







## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	<b>MQS P S -1</b> <b>Electronic Ballast with reflectors on 1200 Nos. 40W FTLs</b>	Sector - Automobile.....			
Year to be filled by BEE		Technology .....			
<b>Description of the energy conservation measure:</b>					
In MQS Paint Shop, 1200 nos of 40 W twin conventional ballast of Florescent tube lights were replaced by electronic ballast, single Florescent tube lights and reflectors. The power savings of 3.49 lakhs kWh per annum has been achieved.					
<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): MQS Paint Shop Maint Team					
Total investment, Rs.: 7.20 Lakhs	Year of implementation:2006-2007				
First year energy cost savings, Rs.: 13.95 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	612				
Energy consumption after	263				
Energy tariff, <b>Rs/ kWh/ Ton/ Nm<sup>3</sup>/ kL</b>	4.00				
Company complete address: M/S Mahindra & Mahindra 89 MIDC Satpur Nashik -422007 Maharashtra				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: Mr. D.S. Joshi (Maintenance Manager – MQS Paint Shop)				Signature	
				Date	



## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	<b>MQS P S - 2</b>	Sector - Automobile.....			
Year to be filled by BEE	<b>Installation of Variable Frequency Drive for Air Supply Unit 2 pump.</b>	Technology .....			
<b>Description of the energy conservation measure:</b>					
Air supply unit 2 pump was throttled by motorized valve depending on the relative humidity (RH). The throttling was eliminated by installing Variable Frequency Drive on the pump. Based on monthly monitoring of before and after energy consumption, energy saving of 17,850 kWh/Annum has achieved.					
<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): MQS Paint Shop Maint. Team					
Total investment, Rs.: 1.00 Lakhs	Year of implementation:2006-2007				
First year energy cost savings, Rs.: 0.71 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	61.2				
Energy consumption after	43.3				
Energy tariff, <b>Rs/ kWh/ Ton/ Nm<sup>3</sup>/ kL</b>	4.00				
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## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	<b>MQS P S - 3</b>	Sector - Automobile.....			
Year to be filled by BEE	<b>Use of Robotic painting instead of manual painting</b>	Technology .....			
<b>Description of the energy conservation measure:</b>					
<p>The manual painting of the body shells were replaced by Robot painting. The production increased from 42 body shells per shift to 54 body shells per shift in same electrical and LPG consumption. The specific energy consumption of electricity is reduced from 294 kWh/body shell to 207 kWh/body shell. The LPG specific consumption was reduced from 33 kg/body shell to 26 kg/body shell. This has resulted in to 8.26 lakhs kWh &amp; 153.6 T of LPG reduction per annum.</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): MQS Paint Shop Maint.Team					
Total investment, Rs.: 1800 Lakhs	Year of implementation:2006-2007				
First year energy cost savings, Rs.: 53 Lakhs					
First year other savings, Rs.:					
On annual basis	Sp. Electrical Consumption kWh/Body shell	Coal (Tons)	Sp. LPG Consumption kg/Body shell	Oil (kL)	Other
Energy consumption before	294		33		
Energy consumption after	207		26		
Energy tariff, <b>Rs/ kWh/ kg/ Nm<sup>3</sup>/ kL ...</b>	4.00		30		
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Contact person who could be contacted for more information: Mr. D.S. Joshi (Maintenance Manager – MQS Paint Shop)				Signature	
				Date	

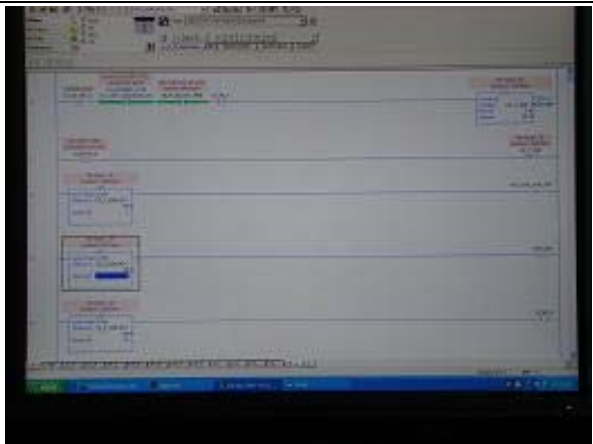
## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	<b>MQS P S - 4</b>		Sector - Automobile.....		
Year to be filled by BEE	<b>Cab Cargo combined painting on one skid</b>		Technology .....		
<b>Description of the energy conservation measure:</b>					
Cab and Cargo parts were painted separately. Now both the parts are painted together, which reduced the use of previous 2 skids by 1 skid. It increased the productivity by 54 bodysHELLs to 74 body shells per shift. The electricity specific consumption reduced from 207 kWh/body shell to 167 kWh/body shell. The LPG specific consumption reduced from 26 kg/body shell to 13 kg/body shell. This resulted into 4.72 lakhs kWh & 153.6 T LPG reduction per annum.					
<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): MQS Paint Shop Maint.Team					
Total investment, Rs.: Nil			Year of implementation:2006-2007		
First year energy cost savings, Rs.: 65 Lakhs					
First year other savings, Rs.:					
On annual basis	Sp. Electrical Consumption kWh/Bodyshell	Coal (Tons)	Sp. LPG Consumption kWh/Bo dyshell	Oil (kL)	Other
Specific Energy consumption before	207		26		
Energy consumption after	167		13		
Energy tariff, <b>Rs/ kWh/ kg/ Nm<sup>3</sup>/ kL</b> ...	4.00		30		
Company complete address: M/S Mahindra & Mahindra 89 MIDC Satpur Nashik -422007 Maharashtra				We authorise Bureau to use this information for dissemination	
Contact person who could be contacted for more information: Mr. D.S. Joshi (Maintenance Manager – MQS Paint Shop)				Signature	
				Date	

## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	<b>MQS P S - 5</b>			Sector - Automobile.....	
Year to be filled by BEE	<b>LPG savings due to 3 shift working</b>			Technology .....	
<b>Description of the energy conservation measure:</b>					
Electro coat line has been started to work in 3 shifts continuously instead of 2 shifts. Production has also increased. The continuous operation of furnaces has eliminated the soaking time during initial startup. The specific LPG consumption has been reduced from 9.5 kg/body to 7.5 kg/body. The downtime has been reduced from 15% to 8%. This resulted into savings of 21 T LPG per annum.					
<b>Picture/ sketch/ drawing before modification</b> (if available)			<b>Picture/ sketch/ drawing after modification</b>		
2 Shift working  Start and Stop of LPG Oven  LPG consumption = 9.5 KG/ Body			3 Shift working  Elimination of Start and Stop of LPG Oven  LPG consumption = 7.5 KG/ Body		
Agency that executed the project (with complete address and email): MQS Paint Shop Maint. Team					
Total investment, Rs.: Nil			Year of implementation:2006-2007		
First year energy cost savings, Rs.: 6.3 Lakhs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Sp. LPG Consumption kWh/Body shell	Oil (kL)	Downtime
Energy consumption before			9.5		15%
Energy consumption after			7.5		8%
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...			30		
Company complete address: M/S Mahindra & Mahindra 89 MIDC Satpur Nashik -422007 Maharashtra				We authorise Bureau to use this information for dissemination  Signature  Date	
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## Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	<b>MQS P S - 6</b>	Sector - Automobile.....
Year to be filled by BEE	<b>Automatic start up &amp; close operation for PT Pumps</b>	Technology .....
<b>Description of the energy conservation measure:</b>		
11 nos. PT pumps were running 23 hrs per day. The PLC based sequencing for ON-OFF has been done. This leads to stopping of all the pumps for average 1 hr per day. The power saving of 26,400 kWh per annum was achieved.		
<b>Picture/ sketch/ drawing before modification</b> (if available)	<b>Picture/ sketch/ drawing after modification</b>	
Manual ON & OFF of the 11 Nos. PT pumps		
Agency that executed the project (with complete address and email): MQS Paint Shop Maint. Team		
Total investment, Rs.: Nil	Year of implementation:2006-2007	
First year energy cost savings, Rs.: 1.06 Lakhs		
First year other savings, Rs.:		
On annual basis	kWh 000'	Coal (Tons)
Energy consumption before	607.2	
Energy consumption after	580.8	
Energy tariff, <b>Rs/ kWh/ Ton/ Nm<sup>3</sup>/ kL</b>	4.00	
Company complete address: M/S Mahindra & Mahindra 89 MIDC Satpur Nashik -422007 Maharashtra  Contact person who could be contacted for more information: Mr. D.S. Joshi (Maintenance Manager – MQS Paint Shop)	We authorise Bureau to use this information for dissemination  Signature  Date	