



October 18, 2006

**License SUA-1341  
Docket No. 40-8502**

Mr. Gary Janosko, Chief  
Fuel Cycle Facilities Branch  
U.S. Nuclear Regulatory Commission  
Mail Stop T-8A33  
Two White Flint North  
11545 Rockville Pike  
Rockville, MD 20852-2738

**RE: Submittal of Annual Surety Update**

Dear Mr. Janosko:

Condition No. 9.5 of COGEMA Mining, Inc.'s license requires that the reclamation surety estimate be updated on an annual basis and submitted to the NRC by August 18 of each year. Due to internal constraints, COGEMA was not able to complete this estimate by your required date. Your approval of an extension in time for submittal of this estimate is truly appreciated.

Accordingly, please find enclosed COGEMA Mining, Inc.'s updated surety bond calculation for the 2006-2007 annual period. Several significant changes have been made to the 2005 - 2006 bond estimate to account for the recent approval of Irigaray restoration by the NRC, reclamation work completed at the Irigaray site, the new well installation planned for Mine Unit 7 at Christensen Ranch, and updated costs for transportation and earthwork. Based on the result of these changes, this year's surety estimate is \$9,260,187 compared to last year's estimate of \$10,352,659, a decrease of \$1,092,472. The specific changes are outlined in the attached bond assumptions.

Your review and approval of the 2006-2007 bond estimate is requested. Please contact me at (307) 234-5019 if you should have any questions.

Sincerely,

Donna L. Wichers  
General Manager

cc: NRC – Ron Linton, Project Manager  
COGEMA - Larry Arbogast

**Reclamation Bond Assumptions  
Irigaray and Christensen Ranch ISL Projects  
WDEQ Permit to Mine No. 478  
NRC License SUA-1341  
2006-2007 Annual Report**

This year's bond estimate is based upon the 2005-2006 base-bond estimate where very detailed explanations were provided for the updated costs. Costs in the bond estimate are thoroughly detailed and have been developed by using either 1) COGEMA's actual costs, 2) a published reference source, or 3) quotes from local third-party contractors. The method by which unit rates and costs were derived is provided in the 2005-2006 estimate and is not repeated here.

Several significant changes have been made to the 2005 - 2006 bond estimate to account for the recent approval of Irigaray restoration by the NRC, reclamation work completed at the Irigaray site, the new well installation planned for Mine Unit 7 at Christensen Ranch, and updated costs for transportation and earthwork.

Due to an increase in the uranium market price, mining is anticipated to resume at Christensen Ranch during year 2007. The final decision to resume mining is still pending the Joint Participation's approval, hopefully by the end of 2006 (The Joint Participation includes COGEMA Mining, Inc. as the operator and 71% owner, Malapai Resources Company as 29% owner; decisions must be unanimous).

Assuming that mining is resumed at Christensen Ranch, the first step will be continued well installation in the remainder of Mine Unit 7 (MU7). MU7 was about 50% installed when operations were shut down in year 2000. Drilling and well installation would resume in March 2007, followed by the initiation of surface construction (connection of wells to module buildings, connection to existing main trunkline to the plant). If schedules are adhered to, and all necessary approvals obtained, lixiviant injection could resume in MU 7 as early as September 2007. Because of the potential for continued operations, the reclamation bond has been revised to include the installation of new wells in MU7. Restoration estimates for MU7 have not been included in this bond estimate as it is not covered by this report period; however, a new estimate will be submitted to the agencies once final approval for operations is confirmed by the COGEMA/Malapai Joint Participation, for startup of MU7.

The resumption of mining at Christensen Ranch will also involve processing of the uranium at the Irigaray central plant facility. Reclamation of the Irigaray wellfield and other associated structures will continue. It should be noted that no technical changes to the mine or reclamation plan are envisioned for the resumption of operations.

Reclamation work that has been completed at Irigaray consists of the following:

- Pond dewatering and decommissioning of IR ponds A, C, D, E and RA was started in June 2003. Currently ponds A, C, RA and E have been completely emptied of sludge material, with liners and leak detection systems removed and disposed of at the Pathfinder - Shirley Basin disposal site. Reclamation of Pond D resumed in July 2006, with the removal of all sludge, liner and leak detection systems. Work is ongoing at the writing of this report to complete the removal of contaminated soils in the area of the leak detection sump (leakage in this pond had occurred many years ago).
- Also during this report period Canberra, Inc. conducted surface gamma radiation

surveys for Ponds A, C, RA and E. Soil sampling, with removal of any contaminated soils, has been completed. Only the backfilling and contouring operations remain for the final reclamation of these ponds. Ponds B and RB will remain in place until all water is evaporated. If mining at Christensen should resume in 2007, Ponds B and RB would be used for solution evaporation from Christensen resin processing conducted at the Irigaray central plant. It is also possible that two of the other ponds, such as Ponds A, C or RA, would be re-lined during 2008 as additional evaporative capacity. Therefore backfilling of the pond areas is on-hold pending a decision concerning the resumption of operations at Christensen.

- At Irigaray Production Units 1 through 9 wellfields, equipment removal was started in May 2003 with removal of wellfield piping, conduit, wellhead boxes, and associated fixtures. All surface equipment removal was completed in July 2005. Canberra, Inc. conducted surface gamma radiation surveys of the Irigaray Production Units 1-9 in August 2005. No significant areas of soil contamination were found; any soils identified as potentially contaminated were removed or sampled. Wellfield buildings and basements were removed from Production Units 5,6,7,8 and 9 during the summer of 2006. The buildings were surveyed for contamination and released off site. Soil surveys were conducted at the building locations and basements, and any contaminated soil was removed and sent to the Shirley Basin disposal site.

Reclamation work completed at Christensen during 2005-2006 includes the following:

- In June 2006 all buried piping and electrical wire was removed from Module 63 of Mine Unit 6. This project was conducted to confirm cost estimates for wellfield decommissioning at Christensen. To everyone's surprise, the work was completed in less than three weeks time, and the majority of the piping is in excellent shape. The buried electrical wire was not deemed suitable for re-use and was surveyed for contamination and recycled as scrap material. All the piping was coiled and stored for reuse as needed. The shallow trenches were sampled for contamination as per COGEMA's Decommissioning plan; no contamination was found. Gamma surveys on the surface show no surface contamination.
- The decommissioned test area essentially showed that wellfield reclamation at Christensen will take less time and effort than previously thought, and much of the materials will be salvageable for re-use in future wellfields, or other uses. The piping not only is physically in good shape but also met the NRC release limits for unrestricted use. Presumably the piping is cleaned at the same time that groundwater restoration is conducted in the wellfields. No changes in the bond estimate have been made as a result of the internal work at this time, although proposed changes may be made in future bond submittals.

A summary of the revisions made to the 2006-2007 bond estimate is following.

**Worksheet 1:**

- The completion of groundwater restoration at the Irigaray site is reflected by the removal of all Irigaray groundwater restoration costs. Credit issued by the WDEQ for completion of groundwater sweep at Christensen still remains, but has not been authorized by NRC; therefore, a WDEQ estimate and NRC estimate is provided.
- No costs for the groundwater restoration of new Mine Unit 7 at Christensen are provided. Lixiviant injection (if approved by our Joint Participation) is not scheduled in the first module of MU7 until the next reporting period (September, 2007), if all construction schedules are met. Prior to lixiviant injection, however, a new estimate

- will be provided to the WDEQ and NRC for their review and approval.
- Labor for groundwater restoration has been unchanged (left at 1.6 years). Truth of the matter is that all restoration at both Irigaray (now approved) and Christensen has been completed, including stability monitoring. If additional restoration is required by the agencies, we do not know at this time how much, or where. Now that Irigaray is released, the 1.6 years will now only apply to Christensen Ranch until that release is provided. This is sufficient time to cover a complete repetition of the reverse osmosis phase of treatment in Christensen Mine Unit 6, which is the largest wellfield at Christensen.
- The overall difference between the 2006 bond and the 2007 estimate is a \$579,652 DECREASE for the NRC estimate (no credit for CR groundwater sweep), and no change for the WDEQ estimate of \$3,124,253.

#### **Worksheet 2:**

- Worksheet two is for equipment removal from the various areas of the plants. Equipment has been removed from the Main Process Building and the Wellfield Restoration Building (building has been released for unrestricted use) at Irigaray. Accordingly, the costs for this category have been removed from Worksheet 2.
- Transportation costs for a trip to the licensed site (Shirley Basin) have been increased to \$1,000 per load based on actual 2006 prices charged to COGEMA by Patterson Trucking, Glenrock, Wyoming. The price increase is based on fuel price increases.
- Transportation costs for a trip to the local landfill (construction debris, garbage, non-contaminated items) was checked, but has been verified as the same (\$160 per load) based on actual charges from Brubaker Backhoe Service (dump truck and operator rental).
- The overall difference between the 2006 bond and the 2007 estimate is a DECREASE of \$27,091.

#### **Worksheet 3:**

- Worksheet 3 was revised to include the increase in licensed site transportation rates (\$1,000 per load).
- An error was discovered for the landfill transportation cost for the CR Office Building and Warehouse. The previous \$2.58 was replaced with \$160 per load, which changed various totals categories.
- The overall difference between the 2006 bond and the 2007 estimate is an INCREASE of \$16,466.

#### **Worksheet 4:**

- Worksheet 4 addresses pond reclamation at both sites. Pond D has been partially reclaimed during this reporting period. The sludge has been removed and shipped to the licensed site. The liner and leak detection systems have also been removed and shipped to the licensed site for disposal. The last bit of contaminated soil is being removed for disposal at this writing. Accordingly, all costs for reclamation of Pond D have been removed with the exception of final radiation survey and pond backfill.
- Radiation survey costs for Ponds A, C, E and RA have been removed as these surveys have been conducted.
- The licensed site transportation rates have been increased to \$1,000 per load.
- Backfill rates of \$1/Yd<sup>3</sup> have been increased (doubled) to \$2/Yd<sup>3</sup>. The new rate is the average earthmoving rate for topsoil placement at Pathfinder's Shirley Basin Mine for the 2006 tailings reclamation contract (where haul distances are much further). As we knew the rates were higher for PMC, the rates in this bond have been revised.

- The reviewer will notice that the categories for the 517 ponds have been deleted.
- The net difference between the 2006 bond and the 2007 estimate is a DECREASE of \$53,359.

#### **Worksheet 5:**

- Worksheet 5 addresses well plugging and abandonment at both sites. For Irigaray, an in-depth calculation of all wells to be plugged was made during 2005-2006. The total number of wellfield wells to be plugged is now estimated at 1,053 (11 less than the current bond). Also, the number of monitor wells (includes trend and research wells) to be plugged has changed from 314 to 98. This is due to the plugging of 171 of these wells, plus an estimated error of 45 wells.
- The Christensen well numbers have increased due to the addition of more wells to be installed within Mine Unit 7. It is estimated that 317 production/injection wells will be installed in addition to the current existing wells. This changes the MU2 through MU7 total well number from 2,062 to 2,379. The average depth is also closer to 450 feet deep using the MU7 completions. Worksheet 5 has been changed accordingly.
- The materials cost estimate has not changed for well plugging. However, for the Irigaray wells, we have recently (September 2006) received a bid for direct purchase of bentonite, delivered, from a local firm in Greybull. It appears that, through the direct purchase rate, we will save about \$40/ well in materials cost. Until we can confirm this, the current bond estimate will not change.
- The overall difference between the 2006 bond and the 2007 estimate is a net INCREASE of \$32,727.

#### **Worksheet 6:**

- Worksheet 6 addresses wellfield equipment removal and disposal. Section 1, Wellfield Piping: all surface piping at the Irigaray site has now been removed from the wellfields. The piping has partially been disposed of, but a majority of the pipe has been sized and stacked and is available for future use (has been surveyed and meets unrestricted use limits), or disposal. Accordingly, the piping removal costs for the Irigaray surface piping have been "removed" from the bond estimate, but the transport and disposal costs remain.
- The number of wells, and thus amount of piping (connecting the wells to the trunkline,) under Wellfield Piping has been decreased from 1,064 to 602. This is because surface piping was present in Production Units 1 through 5, but buried piping still exists in Units 6 through 9. The number of wells in Production Units 1 through 5 was subtracted from the total wells to estimate the buried piping in Units 6 through 9. It will be easier to remove this piping once the wells have been plugged in these areas, so removal of the piping is pending well plugging.
- Section II, Production Well Pumps: all of the pumps and tubing have been removed from the Irigaray wells in preparation for plugging and abandonment. The pumps have either been sold to Crow Butte Resources, or disposed of (some saved for Christensen Ranch). The tubing has been coiled and is in storage for use at Christensen. The costs for pump and tubing removal for Irigaray Units 1 through 9 have been deleted from the worksheet, but the cost for transport and disposal remain for the tubing.
- Section III, Surface Trunkline Piping: as previously stated, all surface trunklines at Irigaray have been removed, and thus deleted from Worksheet 6. The costs for transport and disposal remain.
- Transportation costs for the licensed site have been increased to \$1,000 per load, consistent with actual rates.
- The overall difference between the 2006 bond and the 2007 estimate is a net DECREASE of \$24,574.

**Worksheet 7:**

- Worksheet 7 addresses topsoil replacement and revegetation. As previously stated, the rates for topsoil haulage and placement have been increased from \$1/Yd3 to \$2/Yd3, based on average rates from PMC's 2006 tailings reclamation contract.
- Transportation rates to the licensed site have been increased to \$1,000 per load in Section III Wellfields, Spill Clean-up.
- Costs to remediate for spills in the Irigaray wellfields have been removed (Section III Wellfields, Spill Clean-up). Canberra, Inc. conducted a detailed gamma survey in the wellfields and all contaminated soils have been removed (very few spots identified). Soil samples and follow-up gamma surveys confirmed the fields are clean.
- The overall difference between the 2006 bond and the 2007 estimate is a net INCREASE of \$210,338.

**Worksheet 8:**

- Worksheet 8 addresses miscellaneous items for reclamation. The changes for Mine Unit 7 include the addition of 3 transformers (removal and disposal), and utilities cost for reclamation of the power to be installed in Mine Unit 7.
- Transformers have been removed from the Irigaray wellfields, so this cost plus the utilities cost have been removed.
- The overall difference between the 2006 bond and the 2007 estimate is a net DECREASE of \$5,718.

**Table 1, Summary:**

- Table 1 is the summary of all the worksheet changes. As noted above, changes were made to each worksheet based on either volume changes, completion of the reclamation activity or changes in unit rates. After a review of the entire estimate, it is felt that the current unit rates shown do not require an increase based on the CPI, because the majority of the unit rates of significance were increased in this years estimate. The groundwater restoration unit rates and total costs were not changed for Christensen Ranch as the work is completed, and it is doubtful that the entire restoration program for each wellfield would be repeated if more restoration should be required by an agency. And, the timing for decommissioning of wellfields at Christensen is lower than currently estimated, based on the work in Module 63 of Mine Unit 6. Accordingly, the bond meets the reclamation requirements in 2006 dollars, and no CPI adjustment is included.
- No other changes were made to the Table 1 format (no changes in contingencies, or miscellaneous additions to the bond).
- The overall difference from all the changes made to Worksheets 1 through 8 amount to an overall change in the WDEQ bond amount of a net DECREASE of \$334,711, and a net DECREASE of \$1,092,472 to the NRC amount.

In summary, the new Grand Total restoration and reclamation cost for WDEQ is \$8,968,680. The NRC estimate is \$9,260,187 (NRC has not allowed any credit for the completion of groundwater sweep at Christensen Ranch as WDEQ has). We respectfully request that NRC approve the new estimate.

TABLE 1

	WDEQ Estimate	NRC Estimate
<b>I GROUNDWATER RESTORATION - Worksheet 1:</b>	<b>\$3,124,253</b>	<b>\$3,358,895</b>
<b>II DECOMMISSIONING AND SURFACE RECLAMATION:</b>		
A. Process Plant(s) Equipment Removal and Disposal Worksheet 2	\$184,990	\$184,990
B. Plant Building(s) Demolition and Disposal Worksheet 3	\$750,473	\$750,473
C. Process Pond Sludge and Liner Handling Worksheet 4	\$696,640	\$696,640
D. Well Abandonment Worksheet 5	\$777,300	\$777,300
E. Wellfield Equipment Removal and Disposal Worksheet 6	\$842,007	\$842,007
F. Topsoil Replacement and Revegetation Worksheet 7	\$942,469	\$942,469
G. Miscellaneous Reclamation Activities Worksheet 8	\$116,118	\$116,118
Sub Total - Decommissioning and Surface Reclamation	<b>\$4,309,997</b>	<b>\$4,309,997</b>
<b>TOTAL RESTORATION AND RECLAMATION</b>	<b>\$7,434,250</b>	<b>\$7,668,892</b>
Adjustment for inflation	\$0	\$0
<b>SUBTOTAL</b>	<b>\$7,434,250</b>	<b>\$7,668,892</b>
Miscellaneous Costs Associated with Third Party Contractors		
	WDEQ	NRC
Project Design	0.5%	0%
Contractor Profit & Mobilization	8%	3%
Pre-construction Investigation	1%	
Project Management	3%	2%
On-site monitoring	0.5%	
Site Security & Liability Assurance	1%	0.0%
Longterm Administration	2%	
Subtotal miscellaneous additions to bond	16.0%	5.0%
<b>SUBTOTAL</b>	<b>\$8,623,730</b>	<b>\$8,052,337</b>
	WDEQ	NRC
Contingency	4%	15%
<b>GRAND TOTAL RESTORATION AND RECLAMATION</b>	<b>\$8,968,680</b>	<b>\$9,260,187</b>

COGEMA Mining, Inc.  
 2006 Restoration and Reclamation Costs  
 Wyoming Operations  
 WORKSHEET 1

GROUNDWATER RESTORATION

	Irigaray Mine Unit(s) #1 Thru #5	Irigaray Mine Unit(s) #6 Thru #9	Christensen Mine Unit #2	Christensen Mine Unit #3	Christensen Mine Unit #4	Christensen Mine Unit #5	Christensen Mine Unit #6	Christensen Mine Unit #7	Christensen Mine Unit #8
<b>Technical Assumptions:</b>									
Wellfield Area (Ft <sup>2</sup> )	522720	784080	890000	798944	510088	1210968	2021243	1332936	1600000
Wellfield Area (Acres)	12.00	18.00	20.43	18.34	11.71	27.80	46.40	30.6	36.7
Affected Ore Zone Area (Ft <sup>2</sup> )	522720	784080	890000	798944	550193	1346004	2058344		
Avg Completed Thickness (Ft)	15.0	18.0	11.0	10.0	12.7	19.9	21.8		
Affected Volume:									
Factor For Vertical Flare	20%	20%	20%	20%	20%	20%	20%		
Factor For Horizontal Flare	20%	20%	20%	20%	20%	20%	20%		
Total Volume (Ft <sup>3</sup> )	11290752	20323353.6	14097600	11504793.6	10061929.6	38593685.7	64615534.85		
Porosity	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%		
Gallons Per Cubic Foot	7.48	7.48	7.48	7.48	7.48	7.48	7.48		
Gallons Per Pore Volume	21958254.49	39524858.1	27417012.5	22374522.6	19568440.7	75057000	125664292.2		
Number of Wells in Unit(s)									
Production Wells	150	274	153	185	105	217	202	155	
Injection Wells	310	330	173	277	128	277	244	170	
Monitor Wells	150	165	50	46	44	70	65	66	
Baseline Water Quality wells (prod or inj)	19	27	24	19	15	25	47		
Average Well Spacing (Ft)	35	35	85	70	85	85	100	100	
Average Well Depth (Ft)	250	250	345	300	430	450	520	550	

<b>I GROUNDWATER SWEEP</b>									
<b>A PLANT &amp; OFFICE</b>									
<b>Operating Assumptions:</b>									
Flowrate (gpm)			200	200	200	200	200		
PV's Required			1	1	1	1	1		
Total Gallons For Treatment			27417012.5	22374522.6	19568440.7	75057000	125664292.2		
Total KGals for Treatment			27417	22375	19568	75057	125664		
<b>Cost Assumptions:</b>									
<b>Power</b>									
Avg Connected Hp			40.00	40.00	40.00	40.00	40.00		
Kwh's/Hp			0.83	0.83	0.83	0.83	0.83		
\$/Kwh			\$0.0365	\$0.0365	\$0.0365	\$0.0365	\$0.0365		
Gallons Per Minute			200	200	200	200	100		
Gallons Per Hour			12000	12000	12000	12000	6000		
Cost Per Hour			1.21	1.21	1.21	1.21	1.21		
Cost Per Gallon			0.00010	0.00010	0.00010	0.00010	0.00020		
Cost Per KGal (\$)			\$0.101	\$0.101	\$0.101	\$0.101	\$0.202		
<b>Chemicals</b>									
Antiscalent (\$/KGals)			\$0.0947	\$0.0947	\$0.0947	\$0.0947	\$0.0947		
Elution (\$/KGals)			\$0.099	\$0.099	\$0.099	\$0.099	\$0.099		
Repair & Maintenance (\$/KGals)			\$0.0379	\$0.0379	\$0.0379	\$0.0379	\$0.0379		
Analysis (\$/KGals)			\$0.131	\$0.127	\$0.115	\$0.050	\$0.056		
Total Cost Per KGal			\$0.464	\$0.460	\$0.448	\$0.383	\$0.490		
Total Treatment Cost			\$12,718	\$10,291	\$8,758	\$28,713	\$61,534		
<b>Utilities</b>									
Power (\$/Month)			\$65	\$65	\$65	\$65	\$65		
Telephone (\$/Month)			\$500	\$500	\$500	\$500	\$500		
<b>Time For Treatment</b>									
Minutes For Treatment			137085	111873	97842	375285	628321		
Hours For Treatment			2285	1865	1631	6255	10472		
Days For Treatment			95	78	68	261	436		
Average Days Per Month			30.4	30.4	30.4	30.4	30.4		
Months For Treatment			3.1	2.6	2.2	8.6	14.3		
Utilities Cost (\$)			\$1,768	\$1,443	\$1,262	\$4,841	\$8,105		
<b>TOTAL PLANT &amp; OFFICE COST</b>			<b>\$14,487</b>	<b>\$11,734</b>	<b>\$10,020</b>	<b>\$33,554</b>	<b>\$69,639</b>	<b>\$0</b>	<b>\$0</b>