

Period of testing tensile strength of the industry

In the second year of 11th plan, overall Indian economy and also electrical equipment industry which was showing double digit growth for last five years, was pulled down. During this year we saw collapse of financial sector and substantial decline in economic growth in the developed countries. India could not remain isolated from these crises and received aftershocks resulting severe credit crunch and uncertainty in the minds of domestic purchasers. Adding to the woes, only about 3,500 MW of power was added to the installed capacity. It was way behind its planned target of 11,000 MW. Had Government and RBI would not have acted promptly and adopted strict measures and provided stimulus packages, situation would have been worse than imagination.

Overall Growth analysis

In the wake of this, growth of Indian electrical equipment industry as foreseen by the experts slipped southward on continuous basis and settled at mere 2.73% annually.

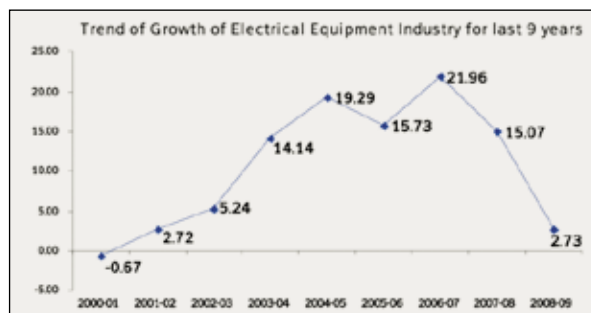
These growth figures are in terms of volume / quantity and based on the IEEMA statistical data bank, which collects, compiles and collates the production / sales data from its member-organizations and others. While a large number of manufacturers submit to IEEMA their production or the sales statistics to IEEMA regularly, there are some product

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REVIEW OF INDIAN ELECTRICAL EQUIPMENT INDUSTRY FOR FISCAL 2008-09

ranges, where the complete statistics is not available. This data is therefore further analyzed by the IEEMA Research Group, with the help of industry experts representing the respective product sectors, to arrive at the estimated growth rates for each industry sector on a regular basis. The combined growth rate for the industry, termed as the IEEMA Electrical Equipment Industry Index, is arrived at after considering growth and weight of individual product sectors.

Refer similar article in IEEMA Journal issue of July 2008 issue for details on 'IEEMA Electrical Equipment Index'



Trend of Growth of Electrical Equipment Industry for the last nine years

Product Sector analysis

In the sector wise trend, Rotating Machines, Transformer and Energy Meters were in the negative growth territory. Transmission Line, Cable, Capacitor have indicated positive growth while growth of Switchgear sector was stagnant.

Low voltage product segment has been badly affected as visible from negative growth of LT Motors, LT Switchgear products, Distribution Transformers (DTs) etc. It was due to dismal procurement by DISCOMs, industry and consumer segment coupled with increased competition from imports. A partial recovery was seen in the last quarter for switchgear products like MCBs, ELCBs, fuses and DTs.

However, power generation especially hydro

power and T&D activities; mainly driven by Government programs like RGGVY, RAPDRP etc., procurement by PSUs and demand from core sectors like Petrochemicals etc. have kept HT equipment producers on track for products like HT Motors, HV/EHV breakers, Power Transformers, HT Capacitors, transmission line towers and conductors. The majority of this demand was for upcoming evacuation systems at 400 KV and 765 KV.

Production Statistics of major Electrical Equipment						
Product	Acc. Unit	2004-05	2005-06	2006-07	2007-08	2008-09
LT Motors	000'KW	4438	5115	6229	7546	7312
HT Motors	000'KW	790	1128	1888	2444	2763
Switch Fuse & Fuse Switch Unit	Nos	677318	848004	947878	931280	827792
LT Circuit Breaker	Nos	608357	621689	809183	1187732	1175542
Miniature Circuit Breaker	000' Poles	35190	38374	49664	60325	66196
HT Circuit Breaker	Nos	34957	45705	53526	57781	59193
Power Cables	KM	N.A.	111954	159576	181953	186575
LT Capacitors	000'KVAR	3825	4339	5127	4816	5090
HT Capacitors	000'KVAR	9685	11250	9900	11557	12334
Distribution Transformer	000'KVA	26195	29211	35463	40405	34667
Power Transformer	000'KVA	55014	61758	77845	94758	119173
Current Transformer	000' Nos	206	343	484	548	637
Voltage Transformer	Nos	27883	39683	44976	62753	80700
Motor Stamping	MT	42144	49797	62053	68276	66804
Transformer Laminations	MT	10793	19022	25555	30820	32744
Energy Meters	000' Nos	10191	10198	12487	12835	11831
Transmission Line Tower	000' MT	283	396	418	509	542
Surge Arrester	Nos	456341	744652	770359	794193	708953

Source: IEEMA Data Bank

N.A.: Not available

Note: This statistics is compilation of reported statistics by the manufacturers to IEEMA and may not represent the 100% all India production.

Cumulative Growth index compared to the same period of previous year data					
Product	Weightages	1st Quarter 2008-09	Half Year 2008-09	3 Quarters 2008-09	2008-09
Rotating Machines	13.1	17.30	14.20	5.80	(-) 3.50
Switchgears	14.3	8.92	5.80	2.39	0.03
Cables	27.6	15.06	9.88	5.59	4.37
Transformers	23.6	7.28	-2.64	0.26	(-) 1.17
Capacitor Industry	0.7	14.09	30.32	9.99	2.62
Energy Meters	2.6	(-) 16.24	-5.03	(-)10.93	(-) 8.21
Transmission Lines	18.1	14.86	22.67	13.40	13.53
Overall Index	100	11.58	8.98	4.93	2.73

Quarterly Growth index compared to the same quarter data of previous year				
Product Group/Sector	1st Qtr. 2008-09	2nd Qtr. 2008-09	3rd Qtr. 2008-09	4th Qtr. 2008-09
Rotating machines	17.30	8.40	(-) 11.77	(-) 26.60
Switchgears	8.92	1.95	(-) 1.92	(-) 4.59
Cables	15.06	7.16	(-) 2.40	0.71
Transformers	7.28	(-) 5.91	8.71	(-) 1.74
Capacitors	14.09	55.63	(-) 16.50	(-) 8.77
Energy Meters	(-) 16.24	9.05	(-) 21.14	(-) 0.67
Transmission Lines	14.86	22.46	0.15	13.03
Overall Index	11.58	6.62	(-) 1.76	(-) 2.82

Indian major electrical equipment industry - size in Rs. Crores					
Product Group Sector	2004-05	2005-06	2006-07	2007-08	2008-09 (Estimated) #
Rotating Machines	2545	3500	5600	5925	5000
Switchgears	3155	4000	6475	6500	7300
Cables	3650	5450	11000	12500	11600
Transformers	3700	5500	8100	10700	11500
Capacitor Industry	235	300	350	345	350
Energy Meters	1515	1200	1395	1200	1450
Transmission Lines	3100	4350	6000	8200	8500
Overall Industry size	18020	24300	38920	45370	45700

2008-09 industry size is under discussion and yet to be approved by respective product divisions

EXIM data analysis

IEEMA has been tracking import and export data compiled from select major ports. The ports covered are Air and Sea of Mumbai, Chennai, Kolkata, Cochin and Vizag, Sea ports of Nhava Sheva (JNPT), Mangalore, Kandla, Mundra and Tuticorin and ICD of Tuticorin. Since data from very few ports like Hazira, Paradip etc. is missing, the trend analysis of data in terms of value would be close to reality.

Imports

Overall imports saw a phenomenal growth of about 37%. Major products which saw a high growth were HV Cables, AC motors - above 75 KW, LT and HT control and switchgear products like starters, junction boxes, fuses, relays etc., HV and EHV breakers and power Transformers.

China, Germany, USA, Korea, Japan, Singapore, Italy, France, Switzerland and UK were the top ten countries from where imported equipment was brought. China and Germany alone account for 50% of the total imports.

Projects import also saw a substantial growth of more than 150% led by China and Germany. Import of Gas turbines was also doubled mainly on account of imports from USA.

Exports

Contrary to the decline of export for other sectors of economy, exports of electrical sector also saw a huge growth of about 37%. Majority of this growth was in the 1st half of the fiscal where industry was benefited from high foreign exchange rate. Transmission line towers, HV and LV cables and Power Transformers were the major product segments of exports. Top five destinations were USA, UAE, UK, Qatar and Oman.

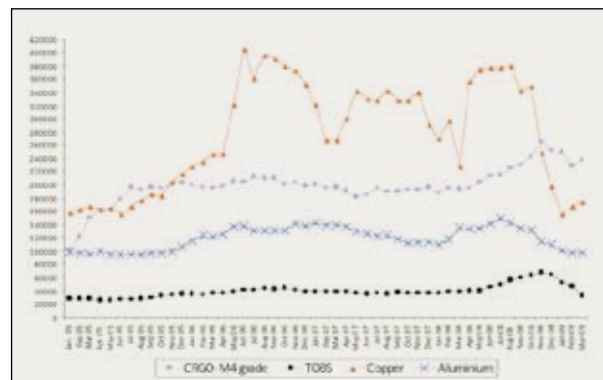
Although Industry could improve acceptability of the above 'Made in India' products in overseas market, overall negative trade balance was increased by about 35%. Negative trade balance was observed

mainly for LT & HT Switchgear, Motors, measuring and indicating instruments and winding wire segments.

Raw material prices

Raw material prices saw see-saw moment in this fiscal. During the first half, most of the raw materials including metals, oil, insulating materials etc. were on rising trend. A sudden shock of meltdown in global financial sector has drastically impacted international commodity prices in the third quarter resulting in substantial decline in prices of major metals like copper, aluminium and steel etc. The impact of decline was in the range of 30% to 50%. Same was observed in oil prices in later period which came down by about 40%. Prices were slightly recovered from their bottom during the last quarter of the fiscal.

Fluctuations in raw material prices were resulted in re-negotiation of contract prices; especially for firm price contracts. As a result, Indian electrical equipment industry size also remained more or less stagnant in spite of moderate growth in volume.



Concerns of the Industry

Incomplete Infrastructure Status to Power Sector

The Government has given infrastructure status to roads, highways, ports, airports, waterways etc.

Sr. no.	Product Group	2007-08		2008-09	
		Import	Export	Import	Export
		(Value in Rs. Lakhs)			
1	Stepper, Micro, Wiper motors etc..	50,428.98	14,140.95	55681.07	13663.68
2	DC motors & generators	45,200.82	6,102.53	49206.34	12614.46
3	FHP Motors	5,829.92	27,969.86	7183.03	20552.7
4	AC Motors	39,124.41	10,064.75	57749.61	16533.47
5	AC Generators	15,107.72	13,276.79	12952.82	15077.04
6	Generating sets with Diesel engines	95,962.89	20,981.29	51959.63	35699.55
7	Liquid dielectric Transformers- up to 650 kVA	10,283.89	6,725.08	4161.23	19930.37
8	Liquid dielectric Transformers- above 650 kVA	8,884.78	104,168.58	22890.93	161703
9	Power Capacitors	3,139.34	2,291.00	3822.93	6682.266
10	HV Breakers	1,070.90	1,085.33	10202.63	3749.363
11	LT Fuses - all types	6,506.36	18,548.26	13435.85	31880.01
12	Air circuit breakers	1,194.83	2,901.50	1380.54	2155.512
13	Moulded case circuit breakers	2,524.48	4,609.24	2248.10	5856.3
14	Miniature circuit breakers	481.25	7,102.66	2441.03	9739.642
15	Other Automatic circuit breakers	23,701.05	2,469.71	22428.51	5486.652
16	MCC, PCC & Switchboard/Panels for voltage not exceeding 1,000 V	64,544.74	38,330.13	78794.20	63618.02
17	MCC, PCC & Switchboard/Panels for voltage exceeding 1,000 V	14,724.41	28,774.03	27507.14	33318.52
18	Halogen Lamps	3,314.24	803.77	3994.36	905.7802
19	Compact Fluorecent Lamps	13,042.78	16,339.10	13337.76	12817.64
20	Mercury Vapour, Sodium Discharge, Metal Halid Gas Discharge Lamps	3,537.69	357.19	4680.00	556.7883
21	LV Cables	385.26	21,072.17	0.85	33610.87
22	HV Cables	12,556.32	40,869.84	40824.38	75312.58
23	Electrical insulators of ceramics - Procelain disc/post/pin	7,928.43	14,705.60	8584.32	20870.98
24	Electrical insulators of other material	8,109.42	8,042.62	11587.41	9979.035
25	Electricity Energy Meters	7,732.04	3,984.32	10472.35	5848.399
26	Measuring instruments like Ammeters, Voltmeters, Capacitance Meters	5,156.85	6,457.31	7284.66	4658.109
27	Transmission Line Towers	405.23	47,894.58	1639.88	72814.77

Source: Select major ports data by a pvt. agency

under the IT Act, (section 80 IA), where an enterprise carrying on business of developing, operating or maintaining any infrastructure facility (under certain conditions) will be allowed 100% tax deduction on the profits from such business.

In case of power projects, however, this provision is limited to either setting up, construction and major repairs and available to owners of the power projects. IEEMA has been requesting for extending this provision to the contractors engaged in developing and / or maintaining of such projects.

Inadequate testing facilities at CPRI

CPRI, a government testing laboratory under the Ministry of Power, is a renowned institution, where majority of the electrical products are tested and certified. The Government in its 11th plan has embarked upon an ambitious Programme for the Power Sector. To support this, an aggressive T&D plan was also chalked out for which higher and higher capacity transformers required for bulk transmission of power are being manufactured in the country and

manufacturers need to certify the equipment as per latest IEC standards for increased reliability.

However, the present capacity of CPRI is inadequate both in terms of capacity and voltage class. Present test plant availability at CPRI testing labs, both Bhopal and Bangalore, cater to Short circuit test on transformers up to 90 MVA, 220 kV. For higher capacity, industry has to depend upon developed nations at the high cost in foreign currency.

CPRI therefore needs full scale up-gradation on top most priority to cater to the testing of equipment as needed by country's massive power programme. CPRI need Rs 400 crore which is just 0.04% of total planned investment in the power sector. IEEMA has been consistently lobbying with the Government for the same.

Inadequate supply of CRGO (cold rolled grain oriented) electrical steel

CRGO is special steel required in the manufacture of electrical equipment like very large generators; transformers etc. and is almost fully imported.



The process being intrinsic, CRGO (1.8 Million Tonnes) is manufactured only by 12 Manufacturers in the world, major countries of manufacture being Japan, Germany, USA, France, Korea, Russia and China etc. However, the 'hot bands' required for the manufacture of CRGO are made by only 6 manufacturers across the globe who control the supply and price of the material.

The massive program of generation, transmission and distribution outlined in 11th and 12th plan envisages huge demand of transformers and generators. Hence, the emerging demand for CRGO as well its nature of strategic importance justifies establishment of a manufacturing facility in India. Government should therefore look at the possibility of having indigenous manufacturing of CRGO.

Non-availability of hydraulic trailers for transporting heavy electrical equipment

In view of the massive expansion programme in the power sector, transportation of heavy electrical equipment has assumed high criticality. A Judgment delivered by the supreme court of India (In the month of October 2005 in Writ petition civil) no 136 of 2003 has created difficulties for transportation of heavy electrical equipment.

The crux of the issue is that to comply with the statutory requirement all consignments weighing more than 32MT (single package) need to be transported through hydraulic axles only. The Transportation of Loads above 32 tons single piece by hydraulic trailers is not practical, due to the following difficulties:

- 1) Increasing consignments and shortage of hydraulic axles in the country (there is only one manufacturer and imports are expensive and cumbersome).
- 2) There are lot of gaps and complexities in the procedures of various central/state government agencies for providing registration clearance of movement of consignments on Hydraulic Axles. leading to delays and increase in project costs.

IEEMA therefore suggests continuing the present practice of transportation of single piece consignment upto 100 tons by non hydraulic trailers.

Inadequate use of Price Variation Clause

The current trend of business is towards turnkey/EPC contract. The turnkey packages include number of equipments/sub-systems such as DG sets, fire fighting systems, air conditioning systems and earthing systems etc. These are presently not covered by price variation clause in many contracts. Other equipment covered in under substation contracts which require introduction of price variation clause are Steel sections used for cable Tray Support, GI cable tray and accessories, GI Conduit and pipes used for cable routing and wiring, EHV Cables etc.

Most of E-BOP (Balance of plants) and Substations contracts of Private Power Plants are on "FIRM PRICE Basis". Hence, there is a need for educating customers of having PV clauses for mutual benefits especially in the wake of volatile price regime.

Other general business issues are delay in bidding process, one sided contract terms, inappropriate award criteria and payment terms, delay in inspection, no uniformity in scope of work and technical specifications of the same equipment etc.

Acute shortage of skilled manpower

Industry is already facing shortage of skilled manpower though there is a huge requirement for the same in power sector.

Conclusion

Although the industry faced a lot of turmoil this fiscal, with many emerging negative factors; it is still highly optimistic on the sustainable growth in near future. Perceptions are now more strengthened since the stable Government is in place with a clear mandate and having power sector reforms on the top priority of their agenda.



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