



Public Service Commission

State of North Dakota

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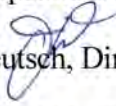
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Memorandum

TO: Mine Operators and Lignite Energy Council

FROM:  Jim Deutsch, Director – Reclamation Division

DATE: July 24, 2013 (Corrected)

SUBJECT: Annual update of variable costs contained in Policy Memorandum No. 16 to Mine Operators - Reclamation Cost Estimating Guidelines

Attached is the July 2013 variable costs update to the Reclamation Division's Reclamation Cost Estimating Guidelines used for calculating worst-case bond amounts for mining permits. This annual update contains the variable costs as of July 1, 2013. Several of the variable costs are affected by this update, with a significant increase in the cost of fuel. The average hourly rates of the listed equipment for the large mines have increased by about 3% over the July 1, 2012 rates. Attached is a breakdown of the hourly equipment rate changes for 2013. When combining the 2013 increases with those for last year (when companies were not necessarily required to update worst-case reclamation cost estimates), the average increase from the July 2011 hourly equipment rates is about 8%. Therefore, mining companies will be required to update the current worst-case reclamation cost estimates using the July 1, 2013 rates.

Unless a pending or new revision application will be approved before the end of this year that revises the current worst-case reclamation condition in the bond area(s) at the active mines, separate revision applications must be filed to update reclamation cost estimates. **Permit revision applications must be filed by December 1, 2013, for each active mine (or permit area) to update the current reclamation cost estimate using the 2013 variable costs attached to this memo.** If you believe the worst-case reclamation condition described in the current reclamation cost estimate has passed, please contact us and we will review that cost estimate to determine if any changes are needed.

The equipment list prices and suggested residual values were obtained from Butler Machinery. The fuel cost, an average cost over the past 12 months, was obtained from AAA this year since Fleet Services with the N. D. Department of Transportation no longer maintains this data. Average tire prices are based on quotes received from OK Tire, Lignite Tire, and GRC Tire. The seed prices were obtained from Chesak Seed House in Bismarck. Custom farm work rates are based on 2010 data published by the ND Agricultural Statistics Service.

For small mines, the \$1.20 per cubic yard rate remains unchanged based on the bids the Commission's AML Division received this year. No updates to the worst-case reclamation cost estimates for small mines will be required this year due to the 2013 update of variable costs.

Attachments

Minedata/memo industry/2013/bond_var_cost_update_7-24-13(corrected).docx

POLICY MEMORANDUM NO. 16 TO MINE OPERATORS

RECLAMATION COST ESTIMATING GUIDELINE

VARIABLE COSTS

APPENDIX

July 2013 Data

Per Cubic Yard Earth-moving Cost for Small Mines

Costs for backfilling and grading and suitable plant growth material respread where the total quantity to be moved is 500,000 cubic yards or less will be calculated at a rate of \$1.20 per yard. (This rate will be reviewed and updated on July 1 of each year.)

Equipment Prices and Replacement Tire Prices

The following equipment prices were furnished on June 16, 2013, by Greg O'Shea of Butler Machinery as the current list price delivered as commonly equipped for reclamation work. These prices include a 5% discount and no taxes.

<u>Item</u>	<u>List Price Discounted</u>
D11T Tractor w/U Dozer & Ripper	2,370,000.00
D10T Tractor w/U Dozer & Ripper	1,500,000.00
D9T Tractor w/U Dozer & Ripper	1,070,000.00
657G Scraper w/Push-Pull	1,950,000.00
637G Scraper w/Push-Pull	1,300,000.00
993K Wheel Loader with 15 CY Bucket	2,750,000.00
777F End Dump Truck	1,995,000.00
16M Motor Grader w/Ripper	970,000.00

The following average current tire prices were furnished by OK Tire, Lignite Tire and GRC Tire.

<u>Equipment</u>	<u>Tire Size</u>	<u>Price Each</u>
657G Scraper	40.5/75 R39 (E-3)	18,473.00
637G Scraper	37.25R35 (E-3)	11,157.00
16M Motor Grader	23.5 R25 (E-4)	5,397.00
993K Wheel Loader	50/65 R51(L-5)	47,282.00
777F End Dump Truck	27.00R49 (E-4)	16,095.00

Residual Values for Reclamation Equipment

The following are the residual percentages and values to be used for determining the cost per hour of reclamation equipment. Values shown are from contact with Brian Rebel of Butler Machinery.

<u>Item</u>	<u>Percentage of Original Cost</u>	<u>Residual Value</u>
D11T Tractor w/U Dozer & Ripper	35	830,000.00
D10T Tractor w/U Dozer & Ripper	40	600,000.00
D9T Tractor w/U Dozer & Ripper	37	400,000.00
657G Scraper w/Push-Pull	27	525,000.00
637G Scraper w/Push-Pull	38	500,000.00
16M Motor Grader w/Ripper	46	450,000.00
993K Wheel Loader W/15 CY Bucket	38	1,050,000.00
777F End Dump Truck	38	750,000.00

Prime Interest Rate

The prime interest rate to be used for the calculation of interest on reclamation equipment is 3.25% for July 1, 2013, to June 30, 2014. Therefore, the total interest rate to be used for calculations is 5.25% as determined according to item III(A) on page 6 of this guideline.

Fuel Cost

The cost of fuel for reclamation equipment from July 1, 2013 to June 30, 2014 is based on the average retail price for diesel in North Dakota from July 1, 2012 to June 30, 2013 obtained from AAA's daily fuel gauge report which is \$3.3832 per gallon. Price includes cost of fuel, an administrative fee of \$0.012 per gallon and an oil fuel spill fee of \$0.0019 per gallon. Federal and state taxes are excluded from this price.

Wages and Benefits

The revised wage rates were obtained from the Operating Engineers Local on June 25, 2013, for Group 3 operators for Heavy Industrial. The updated base rates for workers compensation, unemployment benefits and social security were obtained from the respective agencies.

Hourly Rate for Labor - Group III	27.00
Health, Welfare, & Apprenticeship/Hour - Group III	16.10
Insurance - Assumed 1% of Hr. Labor Rate	0.27
Social Security - 7.65% of Hr. Labor	2.07
*Workers Compensation – 1.38% of Hr. Labor $[(\$581.94) / (\$27.00 \times 2080 \text{ Hr.} \times 0.75) = 0.0138 \text{ or } 1.38\%]$	0.37
*Unemployment – 6.71% of Hr. Labor $[(\$3,110.04 / (\$27.00 \times 2080 \text{ Hr.} \times 0.75) = 0.0738 \text{ or } 7.38\%]$	1.99
Total Hourly Operator Cost	\$47.80

*Based on 40 hour week for 9 months of the year

Custom Farm Work Rates

The following custom farm rates are taken from the publication "Custom Farm Work Rates, North Dakota, 2010" published by the NDSU Extension Service.

<u>Item</u>	<u>Rate/Acre</u>
Deep Chiseling	9.09
Small Grain Seeding	10.93
Application of Dry Fertilizer	5.17

Fertilizer

The cost of 11-52-0 fertilizer for use in reclamation is \$650 per ton on July 11, 2013. This price is based on rates from Agrilience-Agronomy Center.

Tree Prices

The cost of planting trees and shrubs on reclaimed land was determined by data provided by Natural Resource Conservation Office in Mercer County. (price includes planting)

\$21.50 per hundred feet of trees
\$52.00 per hundred feet of fabric

Seed Prices

The seed prices on the following page were determined based on a quote from Chesak Seed House in July 2013. (Seed prices are highly variable and may not reflect prices of seed later this year or next spring.)

2013 SEED PRICES

<u>Native Grasses</u>	<u>Cost/lb PLS</u>	<u>Introduced Grasses</u>	<u>Cost/lb PLS</u>
Big bluestem	<u>14.95</u>	Crested wheatgrass	<u>3.25</u>
Blue grama	<u>25.00</u>	Intermediate wheatgrass	<u>5.25</u>
Canada Wildrye	<u>11.50</u>	Pubescent wheatgrass	<u>5.50</u>
Green needlegrass	<u>9.50</u>	Russian wildrye	<u>5.50</u>
Indian Grass	<u>12.50</u>	Smooth bromegrass	<u>4.00</u>
Little bluestem	<u>15.50</u>	Tall wheatgrass	<u>4.50</u>
Prairie sandreed	<u>23.50</u>	Legumes	
Sand bluestem	<u>16.00</u>	Alfalfa	<u>3.00</u>
Sideoats grama	<u>15.50</u>	Sweetclover yellow-flowered	<u>1.75</u>
Slender wheatgrass	<u>3.50</u>		
Switchgrass	<u>8.75</u>		
Thickspike wheatgrass	<u>8.25</u>		
Western wheatgrass	<u>8.25</u>		
Prairie junegrass	<u>28.00</u>		
Buffalo Grass	<u>18.50</u>		

July 1, 2013

HOURLY EQUIPMENT COST ESTIMATING FORM - LARGE MINE FLEET

***This information to be used in bond cost estimating calculations and can be inserted into a spread sheet to calculate the bond amount.

OWNERSHIP ASSUMPTIONS, INTEREST AND INSURANCE RATES:

Estimated Ownership Period (yrs)	7	Annual Use-hr	3,000	SCRAPER-657G	SCRAPER-637G	GRADER-16M	WATER-WAGON	LOADER-993K	TRUCK-777F
Interest-%		Interest-%	0.75	DOZER-D9T	DOZER-D10T	DOZER-D9T	DOZER-D10T	DOZER-D9T	DOZER-D10T
Sales Tax-%	5	Sales Tax-%	5	SCRAPER-657G	SCRAPER-657G	SCRAPER-637G	SCRAPER-657G	SCRAPER-637G	SCRAPER-657G
		Total Life-hr	20,000	SCRAPER-657G	SCRAPER-657G	SCRAPER-637G	GRADER-16M	WATER-WAGON	LOADER-993K
		Insurance-%	0.75	DOZER-D9T	DOZER-D10T	DOZER-D9T	DOZER-D10T	DOZER-D9T	DOZER-D10T
		Fuel Cost/gal	\$3.3832	SCRAPER-657G	SCRAPER-657G	SCRAPER-637G	GRADER-16M	WATER-WAGON	LOADER-993K

Machine designation	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
DOZER-D11T	DOZER-D10T	DOZER-D9T	SCRAPER-657G	SCRAPER-657G	SCRAPER-637G	GRADER-16M	WATER-WAGON	LOADER-993K	TRUCK-777F

OWNING COSTS:

Delivered price (list - 5%)	\$2,370,000	\$1,500,000	\$1,070,000	\$1,950,000	\$1,300,000	\$970,000	\$970,000	\$2,750,000	\$1,995,000
Tire replacement cost	\$0	\$0	\$0	\$73,880	\$46,228	\$32,382	\$32,382	\$189,128	\$96,570
Adjusted price	\$2,370,000	\$1,500,000	\$1,070,000	\$1,876,120	\$1,253,772	\$937,618	\$937,618	\$2,560,872	\$1,898,430
Residual value at replacement (%)	35	40	37	27	38	46	46	38	38
Calculated Value	\$822,129	\$600,000	\$395,900	\$526,500	\$494,000	\$446,200	\$446,200	\$1,045,000	\$751,884
Value to be recovered through work	\$1,547,871	\$900,000	\$674,100	\$1,349,620	\$759,772	\$491,418	\$491,418	\$1,515,872	\$1,146,546
Cost per hour (value/total hours)	\$77.39	\$45.00	\$33.71	\$67.48	\$37.99	\$24.57	\$24.57	\$75.79	\$57.33
Interest costs per hour	\$23.70	\$15.00	\$10.70	\$19.50	\$13.00	\$9.70	\$9.70	\$27.50	\$19.95
Insurance costs per hour	\$3.39	\$2.14	\$1.53	\$2.79	\$1.86	\$1.39	\$1.39	\$3.93	\$2.85
Sales tax cost per hour	\$5.93	\$3.75	\$2.68	\$4.88	\$3.25	\$2.43	\$2.43	\$6.88	\$4.99
>>>>>>>HOURLY OWNING COST:	\$110.40	\$65.89	\$48.61	\$94.64	\$56.10	\$38.08	\$38.08	\$114.10	\$85.11

OPERATING COSTS:

Fuel consumption (gal/hr)	23	15.5	12.5	30.5	23	6.5	6.5	22	14
Fuel cost per hour	\$77.81	\$52.44	\$42.29	\$103.19	\$77.81	\$21.99	\$21.99	\$74.43	\$47.36
Lube oil, filter, grease w/labor (hr)	\$11.79	\$7.88	\$6.00	\$12.55	\$10.16	\$4.20	\$4.20	\$11.08	\$10.42
Tire life (hours)				5,000	5,000	10,000	10,000	10,000	10,000
Tire cost per hour	\$0.00	\$0.00	\$0.00	\$14.78	\$9.25	\$3.24	\$3.24	\$18.91	\$9.66
Overhaul/repair reserve	\$35.16	\$23.55	\$19.93	\$25.99	\$22.58	\$12.60	\$12.60	\$13.90	\$24.95
Repair &/or maintenance	\$37.98	\$23.94	\$20.42	\$29.87	\$26.42	\$9.25	\$9.25	\$15.70	\$15.37
Wear items, GEC	\$4.52	\$3.00	\$2.69	\$0.79	\$0.65	\$0.62	\$0.62	\$1.62	\$1.62
>>>>>>>HOURLY OPERATING COST:	\$167.26	\$110.81	\$91.33	\$187.16	\$146.87	\$51.90	\$51.90	\$135.65	\$107.76
Operators hourly wage	\$47.80	\$47.80	\$47.80	\$47.80	\$47.80	\$47.80	\$47.80	\$47.80	\$47.80
Total hourly rate	\$325.46	\$224.50	\$187.73	\$329.61	\$250.77	\$137.78	\$137.78	\$297.54	\$240.67
Overhead and profit @ 15%	\$48.82	\$33.68	\$28.16	\$49.44	\$37.62	\$20.67	\$20.67	\$44.63	\$36.10
>>>>>>>TOTAL ESTIMATED HOURLY COST:	\$374.28	\$258.18	\$215.89	\$379.05	\$288.38	\$158.45	\$158.45	\$342.17	\$276.77

FOR: DOZER-D11T DOZER-D10T DOZER-D9T SCRAPER-657G SCRAPER-637G GRADER-16M WATER-WAGON LOADER-993K TRUCK-777F