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December 22, 1980

Mr. Merrill Heward, Manager
Mining and Exploration
Utah Power & Light Company
P. O. Box 899
Salt Lake City, Utah 84116

#2

RE: Cottonwood Portal
Modification to the
Wilberg Mine Plan
ACT/015/027
Emery County, Utah

Dear Mr. Heward:

The Utah State Division of Oil, Gas and Mining (Division) has completed the initial review of the above plans submitted September 26, 1980. As part of the exploration plans approved by the Division in 1979, Utah Power & Light (the applicant) stated in the plan:

"The exploration site is totally included in the proposed modification of the Wilberg Mine. Since the mining operations should proceed shortly following exploration, it is not anticipated that separate reclamation work will be required following exploration."

From the events that have occurred and from the reclamation plan as stated in the exploration plan, the Division has determined all disturbance and reclamation must be subject to approval of the plans submitted.

The plans submitted have been reviewed in accordance with Division policy. The policy, as stated in a memorandum to the Board of Oil, Gas & Mining on August 18, 1980, requires the Division to review plans using the regulations set forth as Utah's Permanent Program. These regulations are used as guidelines until OSM approves the State's program, expected January 1981.

The Division is unable to complete its technical review of these plans due to a lack of specific information which has not been submitted by the applicant. The Division has the responsibility to ensure that the plans "affirmatively demonstrate" that the proposed facilities meet the minimum requirements of the Act and that the facilities will comply with the performance standards.

Therefore, the Division regrets to inform you that additional information and clarification is required as follows:

1. UMC 782.16 Relationship to Areas Designated Unsuitable for Mining

The public hearing held December 9, 1980, has fulfilled the requirement of UMC 782.16(a). At this time, a decision of the Board of Oil, Gas & Mining is pending.

2. UMC 782.17 Permit Term Information

The applicant mentions that reclamation will be accomplished upon abandonment in 35 years. If the applicant wishes a permit term of longer than five years, then information contained in UMC 786.25(a) should be submitted.

3. UMC 782.19 Identification of Other Licenses and Permits

The applicant should identify whether there are any other licenses and permits required for the Cottonwood Portal, such as construction permits, etc. If the applicant expects to discharge from sedimentation ponds, an appropriate State water discharge permit would be required.

4. UMC 782.20 Identification of Public Office for Filing of Application

The applicant should identify this office in the mine plans.

5. UMC 782.21 Newspaper Advertisement and Proof of Publication

The applicant must submit a copy of the advertisement and proof of publication in accordance with UMC 786.11(a).

6. UMC 783.15 Groundwater Information

The applicant states that no groundwater will be discharged. There is no strike or dip information on the seam to indicate that water will not flow from the portal naturally. The applicant should clarify this statement by stating why no water will be discharged and how this is to be accomplished.

Groundwater information in relation to average static water levels from three wells is presented. The Division would request raw data depicting any variations or seasonal trends.

The Division requests a map delineating the potentiometric surface(s) of the potentially affected groundwater system(s) in the Cottonwood Portal. At a minimum, the applicant should describe the direction of groundwater movement, the recharge area, known aquifers in the Cottonwood locale, location of seeps and springs and groundwater

quality data. The applicant should address the water which is flowing from a number of small seeps noted in the vicinity of the coal seam outcrop (i.e., flow variability, potential effects on slope stability, etc.).

7. UMC 783.16 Surface Water Information

Due to the incompleteness of watershed information, the basic hydrologic designs for the Cottonwood Portal cannot be entirely assessed. All precipitation which falls into the watershed for a diversion, pond or ditch is the basis of that design. The applicant needs to provide maps which delineate the watershed boundaries of the area above Cottonwood Portal and where runoff from these watersheds will intersect any proposed hydrologic structures. Within the disturbed and reclaimed area, the boundary areas and acreage for these "small watersheds" should be clearly identified and labeled. In addition, the applicant should provide recorded data of surface water quantity and quality sufficient to identify seasonal variations. The applicant should also provide references to the rainfall intensity--duration--frequency curves developed for the Wilberg Mine, if these were used for hydrologic design criteria at the Cottonwood Portal.

8. UMC 783.19 Vegetation Information

The applicant should provide maps in accordance with UMC 783.19(a) or if available, reference the Wilberg Mine Plan if contained there. A vegetation map of the permit area of (1:24000) should be included. A vegetation map of the disturbed area (total disturbed area) should be provided. Both maps should be clearly referenced to section corners, or quarter corners depending on scale. Maps should have a clear scale, north arrow, legend, etc. Any coordinate grid used should contain information such as true north vs. grid north, datum, etc. Legal corners should be provided on grid maps, also. The disturbed area map should show vegetation types, numbered locations of vegetation sampling sites and location of any endangered or threatened plants (UMC 771.23).

On the vegetation maps, the disturbed area, reclaimed areas and reference areas should be clearly delineated. The applicant should delineate and provide vegetation types in the reference area. The vegetation information should be developed to assist the operator in the prediction for the potential of reestablishing vegetation in the reclamation plan.

In reviewing the vegetation information provided, it appears that two separate vegetation surveys were conducted, resulting in two reference areas. This is confusing for the reviewer, so the applicant needs to consolidate these two surveys into one format for vegetation baseline data, keeping in mind the map requirements set forth above.

The information provided in both sets is incomplete. After preparation of the maps, the applicant should list the acreage of each vegetation type disturbed, within the disturbed area boundaries. The total disturbed acreage should be divided into this disturbed type to show the percentage of type disturbed out of the total disturbed area. The applicant can then list the percentage of disturbed acreage out of the total permit area acreage. These numbers are useful in putting the disturbance in proper perspective.

Two sites are delineated in the applicants plan: Site I, which is defined as that area subject to final reclamation upon abandonment; Site II, is that area where reclamation will begin immediately. Site II appears to be the area not needed for facilities and already disturbed for exploration. It is unclear if a third area is then possible: the area for final reclamation following construction not subject to redisturbance. The map shows Site II containing a sedimentation pond, permanent road embankments which may be subject to final reclamation, as is Site I.

With regard to Site I, the applicant makes a statement in Section I: "The vegetation density is 70% of the ground cover." The reviewer needs to know what the percent of vegetation which provides total aerial cover. In addition, the applicant needs to show how the forage yield is derived. The applicant states that the stand for Site II is three-quarters to full. This statement requires further explanation. The derivation of forage yield on this site requires explanation. In the riparian area, the applicant states that the stand for this site is 1/2 to 3/4. Again, an explanation is needed. It is unclear whether the vegetative cover is 75% or 95%. The applicant should provide a bibliography as reference. An example is in the reference to Cook and Benson in Appendix I. Between Appendix I and IV, it is unclear which reference area is used and which one is shown on Figure I. In Appendix I, no methods are given pursuant to UMC 771.23. Appendix IX does not contain the names, addresses and position of people who made data collections and analysis. How is the sample adequacy determined? Does the reference area plant Eriogonum corymbosum occur on shale? Clarify whether this plant is var. erecta or var. davidsei, if possible.

9. UMC 783.24 Maps, General Requirements

Some discussion of maps has already been mentioned above. In general, the Division does not altogether agree with the disturbed area presented. The disturbed area should delineate all topsoil stockpiles, subsoil stockpiles, culverts, diversion, embankments, cuts, roads which will be used, etc., from both previous exploration and future portal plans. The Division must have a large scale map that clearly delineates total disturbance. All areas subject to final reclamation following construction or exploration which will not be redisturbed should be clearly identified as Site II. There may be small areas within the disturbed area delineations which should not be disturbed,

these should be labeled. Areas of interim reclamation or stabilization in Site I, such as seeding, which may be subject to redisturbance in the future, should be shown. The Division suspects that the applicant may be required to accomplish additional work on the upper diversion to attain compliance with performance standards. The applicant may need additional hydrologic structures or provide extension to those existing which will expand the disturbed area.

10. UMC 783.27 Prime Farmland Investigation

The applicant must state the site conditions which exist that support a negative prime farmland determination. If the Soil Conservation Service (SCS) carried out the soils and vegetation survey, then they must add conditions which support a negative determination. A letter from SCS containing this information should then be enclosed in the application.

11. UMC 784.11 Operation Plan; General Requirement

In accordance with UMC 784.11(b) and a review of the performance standards, the applicant should describe existing structures which will be modified and those that will not. Each structure should be described pertinent to construction or modification, use, maintenance as well as removal. As noted above, design drawings and calculations are required for all hydraulic structures, roads, embankments, etc. Some areas where the Division needs these specifications are:

- a. The diversion's hydraulic gradients, transition points of diversion into natural water courses or ditches, etc. (Clarify by map or narrative.)
- b. Only one culvert is addressed, there are four culverts. The culvert designs should address sizing, inlet and outlet structures as well as placement.
- c. Sedimentation ponds need to be addressed for spillways, dam stability, inlet structures, etc., (UMC 817.46).
- d. Road designs should be augmented for surfacing (UMC 817.174), drainage for compliance with UMC 817.173), etc. At a minimum, road embankments and cuts should be presented in cross-section with vertical and horizontal scales shown for typical cross-sections at critical points (where embankments are least stable). Material characteristics of cuts and fill slopes to a reasonable depth should be depicted.
- e. Embankments for the upper diversion and pad should be shown to be stable and that water will not create pore pressures which could influence stability in the future.
- f. All designs should be certified by a professional engineer.

12. UMC 784.12 Operation Plan; Existing Structures

As discussed above, design detail for existing structures should contain enough detail to demonstrate compliance with performance standards.

13. UMC 784.13 Reclamation Plans; General Requirements

A map and cross-sections needs to be provided to show the final configuration of all distrubed areas after reclamation. A narrative description in more detail than provided should be included to discuss regrading, compaction, stability, hydrologic balance, topsoil redistribution, seeding, fertilizing, mulching, maintenance, testing, productivity and success. The reclamation plan encompasses two aspects: environmental protection during operations and environmental rehabilitation upon abandonment. The reclamation plan is clearly the result of all surveys, studies and intent of the regulations. Examples of the addition of information and narrative required are as follows:

a. Revegetation--For revegetation [UMC 784.13(b)(5)], the applicant's seed mix proposal contains only four species. The use of this mix may be appropriate for interim and temporary reclamation. The vegetation information presented indicates a plant composition of from 14 to 18 species. The seed mix for final reclamation should be compatible with existing species and appropriate to the post-reclamation environment. The applicant needs to specify that the varieties of plant seed will provide a similar diversity to the pre-existing and surrounding vegetation. The amount of seed per acre must be specified in pounds per acre of live seed (PLS).

b. Fertilizing--The application of fertilizer, the applicant suggests, should be based on the topsoil condition at the time of revegetation. Testing of soil prior to the time of application is recommended. There is no foundation upon which the applicant bases the existing fertilizer amounts and composition. It is not clear that the applicant will continue fertilizer application as revegetation proceeds. The applicant should also discuss when he will discontinue use of fertilizer and irrigation so that revegetation success can be assessed. Standards for revegetation success should be discussed.

c. Mulching--The applicant needs to discuss the basis and details of mulching practices being employed.

d. The primary root development zone of revegetation species would be useful in determining distribution depths for subsoil and topsoil.

e. Without a map delineating areas of all disturbance, and acreages specified, the Division is unable to determine the bond amounts as being adequate. The bonding provisions need to incorporate the standards of success to determine bond release. The bonding amounts do not include cost of seedlings, seedling planting, maintenance and field inspection.

14. UMC 784.14 Reclamation Plan: Protection of the Hydrologic Balance

Along with the above items concerning groundwater and surface water, the applicant should address the protection of the hydrologic balance as an overview from these designs and plans pertinent to the items contained in UMC 784.14.

15. UMC 784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments

This section again reiterates the need for plans and specifications for hydrologic structures and embankments. State Health has indicated that construction permits for the existing ponds were an oversight by the Division during review of compliance for the OSM violations issued. All plans should address the pertinent requirement of the performance standards and be certified.

16. UMC 784.22 Diversions

In areas where the natural water courses for runoff will be interrupted by diversions, the diversion plans should comply with pertinent standards contained in UMC 817.43-UMC 817.44. The natural runoff which will flow down the canyon, above the No. 3 sedimentation pond, will likely need to be diverted around the pond since the size of the pond could not contain the 10-year, 24-hour precipitation event.

17. UMC 784.23 Operation Plan: Maps and Plans

The maps of old works (Johnson Mine?), do not correspond to surface plans since the new entries connect and show use of the old portals. The use of the old portals is not portrayed in surface plans. As mentioned earlier, no outcrop information is shown.

18. UMC 784.24 Transportation Facilities

As mentioned above, this section reiterates the need for road specifications pursuant to design and reclamation standards as set forth in UMC 817.170 through 817.176. The Flannery decision does not eliminate these specifications, only the classification.

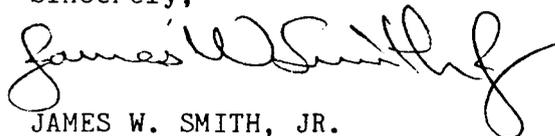
Summary

In summary, the Division has bowed to the decisions coming out of Judge Flannery's Court remanding for revision many areas of the regulatory requirements. The Board of Oil, Gas & Mining has recently suspended corresponding State regulations pertaining to these decisions. The Division has reviewed fish and wildlife and soils information pertinent to the Cottonwood Plan and identified deficiencies which, under revised regulations to be promulgated, may be upheld as deficiencies. The Division, in view of this awkward predicament, has incorporated above what is needed for assessing the

Mr. Merrill Heward, Manager
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reclamation and operation plans to meet the performance standards in light of those areas which are in flux. Generally, the designs and analyses for hydrologic structures that are addressed by the applicant are adequate. However, due to the methods used, the Division hydrologist needs the base criteria to run parallel calculations to verify these. No detailed design drawings for diversions or ponds are presented. The permit area, disturbed area and reclaimed area are not clearly enough delineated for the Division to use in assessment. Should any questions arise regarding the above, please do not hesitate to contact Lee Spencer of my staff.

Sincerely,



JAMES W. SMITH, JR.
COORDINATOR OF MINED
LAND DEVELOPMENT

Enclosures

cc: Don Crane, OSM
Jack Moffitt, USGS
Bill Boley, USFS

JWS/LCS/btm