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STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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October 26, 1983

Mr. C. E. Shingleton, Director
Permitting, Compliance and Services
Mining and Exploration
Utah Power & Light Company
1407 West North Temple
Salt Lake City, Utah 84110

RE: Apparent Completeness Review
Utah Power & Light Company
Des-Bee-Dove Mine
ACT/015/017, Folder No. 2
Emery County, Utah

Dear Mr. Shingleton:

Enclosed are the results of the joint Office of Surface Mining/Division of Oil, Gas and Mining (OSM/DOGM) Apparent Completeness Review (ACR) for Utah Power & Light Company's (UP&L) Des-Bee-Dove Mine ACR response received by this office July 14, 1983. The OSM has contracted the assistance of Simons, Li and Associates in preparing the draft response.

The following areas of the mine plan and the ACR response lack sufficient detail for a Determination of Completeness to be made.

1. UMC 782.13--Identification of Interests
2. UMC 784.12--Operation Plan: Existing Structures
3. UMC 784.13--Reclamation Plan: General Requirements
4. UMC 784.19--Underground Development Waste
5. UMC 784.20--Subsidence Control Plan
6. UMC 800.11--Requirement to File a Bond
7. UMC 817.21-.24--Topsoil
8. UMC 817.97--Protection of Fish, Wildlife and Related Environmental Values
9. UMC 817.116--Revegetation: Standards For Success

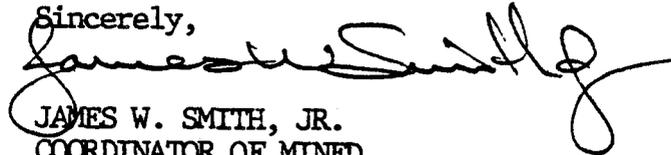
Several other sections have minor questions and concerns which need more clarification. Please note that the response must be received at OSM no later than November 21, 1983. The final determination of completeness will be made

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by OSM based on the material provided on November 21. If the material is determined to be incomplete, the permit application will be returned to the applicant and authority to operate under administrative delay will be terminated. If the permit application is found to be complete, public notice may begin and OSM will proceed with the technical analysis.

If you have any questions, please feel free to contact me or Tom Munson of the Division Staff.

Sincerely,



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

JWS/TM/btb

Enclosures

cc: Allen D. Klein, OSM
Shirley Lindsey, OSM
L. Kunzler, DOGM
P. Grubaugh-Littig, DOGM
E. Hooper, DOGM
C. Young, DOGM
M. Boucek, DOGM
D. Wayne Hedberg, DOGM

DETERMINATION OF ADEQUACY

Utah Power & Light Company
Des-Bee-Dove Mine
ACT/015/017, Emery County, Utah

October 26, 1983

UMC 771.23 Permit Applications: General Requirements for Format and Contents

The mining and reclamation plan for Des-Bee-Dove Mine was submitted in March 1981. Since that time, a number of modifications have been made to this plan. The applicant must incorporate all information from these various modifications into the permit application package so as to produce a single, self-contained document that is current and provides all information relevant to all aspects of the application. Text, maps, figures and tables that have been updated as a result of agency review should be substituted in place of superseded material. Any internal contradictions resulting from the addition of new or revised material should be resolved in the application.

UMC 782.13 Identification of Interests

(a)(2) Much of this information incorrectly appears under UMC 782.15, Right-of-Entry. In addition, comparison of the Des-Bee-Dove surface and coal ownership maps with the surface and coal ownership maps submitted for the South Lease Modification (Wilberg) and Meetinghouse Canyon Modification (Deer Creek) shows a variety of inconsistencies which must be resolved. Please correct the following points:

1. Reference the list of coal and surface owners of record in this section (UMC 782.13) and update it to show the current owners of record and status of lands as required by UMC 771.23 (b).
2. Correct the maps to identify all current coal leases, fee coal, and surface ownership. The ownership maps must present the current proposed permit area boundary for only the Des-Bee-Dove Mine.
3. The segment of land containing the special use permit from the U. S. Forest Service (USFS) as indicated on certain maps in the ACR Response (NW1/4, SE1/4, Sec. 26; NW1/4, SW1/4, and N1/2, SW1/4, Sec. 25, T. 17 S., R. 7 E.) and the segment of land containing the "S.U.L.A. #436 (NW1/4, NW1/4, Sec. 36, T. 17 S., R. 7 E.) should be added to the permit area and indicated on all maps.
4. The waste rock disposal area (U-37642) to be shared with the Wilberg Mine should be included within the permit area boundary.

(a)(3) Provide a separate listing of leasehold interests. In the absence of any leasehold interests, provide a negative declaration.

(a)(4) Provide a separate listing of purchasers of record or, in the absence of any purchasers of record, provide a negative declaration.

UMC 782.14 Compliance Information

Violations have only been identified through 1980. Please provide a listing of violations for 1981 and 1982.

UMC 782.18 Personal Injury and Property Damage Insurance Information

As indicated in the ACR, the applicant must include a rider that the insurance company will notify the OSM and the DOGM if substantial changes are made to the policy. This rider could not be found in the ACR Response.

UMC 782.21 Newspaper Advertisement and Proof of Publication

After notification by the regulatory authority (RA) that the application has been found to be complete, and advertisement in a local newspaper for four consecutive weeks, provide a copy of the (fourth) newspaper advertisement of the application's submittal.

UMC 783.14 Geology Description

Provide results of analyses for potential alkalinity (in equivalent CaCO_3 [mg/l]) for the roof and floor materials given on page 2-68 of the application. pH values are given, but these are not comparable to potential alkalinity.

In the application, page 2-67, average values of sulfur content and pyrite, including marcasite, were given for the Hiawatha and Blind Canyon seams. Please give results for each coal seam separately. These analyses were not included in the ACR Response.

UMC 783.19 Vegetation Information

Since the Des-Bee-Dove operation will share the waste rock disposal area with the Wilberg operation, the vegetation data collected should appear in both applications.

Present reference area ground cover data by species grouped by life form rather than just grouped by life form.

Provide productivity data (Soil Conservation Service [SCS] estimates, etc.) for the Salt Desert Shrub community.

UMC 783.20 Land-Use Information

The Land-Use Map and Land-Use Narrative contained in the Des-Bee-Dove ACR Response should be incorporated into the application.

The Land-Use Section should reference the Coal Ownership Map (Map 1-1) and the Surface Ownership Map (Map 1-2).

The Land-Use Map should be revised to show the boundaries of grazing allotments (both Bureau of Land Management [BLM] and U. S. Forest Service [USFS]), if there is more than one grazing allotment within the permit area.

Provide a summary of historical mining information on page 3-1 of the Des-Bee-Dove application in the Land-Use Section. This would include seams mined, dates of operations, tonnages removed, if known.

Use of the Des-Bee-Dove access road and the 4-wheel drive road above the mine for cattle drives to and from East Mountain should be mentioned in this section.

UMC 783.25 Cross-Sections, Maps and Plans

The strike and dip of coal outcrop lines must be shown on Map 2-2 in the application or on Map CE-10471-EM in the ACR Response.

Locate the cross-section in Map 2-3 on Map 2-1 in the application.

UMC 784.12 Operation Plan: Existing Structures

(a)(4) Provide detailed information on the analytical procedures used in the stability analyses. Any assumptions used in the computer program must be identified, along with all search radii and associated factors of safety, and the procedures clearly outlined.

Show the location of the test pits that are described on page 4 of Rollins, Brown and Gunnell's 1981 analysis for Area 2. Give the method used to determine the in-place densities. Describe the analysis used to determine the amount of fill that would be required to bring the slope up to a 1.5 safety factor. The applicant must evaluate in detail alternatives available to stabilize the slope in Area 2 to meet the required 1.5 safety factor. This analysis must also be performed for the final reclaimed configuration of the slope.

The applicant has stated that because the fill in Area 1 is an existing stabilized fill, a safety factor of only 1.3 is required to be met. However, there is no significant vegetative growth on the slope and according to Rollins, Brown and Gunnell's penetration testing, there are areas in the pile that exist in a loose condition. These loose areas will govern the stability of the pile. Also, given the uncertainty in relating standard penetration testing to density and given the sensitivity of the material strength to density as indicated in tests 1 and 2 where the angle of internal friction varied from 25 to 36 degrees, there does not exist conclusive information to state that the fill is stable. In addition, according to "Engineering and Design Manual Coal Refuse Disposal Facilities," by Mining Enforcement and

Safety Administration (now MSHA), fine coal refuse has been shown to have no cohesion. It would require more than one test by the applicant to show that the material in this pile was cohesive. Therefore, because of the apparent instability of the pile, the applicant must evaluate options for stabilization of the fill to meet a 1.5 static safety factor.

784.13 Reclamation Plan: General Requirements

With regard to the Interim Plan, what techniques will be used to reclaim lesser slopes (less than 3:1)? Also, the Interim Plan does not contain revegetation monitoring techniques for an adequate appraisal of the application or potential success of interim vegetation. Provide a more detailed description of these techniques.

The application should show, under final revegetation, that reference areas will be resampled at the end of the liability period for direct comparison with the revegetated areas.

(a) The soils section (page 2-107) reports that the disturbed area comprises two acres. Is this a typographical error?

(b)(1) When will revegetation of the sediment pond take place? Provide a schedule showing reclamation of the components of the mine on a year-by-year basis, in addition to the revegetation schedule included in the application.

(b)(2) Provide documentation substantiating the development of the unit costs presented in the bond estimates which have been developed for the disturbances within this permit term. This documentation would consist of identifying references used in the analysis and providing any background calculations that were made in the estimates. Information such as equipment productivity and haul distances used in the analysis should be provided.

Background calculations must be provided showing how the material volumes were determined for the bond calculations. Include any additional cross-sections used in developing these volumes. See related questions under (b)(3) of this section.

A cost for the monitoring and maintenance of rills and gullies over the 10-year responsibility period must be added to the bond amount. This must include the mobilization of equipment to backfill rills and gullies and the reestablishment of vegetation. In addition, the cost of monitoring of sediment pond discharges must be included.

(b)(3) Provide background information used to determine the amount of material that will be handled during reclamation of the site. This would include information on the original ground elevations used to determine volume of existing fill, and any other information used to construct the final grading plan. If additional cross-sections exist, these should be provided. If the design of the slopes in Areas 1 and 2 change, this information must be included in this plan and the bond estimate.

As part of the grading, a statement should be made in the application that the applicant will remove and bury gravel base material from all sites and eliminate the use of gravel as a sole seedbed material.

The application should include a commitment to remove surface coal waste materials from sites during grading and it should describe how such materials will be disposed of.

On page 4-10 of the original application, the applicant compares the stability of planned 1v:2h slopes with existing 1v:1.3h slopes. Are these existing slopes composed of fill material? Please clarify.

(b)(4) On page 4-6 of the MRP, the applicant states that topsoiling will occur on the Deseret Portal Area. Where will this soil be obtained?

The applicant states (page 2-99 of the MRP) that "Existing materials, selectively, are acceptable as a plant growth medium." The applicant must detail which materials are not now suitable and what parameters will be used to judge the suitability of materials uncovered and proposed for use as seedbed materials in the future.

(b)(5)(i) The following items pertain to the reclamation schedule:

1. Reclamation of the sediment pond must be included.
2. Why is mulching proposed to occur as long as four weeks after seeding?
3. The schedule shows seeding occurring four months after the completion of grading. Options should be given which would shorten this time span.

(b)(5)(ii) The following comments pertain to the species selected for revegetation and the seeding and planting methods proposed:

1. The results of previous revegetation efforts need be summarized.
2. The comments in the original ACR (page 10, paragraphs 2 and 3) concerning species should be adopted or an explanation given as to why they were rejected. The seeding rates proposed for the various species appear to be excessive. These rates should be revised in consultation with DOGM.
3. All seeding rates given in the application and subsequent documents must be identified as either drill seeding or broadcast seeding rates.
4. Shrub and tree stocking densities must correspond to reference area densities. Clarify how the density totals for the reference sites were determined.

(b) (5) (iv) The technique of using jute netting or mulch is listed in the soil report but not in the ACR Response. Is this technique still proposed for use? Submit a full description of all proposed mulching techniques, including the rate of application in tons/acre. Note: jute netting is generally not appropriate for mulch in Utah.

(b) (5) (v) On pages 2-110 and 4-15, the applicant states that irrigation will be provided, if necessary. What method of irrigation would be used? (General rates, timing, water source, etc.)

(b) (5) (vii) The applicant must submit a detailed soil testing plan which will be used to provide information relative to fertilizer and soil amendment application rates. The plan should identify sampling methodology, and chemical and physical tests to be conducted.

(b) (5) (i-v) On page 4-14 of the application, the applicant states that on level areas tractors will generally use the same procedures as on steep slopes. Clarify the procedures that will be implemented by tractors.

The soils report in the MRP (pages 2-100, 2-101) states that in spite of the absence of topsoil, with terracing and irrigation, revegetation should be successful. It appears, however, that the applicant does not plan to utilize terracing or irrigation (except in drought years). Please address this comment and clarify the present grading plan.

On page 2-103 of the original application, the applicant states that the high pH furnace slag used on the parking lot would not have a detrimental influence on plant growth if mixed with suitable material. Provide a plan describing how this slag will be handled. If the slag is not thoroughly mixed with a quantity of clean material sufficient to lower the pH, the slag will have to be buried.

Page 2-101 addresses the same topic, stating that "The parking lots and storage areas may have places where undesirable conditions for plant growth have developed; these areas must be covered with suitable growth media before revegetation can be successful." The applicant must clarify what these undesirable conditions are and what steps will be taken to correct them.

(b) (7) It appears that there exist rock strata above and below the coal which have a sufficiently high SAR values such that the presence of this material, if deposited on the surface as waste rock, would hinder the reestablishment of vegetation. Provide a plan for identification and special handling of this high SAR material that is to be placed in the fill. For such material already on or near the fill surface, provide a plan for covering this material with four feet of nontoxic material.

The applicant needs to submit a plan for treating and/or disposing acid- and toxic-forming materials. Methodologies and proposed locations for treatment and/or burial are requested with respect to comments on pages 4-13 and 2-100 of the MRP as well as page 18 of the ACR Response. The approved landfill mentioned on page 18 of the ACR Response must be identified.

Interim Vegetation Establishment

The following comments pertain to the methodology stated on pages 29 and 30 of the ACR Response:

1. Seedbed preparation techniques must be included.
2. Fertilizer must be applied according to soil test recommendations.
3. Specifications for potential irrigation must be included (i.e., type of equipment, timing, water source, etc.).

UMC. 784.19 Underground Development Waste

The applicant must provide an updated design of the development waste disposal site showing the anticipated final configuration of the pile. An estimate should be made by the applicant on the amount of development waste that might be expected to be encountered over the life of the mine. Given that the mine plan has been laid out and need for raises and slopes identified, it should be possible to estimate the volume of material that will require disposal. Design of the pile incorporating consideration of the final configuration would then be possible.

On page 19 of the applicant's response to the ACR, the applicant states that coal waste is being disposed of in the waste rock disposal site below Wilberg. If this is the case, the toxicity of the material in the pile must be addressed. Given the high pyrite values in some of the roof and floor rock (up to 10 percent in one set of samples), four feet of cover may be required. In addition, some of the roof and floor rock would also be disposed of as development waste. The applicant must provide for four feet of cover for the disposal site unless it can be shown that the material is not toxic and can support vegetation.

UMC 784.20 Subsidence Control Plan

Include all areas potentially affected by subsidence, as defined by the angle of draw, as part of the permit area. Include calculations or references utilized to define the angle of draw.

The information and analyses collected and completed to date on subsidence primarily address lowering of the surface as a result of mining in areas of relatively thick overburden cover. However, the primary issues surrounding subsidence impacts to the environment at the UP&L mines may center more around areas of shallow cover, and along the canyon sides where springs and seeps exist. An analysis of subsidence impact must address this issue.

A geotechnical analysis must be provided showing that significant slumping will not occur in areas where springs and seeps, and land-use might be affected.

The subsidence analysis should be provided for the worst-case situation for the several types of conditions that exist. These would include areas where mining will occur in one or two seams under the shallowest overburden conditions, near faults, and/or near edges of the canyons. These various scenarios should then be related to the existence of significant seeps and springs, and sensitive land-use areas.

The applicant has stated that a bond covering subsidence impacts has been obtained to cover potential damage to structures due to subsidence. What is the amount of the bond and how did the applicant determine the amount required?

UMC 800.5 Definitions

The applicant must state the type of bonding programs (surety, self-bond, etc.) which will be submitted.

UMC 800.11 Requirements to File a Bond

The DOGM ACR for the Des-Bee-Dove Mine mentions the construction of a new road connecting the Wilberg Mine and the Des-Bee-Dove Mine. No mention of this road is made in the application or ACR Response. If this road has been or is to be developed during the current permit term and removed following cessation of mining, a bond must be calculated and filed in accordance with UMC 800.11(b)(1). This bond must cover removal of the road, backfilling and grading, and final revegetation.

Bond calculations provided in the original application give costs for backfilling the 1.5 acre sedimentation pond, but no costs are provided for replacing top-soil and revegetating the sedimentation pond. Revegetation costs are only provided for the 18 acres of the mine facilities area. The applicant must provide cost estimates for revegetating the sedimentation pond.

The applicant must supply supporting calculations for bond estimates. (These calculations should be submitted subsequent to completion of the revisions to the reclamation plan requested in this document.) Presentation of the information must be logical and allow confirmation of the bond estimate. A cost estimate must be provided for each step for each type of reclaimed site outlined in the reclamation plan. Such steps include ripping,

scarification, seedbed preparation, fertilization, seeding, transplanting, mulching, irrigation, weed and pest control, and any other activity that the applicant cites in the reclamation plan. Variations in reclamation/ revegetation techniques with respect to site conditions (e.g., nearly level areas versus steeper areas) must also be addressed.

With respect to bond estimates included in the original application, the following comments apply:

1. Bond estimates must be adjusted based on estimates of the consumer price index or other inflationary adjustment factors.
2. Laboratory analysis costs do not appear to have been included in the line item "Soil Testing."
3. Vegetation monitoring estimates appear low. Calculations supporting this figure must be provided.
4. Revegetation success testing costs are absent.
5. Is fencing to be used to prevent livestock grazing? If so, fencing costs must be provided.
6. Applicant states that irrigation will be used during drought years. If irrigation is to be a part of the final reclamation plan, bonding calculations must be provided for irrigation costs.
7. Applicant states that the dirt 4-wheel drive road above the mine will be maintained by UP&L and cattle ranchers following cessation of mining. Therefore, bonding calculations for UP&L's portion of this road maintenance must be provided.

(a)(2) It is necessary that bond estimates reflect costs to the regulatory authority with respect to equipment delivery to the site. Have such costs been included in the calculations? If yes, a statement to this effect is necessary. If not, calculations need to be adjusted accordingly.

(a)(4) Additional funds must be included in the bond cost estimate which reflect cost changes during the last five years for activities included in the reclamation plan. Are such cost adjustments included in the present costing? If yes, a statement to this effect is needed. If not, calculations need to be adjusted accordingly.

UMC 817.21-.24 Topsoil

In response to ACR comments (page 6 of the ACR) a more detailed explanation was given with respect to the grading of various areas on the mine site. However, the explanation did not clearly define the handling of spoils

to be used as seedbed materials. This activity must be clearly explained so that the revegetation potential of the sites can be evaluated. Discuss methods and proposed types of materials to be used to create a suitable surface covering.

It is also necessary to address UMC 817.21-.24 with respect to the topsoil salvaged in conjunction with the sediment pond.

Specific costs for reclamation of all disturbances in the permit area for which bond estimates have not been supplied must be developed in the level of detail mentioned above. This would include the breakout area located in Section 14 and any other anticipated disturbances.

The applicant has indicated (page 25, ACR response) that fill material was sampled again in 1983. These 1983 soil testing data for the fill material are supplied in Table 1 in the ACR Response, but it does not include information on the number of samples taken and methods of sampling. Nor have pH values been provided for these samples. This information must be included with respect to future materials handling activities. If the applicant has retained a portion of the original material sampled, pH values could be derived from this material. If not, the applicant should consult with the laboratory to determine if an estimated pH range could be provided based on existing laboratory data for these samples. This information is needed to determine if the soil analysis data adequately characterizes the fill material to be used as a topsoil substitute. In addition, the applicant must provide soil testing data for the topsoil stockpiled from the sedimentation pond constructed in 1979.

Therefore, in addition to supplying soil testing data for the sedimentation pond topsoil stockpile, the applicant is requested to reorganize the 1980 and 1983 fill material testing data. A single table should be provided itemizing the results from laboratory analysis for all samples collected at the Des-Bee-Dove Mine, showing information on sample location, number of samples, and type of material.

If the applicant concludes that additional sampling is required, chemical analyses conducted for each composite sample should include a value for pH and follow "Productivity Analysis of Soils" in the document, Guidelines For Management of Soils, prepared by the DOGM.

UMC 817.24 Topsoil: Redistribution

The method of developing "topsoil" described in the ACR response (page 27) has merit. Will this material be placed on the planting surface as "topsoil" material or as clumps of intact vegetation similar to sodding? How will the planting surface be prepared for the transplanted material? What type of equipment is meant by the term "scoop"? How large will the "islands" be? How will the transplanted material be maintained (any irrigation?) How will the fill slope be reclaimed after the "topsoil" is removed?

UMC 817. 97 Protection of Fish, Wildlife and Related Environmental Values

The applicant should incorporate all additions and revisions made in response to the DOGM ACR into the application.

Provide site specific information on raptor nesting use of cliff areas in the vicinity of both existing facilities and all new construction activities within the Wilberg, Des-Bee-Dove, and Deer Creek permit areas. This information is needed to determine if any mitigation or monitoring plans are necessary to protect raptors in these areas. If any raptor nest sites are identified within a kilometer of either existing or proposed facilities, these nest sites should be mapped and informal consultation initiated with the U.S. Fish and Wildlife Service (USFWS). The applicant should incorporate in the application the results of the USFWS 1981 and 1982 raptor surveys for the Des-Bee-Dove Mine.

It is stated on page 22 of the ACR Response that "riparian communities, though sparse, shall remain in their present condition." No riparian communities are identified in the vegetation reports for the Des-Bee-Dove mine area. Please clarify.

On page 24 of the ACR Response the applicant commits to replacing or repairing surface water flow disturbed by subsidence. Details for placement and design of guzzlers must be submitted to the regulatory authority prior to utilizing them for mitigation to replace surface waters.

The applicant includes the Utah Division of Wildlife Resources' (DWR) general wildlife mitigation recommendations as a mitigation plan without comment. Please identify in the application those specific portions of the DWR's mitigation proposal which the applicant intends to utilize at the Des-Bee-Dove Mine.

The applicant states that wildlife habitat will be one of the primary post-mining land uses. The applicant also implies, in a general way, on page 4-29 of the MRF and page 25 of the ACR Response, that revegetation for wildlife will be consistent with UMC 817.97(9). Please provide more detailed information regarding the size and spacing of vegetation clumps (shrubs and trees) for wildlife.

UMC 817.116 Revegetation: Standards For Success

The applicant states, on pages 33 and 34 of the ACR response, five points with regard to "sampling for 10-year responsibility period and bond release" pursuant to this section and UMC 784.13(b)(5)(vi). The following comments pertain to these five points:

- No. 1 Late summer (July - August) is preferable.
- No. 2 Acceptable; however, other techniques may be more cost effective and provide better quality data.

- No. 3 Acceptable, however the PCQ technique, implemented as a complete random design is preferred.
- No. 4 Acceptable.
- No. 5 Not acceptable. Merely stating that revegetation success "will" be based on UMC 817.116(b)(3)(iv) and 817.117 is not adequate. The applicant must state how compliance with this section will be achieved.

On page 9 of the ACR response it is stated that the range condition of the area is poor. Pursuant to the requirement that reference areas must be in fair or better range condition at the time of bond release, the applicant must present and commit to a management plan for the selected reference areas to insure their utility for revegetation success determination. The applicant must:

1. detail the proposed management plan for approved reference areas;
2. detail monitoring methods and standards which will be used to gauge the success of revegetation and to determine when augmented seeding or plantings will be needed to meet the revegetation success standards;
3. detail testing procedures which must be passed to trigger bond release;
4. overall success standards should be related to the pre-mine vegetation study and the established reference areas (refer to DOGM vegetation guidelines for details).