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United States
Department of
Agriculture

Forest
Service

Manti-LaSal
National Forest

599 West Price River Dr.
Price, Utah 84501

*Deltoislova
#2*

*cc L. Braxton
orig: Mine file
cc Pam G. Little
cc Deane Nielsen*

Reply to: 2820

Date: October 10, 1990

Dee W. Jense
Utah Power and Light Company
324 South State
P.O. Box 26128
Salt Lake City, Utah 84126-0128

RECEIVED
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**DIVISION OF
OIL, GAS & MINING**

Dear Mr. Jense:

In light of the ongoing mine planning for the Rilda Canyon leases of the Deer Creek Mine, we feel that it is appropriate for us to review the status of the geotechnical studies being conducted in the escarpment areas at the Cottonwood/Wilberg Mine.

On May 5, 1988, Utah Power and Light Company (UP&L) withdrew their appeal of the Forest Service's December 18, 1987, decision to not allow mining on National Forest System lands which could cause escarpment failure on the south lease of the Cottonwood/Wilberg Mine Permit Area. Resolution of the appeal was conditional upon certain identified mitigation measures and implementation of geotechnical studies of the potential impact of mining activity in the escarpment areas. A copy of the Stipulation and Order for Dismissal Without Prejudice, May 6, 1988, is enclosed. This agreement was done in cooperation with UP&L, the Forest Service, the Bureau of Land Management, and the Utah Division of Oil, Gas and Mining.

On June 3, 1988, a meeting with representatives of each of the involved agencies was held to outline the format for conducting the studies. The group which met on this date was designated as the steering committee with responsibility to keep the studies on track with the intended objectives. Please reference the June 16, 1988, letter prepared by Dave Smaldone of UP&L which summarizes the results of the June 3rd meeting and outlines the format for the studies to be conducted (copy enclosed). Several other meetings have been conducted and letters summarizing the results of the meetings have been sent to the steering committee members.

In summary, the objective of the geotechnical study is to develop computer models with the capability of predicting the potential for escarpment failures to be induced by different longwall mining scenarios and, if escarpment failure is probable, the extent and duration of the failures. On the environmental

side, the study is being conducted to determine the level of impact to resources which could occur and to determine the effectiveness of mitigation measures. The results of these studies would be used by the mining industry, the regulatory agencies, and the surface management agency to evaluate impacts of future proposals and make informed decisions. The computer models were to be used to evaluate proposals to mine under the steep canyon slopes of Rilda Canyon in the Deer Creek Mine Permit Area.

The status of the studies at the present time is as follows:

Geotechnical Study - The Bureau of Mines and the University of Utah have been developing 2-dimensional computer models based on information available in regard to the geology of the area and the observed results of mining under the escarpments. They have both released papers which state that the 2-dimensional models have shown some promise in achieving the objective, but have not been effective in showing a correlation between computer predicted failures and the failures which were actually observed. They both concluded that 3-dimensional finite element models will need to be developed to meet the objectives. Both organizations have initiated the 3-dimensional studies but have indicated that this will take considerable time and effort. Utah Power and Light has been monitoring subsidence and escarpment failure as required in the mine permit.

Environmental Study - The Forest Service and BLM submitted available environmental data to UP&L to be compiled and submitted to the regulatory agencies for review as a baseline compilation of the resources which could be impacted by escarpment failures. The Forest Service and BLM data was sent to UP&L in August of 1988. The information has as yet not been compiled and submitted even after several extended target dates. Utah Power and Light has, however, been collecting data on the golden eagles in the area as required under the mine permit.

Considering the limited progress on the studies, we feel compelled to use the best data available to make management decisions. The following assumptions, based on actual observations, will be used for management purposes until escarpment studies are completed which can conclusively support or refute them:

1. Longwall mining under steep canyon slopes/escarpments beyond the Castlegate Sandstone outcrop results in extensive failure of the outcrop and cracking of the canyon rim area above.
2. Where longwall panels do not extend beyond the projection of the subsidence angle-of-draw downward to the coal seam from the base of the Castlegate Sandstone, escarpment failures are not induced. Since this mining configuration has only been monitored for 1-2 years, this assumption is only valid for this length of time.

3. The extension of longwall panels under the escarpment to the vertical projection of the Castlegate Sandstone outcrop downward to the coal seam results in escarpment failures and fracturing of the ground surface, but to a lesser extent than if the longwall panels extend further out under the escarpment.
4. It is unknown to what degree and for what length of time following mining that mining induced escarpment failures will continue. Monitoring of the escarpment areas by UP&L shows that the escarpment failures initially occur very shortly after mining. The rate of subsidence, failures and rotation of the detached blocks slows down significantly after approximately one year following mining. We also know, based on the monitoring data, that outward rotation of the subsidence blocks continues very slowly for several years following cessation of mining activities.

Until such time as the predictive models are successful and impacts can be quantified, we will use these assumptions to enforce lease stipulations that prevent surface subsidence that would cause the creation of hazardous conditions such as escarpment failures and landslides.

If you have any questions, please contact us at the Forest Supervisor's Office in Price, Utah.

Sincerely,

/s/ Aaron L. Howe

for
GEORGE A. MORRIS
Forest Supervisor

Enclosures

cc:
L. Braxton, Div. of Oil, Gas and Mining
G. Nodine, BLM-Moab District
D-2
D-3
C. Reed

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**Utah
power**
& LIGHT COMPANY
MINING DIVISION
P.O. Box 310
Huntington, Utah 84528

MANTI-LASAL N.F.		
MAY - 9 1988		
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TW	<input type="checkbox"/>	
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RAN	<input type="checkbox"/>	
<i>Carson</i>		

May 6, 1988

Mr. George Morris
Forest Supervisor
Manti-LaSal National Forest
599 West Price River Drive
Price, Utah 84501

Dear Mr. Morris:

Enclosed is your copy of the Stipulation and Order for Dismissal regarding mining under escarpments on Federal Lease No. U-47978. Thank you for your help in this matter. I look forward to working with you and members of your staff on this project.

Sincerely yours,

David R. Smaldone, Director
Permitting, Compliance and Services

DRS:bfr
enclosure

**utah
power**
& LIGHT COMPANY
MINING DIVISION
P.O. Box 310
Huntington, Utah 84528

May 5, 1988

Stan Tixier, Regional Forester
U. S. Department of Agriculture
Forest Service, Intermountain Region
324 - 25th Street
Ogden, Utah 84401

Re: Utah Power & Light Company Appeal Stipulation and Order
of Dismissal

Dear Mr. Tixier:

On Friday, April 29, 1988, a meeting was held in Price, Utah to discuss the Utah Power & Light (UP&L) Mining Division's appeal to the Forest Service Decision Notice regarding mining under escarpments on Federal Lease No. U-47978. In attendance at the meeting were George Morris, Forest Supervisor, Manti-LaSal National Forest, and members of his staff; Mr. Gene Nodine, District Manager, Bureau of Land Management, District Office, and members of his staff; Mr. Lowell Braxton, Utah Division of Oil, Gas and Mining; and representatives of UP&L's Mining Division.

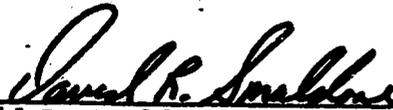
At the meeting it was noted that several natural resources were at risk to loss or damage whether mining occurred or not under or beyond the escarpments in question. The primary resource concerns pertained to wildlife, plant, coal, watershed and general integrity of the escarpment. Other concerns were public health and safety and visual impacts. The general theme of the meeting centered around maximizing every possible resource while minimizing impacts.

It was generally agreed that more study is required to determine impacts to plant and wildlife habitat and that an area such as the entire South Lease (Federal Coal Lease No. U-47978) was large enough to accommodate such a study. The enclosed Stipulation represents the agreement of all parties to undertake necessary studies to mitigate the impacts, if any, of mining this lease area. Upon the Regional Forester's approval of the enclosed Order of Dismissal, UP&L will withdraw its Appeal to the December 18, 1987, Decision Notice. Please let us know as soon as possible if this Agreement and Order of Dismissal are acceptable to you.

Mr. Stan Tixier
May 5, 1988
Page 2

We look forward to working together with the Forest Service and other federal and state agencies in this matter.

Very truly yours,



David R. Smaldone, Director
Permitting, Compliance and Services

DRS:do
Enclosure

cc: J.B. Harvey
D.W. Jense
Denise A. Dragoo, Esq.
George Morris
Gene Nodine
Lowell Braxton

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

OFFICE OF REGIONAL FORESTER

RE: APPEAL OF DECISION NOTICE, :
FINDINGS OF NO SIGNIFICANT : STIPULATION AND
IMPACT AND ENVIRONMENTAL : ORDER FOR DISMISSAL
ASSESSMENT TO UTAH POWER & : WITHOUT PREJUDICE
LIGHT COMPANY LONGWALL MINING :
UNDER THE ESCARPMENT IN MILLER :
AND NEWBERRY CANYONS, DATED :
DECEMBER 18, 1987 :

I. STIPULATION

The parties to the above-entitled matter hereby stipulate and agree, subject to approval of the Regional Forester and entry of an order herein, as follows:

1. Utah Power & Light Company ("UP&L") will conduct longwall mining operations in the Ninth, Tenth and Eleventh West Longwall Panels of the Wilberg/Cottonwood Mine, Permit No. ACT/015/019, from a point determined by projecting a fifteen degree angle of draw eastward down from the Castlegate Sandstone outcrop to the coal seam.

2. With the permission of the United States Fish & Wildlife Service ("USFWS"), UP&L will conduct longwall mining operations in the Eighth East Longwall Panel of the Wilberg/Cottonwood Mine, Permit No. ACT/015/019, to recover all

economically mineable coal up to the Castlegate Sandstone Outcrop. In the event that UP&L does not obtain USFWS approval prior to developing the Eighth East Longwall Panel, UP&L will conduct longwall mining activities in this Panel from the fifteen degree angle of draw.

3. UP&L will conduct longwall mining operations in the remainder of the South Lease (Federal Coal Lease No. U-47978) beyond the fifteen degree angle of draw, as necessary to recover all economically mineable coal up to the coal outcrops, subject to the mitigation measures set forth in alternatives 2 and 3 of the Forest Service Environmental Assessment for Utah Power & Light Company Longwall Mining Under the Escarpment in Miller and Newberry Canyons ("EA") as amended herein.

4. The parties agree to consider the South Lease a study area concerning the impacts of longwall mining on the Wasatch Plateau and UP&L agrees to continue the following studies:

(a) UP&L will continue its Golden Eagle Nesting/Cliff Subsidence Monitoring Plan in conjunction with the USFWS;

(b) UP&L will continue its studies of the potential impact of mining activity on the Hedysarum occidentale var. canone plant population and habitat;

(c) UP&L will continue its geotechnical studies of the potential impact of mining activity on the Castlegate Sandstone outcrop.

Contracts will be negotiated in consultation with UP&L, the Utah Division of Oil, Gas & Mining, the Manti-LaSal National Forest and the Bureau of Land Management concerning the division of labor and allocation costs with respect to these studies.

5. In conducting longwall mining operations in the South Lease, UP&L commits to the following mitigation measures set forth at pages 7-8 of the EA as amended herein:

Mitigation 1:

UP&L will continue the Golden Eagle Nesting/Cliff Subsidence Monitoring Plan as set forth at paragraph 4 above;

Mitigations 2 and 3:

These mitigations have been waived on Panels Ninth West and Tenth West.

Mitigation 4:

Signs will be posted by UP&L in escarpment areas to warn the public of potential hazards from falling rocks.

Mitigation 5:

This mitigation measure has been waived for the entire South Lease.

Mitigations 6, 7 and 10:

The parties agree that these mitigation measures are required only in the event that escarpment failure occurs. If escarpment failure does occur, UP&L reserves the right to negotiate alternative mitigation measures (e.g. seed mix, etc.)

Mitigations 8 and 9:

UP&L has agreed to study and inventory the Hedysarum occidentale var. canone as set forth in paragraph 4 above. This study will continue until longwall mining beneath the escarpment is completed. If revegetation of this plant species is required, monitoring will continue for the ten-year period immediately following commencement of revegetation activities. In the event that revegetation is successful prior to the ten-year period, monitoring may cease, with the approval of the Utah Division of Oil, Gas & Mining.

6. UP&L will request dismissal of its appeal concerning this matter pending before the Utah Board of Oil, Gas & Mining.

7. All parties hereto agree to the dismissal of this action without prejudice and agree to bear their own costs, expenses and attorney's fees incurred in this action and request that the Regional Forester accept the Stipulation of the parties

set forth herein and enter an Order of Dismissal as set forth below.

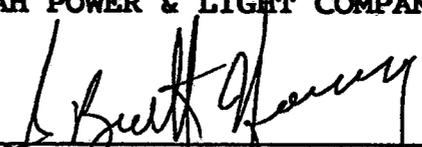
8. UP&L agrees to conduct its mining operations in compliance with the federal Surface Coal Mining and Reclamation Act and the Utah Coal Mining and Reclamation Act.

SO AGREED this _____ day of _____, 1988.

STIPULATED AND AGREED TO BY:

UTAH POWER & LIGHT COMPANY

BY



J. Brett Harvey
Vice President, Mining Division
Utah Power & Light Company
1407 West North Temple
Salt Lake City, Utah 84140
(801) 531-8900

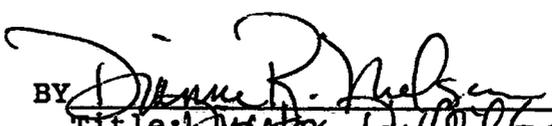
BY



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(801) 531-8900

UTAH DIVISION OF OIL, GAS & MINING

BY



Title: *Director, Oil, Gas & Mining*
III Triad, Suite 350
355 West North Temple
Salt Lake City, Utah 84180-1204
(801) 538-5340

MANTI-LASAL NATIONAL FOREST

BY *George Morris*
for George Morris
Forest Supervisor
Manti-LaSal National Forest
599 West Price River Drive
Price, Utah 84501

BUREAU OF LAND MANAGEMENT

BY *Brent B. Nodine*
for Gene Nodine
District Manager
Moab District
P.O. Box 970
Moab, Utah 84532

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II. ORDER

WHEREAS, the parties hereto have agreed to the dismissal of this action under the terms set forth in the above-stated Stipulation; and

WHEREAS, the parties hereto have stipulated to the entry of this Order.

NOW, THEREFORE, by the consent of the parties hereto and the Regional Forester being advised and having considered this matter:

IT IS HEREBY ORDERED:

1. That the Regional Forester hereby adopts and approves the Stipulation between the parties set forth above;
2. That all claims in this action are hereby dismissed without prejudice; and
3. That the parties hereto are to each bear their own costs, expenses and attorney's fees incurred in this action.

DATED this ____ day of _____, 1988.

BY J. C. Baedler
REGIONAL FORESTER

DAD:043088a

LONGWALL MINING AND ESCARPMENT STUDY
ON
UTAH POWER & LIGHT COTTONWOOD MINE FEDERAL LEASE NO. U-47978

Meeting Summary

June 3, 1988 - Price, Utah

Representation:

Bureau of Land Management
Gene Nodine
Brent Northrup
Linda Seibert

U.S. Forest Service
Ted Fitzgerald
Carter Reed

Utah Division of Oil, Gas and Mining
Lowell Braxton
John Whitehead
Brent Stettler

Utah Power & Light Co.
Morgan Moon
Val Payne
Dave Smaldone

The purpose of this meeting was to develop an outline and format for the study relating to mining under escarpments. Mining will occur in the South Lease, Federal Coal Lease No. U-47978, at Utah Power & Light's Cottonwood Mine. The study is a result of an agreement between Utah Power & Light, Bureau of Land Management, U.S. Forest Service and Utah Division of Oil, Gas and Mining to study the effects of longwall mining and related escarpment failure.

The following items were identified as study items based on the fact that the mine plan and method are fixed as a result of previous UP&L planning and BLM recovery approval.

- Geotechnical Investigation
- Hydrology
- Vegetation
- Wildlife
- Public Safety
- Visual Impacts
- Archeology
- Soils
- Land Use

It was decided to format the study as follows:

- Phase I - Data Collection
- Phase II - Prediction and Monitoring
- Phase III - Assessment of Impacts
- Phase IV - Conclusion and Prediction Analysis

The geotechnical investigation will be coordinated by Morgan Moon and the wildlife study will be coordinated by Val Payne and Linda Seibert. All other study items will be coordinated by a steering committee comprised of John Whitehead, Carter Reed, Brent Northrup and Dave Smaldone. Base line data collection is targeted to be completed by August 1, 1988.