

Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure	Sector DAIRY			
Year to be filled by BEE	Installation of new mechanical packing machines	Technology - Change of Equipment			
<p>Description of the energy conservation measure: The conventional milk packing machines are pneumatic type. The air to these was being catered from air compressors. One double head pneumatic type packing machine require 53 M³ of air per hour. On the contrary the newly emerged mechanical type packing machines do not require air for their operations. The dairy had 10 double head pneumatic packing machines. As a trial basis in the year 2005-06 one pneumatic machine was replaced with one new mechanical machine. Since the performance of the machines was satisfactory and proved that without requirement of air the efficiency is equal to that of the conventional pneumatic machine in the year 2006-07 three more were replaced by mechanical ones since they were old. In total the dairy has four mechanical machines. Since, these machines did not require air there was considerable reduction in running hours of air compressors and substantial electrical energy was saved.</p>					
Picture/ sketch/ drawing before modification			Picture/ sketch/ drawing after modification		
<p>CONVENTIONAL PNEUMATIC MACHINES</p> 			<p>NEW MECHANICAL PACKING MACHINES</p> 		
Agency that executed the project (with complete address and email): M/S RMC Packaging Systems Pvt. Limited, # 25 A&b, Electronics Complex, Kushaiguda, Hyderabad – 500 062. Fax 040 27125563 E- Mail ID – vijaipac_rmc @ yahoo.com					
Total investment, Rs.: 14.00 Lakhs			Year of implementation: 2006-07		
First year energy cost savings, Rs.: 2.71 Lakhs					
First year other savings, Rs.:					
On annual basis	KWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	62.240				
Energy consumption after	-NIL-				
Energy tariff, Rs/ kWh	Rs. 4.35				
Company complete address:				We authorise Bureau to use this information for dissemination Signature Date 19-10-2007	
MANDYA DAIRY - GEJJALAGERE , A Unit Of Mandya Dist. Co-Operative Milk Producers' Societies' Union Ltd.,B.M. Road, Gejjalagere, Maddur Taluk, Mandya District – 571 428, KARNATAKA					
Contact person who could be contacted for more information: Dr. T. Prasanna, Manager (Dairy) & Energy Manager Mandya Dist. Co-Operative Milk Producers' Societies' Union Ltd.,B.M. Road, Gejjalagere, Maddur Taluk, Mandya District - 571 428, KARNATAKA Mobile – 09900556066, E-Mail ID – tpra2000@yahoo.com					



MANDYA DAIRY
A UNIT OF MANDYA DISTRICT CO-OPERATIVE MILK PRODUCERS' SOCIETES' UNION
LIMITED
GEJJALAGERE, MADDUR TALUK, MANDYA DISTRICT, KARNATAKA – 571 428

Energy Conservation Measure implemented in 2006-2007





ID to be filled by BEE	Title of the measure Replacement of higher capacity blower motors with lower capacity blower motors in the evaporative condensers	Sector – DAIRY
Year to be filled by BEE		Technology – Process Modification
Description of the energy conservation measure: The dairy has 5 evaporative condensers with blower motors each put to operation with the help of one 12.5 Hp motors. At any given point of time 4 condensers will be in operation. The study revealed that these motors are under loaded. Hence these 12.5 Hp blower motors were replaced with 7.5 Hp motors and the performance was closely observed for decrease in the efficiency and the level of load on the motors. The performance was as good as was with 12.5 Hp motors and the motors were operating at optimum load.		
Picture/ sketch/ drawing before modification	Picture/ sketch/ drawing after modification	
7.5 Hp Blower motor	5 Hp Blower motor	
		
Agency that executed the project (with complete address and email): In- House at Mandya Dairy		
Total investment, Rs.: 1.5 Lakhs	Year of implementation: 2006-07	
First year energy cost savings, Rs.: 5.00 Lakhs		
First year other savings, Rs.:		
On annual basis	KWh 000'	Coal (Tons)
Energy consumption before	287.438	
Energy consumption after	172.463	
Energy tariff, Rs/ kWh	4.35	
Company complete address:		We authorise Bureau to use this information for dissemination
<div style="border: 1px solid black; padding: 5px;"> MANDYA DAIRY - GEJJALAGERE, A Unit Of Mandya Dist. Co-Operative Milk Producers' Societies' Union Ltd.,B.M. Road, Gejjalagere, Maddur Taluk, Mandya District – 571 428, KARNATAKA </div>		Signature
Contact person who could be contacted for more information: Dr. T. Prasanna, Manager (Dairy) & Energy Manager Mandya Dist. Co-Operative Milk Producers' Societies' Union Ltd.,B.M. Road, Gejjalagere, Maddur Taluk, Mandya District - 571 428, KARNATAKA Mobile – 09900556066, E-Mail ID – tpra2000@yahoo.com		Date 19-10-2007

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Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	Title of the measure Improvement of Co-Efficient of Performance (COP) of refrigeration system				Sector – DAIRY	
Year to be filled by BEE					Technology – House Keeping	
<p>Description of the energy conservation measure: The refrigeration section has 4 Ammonia compressors each driven by 125 Hp motors & there are 5 evaporative condensers each energized by one 12.5 Hp (blower) & one 7.5 Hp (Water pump) motors. As stated in energy savings project 2 the 12.5 Hp motor at blower was replaced by 7.5 Hp motor. There was scale formation on the coils in the evaporative condensers by which the heat transfer efficiency was reduced resulting in lower COP as low as 2.5 against the standard 5.0. Thus in order to acquire required cooling all the 5 condensers were put in operation. The descaling of all the 5 condenser coils was done & this resulted in improvement of COP from 2.5 to 4.0 & also resulted in efficient heat transfer. Since the heat transfer was improved we were able to put off one evaporative condenser. The improvement of COP resulted in reduction of running hour of one ammonia compressor by 1 hour.</p>						
Picture/ sketch/ drawing before modification			Picture/ sketch/ drawing after modification			
						
Agency that executed the project (with complete address and email): In- House at Mandya Dairy						
Total investment, Rs.: 0.75 Lakhs			Year of implementation: 2006-07			
First year energy cost savings, Rs.: 5.42 Lakhs						
First year other savings, Rs.:						
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other	
Energy consumption before	3389.025					
Energy consumption after	3264.469					
Energy tariff, Rs/ kWh	4.35					
Company complete address:				We authorise Bureau to use this information for dissemination Signature Date 19-10-2007		
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ID to be filled by BEE	Title of the measure Installation of energy efficient 20 KL milk Pasteuriser	Sector DAIRY			
Year to be filled by BEE		Technology – Change of Equipment			
<p>Description of the energy conservation measure: The dairy had one old 10 KL milk pasturiser. The energy audit revealed that the pasteurizer had less regeneration efficiency (82.5 %) and the milk to chilled water & milk to hot water ratio were 1:3. The supply of hot water was through hot water battery wherein considerable amount of steam was being consumed. This pasteuriser was in operation with two numbers 5 Hp Milk & hot water pumps and the throughput was only 7500 Kgs per hour. Thus this was replaced new 20 KL milk pasteurizer which had regeneration efficiency of 90% and milk to chilled water & milk to hot water ratio were 1:2. The supply of hot water was through Plate Heat Exchanger wherein there is no wastage of steam. This pasteurizer had two Nos. 7.5 Hp milk & hot water pumps & the throughput was 20 KL per hour.</p>					
Picture/ sketch/ drawing before modification		Picture/ sketch/ drawing after modification			
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>OLD 10 KL MILK PASTEURISER</p>  </div> <div style="text-align: center;"> <p>HOT WATER BATTERY SYSTEM IN OLD MILK PASTEURISER</p>  </div> </div>		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>NEW 20 KL MILK PASTEURISER</p>  </div> <div style="text-align: center;"> <p>PHE SYSTEM IN NEW MILK PASTEURISER</p>  </div> </div>			
Agency that executed the project (with complete address and email): M\ S GEA ECOFLEX, Kari-Scheller Street, 1-3 D-31157 Sarstedt. Phone – 049 5066/60-1 E- Mail ID – info @ gea_ecoflex.com					
Total investment, Rs.: 20.00 Lakhs		Year of implementation: 2006-07			
First year energy cost savings, Rs.: 8.56 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	87.588	2575.224			
Energy consumption after	50.188	2374.908			
Energy tariff, Rs/ kWh/ Ton	4.35	3460.00			
Company complete address: <div style="border: 1px solid black; padding: 5px; display: inline-block;"> MANDYA DAIRY - GEJJALAGERE, A Unit Of Mandya Dist. Co-Operative Milk Producers' Societies' Union Ltd., B.M. Road, Gejjalagere, Maddur Taluk, Mandya District – 571 428, KARNATAKA </div>				We authorise Bureau to use this information for dissemination Signature Date 19-10-2007	
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