

#3893

Q

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

October 6, 2011

TO: Internal File

THRU: Steve Christensen, Hydrologist and Team Lead *SCC*

FROM: James Owen, Engineer *JEO*

RE: Excess Spoils Disposal Area #2, Sunnyside Cogeneration Associates, Sunnyside Refuse & Slurry, C/007/0035, Task #3893

SUMMARY:

On August 18, 2011, the Division of Oil Gas & Mining received an application for a permit amendment to the Sunnyside Cogeneration Associates (SCA) Mining and Reclamation Permit (MRP). The application states that SCA's operations at their mine site have progressed to the point where it is necessary to begin expansion of Excess Spoils Disposal Area #2. The amendment includes drawings for both a Phase 2 and Phase 3 portion of the expansion. Text describing the design and reclamation work that is needed is also included in the amendment. Bonding calculations have been updated to reflect the additional cover depth that will be needed for reclamation.

This memo addresses compliance with the engineering (R645-301-500) and bonding (R645-301-800) sections of the Utah Coal Mining Rules.

TECHNICAL MEMO

TECHNICAL ANALYSIS:

OPERATION PLAN

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:

The northeast portion of the Permit Area was formerly occupied by the Slurry Ponds #1 and #2 and the Clear Water Pond. This area has been approved as a permanent disposal area for excess spoil and coal mine waste. Phase 1 of this Disposal Area has a capacity of approximately 217,000 cubic yards.

Phase 2 of the Excess Spoil Disposal Area #2 is located on the site of Storage Area 33 (capacity 350,000 + cubic yards). Phase 3 is located on area currently occupied by portions of the Course Refuse Pile and Borrow Area and on the former East Slurry Cell (capacity 710,000 + cubic yards). Filling areas on Phase 2 and 3 will attempt to return the site to the approximate original contours or similar to such. The site is designed with a mild out slope no steeper than 4H:1V for positive drainage.

Geotechnical studies included in Appendix 9-2 indicate that the typical reject material being placed in the disposal area will have a stable slope at 2.5H: 1V. The applicant states that since the fill is designed with a more mild slope, it will have no trouble attaining a minimum long-term static safety factor of 1.5. The foundation and abutments of the fill are placed against the excavated embankments left from the excavations. The applicant states that they will be stable under all conditions of construction.

Excess spoil and coal mine waste will be transported and placed in a controlled manner in horizontal lifts not exceeding 2 feet in thickness; concurrently compacted as necessary to ensure mass stability and to prevent mass movement during and after construction. Grading will be done so that surface and subsurface drainage is compatible with the natural surroundings; and covered with topsoil or substitute material.

Findings:

Contents and information provided are sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules.

RECLAMATION PLAN

APPROXIMATE ORIGINAL CONTOUR RESTORATION AND BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764. 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

Analysis:

Filling areas on Phase 2 and 3 will attempt to return the site to the approximate original contours or similar to such. The site is designed with a mild out slope no steeper than 4H:1V for positive drainage.

Grading will be done so that surface and subsurface drainage is compatible with the natural surroundings; and covered with topsoil or substitute material.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Updated maps were included with the amendment. Some maps had a PE Stamp, though they were not properly certified.

Findings:

Contents and information provided are not sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules. The following deficiency was identified:

- **R645-301-512** Maps, cross-sections and drawing must be properly certified. Proper certification includes signature, seal, and date. The Division recommends that the

TECHNICAL MEMO

applicant follow the requirements detailed in State Rules R156-22-601 for seal requirements

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

Updated bonding calculations were provided. For escalation, the applicant included a 5-year term at a rate of 0.50%. According to R645-301-830.300, An additional inflation factor will be added to the subtotal for the permit term. The Division has determined that an inflation factor of 1.7% is appropriate. This inflation factor is based upon an acceptable Costs Index. R645-301-830.410. states that the amount of the bond or deposit required and the terms of the acceptance of the applicant's bond will be adjusted by the Division from time to time as the area requiring bond coverage is increased or decreased or where the cost of future reclamation changes. The Division may specify periodic times or set a schedule for reevaluating and adjusting the bond amount to fulfill this requirement.

Findings:

Contents and information provided are not sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules. The following deficiency was identified:

- **R645-301-830.300** Escalation factor estimates must be updated to the current values in terms of escalation rate. The applicant must include a 1.7% rate over a 5-year term.

RECOMMENDATIONS:

The amendment is not recommended for approval.