
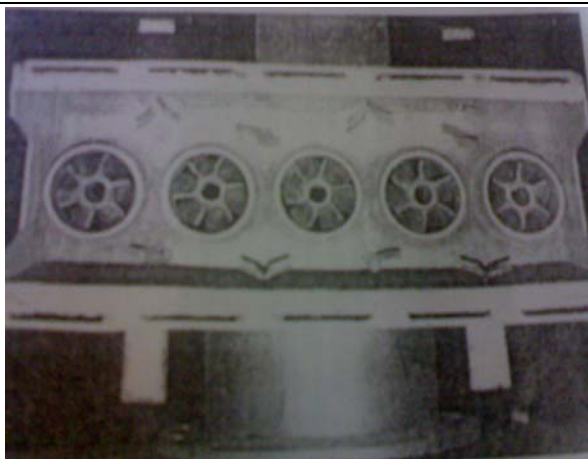


Energy Conservation Measure implemented in 2006-2007


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

ID to be filled by BEE	Title of the measure Multi slit burners in Sintering Plant-II	Sector Integrated Steel Plant		
Year to be filled by BEE		Technology Developed by RDCIS		
<p>Description of the energy conservation measure: Conventional burners in SP-II were side fired and it was mainly transferring heat by radiation. Lot heat loss was there and coke breeze were not properly burnt and heat distribution was not uniform resulting in poor quality of sinter. Multi slit burners are a block consisting numbers of small burners placed vertically above the bed so that flame can touch the bed directly across the whole cross section of the bed. Coke in the bed is getting ignited by the flame and subsequent reaction is continued from the exothermic combustion reaction of coke.</p>				
Picture/ sketch/ drawing before modification (if available)		Picture/ sketch/ drawing after modification		
				
Agency that executed the project (address): RDCIS, Ranchi. <pkt@sail-rdcis.com>				
Total investment, Rs.:25.0 lakhs		Year of implementation: 2006		
First year energy cost savings, Rs.: 51.29 lakhs				
First year other savings, Rs.:				
On annual basis	kWh 000'	Specific Heat cons. Mkcal/t	Oil (kL)	Other
Energy consumption before		0.030		
Energy consumption after		0.024		
Energy tariff, Rs/ Mkcal		Rs. 932.07		
Company complete address: Rourkela Steel Plant Rourkela-769011 Orissa Contact person who could be contacted for more information: R.Kesri			We authorise Bureau to use this information for dissemination Signature Date	

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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 Steam Injection To Sinter Bed In Sintering Plant - I	Sector Integrated Steel Plant		
Year to be filled by BEE		Technology Developed by RDCIS		
Description of the energy conservation measure: Air humidification system was installed in SP-I. A perforated steam pipe is placed just above the sinter bed and a fine steam spray is given to the sinter bed. Installation of air humidification by steam resulted in good heat transfer between gas and sinter mix by increasing the heat capacity of air.				
Picture/ sketch/ drawing before modification (if available)		Picture/ sketch/ drawing after modification		
				
Agency that executed the project (address and email):RDCIS, Ranchi <pkt@sail-rdcis.com>				
Total investment, Utilised in-house resources		Year of implementation: 2006 - 07		
First year energy cost savings, Rs.: 30.3 lakhs				
First year other savings, Rs.:				
On annual basis	Sp. Power kWh/t	Specific Heat cons. Mkcal/t	Oil (kL)	Other
Energy consumption before	48.0	0.052		
Energy consumption after	42.4	0.045		
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	3200	Rs. 932.07		
Company complete address: Rourkela Steel Plant Rourkela-769011 Orissa			We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: R.Kesri			Signature	
			Date	

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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 Door & Door Framr Regulation In Batteries Of Coke Oven		Sector Integrated Steel Plant		
Year to be filled by BEE			Technology Inhouse		
Description of the energy conservation measure: A group of people have been engaged for insertion of ceramic fibre to seal the gap between door and door frame of each oven of Coke Ovens after every pushing on round the clock basis. The same group is also straightening the knife edge of the door after each pushing so that the door can seat properly.					
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.:24.0 lakhs			Year of implementation:2006 - 07		
First year energy cos savings, Rs.:131.82 lakhs					
First year other savings, made the batteries pollution free.					
On annual basis	kWh 000'	Coal (Tons)	Gas loss Nm ³ /hr	Oil (kL)	Other
Energy consumption before			1500		
Energy consumption after			300		
Energy tariff, Rs/ Mkal			342		
Company complete address: Rourkela Steel Plant Rourkela-769011 Orissa Contact person who could be contacted for more information: RKesri				We authorise Bureau to use this information for dissemination Signature Date	

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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 AP & Goose Neck Sealing By Tar And Sand	Sector Integrated Steel Plant			
Year to be filled by BEE		Technology Inhouse			
Description of the energy conservation measure: The gap between Ascension Pipe (AP) & goose neck of each coke oven is a potential source of gas leakage and air pollution. Now a scheme has been taken to seal the gap between cap and above equipment by sand and tar.					
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, Using internal resources			Year of implementation: 2006 - 07		
First year energy cost savings, Rs.: 52.73 lakhs					
First year other savings, made the coke oven top pollution free					
On annual basis	kWh 000'	Coal (Tons)	Gas loss Nm ³ /hr	Oil (kL)	Other
Energy consumption before			500		
Energy consumption after			100		
Energy tariff, Rs/ Mkcal			342		
Company complete address: Rourkela Steel Plant Rourkela-769011 Orissa				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: R.Kesri				Signature	
				Date	

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Energy Conservation Measure implemented in 2006-2007

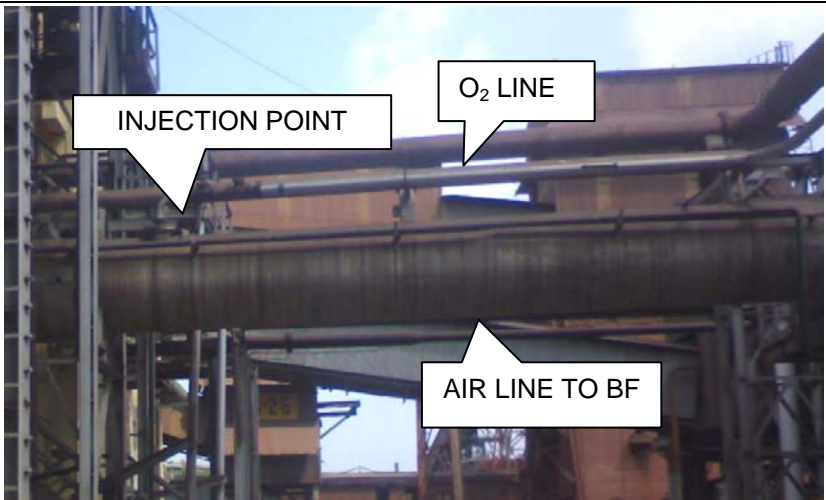
(To be filled up separately for each Energy Conservation Measure)

ID to be filled by BEE	Title of the measure Alternate BFGas Line For Blast Furnace Stoves		Sector Interated Steel Plant			
Year to be filled by BEE			Technology Inhouse			
Description of the energy conservation measure: Blast Furnace Stove is heated by B.F.Gas. Hot Blast temperature is controlling the coke rate of the furnace. Our existing grid was not able to supply sufficient gas to the stoves so we were not able to achieve sufficient hot blast temperature. After commissioning of the new GCP for Blast Furnace-4, we got another route for stove. So a new line from the above GCP connected to stove header near BF-4. It resulted in increase in BFGas flow to stoves of all furnaces and helped in reducing the coke consumption rate.						
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification			
						
Agency that executed the project (with complete address and email): erection by local contractor						
Total investment, Rs.:25 lakhs			Year of implementation:2006 - 07			
First year energy cost savings, Rs.: 801 lakhs						
First year other savings, Rs.:						
On annual basis	kWh 000'	Coke (Kg/t)	Gas Nm ³	Oil (kL)	Other	
Energy consumption before		613				
Energy consumption after		582				
Energy tariff, Rs/ Ton/		12000				
Company complete address: Rourkela Steel Plant Rourkela-769011 Orissa				We authorise Bureau to use this information for dissemination		
Contact person who could be contacted for more information: R.Kesri				Signature		
				Date		

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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 Oxygen Injection In Blast Furnace-4	Sector Integrated Steel Plant			
Year to be filled by BEE		Technology Inhouse			
Description of the energy conservation measure: Hard coke is the main energy input to Blast Furnaces. It acts as reducing agent, acts as fuel for maintaining temperature to keep the iron in molten condition and it also take the burden load of the furnaces. Oxygen enrichment in B.F. – 4 of RSP has been done by utilizing the in-house facilities by 1 – 1.5 % to increase the coke burning rate and better productivity. This results in reduction in coke rate of BF-4					
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.:nil		Year of implementation: 2006 - 07			
First year energy cost savings, Rs.:190.6 lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coke Rate (kg/t)	Gas Nm ³	Oil (kL)	Other
Energy consumption before		582			
Energy consumption after		577			
Energy tariff, Rs/ Ton		12000			
Company complete address: Rourkela Steel Plant Rourkela-769011 Orissa				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: R.Kesri				Signature	
				Date	

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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 Repair Of Cold Tube Bundles Of Recuperator Of Plate Mill Furnace	Sector Integrated Steel Plant			
Year to be filled by BEE		Technology In-house			
Description of the energy conservation measure: Heat of waste gas from the furnace is recovered through recuperator and recycled back to the furnace and there by energy can be conserved. It has been found that cold tube bundles of recuperator are getting damaged frequently and causing high heat consumption and restricting combustion air flow and also loading the ID fan. In Plate Mill Furnace 63 cold tubes were identified as causing infiltration. So with our in-house resources those tubes were changed.					
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.:4.0 lakhs			Year of implementation:2006 - 07		
First year energy cost savings, Rs.:19.5 lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal	Mixed Gas Mkcal/t	Oil (kL)	Other
Energy consumption before	1543.20		0.375		
Energy consumption after	1234.56		0.369		
Energy tariff, Rs/ kWh	3.20		392 / G.Cal		
Company complete address: Rourkela Steel Plant Rourkela - 769011 Orissa				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: R.Kesri				Signature Date	

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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 Integrated Steel Plant			
Year to be filled by BEE	Introduction Of VVVF Drives In Charging Side Roller Table Of Re-Heating Furnaces Of HSM	Technology			
Description of the energy conservation measure: Motors of charging side roller tables are used for charging the slabs into the continuous running Re-Heating Furnaces of Hot Strip Mill. There are 7 numbers of 53 kW motors. They are converted to VVVF drive motor which is saving about 25% energy and break downs have been reduced considerably.					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
					
Agency that executed the project :Simens Ltd, Kolkata-42 , < adwaita.mukherjee@siemens.com>					
Total investment, Rs.:35 lakhs			Year of implementation: 2006 - 07		
First year energy cost savings, Rs.:8.66					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	1155				
Energy consumption after	866.25				
Energy tariff, Rs/ kWh	3.2				
Company complete address: Rourkela Steel Plant Rourkela - 769011 Orissa Contact person who could be contacted for more information: R.Kesri				We authorise Bureau to use this information for dissemination Signature Date	

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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 Integrated Steel Plant			
Year to be filled by BEE	Replacement Of Aluminum Blade With FRP Blade In 10 Nos. Of Cooling Towers	Technology			
Description of the energy conservation measure: There are numbers of Cooling Towers in the plant for recycling the water in cooled condition. The temperature of water controls the efficiency of the process where cooled water is used. In our plat most of the Towers were having Aluminum blades which are highly energy intensive. By using FRP blade electricity consumption can be brought down by 25 %. Now we replacing Aluminum blades with FRP blades in a phased manner. In 2006 – 07 we have replaced 10 such blades.					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
					
Agency that executed the project : Wetbulb Cooling Towers, Mumbai-70 <wetbulb@rediffmail.com>					
Total investment, Rs.: 40 lakhs			Year of implementation: 2006 - 07		
First year energy cost savings, Rs.:57.6 lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	4452				
Energy consumption after	3562				
Energy tariff, Rs/ kWh	3.20				
Company complete address: Rourkela Steel Plant Rourkela - 769011 Orissa				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: R.Kesri				Signature	
				Date	

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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 Vapor-Liquid Absorption Chiller For Cooling raw Coke Oven Gas	Sector Integrated Steel Plant
Year to be filled by BEE		Technology
<p>Description of the energy conservation measure: Chilled water is essential for cleaning raw Coke Oven Gas. Conventional Ammonia refrigeration plant was in our plant for this purpose which was highly energy intensive (1400 kWh) and very maintenance prone. Impurities in COGas can cause havoc to the plant. This has been replaced with energy efficient Vapor-Liquid absorption chiller which is consuming less power (350 kWh) and less maintenance prone and can supply chilled water at very low temperature continuously. After implementation of this project our gas quality has improved which has helped in improving plant productivity.</p>		
Picture/ sketch/ drawing before modification (if available)	Picture/ sketch/ drawing after modification	
Agency that executed the project :M/s THERMAX, Kolkata-17, < mchatterjee@thermaxindia.com>		
Total investment, Rs.:450 Lakhs	Year of implementation:2006 - 07	
First year energy cost savings, Rs.: 172.8		
First year other savings, Rs.:		
On annual basis	kWh 000'	Coal (Tons)
Energy consumption before	10080	
Energy consumption after	2880	
Energy tariff, Rs/ kWh	3.20	
Company complete address: Rourkela Steel Plant Rourkela- 769011 Orissa Contact person who could be contacted for more information: R.Kesri	We authorise Bureau to use this information for dissemination Signature Date	

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