

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: Creating infrastructure for using furnace oil in place of LDO in heavy Forge Shop Reheating Furnace.	Sector : General.....
Year to be filled by BEE		Technology
<p>Description of the energy conservation measure:</p> <p>Previously, the Reheating furnace of Heavy Forge Shop was using Light Diesel Oil (LDO). This furnace, which operate at a temperature of 1260 degree centigrade is used for heating & soaking of ingots before these are forged under the forging press.</p> <p>There was huge expenditure on fuel because LDO is an expensive fuel. With the purpose of reducing the cost of fuel, a decision was taken to create infrastructure to enable us the use of Furnace Oil (a less expensive fuel) .</p> <p>LDO can efficiently burn in the furnace even if it is preheated to a temperature of 60-70 degree centigrade but in case of furnace oil, pre-heating temperature must be 100-105 degree centigrade for its proper atomization & combustion in the furnace. Heating of oil is done in the 22 KL day oil tank (service tank) and also in the Heating & Pumping unit installed on the back side of the furnace.</p> <p>While carrying out necessary changes, heating elements of day oil tank and heating& pumping unit were replaced from lower rating to higher rating. Electric heat Tracing was provided on the pipe line from day oil tank to heating & Pumping Unit and from heating Pumping unit to burners of the furnace. Pipe line from main Oil Storage Tank (140 KL capacity) to day oil storage tank was also insulated to prevent heat losses.</p>		
Picture/ sketch/ drawing before modification (if available)	Picture/ sketch/ drawing after modification	
Agency that executed the project (with complete address and email): Maint.& Services Deptt. of CFFP		
Total investment, Rs.: 14 lakhs.	Year of implementation: 2006-07	

First year energy cost savings, Rs.: 40.27 lakhs					
First year other savings, Rs.: Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before					
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...					
Company complete address: CFFP, BHEL-HARDWAR 249403, Uttarakhand. Contact person who could be contacted for more information: N.K.SONI Sr.DGM(Energy Conservation) CFFP,BHEL-HARDWAR 249403 UTTRAKHAND				We authorise Bureau to use this information for dissemination Signature (N.K.Soni) Date 18-10-2007	

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 Modification of Heat Insulation system of 10M (V) Reheating furnace of Medium Forge Shop.	Sector ...General.....
Year to be filled by BEE		Technology
<p>Description of the energy conservation measure:</p> <p>The above furnace of 60Ton Capacity is a bogie hearth Furnace which is used to heat the ingots upto 1260 degree Centigrade before forging under the forging press.</p> <p>Insulation system was very old (refractory brick type) on account of which LDO consumption was very high which was 6 KL/Day. The heat storage in refractory mass was high and heat losses to the atmosphere were also high.</p> <p>After detailed study it was decided to carry out following improvement in the furnace:-</p> <p>Replacement of refractory brick lining with improved Monolane Heat Insulation system which can withstand furnace temperature upto 1300 degree C. Ceramic blankets are first soaked in monolane solution, then its density is increased by compressing it under a light roller and thereafter it is applied inside the furnace under wet condition.</p> <p>The density of new Heat Insulation System is 6 to 7 times less in comparison with refractory bricks.. There was significant reduction in the body mass of the refractory material and hence less storage of heat.</p> <p>The co-efficient of thermal conductivity of new Insulation material is also six times low. Hence less heat is transmitted to the atmosphere from the furnace.</p> <p>After implementation of the project , the fuel consumption on the furnace reduced from 6.0 KL/day to 5.5 KL/day.</p>		
Picture/ sketch/ drawing before modification (if available)	Picture/ sketch/ drawing after modification	
Agency that executed the project (with complete address and email): M/s UNIFRAX India Ltd., 1603 , Chiranjiv Tower, 43, Nehru Place, New Delhi-110019. Tel: 26440881, 65651065, FAX: 011-26440879 Email: unifrax@bol.net.in , unifrax@vsnl.net		
Total investment, Rs.: 30 lakhs	Year of implementation:2006-07	

First year energy cost savings, Rs.: 11.50 lakhs.					
First year other savings, Rs.: Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before					
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...					
Company complete address: CFFP, BHEL-HARDWAR 249403 , UTTRAKHAND				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: N.K.SONI, Sr.DGM(Energy Conservation) CFFP, BHEL-HARDWAR				Signature; (N.K.SONI) Date 18-10-2007	

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 100 FRP Sheets installed at the roof top of various Production blocks.		Sector General.....		
Year to be filled by BEE			Technology		
Description of the energy conservation measure: In production shops, overhead lamps (provided for general lighting) used to glow during day time also to provide desired illumination level at work place . To save electric energy, it was decided to provide transparent Fiberglass Reinforced plastic (FRP) Sheets at roof top of production Shops at regular interval so that natural Sun light is used for illumination of work place during day time. A detailed study was conducted to decide the location of such sheets. 100 such sheets were provided due to which glowing of electric lamps could be avoided during day time. It gave us following benefits.					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
Agency that executed the project (with complete address and email): Civil Deptt. of CFFP,BHEL-HARDWAR.					
Total investment, Rs.:2 LAKHS.			Year of implementation: 2006-07		
First year energy cost savings, Rs.:3 LAKHS for saving of 1.08 lakh kWh of electric Energy.					
First year other savings, Rs.: Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before					
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...					
Company complete address: CFFP, BHEL-HARDWAR 249403 , UTTRAKHAND				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information N.K.Soni Sr.DGM (Energy Conservation) CFFP, BHEL-Hardwar 249403				Signature (N.K.SONI)	
				Date 18-10-2007	

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 Combustion System modified on 10M (Vulcan) Reheating furnace	Sector General.....			
Year to be filled by BEE		Technology			
<p>Description of the energy conservation measure: The above furnace of 60Ton Capacity is a bogie hearth Furnace which is used to heat the ingots upto 1260 degree Centigrade before forging under the forging press. The burner system was very old and inefficient on account of which LDO consumption was very high i.e 5.5 KL/Day. After detailed study it was decided to carry out following improvement in the furnace:- Replacement of existing Encon burner System of make (having 32 burners of 3A size) with fuel efficient burner System of Wesman make (16 burners of 5422-6 size). After implementation, fuel consumption reduced from 5.5 KL/day to 5.00 KL/day.</p>					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
Agency that executed the project (with complete address and email): Maint.&Services Deptt.CFFP-Hardwar					
Total investment, Rs.: 33 lakhs			Year of implementation: 2006-07		
First year energy cost savings, Rs.: 11.50 lakhs					
First year other savings, Rs.: Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before					
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...					
Company complete address: CFFP, BHEL-Hardwar 249403 (Uttrakhand)				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: N.K.Soni Sr. DGM(Energy Conservation) CFFP, BHEL- Hardwar 249403.				Signature (N.K.SONI) Date 18-10-2007	

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 Energy saving in Compressor House by controlling leakages.	Sector General.....
Year to be filled by BEE		Technology
<p>Description of the energy conservation measure:</p> <p>Compressed air is a very costly form of energy. There is huge consumption of power in the compressor house of CFFP.</p> <p>After detailed study at the shop floors using compressed air for operating various pneumatic tools, compressed air leakages were observed at many places which was on account of following two reasons.</p> <p>(i) Defective air control valves.</p> <p>(ii) Damaged rubber tubes carrying compressed air to the point of use.</p> <p>All the points of leakages were recorded along with there location and reasons of leakage. Defective air control valves were rectified and damaged tubes were replaced with new tubes. Following gains were achieved after implementation.</p>		
Picture/ sketch/ drawing before modification (if available)	Picture/ sketch/ drawing after modification	
Agency that executed the project (with complete address and email): Maint.&Services Deptt.CFFP-Hardwar		
Total investment, Negligible.	Year of implementation: 2006-07	

First year energy cost savings, Rs.: 5.10 lakhs					
First year other savings, Rs.: Nil					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before					
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...					
Company complete address: CFFP, BHEL-Hardwar 249403 (Uttarakhand)				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: N.K.Soni Sr. DGM(Energy Conservation) CFFP, BHEL- Hardwar 249403.				Signature (N.K.SONI) Date 18-10-2007	