



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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December 14, 1990

Mr. Blake Webster
PacifiCorp Electric Operations
Fuel Resources
324 South State Street
P. O. Box 26128
Salt Lake City, Utah 84126-0218

Dear Mr. Webster:

Re: Technical Deficiency Document, Utah Power & Light
(PacifiCorp Electric Operations), Des-Bee-Dove Mine,
ACT/015/017, Folder #2, Emery County, Utah

Enclosed please find the Technical Deficiency Document for Des-Bee-Dove Mine. I have also enclosed Forest Service deficiencies that must be addressed.

Some general comments about the revised permit application are:

1. Apparently, the revised format combined texts from the pervious permit. This revision left fragmented portions which are either not applicable or are incomplete. Please edit the permit application for a readable, comprehensive document.
2. The legal and financial section must be updated for the permit as is being done for the permit transfer.
3. All haul road reclamation information must be included in the permit application.

Page 2
Technical Deficiency Document
ACT/015/017
December 14, 1990

Please submit all of the required information by
January 4, 1991. If you have any questions, please call me.

Sincerely,



Pamela Grubaugh-Littig
Permit Supervisor

PGL/mbm
Enclosures
cc: "A" Team
AT015017.PGL

TECHNICAL DEFICIENCIES
DES-BEE-DOVE MINE
ACT/015/017

Utah Power & Light Company
Emery County, Utah
December 14, 1990

R614-301-100 GENERAL CONTENTS (SW)

112.600 Identification of Interests

The permittee shows the LDS Church as a surface owner contiguous to the permit boundary; however, no address is given. Is Cooperative Security the same as the LDS Church? If so, please correct.

113.300 Violation Information

The permittee must include a list of all violations received by applicant or any subsidiary, affiliated, or persons controlled by or under common control.

121.200 Permit Application

Pages 4-57 thru 4-92 are not clear and concise. Please revise this and other sections of the permit which are confusing and contain conflicting statements.

123. Applications for permits

Provide a notarized signature that the information in the permit is true and correct.

142. Maps and Plans

All maps and plans must show those portions of the operations which occurred prior to August 3, 1977 and after the date of issuance of a Permit by the Division. A disturbed area boundary map must also be submitted with these designations.

R614-301-200 SOILS (HS)

222.100 Soils Survey

Soil identifications and map unit boundaries must be depicted for the entire Des-Bee-Dove Haul Road and Sedimentation Pond area. The photographic method employed in Map 2-15 (facility area) would be sufficient for the haul road soils map.

233. Topsoil substitutes and supplements

The discussion (page 4-63) regarding the reclamation of the sediment pond area indicates the use of sedimentation pond embankment material as backfill, but does not indicate the source of the topsoil material. Specific topsoil redistribution plans must be made at this time. Identification of sufficient quantities of suitable topsoil must also be described. Additionally, the topsoil stockpile must be surveyed and as-built drawings submitted.

All soil sample locations must be depicted on a map. It is assumed that the soils sampled in 1985 (page 2-177 thru 2-178) were sampled to characterize the soils of the haul road fill. Additionally, samples SS1A thru SS4A were sampled to identify potential topsoil borrow sites for the haul road. It is unclear as to the source and locations of samples SS5A thru SS10A. However, it is assumed that these samples were derived from undisturbed areas adjacent to the facilities area as a comparison to potential substitute topsoil within the disturbed facilities area.

As indicated in the MRP, the majority of the soil material from the facilities area is proposed to be derived from the top 12-18 inches of pad material and the "five major fills". Therefore, to confirm the permittee's statement that the material within the facilities area is comparable to adjacent undisturbed areas, the permittee must analyze the material within the disturbed facilities area immediately. Additionally, the proposed locations of the sample sites within the facilities area (page 4-75) must be revised to represent the greater majority of material which will be used as plant growth medium (i.e. five major fills, tipple pad material, etc.).

At this time, the Division's finds (based on soil analysis conducted in 1985 and 1989) that the material adjacent to the haul road (with the exception of sample SS4A) is more suitable as a plant growth medium than the material within the haul road fill (sampled in 1985). Therefore, the permittee must identify a borrow site and provide the necessary information for the development and reclamation of the site or conduct field site trial to demonstrate the suitability of the Des-Bee-Dove Haul Road fill material as a plant growth material for final reclamation.

242. Soil Redistribution

The permittee states (page 4-89) that "following redistribution, the topsoil will be sampled and analyzed for fertility and other parameters listed within the revegetation section (R614-301-353)." The permittee must clarify this statement to describe the field and laboratory techniques employed (i.e. sample density, depth intervals, laboratory parameters and methodologies).

R614-301-300 BIOLOGY (SW)

321.100 Vegetation

The permittee lists six vegetative communities within and adjacent to the permit area. Seven communities are identified on the map. No description of the Aspen community is provided in the permit.

321.200 Vegetation

Omit all information based on the 1982 productivity data from the text. The information is for sections 34 and 35 and is not based on the reference areas. Please use the 1989 productivity data as a basis for the discussion.

322. Fish and Wildlife

The text references volume 4 figure 1 as the Elk Habitat Map. No map was found.

322.210 Fish and Wildlife

No threatened or endangered plant or animals are expected to occur within the permit area; however, the information in the text should be updated and reference current sources.

323. Maps and Aerial Photographs

Vegetation map 2-13 is unnecessary and contradictory to map 2-12. Please delete the map from the permit.

Update Table 2 to include the Aspen and Salt-Desert Shrub communities. Delete footnote from table.

Table 3 is not understandable. What is the percent given and are the acreage of Pinyon-Juniper and Salt-Desert Shrub correct?

Table 6 is based on speculation. Delete this table and all reference in the text to this.

Table 7 lists only two Forb species in the reference area. Please commit to rechecking the area in 1991 and developing a species list for insertion in the permit.

331. Operation Plan

The permittee must demonstrate prior to use that Crested Wheatgrass, Intermediate Wheatgrass, and Smooth Brome will not contaminate the future "topsoil" with residue seed of these introduced and competitive species. Or the permittee could propose an interim seed mixture without the introduced species. Additionally, some effort should be made to establish shrub from seed in lieu of transplants for interim revegetation.

The permittee must provide a monitoring and maintenance plan for interim revegetation. Page 4-87 references such a plan; however, no plan was found.

Interim hydromulching must include 2000 to 3000 lbs. wood fiber mulch per acre.

340. Reclamation Plan

Page 4-88 and page 4-94 describe two different final reclamation plans. Please clarify.

The permittee must specify the criteria for using hydromulch versus hay mulch.

Final or Interim revegetation will not take place in the spring. All final or interim seeding must occur in the fall.

Each seed mixture in the permit must be identified according to the vegetation type in which it will be used.

Intermediate wheatgrass is an introduced species and will not be allowed in the final reclamation seed mixture. This species must be substituted with a species which is native to the area.

A two-step broadcasting or hydroseeding method should be used on all slopes 2:1 or steeper. In this method, half the seed is applied and raked, then the remaining seed is applied. Page 4-65 states that final slope reclamation will be built at 2H:1V or less. The final reclamation x-sections indicate other wise. Please clarify.

An attempt to establish shrubs from seed should be made in the final reclamation.

The proposed trees to be planted require greater moisture for survival than that which occurs on most of the site. These trees should be designated to be planted only on the northern exposures and/or deep within the canyon.

Please state on page 4-98 that monitoring will occur in years 2, 3, 5, 9 and 10 and provide a schedule such as on page 4-62.

The permittee states that all areas of the haul road will be hydroseeded. A large portion of the road in the Pinion-Juniper type can be drill seeded. The permit must state that areas with slopes flatter than 3:1 will be drill seeded.

342.100 Fish and Wildlife

The permit will include a description of the wildlife enhancement measures to be used in final reclamation. Restoring the vegetation is merely replacing what was there. The permittee must commit to enhancement measures (i.e. rock piles for small mammals, placing brush or snags on site, etc.).

353.110 Revegetation

Please provide a diversity standard for final reclamation.

356.110 Revegetation

The permit must specify the method to be used for measuring vegetative cover. The line intercept or ocular method is not specific.

The permittee must submit a detailed sampling plan for evaluating success of permanent revegetation. The plan (and accompanying map) must partition the revegetated areas into a minimum of five manageable units that are similar in respect to vegetation, slope, aspect and soils. Each of these areas must meet the success criteria.

R614-301-500 ENGINEERING (JK)

512. Certification

The following maps and drawings must be certified by a qualified, registered, professional engineer or land surveyor:

- (a) Map 1-1 Coal Ownership Map/with Permit Boundary
- (b) Map 1-2 Surface Ownership/with Permit Boundary
- (c) Map 1-3 Mine Development as of 8/3/77 (Blind Canyon Seam)
- (d) Map 1-4 Mine Development as of 8/3/77 (Hiawatha Seam)

- (e) Map 3-1 Mine Plan (Deseret Mine)
- (f) Map 3-2 Mine Plan (Beehive and Little Dove)
- (g) Map 3-5 Wilberg Mine to Little Dove Mine Water Line
- (h) Map 3-7 Surface Facilities Location Map "B" (3 sheets)
- (i) Map 3-10 Existing Earth and Structures
- (j) Map 3-11 Storm Water Conveyance Plans
- (k) Map 4-1 Final Reclamation Map (sheet 1 of 5)
- (l) Map 4-2 Final Reclamation Map (sheets 3 of 5, 4 of 5, and 5 of 5)
- (m) Map 4-3 Disturbed Mine Plan Area Cross Sections
- (n) Map 4-4 Existing Structure Fill Modification Stability Compliance Map

- (o) Map 5-3A Haul Road Reclamation-Ditch Design
- (p) Map 5-3B Haul Road Drainage Areas
- (q) Map 5-4 Topography Drainage Location Map
- (r) Map 5-7 Detailed Permit Boundary Map Along the Junction Road and Sediment Pond Area

- (s) CE-10424-EM Surface Exploration Drill Holes
- (t) CE-10693-EM Blind Canyon and Cottonwood Structure Contour Map
- (u) CE-10769-EM Joint Mapping/Castle Gate Sandstone/ Cliff stability/South Lease Area
- (v) CE-10790-EM Joint Mapping/Castle Gate Sandstone/ Cliff Stability/Rilda Canyon Area

- (w) HM-2 Blind Canyon and Cottonwood In-Mine Water Monitoring Locations

The following maps and drawings must be certified by a qualified, registered, professional engineer:

- (a) Map 3-9 Road Plans, Road Cross Sections, and Road Profile (3 sheets)
- (b) Map 5-1 Des-Bee-Dove/Wilberg Junction Road Plans (sheets 3, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 29, 36, 37 and 38)
- (c) Map 5-8 Sediment Pond Access Road/Plan and Profile (3 sheets)
- (d) Map 5-9 Sediment Pond Access Road Cross Sections (2 sheets)

521. General Operation Plan

The following items are general problems in the Operation Plan that need to be corrected:

(a) The first sentence of page 3-37 should, for clarity, read: ". . . the needs of the entire mining complex (see Route Diagram, page 3-38)."

(b) The last sentence of page 3-39 should, for clarity, read: ". . . is found in Table 7, page 3-40."

(c) Several additional items must be included in Table 7 (page 3-40) and elsewhere in the application package in order to complete the ASCA (Alternative Sediment Control Area) designations. These items were discussed in an October 4, 1990 memorandum from the reviewer to Pamela Grubaugh-Littig. A copy of this memorandum was given to Val Payne.

(d) The 3rd sentence of page 3-46 should, for clarity, read: "Table 8 (page 3-47) is a copy"

521.100 Cross Sections and Maps

The following is a list of map and drawing problems that need to be corrected:

(a) Map 3-7, Sheet 2 of 3 (Surface Facilities Location Map "B") is missing from the application. The operator must provide the Division with two (2) copies of Map 3-7, Sheet 2 of 3.

(b) Drawing CM-10555-DS, Sheet 2 of 2 (Sedimentation Pond Cross Sections) is missing from Appendix VIII. The operator must provide the Division with two (2) copies of Drawing CM-10555-DS, Sheet 2 of 2.

(c) Map 3-11, Sheets 1,3,4,5,6 and 7 (Runoff Conveyance Plan) are missing from the application. The operator must provide the Division with two (2) copies of Map 3-11, Sheets 1,3,4,5,6 and 7.

(d) For the sake of clarity, Maps 4-1 and 4-2 (Final Reclamation Map) should be combined into one Map 4-1. At present, Map 4-1 includes Sheets 1 of 5 and 2 of 5 while Map 4-2 includes Sheets 3 of 5, 4 of 5, and 5 of 5. This is confusing to anyone not familiar with these maps. The Table of Contents of maps and drawings should also be changed to reflect the change of map designation numbers.

(e) Map 5-5 (Hydrologic Area Drainage Map) is missing from the application. The operator must provide the Division with two (2) copies of Map 5-5.

(f) Map 5-7 (Detailed Permit Boundary Map Along Junction Road and Sediment Pond Area) must, for clarity, be labeled as "5-7". The operator must provide the Division with two (2) copies of Map 5-7, correctly labeled.

(g) Map 5-8 (Sediment Pond Access Road, 3 sheets) must, for clarity, be labeled as "5-8". The operator must provide the Division with two (2) copies of Map 5-8, correctly labeled.

(h) Map 5-9 (Sediment Pond Access Road Cross Sections, 2 sheets) must, for clarity, be labeled "5-9". The operator must provide the Division with two (2) copies of Map 5-9, correctly labeled.

534.130 Road Embankment Static Safety Factor

The 5th paragraph of page 3-61, which begins "Stability analyses were not conducted", should be eliminated from the application package. The paragraph should be replaced with a paragraph which explains that stability analyses have been conducted on road embankments and that these analyses are found in Appendix III.

541. General Reclamation Plan

The following items are general problems in the Reclamation Plan that need to be corrected:

(a) Line 4 of the 1st paragraph of page 4-1 should, for clarity, read: "All foundations and structures built of concrete are to be broken up and buried on the bathhouse/warehouse pad as shown on the Final Reclamation Profiles (Map 4-2, Drawing 4 of 5)."

(b) For clarity, the 3rd line of page 4-4 should read: ". . . . (see Quantity Summary Sheet, page 4-6)."

(c) For clarity, the 2nd line of the 1st paragraph of page 4-4 should read: ". . . . as shown on the Final Reclamation Profiles (Map 4-2, Drawing 4 of 5)."

(d) For clarity, the 4th line of the 2nd paragraph of page 4-4 should read: ". . . . as shown on the Final Reclamation Profiles (Map 4-2, Drawing 4 of 5)."

(e) For clarity, the 2nd line of the 3rd paragraph of page 4-4 should read:
". . . . as shown on the Final Reclamation Profiles (Map 4-2, Drawing 4 of 5)."

(f) For clarity, the 1st line of the 4th paragraph of page 4-4 should read: "Two small diversions, A and B (see Map 4-1, Drawing 2 of 5),"

(g) For clarity, the 2nd line of the 1st paragraph of page 4-5 should read:
". . . . will be built as shown on the Final Reclamation Map (Map 4-1, Drawing 2 of 5)."

(h) How were the quantities on page 4-6 estimated? The reviewer is aware that these areas are old, prelaw cuts and fills and that there are, therefore, no detailed mass balance drawings and calculations. However, the operator must provide at least some simple drawings and calculations to show how these volumes were estimated and the assumptions behind them.

(i) The distribution equation in the middle of page 4-8 should read:
 $(10,284 + 16,103) / 1750 = 15.08$ cyds/ft.

(j) The figures on page 4-41 (Table GW-E) are illegible because of a printer malfunction. The operator must provide the Division with two (2) copies of page 4-41.

(k) For clarity, the 5th line of page 4-100 should read: "The following are the estimated costs for reclamation (see pages 4-106 through 4-112)."

542.800 Narratives, Maps and Plans

The reclamation cost estimate has a number of problems. The following is a list of problems that must be corrected:

- (a) The operator must provide the source for the costs of supervisors, operators, laborers, and helpers.
- (b) (Item 3-E) Only one (1) operator was used in the calculations instead of the listed six (6). Also, the cost of a 621B scraper which was used in the calculations must be included in the text on page 4-128.
- (c) (Item 3-F) Something is wrong with these numbers or calculations or both. The reviewer is unable to come up with the stated total of \$184,242.
- (d) (Item 5-A) The cost of laborers which was used in calculations must be included in the text on page 4-131.

- (e) (Item 5-B) These figures cannot be checked because the cost of laborers is not included in the text.
- (f) (Item 5-C) Something is wrong with these numbers or calculations or both. The reviewer is unable to come up with the stated total of \$9,090.
- (g) (Item 6) Something is wrong with these numbers or calculations or both. The reviewer is unable to come up with the stated total of \$44,903.
- (h) (Item 7-A) The cost of helpers which was used in these calculations must be included in the text on page 4-136.
- (i) (Item 7-C) Something is wrong with these numbers or calculations or both. The reviewer is unable to come up with the stated total of \$3,685.
- (j) (Item 7-D) The costs of a tractor and laborers which were used in these calculations must be included in the text on page 4-136.
- (k) (Item 8-A) These figures cannot be checked because the cost of laborers is not included in the text.
- (l) (Item 8-B) These figures cannot be checked because the cost of laborers has not been included in the text.
- (m) (Item 9-A) The costs of a tractor and laborers which were used in these calculations must be included in the text on page 4-139.
- (n) (Item 9-B) These figures cannot be checked because the cost of laborers has not been included in the text.
- (o) (Item 9-C) The meaning of this is not clear; therefore, the stated total of \$115,024 cannot be checked. How was this total calculated?
- (p) (Item 10-A) These figures cannot be checked because the cost of laborers has not been included in the text.
- (q) (Item 10-B) These figures cannot be checked because the cost of laborers has not been included in the text.
- (r) (Item 10-C) Something is wrong with these numbers or calculations or both. The reviewer is unable to come up with the stated total of \$1,440. Was the previous cost of \$36.70 per hour for a supervisor used here? If not, then the cost used must be included in the text on page 4-140.
- (s) (Item 11-A) The costs of a 510 backhoe and laborers which were used in these calculations must be included in the text on page 4-141.
- (t) (Item 12-A) These figures cannot be checked because the cost of laborers has not been included in the text.
- (u) (Item 13-A) These figures cannot be checked because the cost of laborers has not been included in the text.

553. Backfilling and Grading (HS)

The postmining topography map (Plate 4-1/2 of 5) parallels the verbage on page 4-3 which describes the overall reclamation plan "to remove all fills from the canyon, invert to original bedrock." However, cross sections on Plate 4-2/5 of 5, don't

show backfilling against the highwall nor do they depict the postmining topography as depicted on Plate 4-1/2 of 5. Please make necessary changes.

R614-301-700 HYDROLOGY (TM)

727. Alternative Water Source Information

The information submitted on pages 4-151 and 4-152 contain language which does not meet the requirements of the law. The applicant will be forever responsible for loss or adverse impact of water rights due to mining and this liability is not tied to bond release. Please strike the language "prior to bond release" found on page 4-152.

Rule 727 asks for water availability and alternative water sources, including the suitability of alternative water sources for existing premining uses. The applicant has not provided this information.

The applicant also states "at its sole option", on page 4-151, it will replace or buy land and water rights. This language must be stricken from the permit and language, such as, "as determined" be implemented.

731.300 Acid- and Toxic-Forming Materials (HS)

The permittee discusses (page 2-171) the potential for toxic substance exposure and concentration. The permittee must describe field and laboratory methodologies employed to ascertain the quantity and quality of acid- and/or toxic-forming material within the facility areas. This would include the analysis of material in the vicinity of sample #1117. Disposal plans for acid- and/or toxic-forming materials must be accompanied by the following: disposal location and techniques; mining and postmining mass balance calculations; and cross-sections which confirm volume estimates. The permittee must also confirm the amount of cover over the coal waste within the tipple pad fill.

The operator must describe the disposal technique for sediment pond waste. Additionally, the permittee must commit to analyzing sediment pond waste for its acid- and/or toxic-forming potential.

All coal waste, whether acid or toxic forming, must be disposed of within approved portions of the permit area (R614-301-536 Coal Mine Waste). The permittee must remove statements which refer to removal of coal waste from the permitted area (page 4-76, etc.).

742.110 Sediment Control Measures (TM)

The applicant has not made an attempt to meet the requirements of R614-301-742 for the haul road reclamation plan. This erosion control plan must be generated and included as part of the permit application. The sediment pond area has been addressed (i.e. contour furrows). The remainder of the reclaimed area needs to have sediment control measure identified.

jbe
ATDBDTD