



## Energy Conservation Measure implemented in 2007-2008

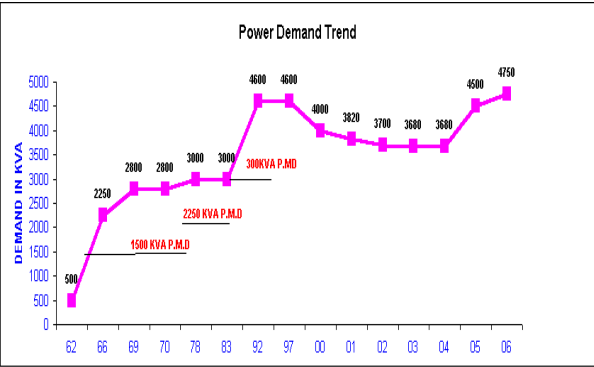
(To be filled up separately for each Energy Conservation Measure)

ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>APFC for Engineering center Load</b>	Technology : Automatic PF improvement			
<u>Description of the energy conservation measure:</u>					
<b>Energy conservation through power factor improvements and tail end voltage improvements/distribution loss reduction</b>					
<b>BEFORE</b>			<b>AFTER</b>		
					
Agency that executed the project (with complete address and email): HackField, Bangalore					
Total investment, Rs.: 3.2 Lacs			Year of implementation: 07-08		
First year energy cost savings, Rs.: 14.4 Lacs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	3.2 Lacs Units/Month	-	-	-	-
Energy consumption after	2.6 Lacs Units/Month	-	-	-	-
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65 / Units	-	-	-	-
Company complete address:  <b>Lucas - TVS , Padi , Chennai – 600050.</b>				We authorize Bureau to use this information for dissemination	
Contact person who could be contacted for more information:				Signature	
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ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>Demand Enhancement on Grid Power</b>	Technology : Demand Management			
<p><u>Description of the energy conservation measure:</u></p> <p><b>To reduce the fuel consumption by increasing grid power demand from 4200 KVA to 4600 KVA</b></p>					
<b>BEFORE</b>		<b>POWER DEMAND TREND</b>			
<p>◆ <b>High fuel consumption / use of Genset to meet additional loads due to new plant &amp; machinery</b></p>					
Agency that executed the project (with complete address and email): TNEB, Tamilnadu					
Total investment, Rs.: 8.0 Lacs			Year of implementation: Dec'07		
First year energy cost savings, Rs.: 84 Lacs					
First year other savings, Rs.:3.0Lacs ( Maintenance & DG set )					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	17 Lacs Units/Mont.	-	-	-	-
Energy consumption after	18.3 Lacs Units/Mont.	-	-	-	-
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65/ units on Grid Power Rs.10/uints on DG	-	-	-	-
Company complete address:				We authorize Bureau to use this information for dissemination	
<b>Lucas - TVS , Padi , Chennai – 600050.</b>				Signature	
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ID to be filled by BEE	<u>Title of the measure</u>		Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>Street Light Energy Saver</b>		Technology : Auto voltage regulation (AVR)			
<u>Description of the energy conservation measure:</u>						
<b>Energy Saver system introduced for a group of street lights to regulate the voltage / wattage based on programmable timers</b>						
<b>BEFORE</b>			<b>Street light connected through the energy saver</b>			
<p>◆ <b>Direct supply to street lights from 6 p.m. to 6 a.m.</b></p>						
Agency that executed the project (with complete address and email): A.C.S.Services						
Total investment, Rs.: 1.0 Lac			Year of implementation: 07-08			
First year energy cost savings, Rs.: 0.50 Lac						
First year other savings, Rs.:						
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other	
Energy consumption before	0.33 Lacs units/Annum	-	-	-	-	
Energy consumption after	0.23 Lacs units/Annum	-	-	-	-	
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65 per units	-	-	-	-	
Company complete address: <b>Lucas - TVS , Padi , Chennai – 600050.</b>				We authorise Bureau to use this information for dissemination  Signature  Date		
Contact person who could be contacted for more information:						

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ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>Reduction of Fuel Consumption</b>	Technology : Resource conservation			
<u>Description of the energy conservation measure:</u>					
<b>Replacement of diesel forklifts by electric battery forklifts</b>					
<b>Diesel operated fork lift for material movements</b>			<b>Battery operated fork lift for material movements</b>		
					
<b>BEFORE</b>			<b>AFTER</b>		
Agency that executed the project (with complete address and email): Inhouse					
Total investment, Rs.: 6.0 Lacs			Year of implementation: 07-08		
First year energy cost savings, Rs.: 4.8 Lacs					
First year other savings, Rs.: 1.5 Lacs (Maintenance cost)					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Diesel consumption before				15KL	
Energy consumption after (Battery charging current)	6000 units				
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65 / units				
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ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>LOAD BALANCING</b>	Technology : Load Sharing			
<u>Description of the energy conservation measure:</u>  Re-distribution of the load to optimize transformers capacity utilization					
<b>BEFORE</b>			<b>AFTER</b>		
<ul style="list-style-type: none"> <li>◆ Transformer of starters / Alternators production lines overloaded</li> <li>◆ Frequent failures and line stoppages</li> <li>◆ Energy Loss</li> </ul>					
			<b>Load Sharing based on load current on the transformer &amp; optimizing</b>		
Agency that executed the project (with complete address and email): In-house					
Total investment, Rs.: 6.0 Lacs			Year of implementation:07-08		
First year energy cost savings, Rs.: 4.0 Lacs (Recurring savings)					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	4.6 Lacs units/month	-	-	-	-
Energy consumption after	3.7 Lacs units/month	-	-	-	-
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65 / units	-	-	-	-
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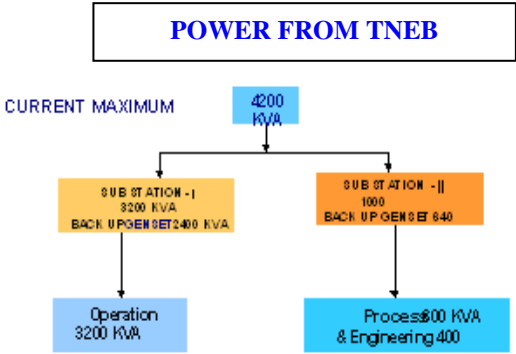
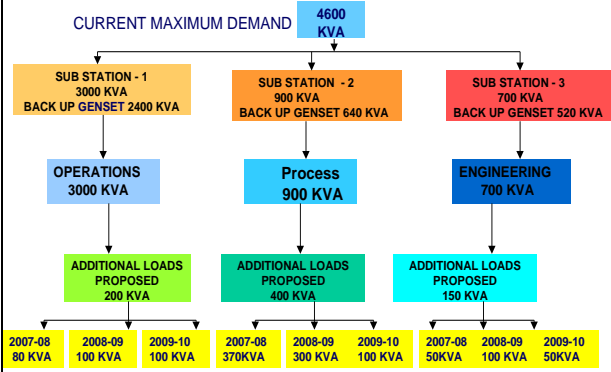
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ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>DG sets – Efficiency Improvement</b>	Technology : Reconditioning			
<u>Description of the energy conservation measure:</u>  <b>Revamping of DG system with RECON engine with improved cooling system</b>					
<b>Engine has run more than 13,000 hrs and due for major overhauling.... Low Fuel efficiency 3/ltr</b>			<b>Reconditioned engine 3.5units/ltr</b>		
					
Agency that executed the project (with complete address and email): Cummins India, Pune					
Total investment, Rs.: 17 Lacs			Year of implementation: 07-08		
First year energy cost savings, Rs.:9.6 Lacs					
First year other savings, Rs.:2.0 Lacs					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	3.0 units/ litre	-	-	38	-
Energy consumption after	3.4 units/ litre	-	-		-
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.10 / units	-	-	-	-
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ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical																																																
Year to be filled by BEE	<b>Reduction in Distribution Loss</b>	Technology: Load Segregation																																																
<u>Description of the energy conservation measure:</u>																																																		
<b>Factory load re-distributed after study with formation of an additional 11KVA substation resulting in reduction of transmission loss by 3%</b>																																																		
<b>Substation for manufacturing &amp; process, Engineering</b>			<b>Formation of New additional substation for Engineering</b>																																															
			<p style="text-align: center;"><b>REQUIREMENT OF POWER FROM TNEB</b></p>  <table border="1" style="width: 100%; text-align: center; font-size: small;"> <tr> <td colspan="3">SUB STATION - 1 3000 KVA BACK UP GENSET 2400 KVA</td> <td colspan="3">SUB STATION - 2 900 KVA BACK UP GENSET 640 KVA</td> <td colspan="3">SUB STATION - 3 700 KVA BACK UP GENSET 520 KVA</td> </tr> <tr> <td colspan="3">OPERATIONS 3000 KVA</td> <td colspan="3">Process 900 KVA</td> <td colspan="3">ENGINEERING 700 KVA</td> </tr> <tr> <td colspan="3">ADDITIONAL LOADS PROPOSED 200 KVA</td> <td colspan="3">ADDITIONAL LOADS PROPOSED 400 KVA</td> <td colspan="3">ADDITIONAL LOADS PROPOSED 150 KVA</td> </tr> <tr> <td>2007-08</td><td>2008-09</td><td>2009-10</td> <td>2007-08</td><td>2008-09</td><td>2009-10</td> <td>2007-08</td><td>2008-09</td><td>2009-10</td> </tr> <tr> <td>80 KVA</td><td>100 KVA</td><td>100 KVA</td> <td>370KVA</td><td>300 KVA</td><td>100 KVA</td> <td>50KVA</td><td>100 KVA</td><td>50KVA</td> </tr> </table>			SUB STATION - 1 3000 KVA BACK UP GENSET 2400 KVA			SUB STATION - 2 900 KVA BACK UP GENSET 640 KVA			SUB STATION - 3 700 KVA BACK UP GENSET 520 KVA			OPERATIONS 3000 KVA			Process 900 KVA			ENGINEERING 700 KVA			ADDITIONAL LOADS PROPOSED 200 KVA			ADDITIONAL LOADS PROPOSED 400 KVA			ADDITIONAL LOADS PROPOSED 150 KVA			2007-08	2008-09	2009-10	2007-08	2008-09	2009-10	2007-08	2008-09	2009-10	80 KVA	100 KVA	100 KVA	370KVA	300 KVA	100 KVA	50KVA	100 KVA	50KVA
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80 KVA	100 KVA	100 KVA	370KVA	300 KVA	100 KVA	50KVA	100 KVA	50KVA																																										
Agency that executed the project (with complete address and email): In-house																																																		
Total investment, Rs.: 60.0 Lacs			Year of implementation: 07-08																																															
First year energy cost savings, Rs.: 23 Lacs																																																		
First year other savings, Rs.: 4.65 Lacs																																																		
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other																																													
Energy consumption before	38 Lacs Units/Annum	-	-	-	-																																													
Energy consumption after	31 Lacs Units/Annum	-	-	-	-																																													
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65/Units	-	-	-	-																																													
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ID to be filled by BEE	<u>Title of the measure</u>		Sector : Medium Scale – Autoelectrical			
Year to be filled by BEE	<b>Temperature reduction in shop floor (by 4 deg. C) with natural lighting</b>		Technology : Roof insulation & Turbo-vents			
<u>Description of the energy conservation measure:</u>						
<ul style="list-style-type: none"> <li>◆ Consumption of energy for shop lighting is reduced by introducing Transparent Roof sheet</li> <li>◆ Consumption of energy for Exhaust fan to reduce the roof temperature is fully eliminated by introducing Turbo-Vents.</li> </ul>						
<b>30 nos. of Ventilation fan used for temperature reduction and shop floor roof day(70KW) lights were working in day in shifts</b>			<b>Ventilation fan eliminated through Turbo-vents. Transparent roof sheets eliminates the shop floor lights</b>			
						
Agency that executed the project (with complete address and email): In-House						
Total investment, Rs.: 300 Lacs			Year of implementation: 07-08			
First year energy cost savings, 25 Lacs						
First year other savings, Rs.:						
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other	
Energy consumption before	9.0 Lacs units/Annum	-	-	-	-	
Energy consumption after	0.0 Lacs units/Annum	-	-	-	-	
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65 per units	-	-	-	-	
Company complete address:				We authorise Bureau to use this information for dissemination		
<b>Lucas - TVS , Padi , Chennai – 600050.</b>				Signature		
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ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>Noise Level Reduction from 88db to 85db</b>	Technology : Design change			
<u>Description of the energy conservation measure:</u>					
<b>Replacement of wall mounting fan (1H.P) into pillar type fan(180Watts) ( 30 numbers )</b>					
<b>Wall mounting 3-phase fans for the operator convenience</b>			<b>Task oriented ceiling mounting fan</b>		
					
Agency that executed the project (with complete address and email): In-house					
Total investment, Rs.: 3.2 Lacs			Year of implementation: 07-08		
First year energy cost savings, Rs.:5.6 Lacs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	1.5 Lacs units/Annum	-	-	-	-
Energy consumption after	0.26 Lacs units/Annum	-	-	-	-
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65 / Units	-	-	-	-
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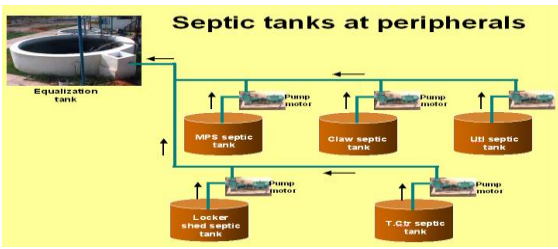
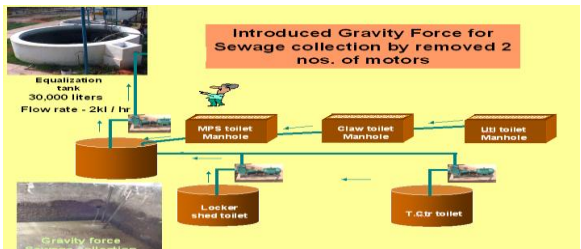


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ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>Screw Compressors in place of Reciprocating compressors</b>	Technology : Screw Compressor			
<u>Description of the energy conservation measure:</u>					
<b>Introduction of Air Cooled Screw Compressors</b>					
<b>BEFORE</b>			<b>AFTER</b>		
					
<b>150 HP Motor with Reciprocating compressor water –cooled Energy consumption- 110 units/hr Cooling tower 10HP motor</b>			<b>125 HP Motor with Screw compressor air-cooled Energy consumption- 90 units/hr Cooling tower eliminated</b>		
Agency that executed the project (with complete address and email):Kaeser Compressor, Pune					
Total investment, Rs.: 12 Lacs			Year of implementation: 07-08		
First year energy cost savings, Rs.: 5.0 Lacs (Recurring savings)					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	6.5 Lacs units / Annum	-	-	-	-
Energy consumption after	5.4 Lacs units / Annum	-	-	-	-
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65 per unit	-	-	-	-
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ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>Elimination of Sewage overflow &amp; Toilet back flow</b>	Technology : Environment project			
<p><u>Description of the energy conservation measure:</u></p> <p><b>Energy conservation through gravity force for sewage collection by removing motors.</b></p>					
Back Pressure due to operation of pump at different Location			Introducing of Gravity flow instead of pumping		
					
					
BEFORE			AFTER		
Agency that executed the project (with complete address and email): In-House					
Total investment, Rs.: 3.34 Lacs			Year of implementation: 07-08		
First year energy cost savings, Rs.:1.9 Lacs (Recurring savings)					
First year other savings, Rs.:					
On annual basis	kWh 000'	Co al (To ns)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	1.0 Lacs per Annum	-	-	-	-
Energy consumption after	0.60 Lacs per Annum	-	-	-	-
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65 per unit	-	-	-	-
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ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>Manual Heat Treatment process to automated HT plant</b>	Technology : Automation			
<u>Description of the energy conservation measure:</u>  <b>Conventional manual HT furnaces replaced by automatic Sealed Quench Furnace</b>					
<b>BEFORE</b>			<b>AFTER</b>		
					
Agency that executed the project (with complete address and email): HackField, Bangalore					
Total investment, Rs.: 2.17 Lacs			Year of implementation: 07-08		
First year energy cost savings, Rs.: 18 Lacs					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	15Lacs Units	-	-	-	-
Energy consumption after	11Lacs Units	-	-	-	-
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65 / Units	-	-	-	-
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ID to be filled by BEE	<u>Title of the measure</u>	Sector : Medium Scale - Autoelectrical			
Year to be filled by BEE	<b>Conversion of Mono-block to Submergible pump</b>	Technology : Mono-block to Submergible			
<u>Description of the energy conservation measure:</u>					
<b>Energy conservation through conversion of Mono-block pump to Submergible pump</b>					
<b>BEFORE</b>			<b>AFTER</b>		
					
Agency that executed the project (with complete address and email): In-House					
Total investment, Rs.: 1.5 Lacs			Year of implementation: 07-08		
First year energy cost savings, Rs.: 2.5 Lacs (Recurring savings)					
First year other savings, Rs.:					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm <sup>3</sup>	Oil (kL)	Other
Energy consumption before	0.9 Lacs units / Annum	-	-	-	-
Energy consumption after	0.54 Lacs units / Annum	-	-	-	-
Energy tariff, Rs/ kWh/ Ton/ Nm <sup>3</sup> / kL ...	Rs.4.65 / units	-	-	-	-
Company complete address:				We authorise Bureau to use this information for dissemination	
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