




## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure <b>Replacement of High millivolt Bus bars.</b>	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
Description of the energy conservation measure: <ul style="list-style-type: none"> <li><b>The flexible bus bars due to ageing was giving higher millivolt drops and causing excessive heating and hence loss. We have Replaced Worn out and high millivolt copper flexible in BHEL rectifier cubicle with new flexible which has resulted power saving.</b></li> </ul>					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
Not Available					
Agency that executed the project (with complete address and email): <b>Done in-house</b>					
Total investment, <b>Rs.:1.72 Lacs</b>			Year of implementation:2006-07		
First year energy cost savings, <b>Rs.: 0.351 Lacs</b>					
First year other savings, Rs.:					
On annual basis	kWh <b>000'</b>	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	10				
Energy consumption after	1.432				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura,Disstt.Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	


## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure <b>Replacement of MLL lamps with CFL lamps</b>	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
<b>Description of the energy conservation measure:</b> The 160 watt- 12 no of MLL Lamps with CFL Lamps in cell house.					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
					
Agency that executed the project (with complete address and email): Done in house					
Total investment, Rs.: 0.02 Lacs			Year of implementation: 2006-07		
First year energy cost savings, Rs. 0.307Lacs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	8.4				
Energy consumption after	0.912				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura, Disstt.Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	


## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	<b>Title of the measure</b> Replacing of 150 Watt Sodium vapour lamp with 70 Watt Sodium lamp.	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
Description of the energy conservation measure:  <b>Replaced 04 no of 150 Watt Sodium vapour lamp with 70 Watt Sodium lamp in ETP area.</b>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
					
Agency that executed the project (with complete address and email): Done in house					
Total investment, <b>Rs.:0.085Lacs</b>			Year of implementation:		
First year energy cost savings, <b>Rs.0.058Lacs</b>					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	2.628				
Energy consumption after	1.200				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura, Disstt.Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	


## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	<b>Title of the measure</b> Repaired Three DC Bus bar joints in totalizing area and cell house.	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
Description of the energy conservation measure:  <b>Repaired Three DC Bus bar joints in totalizing area and cell house.</b>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
					
Agency that executed the project (with complete address and email): Done in house					
Total investment, <b>Rs.: Nil</b>			Year of implementation: 2006-07		
First year energy cost savings, <b>Rs. : 0.351Lacs</b>					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	14.280				
Energy consumption after	5.712				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura, Disstt. Patiala (Punjab),  Mr. N.S. Birdie, GM(Works) Mobile No: 09815372658, E-mail: -nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	

## Energy Conservation Measure implemented in 2006-2007


ID to be filled by BEE	Title of the measure <b>Installed Hydrogen Cooler to increase efficiency of Hydrogen Supply system.</b>	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
Description of the energy conservation measure:  <b>Installed Hydrogen Cooler-B to increase efficiency of Hydrogen Supply system.</b>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
					
Agency that executed the project (with complete address and email):In house					
Total investment, <b>Rs.:10.85Lacs</b>			Year of implementation:2006-07		
First year energy cost savings, <b>Rs. :1.59Lacs</b>					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	356.270				
Energy consumption after	317.357				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura,Disstt.Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	

## Energy Conservation Measure implemented in 2006-2007


ID to be filled by BEE	Title of the measure Replaced 80 watt tube light fittings with 27 Watt CFL Lamps	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
Description of the energy conservation measure:  <b>Replaced 80 watt tube light fittings with 27 Watt CFL Lamps</b>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
					
Agency that executed the project (with complete address and email): Done in house					
Total investment, <b>Rs.:0.04Lacs</b>			Year of implementation:2006-07		
First year energy cost savings, <b>Rs.:0.19Lacs</b>					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	6.698				
Energy consumption after	2.326				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura,Disstt.Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	

## 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 Installation of VFD on HCL cooling tower fan.	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
Description of the energy conservation measure: <b>Installation of VFD on HCL cooling tower fan.</b>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
					
Agency that executed the project (with complete address and email):					
Total investment, <b>Rs.:1.15 Lacs</b>			Year of implementation:2006-07		
First year energy cost savings, <b>Rs. 4.09Lacs</b>					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	155.194				
Energy consumption after	55.427				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura,Distt.Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	


## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE	Installation of VFD on 30 KW Clarified Brine pump	Technology Membrane (Mono Polar)			
Description of the energy conservation measure: <b>Installation of VFD on 30 KW Clarified Brine pump</b>					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
					
Agency that executed the project (with complete address and email):					
Total investment, <b>Rs.:1.15 Lacs</b>			Year of implementation:2006-07		
First year energy cost savings, <b>Rs. 1.36 Lacs</b>					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	177.365				
Energy consumption after	144.109				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura,Distt.Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	


## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure Aluminum Blades of Rectifier Cooling tower Replaced with FRP blades	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
Description of the energy conservation measure:  <b>Aluminum Blades of Rectifier Cooling tower Replaced with FRP blades resulting in lesser power consumption and increase of flow rate of air.</b>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
					
Agency that executed the project (with complete address and email):M/s Kushagra Fans. Phone No.09810634911,09313746631					
Total investment, <b>Rs.:0.20 Lacs</b>			Year of implementation:2006-07		
First year energy cost savings, <b>Rs.:0.40 Lacs</b>					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	49.268				
Energy consumption after	39.414				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura,Distt.Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	


## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure <b>Installation of VFD on Hydrogen Blower Blower</b>	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
Description of the energy conservation measure:  <b>Installation of 75 HP - VFD on Hydrogen Blower and gives flexibility in operation and energy saving.</b>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
					
Agency that executed the project (with complete address and email): In House					
Total investment, <b>Rs.:2.5 Lacs</b>			Year of implementation:2006-07		
First year energy cost savings, <b>Rs.1.13 Lacs</b>					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	387.986				
Energy consumption after	360.273				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura, Distt. Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	


## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure Installation of VFD on Chlorine house Cooling Tower fan	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
Description of the energy conservation measure: <b>Installation of VFD on Chlorine house Cooling Tower fan</b>					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
					
Agency that executed the project (with complete address and email):2006-07					
Total investment, <b>Rs.:1.90 Lacs</b>			Year of implementation:2006-07		
First year energy cost savings, <b>Rs: 1.59 Lacs</b>					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	221.706				
Energy consumption after	182.908				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura,Distt.Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorise Bureau to use this information for dissemination  Signature  Date	

## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure Refurbishment of Electrolyser	Sector <b>Chlor Alkali</b>			
Year to be filled by BEE		Technology Membrane (Mono Polar)			
Description of the energy conservation measure:  <b>12 No of Electrolyser(Cell) was refurbished resulting in energy saving.</b>					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
					
Agency that executed the project (with complete address and email):In house					
Total investment, Rs.:328.4Lacs			Year of implementation:2006-07		
First year energy cost savings, Rs.:84Lacs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	193629.7				
Energy consumption after	191565.6				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	4.10				
Company complete address: <b>Siel Chemical Complex,</b> Village Khadauli/Sardargarh, PB NO 52, PO-Rajpura,Distt.Patiala (Punjab),  Mr. N.S.Birdie, GM(Works) Mobile No:09815372658, E-mail:-nsbirdie@sielchemical.com				We authorize Bureau to use this information for dissemination  Signature  Date	

## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure		Sector <b>Chlor Alkali</b>		
Year to be filled by BEE	<b>Water conservation through Rain Water Harvesting</b>		Technology Membrane (Mono Polar)		
<p>Description of the energy conservation measure:</p> <p>Rain Water Harvesting project. This project is undertaken to charge ground water through rain water harvesting to reduce fall in water table.</p>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
					
Agency that executed the project (with complete address and email):					
Total investment, Rs.:			Year of implementation:		
First year energy cost savings, Rs.:					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before					
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...					
Company complete address:				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information:				Signature	
				Date	

## **Rain water harvesting at M/s Siel Chemical Complex**

Fresh water today is a scarce resource, and it is being felt the world over. The world population has increased by a factor of about three during the 20th century whereas water withdrawals have increased by a factor of about seven. It is estimated that currently one third of the world's population live in countries that experience medium to high water stress and one fifth of the world's population is without access to safe drinking water. This ratio is expected to grow to two thirds by 2025.

In spite of higher average annual rainfall in India (1,170 mm, 46 inches) as compared to the global average (800 mm, 32 inches) it does not have sufficient water. Most of the rain falling on the surface tends to flow away rapidly, leaving very little for the recharge of groundwater. As a result, most parts of India experience lack of water even for domestic uses. Immediate steps to protect the hydrological imbalance are required. Hence, the need for implementation of measures to ensure that rain falling over a region is tapped as fully as possible through water harvesting, either by recharging it into the groundwater aquifers or storing it for direct use.

### **Advantages of Rainwater Harvesting:**

1. To meet the ever increasing demand for water. Water harvesting to recharge the groundwater enhances the availability of groundwater at specific place and time and thus assures a continuous and reliable access to groundwater.
2. To reduce the runoff which chokes storm drains and to avoid flooding of roads.
3. To reduce groundwater pollution and to improve the quality of groundwater through dilution when recharged to groundwater thereby providing high quality water, soft and low in minerals.
4. Provides self-sufficiency to the water supply and to supplement domestic water requirement during summer and drought conditions.
5. It reduces the rate of power consumption for pumping of groundwater. For every 1 m rise in water level, there is a saving of 0.4 KWH of electricity.
6. Reduces soil erosion in urban areas

### **Rain water harvesting at SCC:**

In SCC, one unit of rain water harvesting was installed and taken in operation w.e.f. 20.07.2007. The unit has been built in a catchments area of about 6000 m<sup>2</sup>; opposite to the Mela ground (Photos of the unit are attached). It is estimated that around 500m<sup>3</sup> of water will be charged into the ground in a year, with an average rainfall of 82 cms and runoff coefficient of 0.10. This serves as one of our corporate responsibility towards the society.