



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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September 20, 1999

TO: File

THRU: Daron Haddock, Permit Supervisor *DH*

FROM: Wayne Western, Reclamation Specialist *WHW*

RE: Bond Amount, PacifiCorp, Cottonwood/Wilberg Mine, ACT/015/019, File #2, Carbon County, Utah

### Summary:

The bond for the Cottonwood/Wilberg Mine must be increased to at least \$3,911,000.

### Analysis:

In a letter dated September 1, 1999, Energy West requested that the Division review the following items in the Cottonwood/Wilberg bond:

1. Use of *R.S. Means* city cost indexes for cost estimating.
2. Justification/Substantiation of indirect cost percentages.
3. Correction of data entry errors in the bond calculations.
4. Evaluation of equipment costs from *R.S. Means*.

### Location Factor:

In an E-mail dated September 10, 1999, to Wayne Western from Bob Willey, the Permittee stated that they no longer believe that a location factor was needed for the *Means* costs. The Division agreed with the Permittee's conclusion.

### Justification/Substantiation of indirect costs:

In a meeting held at Energy West's Huntington office on September 8, 1999, Bob Willey and Chuck Semborski stated that they agreed with the Division on the following indirect costs.

- The contingency factor should be 10% of the direct costs
- Startup costs should be 5% of direct costs

Energy West wanted more substantiation on the following indirect costs:

- **Engineering redesign:** The Permittee request that the Division use historic and current costs to estimate the engineering and redesign factor. The Division has reclaimed only one major abandoned coal mine under Title V Program, the Sunnyside Mine. The engineering and redesign costs for small coal projects and metal mines are a much higher percentage of the total cost than for a large coal mines. The engineering and redesign costs for small l mines are often 50% of the on site work.

The engineering and redesign costs for the Sunnyside Mine were \$178,000. The contract was awarded to Montgomery Watson. The on the ground costs at the Sunnyside Mine are \$1,646,673.68. The engineering and redesign contract was 10.8% of the on the ground costs. If one assumes that the contractor included a 5% mobilization factor and a 10% contingency factor into the bid then the engineering costs would be 12.4% of the direct costs.

The Division currently uses an engineering factor of 5% of the direct costs. The 5% figure was based on extrapolating engineering costs for metal mines and small coal projects and from *Means*. *Means* costs for engineering are based on construction not reclamation projects. The line item that most closely represents engineering costs for a reclamation project is landscaping and sites development. The range is from 2.5-6%.

The Division will change the engineering and redesign costs from 5% of the direct costs to 10%. Note: The contract management factor has been reduced from 10% to 5%, no change was made to the total indirect costs.

- **Contract management:** As of September 4, 1999, the Division has spent \$106,782 on salaries and equipment to manage the Sunnyside reclamation project. The contract management fee has been 6.5% of the on site work. If one assumes that the contractor included a 5% mobilization/demobilization factor and 10% contingency factor then the contract management factor would be 7.5% of the direct costs. Note: no overhead has been charged to the Sunnyside project. On most AMR projects the overhead is 35-40% of the project.

The contract management factor used by the Division was based on the markup of a general contractor for work done by subcontractors. The Division estimated that a general contractor would charge 10% of the direct costs to manage the project. The 10% figure was based on estimates from *Means*.

The total costs for engineering and contract management for the Sunnyside project are 17.3% of the on the ground costs. The Division's estimates for engineering and contract management fees are 15% of the indirect costs. To be consistent with actual costs, the **Division will change the contract management fee from 10% to 5% and the engineering/redesign fee from 5% to 10%.**

- **Monitoring and Maintenance:** The Division uses a standard rate of 10% for monitoring and maintenance. The 10% figure was based on how much bond would be withheld at the end of Phase II. The Division is now reviewing the process for determining the amount of the bond that should be released at the end of Phase I and Phase II.

The minimum amount of the bond that would be retained must cover the cost of totally revegetating the site. See R645-301-880.320. The current monitoring and maintenance cost is \$235,096; the cost to revegetate the site is \$273,160. The Division set the monitoring and maintenance cost will be \$273,160 to insure complete reclamation.

**Data Entry:**

In the September 8, 1999 meeting, the data issue was resolved.

**Unit Costs:**

In the September 8, 1999 meeting, the unit cost issue was resolved.

**Findings:**

The current bond amount is inadequate to insure reclamation:

**R645-301-840,** The Permittee must submit a bond to the Division for the Cottonwood/Wilberg Mine in the amount of not less than \$3,911,000.

## Total Reclamation Costs Cottonwood/Wilberg Mine

Demolition Costs	\$1,053,463
Earthwork Costs	\$589,841
Revegetation	\$707,660
Total Direct Costs	\$2,350,964
Indirect Costs	
Maintenance and Monitoring	\$273,160
Contingency (10%)	\$235,096
Engineering Redesign (10%)	\$235,096
Startup Includes Mob/Demob (5%)	\$117,548
Contract Management (5%)	\$117,548
Total Indirect Costs	\$978,448
Reclamation Costs	\$3,329,412
Inflation @ 3.27% for 5 years	\$581,143
Bond Amount in 2004 dollars	\$3,910,555
Bond Rounded to nearest \$1,000	\$3,911,000