

around ₹ 74951492. After implementation of proposed energy conservation measures will save the 571718 kWh of electrical energy, 80227 kg of wood 13139 kg of LPG and 255439 liter of FO. Annual energy saving potential identified in cluster (in 15 Units) is saving of ₹ 16777566, which is around 22% of total energy consumption. For the entire cluster the estimated total saving potential for 101 Galvanizing and Wire-drawing units is ₹ 112968944, if all the recommendations made in the present study were implemented.



*Annexure 1***List of Galvanizing and Wire-Drawing Units in Howrah Cluster****A. List of 30 Galvanizing and Wire-Drawing Units in Howrah Cluster where Audit was conducted**

Sl. No.	Units Name	Product	Capacity	Units	Raw Material	Level of Audit
1	Eastern Copper Mfg. Co, (P) Ltd	Copper Wire Rods and Conductors	1000	TPA	Copper Wire Rods	Detailed
2	ECO Industries	High Carbon Wire	3500	TPA	High Carbon Wire	Detailed
3	Eri Tech Ltd	MS Wire and Aluminum Wire	2700	TPA	MS Wire and Aluminum Wire	Detailed
4	G. S. Steel Industries	MS Wire	300	TPA	MS Wire	Detailed
5	Panel Pin Manufacturing co.Pvt Ltd	MS Wire & High Carbon Wire	3500	TPA	High Carbon Wire	Detailed
6	S. M. Industries	MS Wire	241	TPA	MS Wire	Detailed
7	Techno Iron & Steel Co.	MS Wire	600	TPA	MS Wire	Detailed
8	Vijaya Engineering Works	MS Wire	2750	TPA	MS Wire	Detailed
9	Jeen Ferrow Alloy Industries	Aluminium Wire	100	TPA	Alluminium Wire	Prelim.
10	Shiv Shakti Engineering Works (Wire-drawing)	MS Wire	100	TPA	MS Wire	Prelim.
11	Ashoke Merkantile	MS Wire	750	TPA	MS Wire	Prelim.
12	S. M. Engineering Works	MS Wire	150	TPA	MS Wire	Prelim.
13	Gradient wire products Pvt. Ltd	EDM wire & Brass wire	200	TPA		Prelim.
14	Associated Industries	MS wire & Nail	270	TPA	MS Wire	Prelim.
15	Hind Engineering works	MS Wire	150	TPA	MS Wire	Prelim.
16	Nehar Eng Pvt Ltd	MS Wire	300	TPA	MS Wire	Prelim.
17	Eskay Engg. Works	Nail & MS wire	210	TPA	MS Wire	Prelim.
18	Prasant Wire Industries	MS Wire	800	TPA	MS wire	Prelim.

19	A. R. Power Project	Transmission Tower Products galvanized	7500	TPA	Zinc	Detailed
20	Inza Galvanizing co.	Transmission, Microwave and Substation Tower structure galvanized	3750	TPA	Zinc	Detailed
21	L.G. Corporation	Fasteners Item galvanized	4320	TPA	Zinc	Detailed
22	Modern Malleables Ltd	Transmission Line and Insulator fittings galvanized	1200	TPA	Zinc	Detailed
23	Narayan Wires Pvt. Ltd.	Galvanized MS wire	3650	TPA	Zinc	Detailed
24	Steel & Fence co-operation	Fasteners Item galvanized	890	TPA	Zinc	Detailed
25	Sun Steel Industries Pvt. Ltd	Fabrication and galvanizing on transmission tower structure	1969	TPA	Zinc	Detailed
26	Howrah Galvanising works	Hightension line related things galvanizing	200	TPA	Zinc	Prelim.
27	DMS Galvanising works	Galvanized Channel	150	TPA	Zinc	Prelim.
28	Neha Galvanizer (India) Pvt Ltd	Iron Srap & channel galvanizing	1200	TPA	Zinc	Prelim.
29	J. R. Galvanizing	Clamps & bolts galvanizing	250	TPA	Zinc	Prelim.
30	Shiv Shakti Eng. Works (Galvanizing)	Fasteners Item galvanized	760	TPA	Zinc	Prelim.



B. List of Remaining 71 Galvanizing and Wire-Drawing Units in Howrah Cluster where Audit could not be Conducted

Sl. No.	Units Name	Product	Raw Material
1	Avay Kali enterpriese	MS Wire	MS Wire
2	Hind Engineering works	MS Wire	MS Wire
3	Ganapati wire	MS Wire	MS Wire
4	Maheshwary Metal & Alloys pvt. Ltd	MS Wire	MS Wire
5	Hanuman steel wires pvt. Ltd	MS Wire	MS Wire
6	K.R.Wire	MS Wire	MS Wire
7	Leser cable	Wire cable	
8	Micro metal pvt. Ltd	MS Wire	MS Wire
9	KB Steel Industries	Ribbed wire	
10	Radhika Transmission	Aluminum wire	
11	Calcult ferrous	Pressurised Concrete wire	
12	Sree Udyog	MS Wire	MS Wire
13	Bimala enterprises	MS Wire	MS Wire
14	J.K.Wire & Engineering		
15	Jai Ambe Udyog	MS Wire	MS Wire
16	A.K.Engineering	MS Wire	MS Wire
17	Giriraj Udyog	MS Wire	MS Wire
18	Eastern Weldmesh pvt. Ltd	MS Wire	MS Wire
19	Sitaram metals	MS Wire	MS Wire
20	Gel Copper	Copper wire	
21	Precision wire	MS Wire	MS Wire
22	S.S.G	MS Wire	MS Wire
23	JPR		
24	Swastic wire	GI wire	
25	Kritika wire		
26	ShiV Shakti Enterprises	MS Wire	
27	MESCAB	Copper wire	
28	Unique Industries corporation		
29	Bandana Industries		
30	Bharat Industries		
31	S.V.Merchendies		
32	Allied wire pvt. Ltd		
33	Murshed Galvanising works	Chanel and Angel	Zinc
34	Moon Light Galvanising works	Pipe and chanel	Zinc
35	Kaderia Galvanising works	Nut and bolt	Zinc
36	The Laila Galvanising	Chanel and Bolt	Zinc

Sl. No.	Units Name	Product	Raw Material
37	Unique Galvaniser	Transmission tower structure	Zinc
38	Bengal Galvanising works	Nut and bolt	Zinc
39	Shree Balajee eng.	Socket Iron Scrap	Zinc
40	Ma Tara Galvanising works pvt. Ltd		Zinc
41	F.M. Galvanising	Pipe and Socket	Zinc
42	Mangal Steel Enterprises	Angel and chanel	Zinc
43	Hobb International Pvt. Ltd	Iron Scrap	Zinc
44	Sitara conductor & Cables		Zinc
45	Raj Steel Processors		Zinc
46	Hi-Tech eng. Works		Zinc
47	Sree Maa Sarada Fabrication & Eng (p) Ltd		Zinc
48	Jai Guru Galvanising	Nut and bolt	Zinc
49	S.M.Industries(Galvanizing)	Chanel and Angel	Zinc
50	Ma-Lakshmi Galvanizing Works		Zinc
51	Hazzi Heritage	Chanel and Angel	Zinc
52	J.R. Galvaniser		Zinc
53	J.J.Udyog		Zinc
54	D.M.P Projects Pvt Ltd		Zinc
55	Steel Product Ltd		Zinc
56	Ucic Pvt Ltd		Zinc
57	Spint Communication		Zinc
58	R.K.Industries		Zinc
59	Raj Steel Processors		Zinc
60	S.Mondal & co		Zinc
61	Nangalia Group		Zinc
62	Ratan Projects & Eng. Pvt Ltd.		Zinc
63	North East Forging Pvt Ltd		Zinc
64	A-one Galvanising works		Zinc
65	Eastern Steel		Zinc
66	New Deluxe Galvanising works		Zinc
67	S.Mondal & co		Zinc
68	Everst Galvanising works		Zinc
69	Gowsia Galvanising works		Zinc
70	Maheswari & co		Zinc



Annexure 2

DETAILED TECHNOLOGY/EQUIPMENT ASSESSMENT REPORT

The detailed technology/equipment assessment report has been provided for the furnace efficiency improvement by Air-preheater (APH) Energy Conservation Measure. A lot of heat escapes the system with the flue gas. Any attempt to re-circulate the heat back into the system would amount to savings. One such scheme would be to heat the combustion air beforehand using this flue gas. For this purpose, the exhaust gas could be passed through a heat exchanger. The combustion air would gain some extra heat during this exchange process. The figure A shows the fuel conservation rate in such a pre-heating scheme.

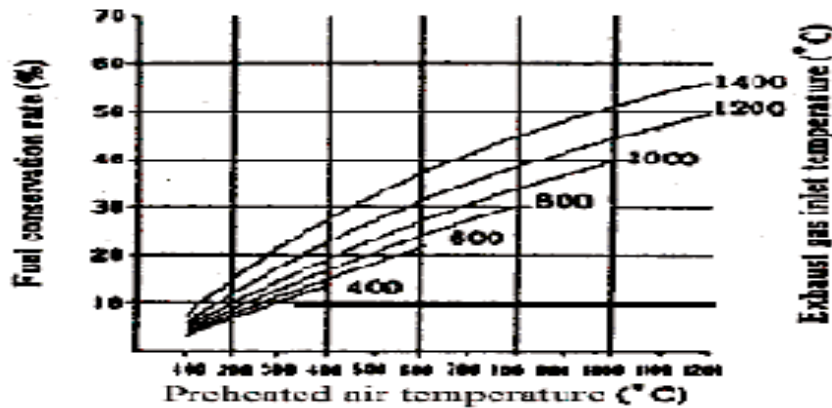


Figure A: Fuel Consumption Rate (%) when oil is used



Design of the suggested Air Pre Heater

An air preheater was designed to draw heat from the flue gas while it passes through the stack. The design is shown in the Fig. B. There are fins located vertically on the outer surface of the stack to enable the air to be heated while it circulates more around the stack and thus enhance the heat transfer rate.

The retrofit would be like a jacket, put on the lower portion of the chimney. The dimensions in mm are put in the figure. The outer surface of the retrofit as well as the pre-heated air pipe going out of this should be lagged.

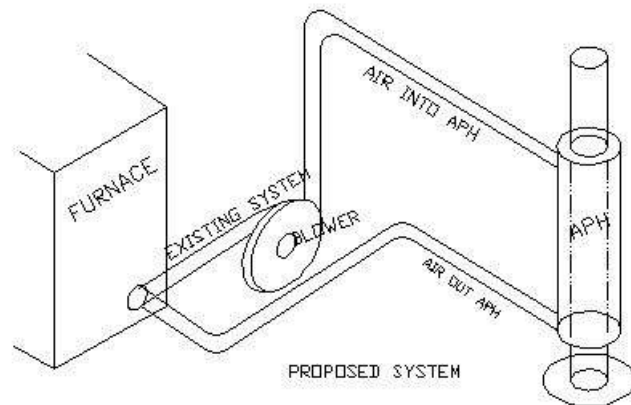


Fig B: Air Pre-Heater to heat combustion air (for running system and proposed over-ground system)

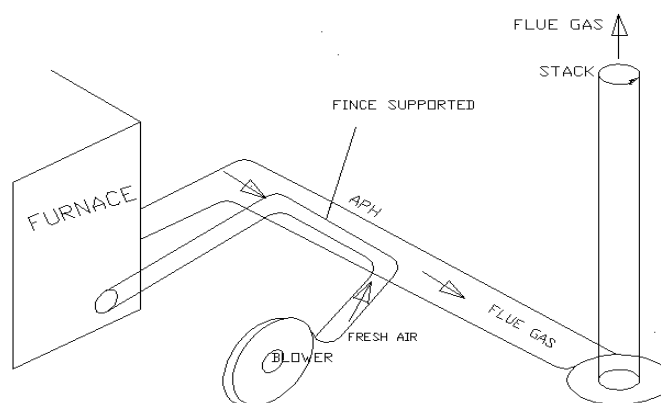


Fig C: Air Pre-Heater to heat combustion air (for proposed under ground system)



IISWBM Energy Team was invited by the company a number of times for guidance and discussions on implementation. For example, on September 29, 2010, a new system design emerged through discussions with the industry for the new galvanizing line (approx 750 tonnes per annum) under commissioning in the same unit. The horizontal tube heat exchanger pipe (carrying air from blower) would be made of SS as it would be surrounded by the outgoing flue gas from the furnace. The performance of heat exchanger would be improved also because it would be located closer to the furnace outlet where the flue gas temperature would be hotter by about 100 deg C.



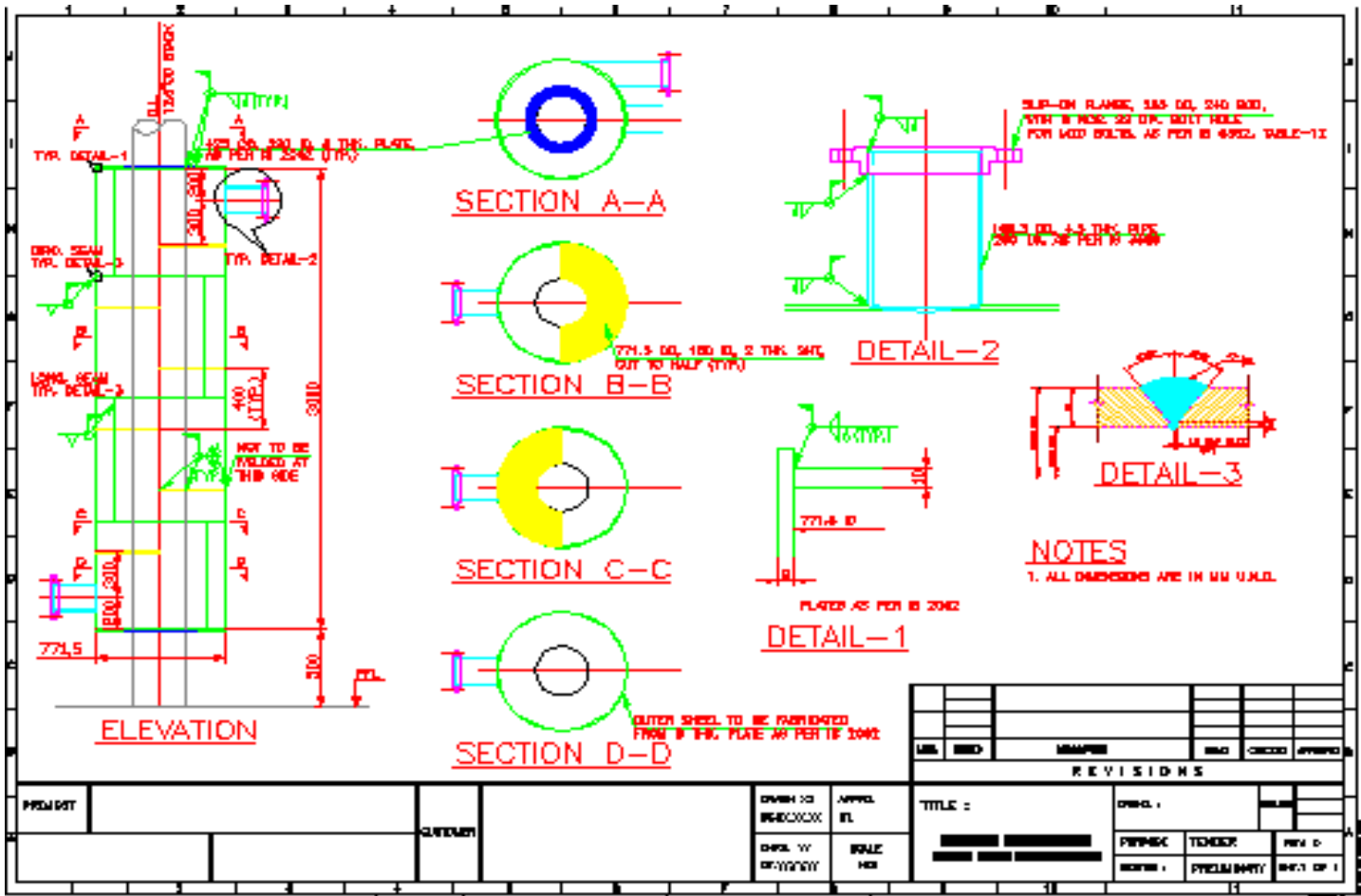


Fig D: Design of the Air Pre-Heater

Sample Calculation of saving in Using Exhaust Gas to preheat the combustion air by adding air-preheater (blanket to the existing chimney)

As per the BEE Book 2 page no 113, for exhaust gas temperature 600 deg C, the potential for raising the preheated air temperature is 400 deg C. However, considering a rise of upto 400 deg C saving potential for fuel would be more than 15 %.

Therefore a conservative estimate of 10 % fuel saving would be reasonable and would mean a monetary saving of ₹ 334688.

(Annually FO consumption ₹ 3346875

10 % of ₹ 3346875 = ₹ 334688)

Probable Investment ₹ 150000

Simple Payback Period = Probable Investment / Savings X 12

$$= 150000/334688 \times 12$$

$$= 5 \text{ months}$$

Estimated Life of the proposed system: 10 years.

So, Depreciation Cost = (Investment / Estimated Life of the Proposed System)

$$= ₹ 15000$$

Therefore,

Return on Investment (ROI)

$$= \{(\text{Net annual Saving} - \text{Depreciation Cost}) / \text{Investment}\} \times 100\%$$

$$= 213 \%/yr.$$



Annexure 3

DETAILS OF TECHNOLOGIES/SERVICES PROVIDERS FOR THE CLUSTER

Sl. No.	Name	Contact No.	Email	Service
1	Mr. Ahmed	9830341257		Furnace
2	Mr. Anjan Majumdar	9432121623	anjan_6005@rediffmail.com	Electrical Systems
3	Mr. B.N. Mishra	9903418226	bibhutinathmishra@yahoo.com	Furnace
4	Mr. Bimal Mondal	9732574279		chimney
5	Mr. Brij Bhusan Upadhaya	9331013596	brijupadhyay@gmail.com	Management Function and Materials Supply
6	Mr. Kaushik Bose	9331053249	kb.kol@lloydinsulation.com	Insulation
7	Mr. Manas Bag	9830631014	mbag31@rediffmail.com	Electrical Systems
8	Mr. S.K. Dutta	9433119963	enconskd@gmail.com	Furnace
9	Mr. S.K. Ghosh	9830026535	sushil_ghosh@vsnl.net	Wire drawing M/c
10	Mr. Tarun Guha	9830105553	energyindia@vsnl.net	Electrical Systems
11	Mr. R P Tyagi	9820030909	wiremachine@amcoindia.com	Wire drawing M/c
12	Mr. S. K. Kundu	9830082313	indiaenergysaver@gmail.com	Motor & electrical system
13	Mr. Suman Chatterjee	9433002919	info@cgmepl.com	VFD
14	Mr. Vishal Sharma	8981958741	vis_shalu@rediffmail.com	Furnace
15	Mr Sourabh Choudhury	9831057357	info@industrialindia.com	Energy efficient equipment
16	Mr. Surendra Mohta	9433014351	scoinfo@rediffmail.com	Energy efficient motor
17	Mr. Somnath Passi	09810204887		Direct Wire drawing m/c
18	Mr. Anjan Nath	Ph:24166728 Mob: 9830483597		VFD



Sl. No.	Equipment Supplier	Contact No.	Email	Product
1	ABB Ltd	91 0129 2233313-15		Energy Efficient Motor
2	ABB Motors	91 0129 2233313-15		
3	Aditya Energy System	91-11-26026081, 26027796	satish@adityasolar.in	
4	Ambtronics Engineers Private Limited	+91-22-66995525, 28371143	lamtec@ambtronics.com	
5	Anurup Engineering Services	9038871988/7890478 540	anupkdey@yahoo.com	
6	Asian Electronics Ltd	033-2465 0239 / 0589	aelcal@cal2.vsnl.net.in	Energy Efficient Light Suppliers
7	Crompton Greaves Ltd	033-2282-9681-85		
8	ENVIRON ENERGY TECH SERVICE LTD.	9831020032		
9	EPCOS India Pvt. Ltd.	033-24428476	eipsales@epcos.com	Load Point Capacitor Bank
10	G. P. Sales	91 657 2292714	gpsales@rediffmail.com	Energy Saver Cum Soft Starter
11	Instapower Ltd.	011-26015000		
12	Jeltron Systems (India) Pvt.Ltd.	040-23311159, 23322586/7	Jeltron@hrd.vsnl.net.in	
13	Kirloskar Electric	3291 6080	info@industrialindia.co	Variable Frequency Drive (VFD)
14	Larsen & Toubro India Pvt.Ltd.	022-55051401/11, 022-55051731	esp-bom@Lnitebg.com	
15	Lloyd Insulations (India) Ltd.	22871606, 22465687	lloydinsulation.com	Furnace Insulation



Sl. No.	Equipment Supplier	Contact No.	Email	Product
16	Siemens Ltd. (Electric Motors, Automation & Drives Division.)	91 - 22 - 27600001		
17	SIGMA STEEL & Engineers pvt. Ltd	(033) 32953536	sigma3000@hotmail.com	
18	Syntron Controls	022-2238-9023	sales@Syntron-controls.com	
19	Techmark Engineers & Consul	9861133492	jpnanda@techmark.co.in	Oxygen sensor for VFD control
20	Transparent Energy Systems Private Limited.,	044 - 32905249	chennai@tespl.com	Pre heating furnace fabrication
21	ENCON Thermal Engineers Pvt. Ltd. (Room No-502, 9 Queen's Mansion; 12, Park Street Kolkata - 700 071)	Tel. No. : +91-129-4041185, 4047847 Tel. No. : +91-129-4164829, 4164833 Fax No. : +91-129-4044355	kolkata@encon; sales@encon.co.in	Radiant Furnace (Gas Fired) to replace electrical furnace
22	Technosoft Consultancy Services	9230056795	contact.tcskolkata@gmail.com	EE motors, VFD and Control system
23	GP GREEN ENERGY SYSTEMS PVT. LTD.	+91-33-2321 0809 / 2358 0114	info@gpenergy.net	Biomass gasifier
24	Ankur Scientific Energy Technologies (P) Ltd.	Ph: 0265 - 2793098/2794021 Direct Line: +91-265-2788447, Fax: 0265 - 2794042	ascent@ankurscientific.com	Biomass gasifier
25	Wesman Engineering Company	9831868732	prasant.saha@wesman.com	Furnace



Annexure 4

QUOTATIONS OR PRICES FROM SERVICE/TECHNOLOGY PROVIDERS ENERGY EFFICIENT MOTORS



MHLP 1A
Revision-3

Energy Efficient Motors

Totally Enclosed Fan Cooled (TEFC) Squirrel Cage Motors - Foot Mounted (B3)

Horizontal Foot mounted Induction motors, continuously rated suitable for operation on 415 Volts ± 10%, 3 Phase, 50 Hz ± 5%, AC Supply with Class 'F' insulation and temperature rise limited to Class 'B', for an ambient of 50°C and altitude less than 1000m above MSL, IP 55 Protection and conforming to IS 325:1996 / IS 12615:1999

OUTPUT		4 POLE - 1500 RPM				
Kw	Hp	Frame	Cat. Ref.	List Price (Rs)	Excise Duty (Rs)	
0.06	0.08	MHHE56ZAA4	MHHEIAS40X06	7,078	328	
0.09	0.12	MHHE56ZBA4	MHHEIAS40X09	7,122	330	
0.12	0.16	MHHE63ZAA4	MHHEIBS40X12	7,236	335	
0.18	0.25	MHHE63ZBA4	MHHEIBS40X18	7,445	345	
0.25	0.33	MHHE71ZAA4	MHHEICS40X25	7,622	353	
0.37	0.50	MHHE71ZBA4	MHHEICS40X37	7,894	366	
0.55	0.75	MHHE80ZAA4	MHHEIDS40X55	9,209	427	
0.75	1.00	MHHE80ZBA4	MHHEIDS40X75	9,197	426	
1.1	1.50	MHHE90CAA4	MHCETES401X1	10,645	493	
1.5	2.00	MHHE90LBA4	MHCETFS401X5	11,625	539	
2.2	3.00	MHHE100LAA4	MHCETGS402X2	15,446	715	
3.7	5.00	MHHE112MAA4	MHCETHS403X7	19,829	919	
5.5	7.50	MHHE132SZA4	MHCETIS405X5	27,299	1,265	
7.5	10.00	MHHE132MZA4	MHCETJS407X5	31,840	1,476	
9.3	12.50	MHHE160MYA4	MHCETKS409X3	50,663	2,348	
11	15.00	MHHE160MXA4	MHCETKS40011	51,030	2,365	
15	20.00	MHHE160LXA4	MHCETLS40015	63,377	2,938	
18.5	25.00	MHHE180MXG4	MHCETMS4018X5	85,716	3,973	
22	30.00	MHHE180LXG4	MHCETNS40022	91,234	4,229	
30	40.00	MHHE200LNG4	MHCETOS40030	1,23,995	5,719	
37	50.00	MHHE225SN4	MHCETPS40037	1,58,534	7,348	
45	60.00	MHHE225MN4	MHCETQS40045	1,92,172	8,907	
55	75.00	MHHE250MN4	MHCETRS40055	2,64,179	12,245	
75	100.00	MHHE280ST4	MHCETSS40075	3,38,407	15,685	
90	125.00	MHHE280MT4	MHCETTS40090	3,92,101	18,174	
110	150.00	MHHE315SYE4	MHCETUS40110	4,49,202	20,820	
132	180.00	MHHE315MYE4	MHCETVS40132	5,28,856	24,513	
160	220.00	MHHE315MZE4	MHCETVS40160	5,90,282	27,360	
200	270.00	MHHE315LZE4	MHCETWS40200	7,53,363	34,918	
225	300.00	MHHE355MA4	MHCETYS40225	7,70,853	35,729	
250	340.00	MHHE355MB4	MHCETYS40250	7,93,612	36,784	
275	370.00	MHHE355MC4	MHCETYS40275	8,40,725	38,968	
315	425.00	MHHE355LA4	MHCETZS40315	9,50,400	44,051	
335	450.00	MHHE355LB4	MHCETZS40335	10,28,379	47,655	
350	470.00	MHHE355LC4	MHCETZS40350	12,25,400	56,797	

Note: Havells standard motors in frame 315 and above are at no extra cost

Intermediate Ratings (Class F insulation with temperature rise limited to Class F)

OUTPUT		4 POLE - 1500 RPM				
Kw	Hp	Frame	Cat. Ref.	List Price (Rs)	Excise Duty (Rs)	
0.25*	0.33	MHHE63ZCA4	MHHEIBS40X25	7,527	349	
0.55	0.75	MHHE71ZCA4	MHHEICS40X55	9,019	418	
1.1	1.50	MHHE80ZCA4	MHHEIDS401X1	10,449	484	
1.8	2.50	MHHE90LCA4	MHCETFS401X8	13,194	612	
2.2	3.00	MHHE90LDA4	MHCETFS402X2	15,066	700	
3.0*	4.00	MHHE100LBA4	MHCETGS40003	17,090	792	
3.7	5.00	MHHE100LCA4	MHCETGS403X7	19,139	887	
5.5	7.50	MHHE112MBA4	MHCETHS405X5	27,375	1,269	
9.3	12.50	MHHE132MRA4	MHCETJS409X3	45,920	2,128	
11	15.00	MHHE132MTA4	MHCETJS40011	50,069	2,321	
30	40.00	MHHE180LPG4	MHCETNS40030	1,20,788	5,599	
37	50.00	MHHE200LFG4	MHCETOS40037	1,58,322	7,338	
75	100.00	MHHE250MK4	MHCETRS40075	3,37,886	15,661	

* Class F insulation with temperature rise limited to Class B



HAVELLS

Havells Lafert Motors
Price List w.e.f. 1st April 2010
Manufactured with Technology from AEG Electric Motors

Control for VFD

from Technosoft

Sep 17

Consultancy&Services <contact.tcskolkata@gmail.com>

to Binoy K Choudhury
<binoykchoudhury@gmail.com>

date Fri, Sep 17, 2010 at 9:40 AM

subject Re: BEE SME Howrah Galvanizing & Wire-
drawing Energy Project

mailed-gmail.com

by

signed-gmail.com

by

GOOD MORNING SIR !

Please refer to our discussions last afternoon regarding incorporation of alarm for overload prewarning and to slowdown the drive

untill current comes below the critical level. Cost of components including service charge to depute engr. --Rs. 7,000=00/-

Thanks & Regards

R. SHAH (9230056795)

for Technosoft Consultancy & Services

Please Visit: www.tcskolkata.com

Dear Sir / Madam,

We, Associates of Kirloskar Electric Co. Ltd, hereby take this opportunity to introduce ourselves as **dynamic & professionally**

managed organization, Estd 2001. involved in **Consultancy, Trading , Manufacturing & After Sales Supports** of ePower ,



Process & Pollution Control Systems , Factory & Building Automation Products , Industrial Equipment & Critical Spares .

...

Our dealings are in the following Industrial regions:- Sponge Iron & Steel , Cement ,Ceramics, Carbon, Chemicals,

Textile & Hosiery , Jute & Rice Mills , Power Plants, Rolling Mills , Oil & Gas , Machine Tools , Electroplating, Paper,

Plastics, Packaging & Printing, Rubber & Leather , Food Products & Beverage , Technical & Medical Institutions , Banks &

Offices , Indian Railways , Indian Defense, Calcutta Trams, CESC, NTPC & SAIL,

...

Reliable services - Commissioning , Corrective & Preventive Maintenance , Emergency expert Support , Safety

Upgrades to Machinery, Chip Level System Repairing .with controlling of physical and electrical parameters, highly

important for quality control to minimize breakdown, higher productivity and higher plant efficiency to improve profit level our

expertise and supports help to improve productivity with quality. Continuous improvement by implementing Plan-Do- Check-

Action and Monitoring machine status & problems to reduce machine waste and delay .

* We undertake maintenance contract.

*We have very good localized service network hence not to worry for service at any part of India.

*We undertake to conduct detailed energy audit programme to reap the benefits of latest energy efficient technologies and techniques that ultimately cut down the production cost tremendously.

...

THANKING YOU



FOR Technosoft Consultancy & Services

R. SHAH (9230056795)

Please visit : www.tcskolkata.com



Price of VFD and Electric Motors of M/s Kirloskar Electric. The motors are available with M/s Industrial Supply Syndicate, 54 Ezra Street, Kolkata – 700001. Phone: 2235 6676. Fax: 30222923.

PP= (X+Y)& VAT

FREIGHT&INSURENCE-TO UR A/C

X	Y(VFD MODULE)		
3,450	0.75kw-	11,500.00	VVVF DRIVE PANEL ---POWDER COATED ENCLOSURE (FLOOR STANDING / WALL-MOUNTING) WITH FILTER-FITTED VENTILATOR , HOUSING FOLLOWING ACCESSORIES :-
4,025	1.5kw-	12,650.00	
4,600	2.2kw-	18,400.00	*DRIVE MODULE (KECL MAKE) SINGLE /MULTIPLE UNITS.
5,175	3.7kw-	21,850.00	* NECESSARY PROTECTORS (INPUT LINE ISOLATOR SWITCH / SEMI CONDUCTOR FUSE / MCB / MCCB , AC REACTOR (INPUT-OUTPUT), DC.REACTOR (INBUILT or EXTERNAL), CV.FANS, ISOLATED TRANSFORMER FOR LOGIC CONTROL-CKT., INDICATORS, MONITORS & CV FANS)
5,750	5.5kw-	29,900.00	
10,350	7.5kw-	35,650.00	
11,500	11kw-	46,000.00	* OPERATIONAL FEATURES -- START , STOP , SPEED-SET (RAISE-LOWER) , FLT-RST, FWD-REV/ IND.-GRP/ PANEL-REMOTE/ MAN-AUTO MODE (COMPATIBLE INTERFACE FOR DCS/ PLC / HMI)
16,100	15kw-	52,900.00	
17,250	18.5kw-	63,250.00	
18,400	22kw-	65,550.00	* INDICATORS AND DIGITAL MONITORS FOR SUPPLY & SYSTEM STATUS , PRE-WARNING OVER-LOAD-ALARM TO AVOID TROUBLE.
25,300	30kw-	1,01,200.00	
28,750	37kw-	1,15,000.00	*REMOTE CONTROL PENDENT/ DESK---OPERATOR BUTTONS, INDICATORS AND DIGITAL MONITORS FOR SYSTEM STATUS.
34,500	45kw-	1,38,000.00	
	55kw-	1,49,500.00	*VVVF BYPASS FACILITY WITH DOL / STAR-DELTA
	75kw-	2,07,000.00	
	90kw-	2,30,000.00	*DYNAMIC BRAKING FACILITY.
	110kw-	2,53,000.00	*PUMP OPERATION CONTROLS (CONSTANT WATER SUPPLY PRESSURE, WATER LEVEL ,.....)
	0.4kw -	8,050.00	
	0.75kw-	8,625.00	
	1.5kw -	12,650.00	
	2.2kw -	16,100.00	



Ambetronics Engineers Pvt. Ltd.

Manufacturers of Process Control & Gas Detection Instruments & Automation System Integrator

17-B, Tarun Industrial Estate, Mogra Pada, New Nagardas Road, Andheri (East), Mumbai - 400069, India.
Tel.: +91-22-66995525, 28371143 • Fax: +91-22-28226570 • E-mail: sales@ambetronics.com • Web: www.ambetronics.com

MPSM (Energy Management)
Secretary AEE India Chapter & Energy Club
IISWBM, Management House
College Square West, Kolkata - 700 073, INDIA

Ref. : AEPL/PLD
Date : 22nd nov2010
Tel. : 94331 53009; Fax 033 22413975
(pp)
NOTE : pktiwari@beenet.in

Kind Attn. : **Mr. B K Choudhury, PhD (IIT)**
Sub. : **Your requirement of O2 analyzer.**

Dear Sir,

This refers to your email enquiry regarding above subject requirement. Thanks for the same.

We are a leading **ISO 9001:2000** certified company & reliable source with vast experience in the field of **Portable Gas detectors, Fixed type Online Gas Detection Systems & Pollution Monitoring Systems** providing standard and customized solutions for the safety monitoring against gas leak hazards for any plant / establishment / equipments.

We have proven professional expertise to execute the job on Turn-Key basis from design to commissioning with an efficient SERVICE AFTER SALES base. We undertake **Calibration Services & Annual Maintenance Contract** of all Indian / Imported Gas Detector, Analyzer and Transmitter.

Referring to your present requirement, we are pleased to submit our offer as below:

. **O2 analyzer**

We have some list of our satisfied user clients including such reputed names as **INDORAMA, GARDEN SILK, IOCL, POLLAD** and many more...

We are enclosing herewith relevant catalogue of the offered model.

Trust, you would find our enclosed quotation in order and look forward to the pleasure of receiving your valued order. Should you need any further clarification / information please feels free to get in touch with us.

Yours truly,
For **AMBETRONICS ENGINEERS PVT. LTD.**

Mr. Jay Mohan Jha
Mo: 09320657646
Encl.: Quotation



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MK/AM/02 REV.:1.1
w.e.f.01/072008

QUATATION

Client : Energy Management

Ref. : By phone, mail

Date : 22nd nov, 2010

Sr. No.	Description	Qty.	Unit Price In Rs.	Amount In Rs.
1.	Lambda Probe LS 2-K, semi automatic calibration, Length: 500 mm (ORDER CODE NO- 650R2030)	1NO	159600.00	159600.00
2.	LT2 IN WALL MOUNTING CASE IN FOLLOWING VARIANT: FOR PROBE: LAMBDA-PROBE LS2 TYPE: SEMI AUTOMATIC CALIBRATION DISPLAY: 657R0831/ R0833 INTERNAL PRESSURE SENSOR: ABSOLUT & DIFFERENCE PRESSURE ANALOGUE OUTPUT 1: 657R0050 4...20mA ANALOGUE OUTPUT 2: WITHOUT ANALOGUE OUTPUT 3: WITHOUT ANALOGUE OUTPUT4: WITHOUT ANALOGUE INPUT 1: DIFFERENCE PRESSURE ANALOGUE INPUT 2: ABSOLUTE PRESSURE ANALOGUE INPUT 3: WITHOUT ANALOGUE INPUT 4: WITHOUT RM / LI / CONTROLLER / LOAD: WITHOUT EFFICIENCY: WITHOUT SUPPLY VOLTAGE: 230VAC REFERENCE AIR PUMP: WITHOUT CASE HEATING: WITHOUT CO-MONITORING / CONTROLLING: WITHOUT CALCULATIONS: WITHOUT LANGUAGE: ENGLISH/GERMAN SPECIAL CONFIGURATION: WITHOUT (ORDER CODE NO- 657R102)	1NO	283300.00	283300.00
Grand Total				442900.00

**Pump unit for reference air (20.96%) only
Necessary, if there is no instrument air available at the plant.**

RUPEES: four lakh forty two thousands nine hundred only.

For **AMBETRONICS ENGINEERS PVT. LTD.**

Mr. Jay Mohan Jha

TEL.: 022-66995525, 26/ 28371143

FAX: 022-28226570, mob : 09320657646

EMAIL.: lamtec@ambetronics.com



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MK/AM/02 REV.:1.1
w.e.f.01/07/2008

COMMERCIAL TERMS & CONDITIONS

1	PRICE	: The price indicated is for supply of material ex-factory basis. Packing, Forwarding Freight, Insurance, Installation & commissioning shall be Extra to your account.
2	TAXES	: 12.5% VAT for instrument. 4% VAT for software in Maharashtra. CST 2% against form 'C' out of Maharashtra
3	SERVICE TAX	: 10.3% SERVICE Tax for calibration/ Installation/ Commissioning/ Repairing.
4	PACKAGING	: Not applicable if you pick up from our factory in Andheri, (Mumbai). 1% for Wooden Packing charges shall be on order value for Transport, Export purpose.
5	FREIGHT	: 2% OR At actual borne by PURCHASER; Send your transport details.
6	INSURANCE	: Goods will be dispatched only at owner's risk and if you want the goods to be insured the insurance charges to be born by you.
7	PAYMENT TERM	: 50% with PO & 50% against Proforma Invoice through DD.
8	BANK DETAILS	: If the material is through bank then all the bank charges will be born by you. Please inform us complete postal address of your bankers. Our bank details are BANK OF INDIA, S.V.RD., ANDHERI (W), MUMBAI – 400 058
9	DELIVERY	: 3/4 weeks From the date of your Commercially & Technically clear purchase order.
10	INSPECTION	: The goods will be offered for inspection at our factory. Please intimate us the date of inspection along with the order copy. Otherwise, we will assume that inspection has been waived & we will dispatch the material.
11	VALIDITY	: 60 days from date of submission.
12	WARRANTY	: 12 months from the date of delivery of the instrument against faulty material or manufacturing defects. (The Warranty does not include site support / repairs)
13	SERVICE AFTER SALES	: The service support in warranty period & after warranty period is offered from our factory at Mumbai. In case if the service support is required at the site the same will be taken up on the chargeable basis.
14	DOCUMENTS SUPPLY ALOGN WITH MATERIAL	: Operating Instrument Manual, Test & Calibration Certificate, Warranty Certificate will submit you along with the ordered material on dispatch.
	NOTE	: Delivery & Quotation validity are subject to force Major Clauses (Government Actions, War, Disasters, Economy / Exchange, Crisis Etc.)

Annexure 5

Financial schemes available with local banks for improving energy efficiency in cluster

1. Credit linked capital Subsidy scheme (CLCSS)

Under this scheme, the ministry of MSME is providing subsidy to upgrade technology (Machinery/plant equipments). Subsidy limit per unit is ₹ 15 lakh or 15% of investment in eligible machinery/Plant equipments whichever is lower. For more details of the scheme visit:

www.laghu-udyog.com/scheme/sccredit.htm

2. SIDBI Financing Scheme for Energy Saving Projects in MSME sector under JICA Line of Credit

The Japan International Corporation Agency (JICA) has extended a line of credit to SIDBI for financing Energy Saving projects in Micro, Small and Medium Enterprises (MSMEs). This project is expected to encourage MSME units to undertake energy saving investment in plant and machinery to reduce energy consumption, enhance energy efficiency, reduce CO₂ emissions, and improve the profitability of units in the long run.

Eligible Sub Projects/ Energy Saving Equipment List under JICA line of Credit:

- Acquisition (including lease and rental) of energy saving equipments, including newly installing, remodeling and upgrading of those existing
- Replacement of obsolete equipments and/or introduction of additional equipment which would improve performance
- Equipments/ Machinery that meets energy performance standards/Acts
- Introduction of equipments that utilize alternative energy sources such as natural gas, renewable energy etc., instead of fossil fuels such as Oil and Coal etc.
- Clean Development Mechanism (CDM) projects at cluster level that involves change in process and technologies as a whole, duly supported by technical consultancy will be eligible for coverage.



Financial parameters:

The financial parameters for appraising the project are:

Parameter	Norms
Minimum Assistance	Rs. 10 lakh
Minimum promoters contribution	25% for existing units; 33% for new units
Interest rate	The project expenditure eligible for coverage under the line will carry a rate of interest rate of 9.5-10% p.a
Upfront fee	Nonrefundable upfront fee of 1% of sanctioned loan plus applicable service tax
Repayment period	Need based. Normally the repayment period does not extend beyond 7 years. However, a longer repayment period of more than 7 years can be considered under the line if necessary

Eligibility criteria for units (Direct assistance):

- Existing units should have satisfactory track record of past performance and sound financial position.
- Projects will be screened as per Energy Saving List, which is available in SIDBI website.
- Units should have minimum investment grade rating of SIDBI.
- Projects which may result environmental impacts and negative social impacts are also not eligible under this scheme.

For further details eligible energy saving equipments/machinery, projects can be financed under this scheme and details of scheme, please contact the nearest SIDBI branch office or refer to SIDBI website (www.sidbi.in)

3. Scheme for Financing Energy Efficiency Projects

PURPOSE:

- Financing SMEs for acquisition of equipments, services and adopting measures for enhancement of energy efficiency/conservation of energy.



ELIGIBILITY

- SME units financed by bank as also other units desirous of shifting their account to Bank of Baroda.

LIMIT:

- Upto 75% of the total project cost, subject to maximum of Rs. 1/- crore. (Minimum amount of loan Rs. 5/- Lakhs).

Project cost may include the following:

- Cost of acquisition/modification/renovation of equipment/software.
- Cost of alterations to existing machinery.
- Cost of structural / layout changes.
- Cost of energy audit/consultancy.
- Preparation of Detailed Project Report (DPR).

RATE OF INTEREST:

- Bank's BPLR from time to time.

REPAYMENT:

- Maximum 5 years, including moratorium, if any.

SECURITY:

- a. For Sole Banking Accounts: Extension of first charge on all fixed assets.
- b. For Consortium/Multiple Banking Accounts: first charge on equipments acquired out of loan and collateral, if any, with the total security coverage being not less than 1.25.




Grant from IREDA:

- IRDEA, at present, gives a grant of Rs. 25,000/- for projects costing Rs. 1/- crore or below to meet partial cost of Energy Audit. This grant is available for the first 100 projects (SME Sectors only) approved by them.



MESSAGES FROM INDUSTRY ASSOCIATIONS

 **Howrah Chamber of Commerce & Industry**
'Laxmi Niketan', 243, G. T. Road (N), 1st Floor, Liluah, Howrah-711 204, West Bengal, India
Phone : 033-2654 3314, 033-2654 3727, Fax : 033-2654 3314
e-mail : howrahchamber@gmail.com, bengalhci@gmail.com, Website : www.howrahchamber.com

Ref. No. *HCCI/BEE/1119-2010-11* Date. *18/11/10*

Dr. B.K.Choudhury
Principal Investigator
BEE-SME Programme in Howrah (Galvanising & Wire Drawing) Cluster
Associate Professor Energy Management of MPSM Deptt.
Indian Institute of Social Welfare & Business Management (IISWBM))
Management House, College Square West
Kolkata-700073

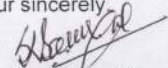
Dear Dr. Choudhury,

It gives me great pleasure introducing this Energy Saving Programme initiated by BEE / SME and IISWBM , Kolkata, a reputed institute of the country, particularly for Galvanizing / Wire-drawing Indusdy based in Howrah in collaboration with Howrah Chamber of Commerce & Industry and FOSMI.


Power / energy is scarce commodity in a growing economy and due to increase in the cost of fossil fuel and depleting source of non renewable fuel i.e. Gas and Oil, the cost of power is becoming prohibitive. It is also a social crime to waste energy and the Micro, Small entrepreneurs being responsible citizens of the society owe it to themselves and others to take advantage of the scheme which will enable them to use energy more efficiently. This not only will help the MSMEs to save energy and reduce the costs of production, thus maximizing the benefit.

The HCCI is very much engaged in creating awareness among our member entrepreneurs and has requested them to take part in energy saving programme, be it Rolling Mills, Foundry or any other power consuming industry for the last few years by organizing interactive sessions with Energy Experts. It is worth mentioning here that this programme for employees, supervisors and entrepreneurs is being conducted to familiarize the stakeholders with the energy saving functions at different stages of production.

I also thank BEE/ IISWBM and its officials and the Micro, Small and Medium Entrepreneurs who are participating the programme with a request that they apply diligently the knowledge gained from this project in their own units.

Your sincerely,

(Sankar Kumar Sanyal)
President



FOSMI

FEDERATION OF SMALL & MEDIUM INDUSTRIES, W.B.
23, R. N. MUKHERJEE ROAD, KOLKATA - 700 001

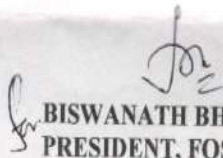
Biswanath Bhattacharya
President

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biswanath@auropolindia.com
URL : www.fosmi.org

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Message for the MANUAL ON ENERGY CONSERVATION IN GALVANIZING & WIRE – DRAWING SECTOR IN HOWRAH CLUSTER

It is an honour to be associated with a programme like the one being organized today. Conservation of energy is the crying need not only of the hour but of the future. Energy is at a premium and is becoming more so every day. Simultaneously with the search for new energy sources emphasis should be given to plugging wastage of energy. That is where energy audit comes in. The Bureau of Energy Efficiency has selected two sectors viz. Galvanizing and Wire Drawing for the time being for energy audit. All units should cooperate with regard to the energy audit for their own benefit in terms of energy saving as well as the resulting financial gain. We take this opportunity to most cordially thank IISWBM for taking such significant initiative for the project to succeed.


BISWANATH BHATTACHARYA
PRESIDENT, FOSMI