be submitted as part of the permittee's annual report.

Monitoring of the subsidence control points by differential level survey and the overlying surface will continue until no longer deemed necessary by the UDNR/OGM and the concerned surface management agency.

2) Monitoring of Extraction Ratio

The "approved" maximum of fifty percent extraction of coal by plan view area will be monitored by the permittee by comparing daily/monthly production records against mine maps. Mine maps showing where bottom coal has been extracted, and where slabbing or

pocket and wing extraction methods have been utilized will be marked on a shift by shift basis and will be maintained by the Mine's engineer. Calculations comparing daily/monthly production records to the aforementioned maps will be forwarded quarterly to the USBLM and the UDNR/OGM for confirmation.

3) Monitoring of Pillar Stacking

Coordination of Pillar Sizes in the Upper and Lower O'Connor Coal Seams.

Primary development mining of coal support pillars (seventy foot centers, minimum) and secondary extraction of bottom coal, as well as some pillar size reduction will be practiced in both the upper and lower O'Connor coal seams, (White Oak #1 and #2 Mines). The top seam will be mined first, as depicted on Plate 5-1B from 2001 through 2003. Frequent engineering check surveys will be conducted to ensure that the mine plan developed by the permittee is conducted according to projection, (Plate 5-1B). This information will be used to correlate the stacking of identically sized pillars in the #2 Mine, (Plate 5-1A).

The stacking of pillars will be monitored by the Mine's engineer to ensure that a success ratio of better than 90% is occurring in the two coal seams. A report, which is P.E. certified by the engineer monitoring the pillar stacking, will be forwarded to the Division and the concerned surface management agency on a quarterly basis.

Findings:

The three monitoring plans for coal extraction, pillar stacking, and subsidence as described in the aforementioned analysis plus the commitment to maintain a fifty percent extraction ratio of coal by plan view area describe a mining/monitoring plan which has a much greater potential for not inducing surface impacts, including subsidence than the plan which was described in the original submittal. It should be noted, however, that attempting to design a coal extraction method which foresees the effects of numerous geologic variables, as well as other uncontrollable effects is not physically possible. It is believed that The Operator has met the requirements for a subsidence control plan.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

Because there will be no subsidence, the proposed expansion of the permit area should have no effects on any wildlife, including bald and golden eagles.

Findings:

Information in the application is adequate to meet the requirements of this section of the regulations.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Ground-water monitoring.

The proposed addition is within the Upper Huntington Creek and Mud Creek Basins CHIA. This was determined by comparing CHIA Figure 2 and Plate 7-1, Permit Extension-Surface And Ground Water Rights And Monitoring Points. The CHIA does not need to be revised due to this proposed amendment.

The proposed 160 acre addition is located on the south edge of the present lease area on the west end. The 160 acres is at the headwaters of Coal Canyon, which is a spring-fed stream. Cox Canyon is the stream one mountain ridge to the south, and both streams could potentially be impacted by mining operations. Cox Canyon is also spring-fed. The existing permit area extends to the headwaters area of Cox Canyon. Both streams are shown on the U.S. Geological Survey maps (Candland Mountain Quadrangle) as perennial streams for most of their length. The submitted baseline monitoring data shows flows during all seasons, except one date in November when both streams were frozen.

The area is characterized by perched water tables which have springs issuing on the mountainside. Spring locations are shown on Plate 7-1, Permit Extension-Surface And Ground Water Rights And Monitoring Points. Baseline data in Appendix 722.100d shows a one-time monitoring of 16 springs feeding Cox Canyon and nine springs feeding Coal Canyon. The revised amendment proposes to establish four new monitoring points in addition to those already in the MRP. Monitoring point COAL is near the mouth of Coal Canyon where the stream enters Electric Lake, COX is near the mouth of Cox Creek near where the stream enters Electric Lake, SCOAL-1 is a spring located at the west center of the lease addition, and SCOAL-5 is a spring in the southeast corner of the addition.

Monitoring will begin in 2000 and continue through the Operation phase through the end of reclamation. These monitoring points will be analyzed per Table 731.211A which is the basis for the other monitoring points in the MRP. Compared to the other possible monitoring points, these should best show any potential impacts from mining. The data will be added to Appendix 722.100d.

Analysis of the first submittals water monitoring data showed unexplained discrepancies in the total flows of both Cox and Coal Creeks when compared to the springs which feed these streams. These

are detailed in the first Technical Analysis. The Applicant commits (page 700-10) to sampling flow (only) on the streams and all the springs feeding these streams during three quarters of 2000 to continue the baseline analysis. These data will also be added to Appendix 722.100d. Hopefully this will help explain the original discrepancies. Although mining will take place during 2000, the location is far enough from any springs to have a minimal effect.

Findings:

The submittal meets minimum regulatory requirements.

RECLAMATION PLAN

POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

Analysis:

The applicant has proposed no changes to the postmining land use, and information in the current mining and reclamation plan is considered adequate.

Findings:

Information in the application is adequate to meet the requirements of this section of the regulations.

REVEGETATION PLAN

Regulatory Reference: R645-301-341

Analysis:

Because the applicant is proposing no surface disturbance, no revisions to the revegetation plan are needed.

Findings:

Information in the application is adequate to meet the requirements of this section of the regulations.