

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

August 22, 2006

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor *pegl*
Priscilla W. Burton, Environmental Scientist/Soils, Team Lead *PWB by an*

FROM: Peter H. Hess, Environmental Scientist/Engineering *PHH by an*

RE: Restart Preparation Plant, Savage Services Corporation, Savage Coal Terminal, C/007/022, Task ID #2599

SUMMARY:

The Permittee has contracted with Canyon Fuel Company, LLC, to wash a volume of high-ash coal generated at the CFC Dugout Canyon Mine. This product has been in storage at the Dugout Mine waste rock site.

The Permittee submitted an application to the Division on June 12, 2006 to restart the wash plant that had been constructed by the Beaver Creek Coal Company in 1979, and idled in 1984. The proposal includes new equipment and structures for the facility; three new conveyors are to be installed, and a refuse conveyor which previously discharged coal processing waste from the plant, but which was dismantled, is to be upgraded and relocated with a new refuse conveyor.

The restarting of the wash plant will also require that the Permittee temporarily store coal processing waste at the Savage facility, until a sufficient volume is generated for return shipment to the Dugout Mine waste rock facility, where the material will see final deposition.

The Division has identified the review of this proposal as Task ID #2549.

Task ID #2549 contained deficiencies that were forwarded to the Permittee on July 21, 2006. The Permittee responded to those deficiencies on August 7, 2006.

The Division identified the August 7, 2006 response as Task ID #2599.

This tech memo will address the adequacy of this proposal and its subsequent deficiency response as it relates to the engineering requirements of the R645 Coal Mining Rules.

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TECHNICAL ANALYSIS:

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR 784.2, 784.11; R645-301-231, -301-526, -301-528.

Analysis:

The Permittee is proposing to construct three new belt conveyors in conjunction with the start up of the wash plant facility. The proposed conveyors are described on page 3-27, section 3.2.5.3, Conveyors, as well as in **Appendix 3-8, New Preparation Plant Conveyors**.

Conveyor #1b is described as a 36-inch conveyor having a length of 233 feet. Conveyor #1b is a reclaim conveyor, and it will convey raw coal from the stacking tube area permitted under Task ID #2463 into the wash plant for processing. This conveyor is supported by bents mounted on three concrete footers, which are depicted on Drawing #0604-4-103. This conveyor is also identified as **BC-02** on the Mine and Mill Engineering on Drawing #0604-2-100.

Conveyor #1c is a thirty-six inch conveyor having a length of 130 feet. This conveyor is named the "clean coal-stacking conveyor" and is the conveyance mechanism of a radial stacker. The radial stacker will stockpile coal on the north side of the wash plant building (Refer to drawing #0604-2-100). This conveyor will require a pivot-point footer, and a radial pad for the travel of the conveyor. This is conveyor **BC-05** on Drawing #0604-2-100.

Conveyor #1d is a thirty-six inch conveyor having a length of 200 feet. This conveyor will carry $\frac{1}{4}$ inch coal from the wash plant to the raw coal pile to the west. Conveyor #1d is identified as **BC-03** on the Mine and Mill Engineering Drawing #0604-2-100.

The refuse conveyor is a re-located thirty-six inch conveyor that will be 101 feet long. This conveyor will discharge into the same bin that was utilized by the plant from 1979 through 1984. This conveyor is identified as conveyor **BC-04** on Drawing #0604-2-100.

The submitted text and detailed design drawings for the conveyors which are to be added are adequate to demonstrate how each facility will comply with applicable performance standards (See **R645-301-526.220**).

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Page 3-3, section 3.2.3.3, Coal Processing Waste Disposal, describes how coal-processing waste from the washing of the Dugout Canyon Mine product will occur. Waste generated will be conveyed out of the plant on conveyor BC-04 where it will be stored in a bin designed for that purpose. When the bin reaches capacity, the refuse material will be hauled to a “temporary” storage site in the vicinity of the east or west side of the established Coal Terminal waste rock storage facility. The language submitted in paragraph 3 (page 3-3, section 3.2.3.3) is unclear, as it states that the refuse will only be stored until the Dugout Mine has a permanent refuse pile permitted through the DOGM.

As of the date of this document, the CFC operation has a permitted waste rock site.

The application must include a description as to how the coal mine waste will be temporarily stored such that it meets the requirements of R645-301-536.200, 536.210, 536.230, and 536.320.

The Division must set limits on the maximum volume of refuse to be “temporarily” stored, as well as the “maximum” amount of time that this material can be stored.

- 1) The Division stipulates that a 7,500 ton limit be placed on the “temporary” storage pile volume.
- 2) The Division stipulates that the 7,500 tons in temporary storage not be allowed to sit longer than ninety days, before it is hauled to the permanent waste rock site (the Dugout Canyon Mine waste rock pile) for disposal.
- 3) If it is necessary to store the 7,500 tons longer than the established ninety day period, the Permittee (Savage Services Corporation) shall take at least two representative samples of the waste material and have it analyzed for acid and toxic potential. Those laboratory results shall be forwarded to the Division on a quarterly basis, and will also be provided in the Annual report for the Savage Coal Terminal.

The Permittee must commit to complying with these requirements by including text relative to these requirements for incorporation into the text of the mining and reclamation plan.

The response received from the Permittee on August 7, 2006 (Task ID #2599) indicates on page 3-3a (Task ID #2599) that the procedures for spreading and compaction of the refuse material in the approved plan are adequate to provide for mass stability and prevent combustion of the material.

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Procedures for dumping, spreading, and compaction are established in section 3.2.3.3, **Coal Processing Waste Disposal**, pages 3-15 and 3-16. Plate 3-3, **Refuse Disposal Plan**, depicts a plan view showing three refuse disposal areas at the Coal Terminal.

The approved plan establishes the following criteria for the placement and compaction of refuse material:

- 1) The moisture content of the material shall be within 10% and 12% for effective compaction.
- 2) (Placed) refuse piles shall be knocked down and spread at least every other day.
- 3) Compaction should take place during the spreading operation.
- 4) If material is too wet, drying time is to be implemented.
- 5) The material should be compacted in layers, not to exceed 24 inches.
- 6) Compaction should occur until 90% compaction of maximum dry density is achieved.
- 7) "The pile will be graded and maintained in a manner to allow drainage and prevent water impoundment as per the plan on Plate 3-3" (See page 3-16 of the MRP).

R645-201-513.400, Compliance with MSHA Regulations

R645-301-513.400 requires that refuse piles "will meet the requirements of MSHA, 30 CFR 77.214 and 30 CFR 77.215 (see R645-301-536.900)".

The refuse facility depicted as A-A' (Refuse Area #2, 369 acres) shows a pile length of 1460 feet, and a maximum height of sixty-one feet. The SE corner of this pile is depicted as having a vertical angle of 17 degrees forty-five minutes, or approximately a 1V:3H slope.

Refuse Area #2 is the area of concern relative to the storage of coal processing waste from the washing of the Company high-ash product. As already noted, layers not exceeding 2 feet in thickness will be established, with appropriate compaction requirements. The vertical angle on the SE corner of this pile is less than 18 degrees, which is less than the 27 degree vertical angle established within 30 CFR 77.215 (h). Thus, the Permittee has provided engineering data which indicates that the pile will be constructed in a manner which ensures that the minimum static safety factor of 1.5 can be met, (i.e., the vertical angle of the SE slope is nine degrees less than the 27 degree (2H:1V) maximum established in 30 CFR 77.215).

Refuse pile #3 (cross section B-B') is 800 feet long and has a vertical height of eight feet.

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Refuse area #1 is where the present day truck dump is located. Refuse has been placed between two earth work embankments as fill material. Cross section C-C' is a pentagon, with no two sides having equal length.

Plate 3-3, Refuse Disposal Plan, received a P. E. certification from Mr. Dan Guy, Utah registered professional engineer on December 19, 1991.

Figure 3-3B, Mountain Coal Company, C.V. Spur – Refuse Pile, is an “As-Built” of pile A-A' (Refuse Area #2), which is the main refuse storage facility at the Coal Terminal. Subsequent permitting actions relative to the re-mining of this pile for material shipments to Sunnyside Cogeneration Associates, COVOL and DTE have changed the configuration of this pile. Although Figure 3-3B is P.E. certified by Mr. Dan Guy, (December 1991) the Plate is out of date and can no longer be considered as a valid document in the MRP.

Revised page 3-3a (Task ID #2599, received August 7, 2006) indicates that the coal processing waste which will be generated by the washing of the Company high-ash coal “will be placed on the west end of the existing refuse pile (Refuse Area #2), in the location where refuse has been previously removed for Sunnyside Cogeneration”.

A stipulation for approval exists; the Permittee **must not mix** the high-ash coal processing waste from the Company (i.e., Canyon Fuel Company) with material already placed in Refuse Area #2. **The two areas must remain segregated.**

The refuse pile construction guidelines established within the approved MRP meet the minimum regulatory requirements of the R645 Coal Mining Rules.

Findings:

The application meets the minimum regulatory requirements of the R645 Coal Mining Rules.

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: 30 CFR784.17; R645-301-411.

Analysis:

These regulations are not applicable to this permit amendment.

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Findings:

These regulations are not applicable to this permit amendment.

AIR POLLUTION CONTROL PLAN

Regulatory Reference: 30 CFR 784.26, 817.95; R645-301-244, -301-420.

Analysis:

The Permittee recently submitted an application to the Utah DEQ / Division of Air Quality to increase the throughput for the Savage Coal Terminal from 8 MTPY to 10 MTPY. That application also included the three new conveyors being permitted through the Task ID #2549 application. The Utah DAQ has essentially approved that increase in throughput, as the permit modification is currently within the thirty-day public comment period.

Findings:

Upon final approval of the revised Air Quality permit, the minimum requirements of this section will have been met.

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:

Refuse Piles

The Task ID #2599 submittal describes how the processing waste from the washing of the Dugout Canyon Mine product will be handled after it reaches the refuse bin associated with the wash plant facility. It is obvious that the waste will require temporary storage until a sufficient amount is generated to quantify shipment to the Dugout Canyon Mine waste rock facility.

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Findings:

Task ID #2599 meets the minimum regulatory requirements of this section of the R645 Coal Mining Rules.

RECOMMENDATION:

Task ID #2599 should be approved with the stipulation that high-ash reject from the washing of the Dugout Canyon Mine coal not be mixed with material that presently exists in Refuse Area #2.

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