

0039



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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March 28, 1990

Mr. David R. Smaldone, Director  
Permitting, Compliance and Services  
Utah Power and Light Company  
Mining Division  
324 South State Street  
P. O. Box 26128  
Salt Lake City, Utah 84126-0128

Dear Mr. Smaldone:

Re: **Technical Deficiencies, Cottonwood/Wilberg Waste Rock Facility, Utah  
Power and Light Company, Cottonwood/Wilberg Mine, ACT/015/019,  
Folder #2, Emery County, Utah**

Enclosed are the Technical Deficiency comments attendant to the Permit Application Package for the Cottonwood/Wilberg Waste Rock Facility. If you or your staff have any questions concerning these comments, please call me.

Sincerely,

A handwritten signature in cursive script that reads "Pamela Grubbaugh-Littig".

Pamela Grubbaugh-Littig  
Permit Supervisor

djh  
Enclosure  
cc: V. Payne, UP&L  
A Team, DOGM  
AT45/183

**TECHNICAL DEFICIENCIES  
COTTONWOOD/WILBERG MINE WASTE ROCK  
STORAGE FACILITY ADDITION  
ACT/015/019**

**Utah Power and Light Company  
Emery County, Utah  
March 28, 1990**

**UMC 817.22 Topsoil: Removal-(HS)**

The topsoil stripping plan and the redistribution plan indicates a topsoil/subsoil deficiency at the time of final reclamation. The applicant must submit a topsoil/subsoil mass balance table which is consistent with commitments in the text (topsoil/subsoil redistribution depths equals 18 inches subsoil and 6 inches topsoil) and the topsoil/ subsoil stripping map. Mass balance calculations must include the following: estimated volume of suitable (considering percent coarse rock fragments) plant growth medium (separate between subsoil and topsoil); depth of estimated topsoil removal; topsoil/subsoil redistribution depths, disturbed acreage; volume of topsoil/subsoil required to redistribute over the entire disturbed area and surplus or deficit volume.

The applicant's proposal for stripping topsoil/subsoil may be contingent upon the percentage of coarse rock fragments in the soil profile. Topsoil/subsoil salvage procedures must assure that salvaged material is comprised of no more than 50 percent coarse rock fragments.

The applicant must depict the soil sample site locations on the topsoil stripping map (Plate 7-2).

**UMC 817.23 Topsoil: Storage-(HS)**

Cross-sectional drawings (Plate 4-10) depict waste rock contacting and covering stockpiled subsoil. These designs must be revised so that stockpiled subsoil is placed in such a manner as to minimize the contribution of contaminants which lessen the capability of the stockpiled material to support vegetation when redistributed.

The Phase I reclamation map must depict a topsoil and subsoil stockpile. Topsoil/subsoil must be available for the reclamation of the sedimentation pond.

**UMC 817.24 Topsoil: Redistribution-(HS)**

On page 3-4 of the PAP the applicant must commit to ripping regraded soils (i.e., waste rock) to a depth of 18 inches and prior to subsoil redistribution.

The applicant must commit to maximize surface roughness during seedbed preparation.

**UMC 817.42 Hydrologic Balance: Water Quality Standards and Effluent Limitations-(TM)**

The applicant has addressed the disturbed and undisturbed drainage control for the site using the 100-year, 6-hour storm criteria. The site was divided into four subwatershed areas as shown on Map 4-2. The curve number methodology was used to generate peak flows using a 100-year, 6-hour storm event. The sediment pond was sized using the 10-year, 24-hour storm volume with a non-erodible open spillway capable of passing the 100-year, 6-hour storm event. The following information is missing and must be submitted to meet the requirements of UMC 817.42:

1. State of Utah UPDES permit for the sediment pond.
2. Demonstration of detention time or inclusion of a non-clogging dewatering device on sediment pond.
3. Discussion in the text of reclamation sequencing of drainage control, or monitoring of reclaimed drainage is included. The applicant must commit to a water quality parameter list and a method for obtaining the data.

In regards to areas treated by BTCA other than a sediment pond, the applicant has identified these areas on Plate 4-2 as the access road and Area 1-D. The treatments for these areas are discussed in the PAP on pages 2-5 through 2-7. The applicant must modify the appropriate text in the PAP to include a reference to Plate 4-2, so it is perfectly clear what areas will be treated and by what treatment methods.

**UMC 817.43 Diversions and Conveyance of Overland Flow-(TM)**

Diversions (DA and DB) shown on Plate 4-12 were described using general designs applied to the site as the pile grows (see Exhibit IV). Erosion and riprap requirements were based on a five feet per second velocity criteria. This may or may not be appropriate as cited in various hydrologic references. The applicant will need to commit to the repair of gullies which form in either Ditch DA or DB, as well as installation of velocity controls (i.e., riprap, rock gabions, etc.) which will prevent gullying, should it become an obvious problem. A determination regarding Ditch DA and DB and riprap installation will be made based on operational performance.

The following information is still needed for the access road culverts.

1. Dimensions and rock size associated with the inlet and outlet protection of the access road culverts draining watershed area 3 and 5.

2. A trash rack design submitted for all access road culvert installations.
3. The applicant must apply for Channel Alteration Permits from the Division of Water Rights for alterations to all natural stream channels.

#### **UMC 817.44 Hydrologic Balance: Stream Channel Diversions-(TM)**

The applicant is committed to reclaiming all drainages along the access road to natural pre-mining conditions. Actual preexisting channel photo documentation will be required for all drainage crossings. Cross sections are shown on Plate 4-9 showing existing natural ground and proposed road grade. Reclamation will return the roadway to the pre-existing grade. This reclamation procedure is acceptable for these four drainages, if proper documentation of existing channel configurations is included in the PAP.

The reclaimed drainage for the waste rock pile is described on pages 3-5 and 3-6 of the PAP. The designs given are the same as the operational designs for channel DA given on page 4-14 and shown on Plate 4-12. The applicant does not consider that final reclamation will include the drainage from Ditch DB as well and that the final reclamation plan has to show the total watershed area associated with all reclaimed drainages.

The applicant needs to include the following additional information:

1. Actual access road channel dimensions and photo documentation of all crossing points.
2. Total watershed area and designs for the reclaimed drainages associated with the waste rock pile.

#### **UMC 817.46 Hydrologic Balance: Sediment Ponds-(TM)**

The applicant has designed this pond using the requirements of the proposed Utah Rule 742.220. The applicant has failed to provide the following designs which are needed to complete the technical review:

1. Stage-discharge curve;
2. Stage-volume curve;
3. Sediment storage elevation and cleanout elevation clearly marked on Plate 4-13
4. A non-clogging dewatering device set at least one foot above the maximum sediment storage volume; and
5. A UPDES permit.

**UMC 817.48 Hydrologic Balance: Acid and/or Toxic-Forming Materials-(HS)**

As stated on page 2-9 "(during construction)... acid and toxic-forming materials will be disposed of according to UMC 817.48, 817.71(J), 817.81 and 817.103." Please explain how acid and/or toxic-forming materials will be identified.

**UMC 817.52 Hydrologic Balance: Surface and Ground Water Monitoring-(TM)**

The Division has reviewed the data submitted and would like to point out that two years of baseline data is considered acceptable to the Division prior to permit approval. The applicant must demonstrate that he has collected two years of baseline data.

A design for the physical collection of water data from ephemeral drainages and sediment pond discharges will be required to complete this permit. Assistance for the appropriate collection methods can be requested from the Division if so desired.

**UMC 817.95 Air Resources Protection-(JK)**

The applicant must obtain an Air Quality Approval Order before operation of the Waste Rock Storage Facility can commence. An application must be submitted to the Bureau of Air Quality.

**UMC 817.97 Protection of Fish, Wildlife and Related Environmental Values-(SMW)**

The applicant must commit to notify the Division of any threatened or endangered species or any bald or golden eagle not previously reported, should they be observed.

Page 9-3.1 revised, refers to Chapter III, Section VI; no Section VI exists. Please clarify.

**UMC 817.100 Contemporaneous Reclamation-(HS)**

The applicant's plan for the operational construction of the waste rock storage facility is unacceptable. Reclamation (i.e., backfilling and grading, topsoil replacement and revegetation) of land disturbed by surface operations shall occur as contemporaneously as practicable (UMC 817.100). The applicant's design does not incorporate a regular, phase reclamation schedule which would reclaim the outslopes (final grade) of the proposed waste rock facility.

Storage of waste rock in one continuous storage cell for a period of up to 30 years will increase the likelihood of sustained combustion, increase the rate and amplitude of upward migration of the highly soluble salts indicative of the waste rock (mud and silt stones) produced by mining operations, exacerbate the emission of fugitive dust (UMC 817.95(b) (6 & 11), and render topsoil (silty clay loams) placement on the outslopes of the waste rock impractical (slope gradient = 2h:1v; slope length less than 150 feet).

#### **UMC 817.101 Backfilling and Grading-(JK)**

The applicant stated that material placed in the fill will be thoroughly mixed to blend the materials. An explanation of how this will be accomplished must be included in the text.

The construction period does not specifically include the placement and compaction of fill materials (page 2-15). This certified inspection must be included as a critical construction period for inclusion in the PAP.

#### **UMC 817.103 Covering Coal and Acid- and Toxic-Forming Materials-(JK)**

The applicant must explain how the acid- and toxic-forming materials will be identified in the waste rock storage facility; i.e., the sampling program to be undertaken must be submitted for inclusion in the PAP.

#### **UMC 817.106 Regrading or Stabilizing Rills and Gullies-(JK)**

The applicant committed to fill or regrade rills and gullies within a reasonable time frame barring weather conditions, lack of manpower, or equipment. The qualifier of weather conditions is acceptable but lack of equipment or manpower is not acceptable and must be removed from the text (page 2-19).

#### **UMC 817.111 Revegetation: General Requirements-(SMW)**

A statement must be included with your hydroseeding methods that incorporates the following:

1. Whenever possible, hydroseeded areas will be hand or mechanically raked to cover the seed.
2. The seed and water slurry will remain in the hydroseeder for no longer than two hours.

A commitment to provide copies of inspection certificates for the hay mulch and seed to the Division must be included in the PAP.

A statement that the Division will be notified prior to the beginning of revegetation activities must be included in the PAP.

**UMC 817.113 Revegetation: Timing-(SMW)**

Page 3-13 refers to shrub species on page 3-8; however, no shrub species are on page 3-8. Please clarify.

**UMC 817.112 Revegetation: Use of Introduced Species-(SMW)**

Two introduced species are proposed for use in the interim and final seed mixes. A justification of their use must be included in the PAP.

A revegetation schedule is shown on page 3-15.1. A statement to commit to this schedule or make allowances for interim soil erosion control must be included in the PAP.

**UMC 817.114 Revegetation: Mulching and Other Soil Stabilizing Practices-(SMW)**

When using hydromulch, specify "wood fiber" hydromulch. Please change text accordingly for inclusion in the PAP.

**UMC 817.116 Revegetation: Standards for Success-(SMW)**

The Waste Rock Storage Facility will disturb three vegetative communities. Will three vegetative communities be reestablished? How is the applicant going to compare reference areas or establish a success criteria? An explanation must be submitted for inclusion in the PAP.

**UMC 817.150-.156 Roads: Class I-(JK)**

The applicant must address the access road as a Class I haul road because it is transporting "coal". A commitment to submit certified as-built drawings of the road must be included in the PAP.

The maintenance of the road must be addressed in the PAP.