



0004

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

ACT/015/019#2

Norman H. Bangarter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

November 3, 1986

Mr. Chris Shingleton, Director
Property Management, Mining Division
Utah Power & Light Company
P. O. Box 899
Salt Lake City, Utah 84110

Chris
Dear Mr. Shingleton:

Re: Mid-Term Review, Utah Power & Light Company, Wilberg Mine,
ACT/015/019, Folder #2, Emery County, Utah

The Division staff have completed the initial portion of the Wilberg Mid-Term Review. Thank you for accommodating the staff during the mid-term review site visit on October 21, 1986.

Attached are several items which must be addressed by Utah Power and Light Company to complete the Mid-Term Review, and items which are pertinent to the 5-year permit renewal. A response is not necessary on the 5-year renewal items, however, several of these items will require action by Utah Power and Light prior to the 5-year renewal date.

In order to achieve completion of the mid-term review within the time frames of my September 24, 1986 letter, would you please respond to the mid-term items by December 5, 1986.

Sincerely,

Lowell P. Braxton
Administrator
Mineral Resource Development
and Reclamation Program

JJW/djh
Attachments
cc: A. Klein, OSM
Tech Review Team "A"
0800R/53

MID-TERM REVIEW

Utah Power and Light Company
Wilberg Mine
ACT/015/019, Emery County, Utah

November 3, 1986

UMC 771.23 Permit Applications - General Requirements for Format and Content (TM/RVS)

- (b) The location of flume and water monitoring stations needs to be updated on the Hydrology Data Map to accurately reflect what is found on the ground for Cottonwood Creek, Grimes Wash, Deer Creek and Meetinghouse Creek. There appear to be stations that are not currently being monitored and discrepancies between water monitoring stations and flume locations as shown on this map. The map needs to be properly updated.

The information on the surface drainage plan at the Cottonwood Portal needs to be updated to reflect the changes implemented in 1986 (see pages 3-22 through 3-30).

- (b) All changes including approved revisions, amendments, and those alterations resulting from the fire, in the configuration of surface facilities and underground workings and operation plans must be delineated.
- (1) Update all mine maps and mining sequence maps.
 - (2) Update maps showing current and proposed underground water monitoring locations, sump areas and discharge points.

UMC 782.13(a)(5) Identification of Interests (JJW)

Information in the legal financial section of the MRP which refers to Emery Mining as the operator at the Wilberg Mine should be corrected with updated pages.

UMC 783.13 Description of Hydrology and Geology: General
Requirements (TM)

(a)(2) Ground Water

Of the 70 springs sampled by Utah Power and Light Company (UP&L) in 1985, 12 springs had recession curve data collected as shown in Table 21 (1985 monitoring report), but only 10 springs had recession curves drawn. Spring 84-56 and Burnt Tree Spring did not have any recession curves drawn up in the monitoring report for 1985. The 1986 report should fulfill all MRP commitments.

The permittee has eliminated underground water monitoring locations number 1-3, 5, and 7, from the 1984 water monitoring report. In the 1985 water monitoring report, holes #6 and #4 have been renumbered to holes #2 and #1 respectively. The 1985 report also has included a new hole #3, which then dried up in 1985 (personal communication- Chuck Semborski). The reasons for these changes were spelled out on page 43 of the 1985 monitoring report. UP&L should include the most current monitoring locations in the MRP.

A map which depicts the past and planned mining sequence with subsided areas shown for both Wilberg and Deer Creek, and which shows spring locations for the 70 springs currently monitored by UP&L must be included in the MRP. This will allow an assessment of and potential adjustment to:

1. Springs included in the recession curve analysis;
2. Springs currently analyzed for water quality;
3. Parameters currently included in water quality sampling.

Springs with established baseline information which are outside the influence of mining and subsidence are candidates for elimination until a time prior to their being affected by mining or subsidence. The map depicting the mining sequence with spring locations shown on it will allow this analysis to be undertaken.

UMC 783.14 Geology Description (RVS)

(a)(1)(iii) The approved PAP presents chemical analyses (Table A, Part 2) for overburden/interburden/underburden, from four sampling locations ambiguously identified on Figure 2-4. Apparently, samples were obtained external to the mine from:

1. F.S.S.U.P. APP.
2. U-044025
3. U-37961 ABSORP. FIELD
4. U-37962 WASTE ROCK
5. S.U.L.A. #436 SED. POND

Moreover, data presented in Table A have been combined from all sampling areas and averaged. These data, as collected and presented, are inconclusive for the purposes of identifying whether those horizons to be removed contain potential acid-forming, toxic-forming or alkalinity-producing materials.

The permittee must derive overburden/interburden/underburden data pertinent to identifying potential acid-forming, toxic-forming or alkalinity-producing materials within non-coal bearing horizons that may be extracted during the remainder of the permit term. In addition, a calculated volume of waste rock for each seam to be mined during the remainder of the permit term must be provided.

The permittee must also develop and provide a plan for systematically deriving, in the future, overburden/interburden/underburden quality and volume data as part of the operational phase of monitoring activities.

UMC 783.15 Ground Water Information (RVS)

(a)(4) The permittee must provide a discussion of ground-water quality and final disposition for portions of the mine closed due to the fire.

UMC 784.20 Subsidence Control Plan (RVS)

The survey of renewable resource lands within the approved PAP does not identify areas for aquifer recharge (p. 4-41). The permittee must identify areas

of aquifer recharge on a plan view map that encompasses the area to be mined during the current permit term.

(a)(2) The permittee identified renewable resource lands above the area to be mined. Accordingly, the permittee must derive a plan view map that shows the maximum area of projected subsidence at the surface. The Division recommends using site-specific angle-of-draw values.

UMC 817.71 Disposal of Excess Spoil and Underground Development Waste (DD)

To date, the volumes of waste rock generated by the Wilberg and Des-Bee-Dove Coal Mines have greatly exceeded original estimates. Since, there are only two cells left for disposal of waste rock on the permitted site, volumes of waste rock to be produced for the remainder of the permit term must be accurately estimated so alternative disposal procedures can be addressed.

Volume 7, Appendix VII, page 11 of the MRP states that SAR values should not pose a problem, and that high SAR material will be diluted by material with low SAR values. Recent analysis of the waste rock show that very high SAR and Ec values exist (data submitted July 21, 1986 for NOV N86-10-1-1 abatement). This emphasizes the importance of sampling the waste rock as proposed in the MRP before the cells are reclaimed to insure proper topsoil coverage (i.e., 4 feet of material where toxicities exist). The plan also states that the coal/rock ratio shall not exceed 50/50. A quantitative method needs to be submitted, proposing how this ratio will be determined so it is not exceeded.

Please provide waste rock volume estimates and a coal/rock ratio testing program for insertion into the MRP. If waste rock volume estimates exceed the disposal volume permitted, please submit a plan addressing future waste rock disposal.

UMC 817.100 Contemporaneous Reclamation (KMM)

UP&L will be in compliance with this section when plans for interim reclamation described in the MRP are implemented. This should occur no later than October 31, 1987.

UMC 817.111-114 Revegetation (KMM)

1. Pages 4-11 through 4-13 of the MRP describe the importance of interim revegetation for developing substitute topsoil, testing plant materials and techniques and evaluating soil productivity. Pages 4-13 through 4-15 describe the mechanics of interim revegetation including seeding and shrub test plantings. The Division feels that the plan is, in general, reasonable and appropriate to the requirement for contemporaneous revegetation (UMC 817.100). Interim revegetation should be implemented on all areas not vegetated to date. Any modifications of the plan should be submitted to the Division for approval.

Two aspects of both the interim and final revegetation plans should be seriously reconsidered:

- (1) Hand cultivation to remove weeds: On steep slopes this technique would probably do more damage than good. On both steep and gentle slopes it may be unnecessary considering the limited competitive ability of Russian thistle if a good native plant cover is established. UP&L should summarize any quantitative or qualitative data on weed abundance and the effects of hand cultivation on revegetation areas in order to justify deletion of this provision of the reclamation plan.
- (2) The MRP currently calls for employing a licensed applicator for the first three years after plantings to place rodent poison. Considering the importance of rodents as a food source for raptors, poison should only be used if other techniques are not available. UP&L's evaluation of fencing to exclude wildlife, including rodents, should provide valuable information for future revegetation projects. Consideration should be given to expanding the study to include larger areas, e.g., an entire waste rock cell.

2. Both the interim and final reclamation plans include seeding, raking to cover the seed, and mulching. In semi-arid areas covering the seed by raking, drilling, etc., is very important to successful revegetation. The interim plan calls for applying mulch before raking, while the final plan rakes before mulching. The latter is more appropriate. Both interim and final plans should specify raking before mulching.
3. Since final reclamation of the sewage drain field should not disturb the surface (i.e., pipes will not be removed), the area should be planted and treated as a final revegetation area. This should occur no later than October 31, 1987.
4. The MRP should be changed to clearly identify which seed mixes are/will be used for interim and final reclamation. For example, Table 1 should be removed if the seed mix is not applicable. Re-evaluation of seed mixes should include results of qualitative or quantitative monitoring of Cottonwood Fan Portal and Waste Rock Disposal sites. Species which could be increased or added may include: Great Basin Wildrye and Fourwing Saltbush. Species which could be decreased or deleted include: Galleta and Green Mormon Tea.

UMC 817.116 Revegetation: Standards for Success (KMM)

1. Maintenance and monitoring as described on pages 4-15 through 4-16 should be implemented. Monitoring of interim revegetation (p.4-16) includes qualitative evaluation in the spring and quantitative evaluation in August in years 2 through 6 of the bond liability period (Reclamation Schedule chart following page 4-31). Results are to be supplied to the Division in an annual report. Any changes in the schedule or techniques (e.g., substitution of 50 point transects for the 100' line intercept transect) should be submitted to the Division for approval.
2. Since adequate vegetation must be demonstrated in the last two years of the bond liability period, the monitoring schedule should be amended to include sampling in both years 9 and 10.

Preliminary Comments Pertaining to the Five-Year Permit Renewal

1. Applicant should acquire data to derive piezometric surface maps for the Starpoint Sandstone, Blackhawk Formation, North Horn Formation, and Flagstaff Limestone.
2. Additional poor water quality, such as that encountered in the 4th East section (p.2-78), should be identified and quantified with regard to flow and quality.
3. Applicant should compare and contrast approved PAP water quality data (circa 1978-79) with subsequently derived water quality data for mine water discharge.
4. Applicant should utilize data collected since PAP approval to derive values for post-mining flooding and the potential for unplanned discharges (p. 3-17).
5. Applicant will need to derive a functional Probable Hydrological Consequences document. See Draft Guidelines for Preparation of a Probable Hydrologic Consequences Determination (PHC), December 1985.
6. Applicant will need to incorporate data derived from rock mechanics studies that were undertaken in 1976 (p. 3-18).
7. Applicant will need to comprehensively discuss planned post-mining discharges including volumes of water and impacts to the wildlife, vegetation, ground-water regime and stream drainages.
8. (Applicant should incorporate updated USBM angle-of-draw and other pertinent subsidence data and interpretations.