

## Energy Conservation Measure Implemented in 2006-07 : 1

ID to be filled by BEE	<b><u>Title of the measure</u></b>	Sector : Petrochemicals			
Year to be filled by BEE	Power saving in air compressor by suction throttling operation.	Technology : Process Control			
<b><u>Description of the energy conservation measure :</u></b>					
Two centrifugal compressor of capacity 7500 NM <sup>3</sup> /hr each used to run to cater a plant load of 9000-10000 NM <sup>3</sup> /hr, resulting in venting of air. Operation philosophy changed from base load to suction throttling mode. As a result, venting reduced & power consumption in compressors decreased.					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
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Agency that executed the project ( with complete address and email ) :					
Total investment : Nil			Year of implementation : 2006-07		
First year energy cost savings : Rs. 163.1 lacs					
First year other savings : Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	--	--	--	--	Power saved :
Energy consumption after	--	--	--	--	29.94 lacs kwh/yr.
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	--	--	--	--	Rs. 5.0/kwh
Company complete address :				We authorize Bureau to use this information for dissemination	
Haldia Petrochemicals Ltd. P.O. Box No. 12 Durgachak, Haldia Dist. : Purba Medinipur West Bengal – 721602.				Signature	
Contact person who could be contacted for more information :				Date : 12.11.07	
Surajit Bhattacharyay <b>E-Mail</b> : Surajit.Bhattacharyay@hpl.co.in Ph. : 03224-222720 Mobile : 09434043858					

## Energy Conservation Measure Implemented in 2006-07 : 2

ID to be filled by BEE	<b><u>Title of the measure</u></b> DM water recovery at PP plant.	Sector : Petrochemicals
Year to be filled by BEE		Technology : Water Recovery
<b><u>Description of the energy conservation measure :</u></b>  DM water is used in pellet cutting water tank after the extrusion. Pellets are cut under water. After cutting, pellets are separated in screen & the DM water is recycled. Earlier there was no provision to stop overflow of DM water from the pellet cutting tank, thus DM water used to get discharged to drain. New system has been developed with proper screen arrangement to separate out the suspended powder & then recycle back the DM water.		
<b>Picture/ sketch/ drawing before modification</b> (if available)	<b>Picture/ sketch/ drawing after modification</b>	
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Agency that executed the project ( with complete address and email ) :		
Total investment : Rs. 3.0 lacs	Year of implementation : 2006-07	
First year energy cost savings : Rs. 5.25 lacs		
First year other savings : Nil		
On annual basis	kWh 000'	Coal (Tons)
Energy consumption before	--	--
Energy consumption after	--	--
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	--	--
Gas Nm <sup>3</sup>	--	--
Oil (kL)	--	--
Other	DM water saved : 24000 tons/yr.	
Company complete address :  Haldia Petrochemicals Ltd. P.O. Box No. 12 Durgachak, Haldia Dist. : Purba Medinipur West Bengal – 721602.  Contact person who could be contacted for more information :  Surajit Bhattacharyay <b>E-Mail</b> : Surajit.Bhattacharyay@hpl.co.in Ph. : 03224-222720 Mobile : 09434043858		
We authorize Bureau to use this information for dissemination  Signature  Date : 12.11.07		

## Energy Conservation Measure Implemented in 2006-07 : 3

ID to be filled by BEE	<b><u>Title of the measure</u></b>	Sector : Petrochemicals			
Year to be filled by BEE	Condensate recovery in HDPE plant.	Technology : Water Recovery			
<p><u>Description of the energy conservation measure :</u></p> <p>DM water is used for cooling of gear pump of extruder. After cooling the gear pump, DM water get heated &amp; this hot DM water used to get discharged to drain. New system has been developed with proper control &amp; the hot DM water is recycled back the condensate collecting tank. From tank, it is pumped to condensate return header.</p>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
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Agency that executed the project ( with complete address and email ) :					
Total investment : Rs. 3.5 lacs			Year of implementation : 2006-07		
First year energy cost savings : Rs. 56.32 lacs					
First year other savings : Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	--	--	--	--	Condensate saved : 64000 tons/yr.
Energy consumption after	--	--	--	--	
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	--	--	--	--	Rs. 88/ton
<p>Company complete address :</p> <p>Haldia Petrochemicals Ltd. P.O. Box No. 12 Durgachak, Haldia Dist. : Purba Medinipur West Bengal – 721602.</p> <p>Contact person who could be contacted for more information :</p> <p>Surajit Bhattacharyay <b>E-Mail</b> : Surajit.Bhattacharyay@hpl.co.in Ph. : 03224-222720 Mobile : 09434043858</p>				<p>We authorize Bureau to use this information for dissemination</p> <p>Signature</p> <p>Date : 12.11.07</p>	

## Energy Conservation Measure Implemented in 2006-07 : 4

ID to be filled by BEE	<b><u>Title of the measure</u></b>	Sector : Petrochemicals			
Year to be filled by BEE	Condensate recovery in LLDPE plant.	Technology : Water Recovery			
<p><u>Description of the energy conservation measure :</u></p> <p>Condensate from propylene stripper reboiler was not getting recovered due to steam trap problem &amp; locational disadvantage of condensate header. One pressured powered pump is installed &amp; the total condensate was pumped to condensate header.</p>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
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Agency that executed the project ( with complete address and email ) :					
Total investment : Rs. 2.8 lacs			Year of implementation : 2006-07		
First year energy cost savings : Rs. 10.26 lacs					
First year other savings : Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	--	--	--	--	Condensate saved : 6400 tons/yr.
Energy consumption after	--	--	--	--	
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	--	--	--	--	Rs. 88/ton
<p>Company complete address :</p> <p>Haldia Petrochemicals Ltd. P.O. Box No. 12 Durgachak, Haldia Dist. : Purba Medinipur West Bengal – 721602.</p> <p>Contact person who could be contacted for more information :</p> <p>Surajit Bhattacharyay <b>E-Mail</b> : Surajit.Bhattacharyay@hpl.co.in Ph. : 03224-222720 Mobile : 09434043858</p>				<p>We authorize Bureau to use this information for dissemination</p> <p>Signature</p> <p>Date : 12.11.07</p>	

## Energy Conservation Measure Implemented in 2006-07 : 5

ID to be filled by BEE	<b><u>Title of the measure</u></b>	Sector : Petrochemicals			
Year to be filled by BEE	Power saving by mist cooling system expansion.	Technology : Expansion			
<u>Description of the energy conservation measure :</u>					
Present mist cooling system is having a capacity of 8000 M3/hr. Due to complex expansion, the system has been planned to expand to 12000 M3/hr, instead of expanding conventional cooling tower. So, energy saving will be achieved as the system has no cooling fan.					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
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Agency that executed the project ( with complete address and email ) :					
Total investment : Rs. 40.0 lacs			Year of implementation : 2006-07		
Estimated first year energy cost savings : Rs. 54.23 lacs					
First year other savings : Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	--	--	--	--	Power saving : 8.23 lacs kwh/yr.
Energy consumption after	--	--	--	--	
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	--	--	--	--	Rs. 5.0/kwh
Company complete address :				We authorize Bureau to use this information for dissemination	
Haldia Petrochemicals Ltd. P.O. Box No. 12 Durgachak, Haldia Dist. : Purba Medinipur West Bengal – 721602.				Signature	
Contact person who could be contacted for more information :				Date : 12.11.07	
Surajit Bhattacharyay <b>E-Mail</b> : Surajit.Bhattacharyay@hpl.co.in Ph. : 03224-222720 Mobile : 09434043858					

## Energy Conservation Measure Implemented in 2006-07 : 6

ID to be filled by BEE	<b><u>Title of the measure</u></b>				Sector : Petrochemicals
Year to be filled by BEE	Integrated condensate recovery in complex.				Technology : Water Recovery
<b><u>Description of the energy conservation measure :</u></b>					
<p>Condensate is pumped to common header in utility from all the plants inside complex. As all the plants running more than their rated capacities, condensate transfer from all the plants are not stable. In detailed study, it is found that pressure gradient has changed along the condensate header, resulting in less transfer from end plants. Problem is solved by header modification &amp; changing of transfer pumps.</p>					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
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Agency that executed the project ( with complete address and email ) :					
Total investment : Rs. 27.0 lacs			Year of implementation : 2006-07		
Estimated first year energy cost savings : Rs. 84.75 lacs					
First year other savings : Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	--	--	--	--	Condensate saving: 72000 tons/yr.
Energy consumption after	--	--	--	--	
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	--	--	--	--	Rs. 88/ton
Company complete address :				We authorize Bureau to use this information for dissemination	
Haldia Petrochemicals Ltd. P.O. Box No. 12 Durgachak, Haldia Dist. : Purba Medinipur West Bengal – 721602.					
Contact person who could be contacted for more information :				Signature	
Surajit Bhattacharyay <b>E-Mail</b> : Surajit.Bhattacharyay@hpl.co.in Ph. : 03224-222720 Mobile : 09434043858				Date : 12.11.07	

## Energy Conservation Measure Implemented in 2006-07 : 7

ID to be filled by BEE	<b><u>Title of the measure</u></b>	Sector : Petrochemicals			
Year to be filled by BEE	Waste water recovery by RO plant.	Technology : Water Recovery			
<b><u>Description of the energy conservation measure :</u></b>					
Blow down from cooling towers were pumped to effluent treatment plant for disposal. To recover these water, one reverse osmosis plant is being installed. After being treated in RO plant, the water will be recycled back to DM water plant.					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
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Agency that executed the project ( with complete address and email ) :					
Total investment : Rs. 250.0 lacs			Year of implementation : 2006-07		
Estimated first year energy cost savings : Rs. 63.36 lacs					
First year other savings : Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	--	--	--	--	Waste water saving:
Energy consumption after	--	--	--	--	576000 tons/yr.
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	--	--	--	--	Rs. 11/ton
Company complete address :				We authorize Bureau to use this information for dissemination	
Haldia Petrochemicals Ltd. P.O. Box No. 12 Durgachak, Haldia Dist. : Purba Medinipur West Bengal – 721602.				Signature	
Contact person who could be contacted for more information :				Date : 12.11.07	
Surajit Bhattacharyay <b>E-Mail</b> : Surajit.Bhattacharyay@hpl.co.in Ph. : 03224-222720 Mobile : 09434043858					