


## Energy Conservation Measure implemented in 2006-2007


(To be filled up separately for each Energy Conservation Measure)

ID to be filled by BEE	Title of the measure	Sector ... <u>Mining</u> ....			
Year to be filled by BEE	<b>Introduction of Automatic control of lighting system in Stream 2</b>	Technology <u>Modernization of old and inefficient existing equipment.</u>			
Description of the energy conservation measure:					
An Energy Saver was installed in order to reduce the output voltage according to the lighting load. Saving of 5kW/Hr					
Power saving = 5kW X 12Hr/Day X 360 Days / 920994 MT = 0.02 kWh/MT					
Net Saving = 0.02kWh/MT X 920994 MT x Rs. 4.72/- = Rs. 86941/- per year					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
230V direct supply was used without any voltage control			 <p style="text-align: center;">Energy Saver with Voltage Controller</p>		
Agency that executed the project (with complete address and email): Panel supplied by ENERGY SYSTEMS, BANGALORE. Ph :- 080-3323268, Self Execution					
Total investment, Rs.: 0.6 Lakhs			Year of implementation: 2006		
First year energy cost savings, Rs.: 0.86 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	129600				
Energy consumption after	108000				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.72				
Company complete address:				We authorize Bureau to use this information for dissemination	
Contact person who could be contacted for more information: <b>I.H.Bohra , SENIOR MANAGER ( ELECTRICAL ) , RAMPURA AGUCHA MINE , P.O.- AGUCHA, DIST.-BHILWARA ,PIN - 311029 TEL- (01483) 225857, E-MAIL- iqbal.bohra@vedanta.co.in</b>					
				Signature	
				Date	

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## Energy Conservation Measure implemented in 2006-2007


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ID to be filled by BEE	Title of the measure <b>Modification of Secondary and Tertiary Crushers control System</b>	Sector ...Mining....			
Year to be filled by BEE		Technology <u>Minor modification of existing equipment.</u>			
Description of the energy conservation measure:					
<p>The lubrication of the Secondary and Tertiary crushers used to run continuously earlier. After control circuit modification they stop 30 minutes after stopping of the crusher.</p> <p>Power saving = <math>12\text{kW} \times 14 \text{ Hr/Day} \times 355 \text{ Days} / 921000 \text{ MT} = 0.06 \text{ kWh/MT}</math>            Net Saving = <math>0.06 \text{ kWh/MT} \times 921000 \text{ MT} \times \text{Rs. } 4.72/- = \text{Rs. } 260000/- \text{ per year}</math></p>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
Pumps running irrespective of status of crusher			 <p style="text-align: center;">Lubrication pump of Crusher with interlock</p>		
Agency that executed the project (with complete address and email): Self Execution					
Total investment, Rs.: 0.2 Lakhs			Year of implementation: 2006		
First year energy cost savings, Rs.: 2.6 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	230000				
Energy consumption after	170000				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.72				
Company complete address:				We authorize Bureau to use this information for dissemination  Signature  Date	
Contact person who could be contacted for more information:					
<b>I.H.Bohra , SENIOR MANAGER ( ELECTRICAL ) ,            RAMPURA AGUCHA MINE , P.O.- AGUCHA,            DIST.-BHILWARA ,PIN - 311029 TEL- (01483) 225857,            E-MAIL- iqbal.bohra@vedanta.co.in</b>					

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## Energy Conservation Measure implemented in 2006-2007


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ID to be filled by BEE	Title of the measure	Sector ...Mining....			
Year to be filled by BEE	<b>Auto operation of sump pump 314 K</b>	Technology <u>Minor modification of existing equipment.</u>			
Description of the energy conservation measure:					
<p>The sump pump had to be started and stopped only from the field. After modification in its control circuit it can be started/stopped from DCS</p> <p>Power saving = <math>4.5 \text{ kW} \times 24 \text{ Hr/Day} \times 360 \text{ Days} / 921000 \text{ MT} = 0.04 \text{ kWh/MT}</math>            Net Saving = <math>0.04 \text{ kWh/MT} \times 921000 \text{ MT} \times \text{Rs. } 4.72/- = \text{Rs. } 173800/- \text{ per year}</math></p>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
Start/Stop Control was from field			 <p style="text-align: center;">314K Sump Pump with DCS operation</p>		
Agency that executed the project (with complete address and email):					
Total investment, Rs.: 0.9 Lakhs			Year of implementation: 2006		
First year energy cost savings, Rs.: 1.7 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	181400				
Energy consumption after	146800				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.72				
Company complete address:				We authorize Bureau to use this information for dissemination	
Contact person who could be contacted for more information: <b>I.H.Bohra , SENIOR MANAGER ( ELECTRICAL ) ,            RAMPURA AGUCHA MINE , P.O.- AGUCHA,            DIST.-BHILWARA ,PIN - 311029 TEL- (01483) 225857,            E-MAIL- iqbal.bohra@vedanta.co.in</b>					
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## Energy Conservation Measure implemented in 2006-2007


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ID to be filled by BEE	Title of the measure <b>Installation of VFD in Pb Tailing pump (153A/B)</b>	Sector ...Mining....			
Year to be filled by BEE		Technology <u>Replacement or Modification of existing equipment</u>			
Description of the energy conservation measure:					
<p>The motor used to run in constant speed at variable load in the pump and also variable density. After installation of VFD the power drawn is based upon the load on the pump.</p> <p>Power saving = <math>85 \text{ kW} \times 24 \text{ Hr/Day} \times 360 \text{ Days} / 921000 \text{ MT} = 0.8 \text{ kWh/MT}</math>            Net Saving = <math>0.8 \text{ kWh/MT} \times 921000 \text{ MT} \times \text{Rs. } 4.72/- = \text{Rs. } 3478000/- \text{ per year}</math></p>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
Earlier it was a DOL connected					
Agency that executed the project (with complete address and email): Panel supplied by Siemens. Self Execution					
Total investment, Rs.: 18 Lakhs			Year of implementation: 2006		
First year energy cost savings, Rs.: 34.7 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	1944000				
Energy consumption after	1210000				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.72				
Company complete address:				We authorize Bureau to use this information for dissemination	
Contact person who could be contacted for more information: <b>I.H.Bohra , SENIOR MANAGER ( ELECTRICAL ) , RAMPURA AGUCHA MINE , P.O.- AGUCHA, DIST.-BHILWARA ,PIN - 311029 TEL- (01483) 225857, E-MAIL- iqbal.bohra@vedanta.co.in</b>					
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## Energy Conservation Measure implemented in 2006-2007


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ID to be filled by BEE	Title of the measure <b>Install a new screw compressor with VFD for Instrument Air</b>	Sector ...Mining....			
Year to be filled by BEE		Technology <u>Replacement or Modification of existing equipment</u>			
Description of the energy conservation measure:					
<p>The old reciprocating compressor was running at full RPM ,capacity and was consuming more power. Installing a new power efficient screw compressor with VFD and running the old as a standby has resulted in better operation and power saving.</p> <p>Power saving = 27 kW X 24 Hr/Day X 360 Days / 921000 MT = 0.25 kWh/MT            Net Saving = 0.25 kWh/MT X 921000 MT x Rs. 4.72/- = Rs. 1087000/- per year</p>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
Old reciprocating Compressor replaced			 <p style="text-align: center;">New Screw Compressor with VFD</p>		
Agency that executed the project (with complete address and email): Compressor supplied by M/s ELGI, Coimbatore and VFD by M/s Danfoss Ltd., Delhi. Self Execution					
Total investment, Rs.: 5.5 Lakhs			Year of implementation: 2006		
First year energy cost savings, Rs.: 10.9 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	476000				
Energy consumption after	259000				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.72				
Company complete address:				We authorize Bureau to use this information for dissemination	
Contact person who could be contacted for more information: <b>I.H.Bohra , SENIOR MANAGER ( ELECTRICAL ) ,            RAMPURA AGUCHA MINE , P.O.- AGUCHA,            DIST.-BHILWARA ,PIN - 311029 TEL- (01483) 225857,            E-MAIL- iqbal.bohra@vedanta.co.in</b>					
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### Energy Conservation Measure implemented in 2006-2007


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ID to be filled by BEE	Title of the measure <b>Optimizing Pb filter conveyors by installing AC Drives</b>	Sector ...Mining....			
Year to be filled by BEE		Technology <u>Replacement or Modification of existing equipment</u>			
Description of the energy conservation measure:					
<p>The conveyors 229A and 233A used to run idle for almost 60% of the time when there is no output from the filter. The installation of VFD makes the conveyors run at minimum speed during idling.</p> <p>Power saving = 5kW/Hr X 24 Hrs/Day X 360 Days / 921000 MT = 0.05 kWh/MT            Net Saving = 0.05 kWh/MT X 921000 MT x Rs. 4.72/- = Rs. 217000/- per year</p>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
Earlier both filters were running in DOL					
Agency that executed the project (with complete address and email): Drive Supplied by MOGU Engineers, Jaipur. Self execution					
Total investment, Rs.: 2.2 Lakhs			Year of implementation: 2006		
First year energy cost savings, Rs.: 2.17 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	112000				
Energy consumption after	70000				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.72				
Company complete address:				We authorize Bureau to use this information for dissemination	
Contact person who could be contacted for more information: <b>I.H.Bohra , SENIOR MANAGER ( ELECTRICAL ) , RAMPURA AGUCHA MINE , P.O.- AGUCHA, DIST.-BHILWARA ,PIN - 311029 TEL- (01483) 225857, E-MAIL- iqbal.bohra@vedanta.co.in</b>				Signature	
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## Energy Conservation Measure implemented in 2006-2007


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ID to be filled by BEE	Title of the measure <b>Installation of VFD in 139 A/B</b>	Sector ...Mining....			
Year to be filled by BEE		Technology <u>Replacement or Modification of existing equipment</u>			
Description of the energy conservation measure:					
The motor used to run in constant speed at variable load in the pump and also variable density, After installation of VFD the power drawn is based upon the load on the pump.					
Power saving = 21 kW/Hr X 24 Hrs/Day X 360 Days / 921000 MT = 0.2 kWh/MT Net Saving = 0.2 kWh/MT X 921000 MT x Rs. 4.72/- = Rs. 869000/- per year					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
Earlier both drives were run on DOL without VFD			 <p style="text-align: center;">VFD Drives</p>		
Agency that executed the project (with complete address and email): Panel supplied by M/s Siemens, Mumbai. Self Execution					
Total investment, Rs.: 6 Lakhs			Year of implementation: 2006		
First year energy cost savings, Rs.: 9 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	648000				
Energy consumption after	466000				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.72				
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ID to be filled by BEE	Title of the measure <b>Optimization of water recovery system</b>	Sector ...Mining....			
Year to be filled by BEE		Technology ... <b>Reduction of water consumption in plant</b>			
Description of the energy conservation measure:  Changing the existing M.S. pipeline with yellow mine pipelines has resulted in lesser number of leakages and also reduced friction.  Power saving = 0.2 kWh/MT					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
					
Agency that executed the project (with complete address and email):					
Total investment, Rs.: 4.5 Lakhs			Year of implementation: 2007		
First year energy cost savings, Rs.: 8.7 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	650000				
Energy consumption after	450000				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.72				
Company complete address:  Contact person who could be contacted for more information: <b>I.H.Bohra , SENIOR MANAGER ( ELECTRICAL ) , RAMPURA AGUCHA MINE , P.O.- AGUCHA, DIST.-BHILWARA ,PIN - 311029 TEL- (01483) 225857, E-MAIL- iqbal.bohra@vedanta.co.in</b>				We authorize Bureau to use this information for dissemination  Signature  Date	

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