

Tracking the Growth

of the Indian Electrical Equipment Industry for the fiscal 2007-08

- *A Review*

Preamble

The Power sector development programme in India has gained momentum with the Ministry of Power, Government of India unveiling capacity addition plan of 78,577 MW and 86,500 MW during the 11th and 12th Plan periods respectively. A corresponding plan for new investment and Renovation and Modernization was also conceived for the transmission and distribution segments in line with the National Electricity Plan and the Integrated Energy Policy.

As a result, the demand for T&D equipment is going to be impacted by multiple factors in the years to come. In light of this, it is interesting to analyze the growth of electrical equipment industry for the year 2007-08 i.e. 1st year of 11th plan period.

Tracking the Growth of the Industry

IEEMA, the apex association of the manufacturers of electrical and industrial equipment manufacturers, collects and compiles statistics of electrical products. While a large number of manufacturers submit their production or the sales statistics to IEEMA regularly, there are some product ranges, where the complete statistics is not available. IEEMA then discusses with the Industry leaders through its product divisions to quantify (in quantity terms) the total production of electrical equipment in India. This analysis is based on this information.

IEEMA Electrical Equipment Industry Index

The IEEMA Electrical Equipment Industry Index is arrived at after considering all factors mentioned



above and arriving at an index representing the overall growth of the industry.

To arrive at the Index, first, the weightage of major individual product group is estimated after discussions with the industry experts and during the IEEMA product divisions meetings.

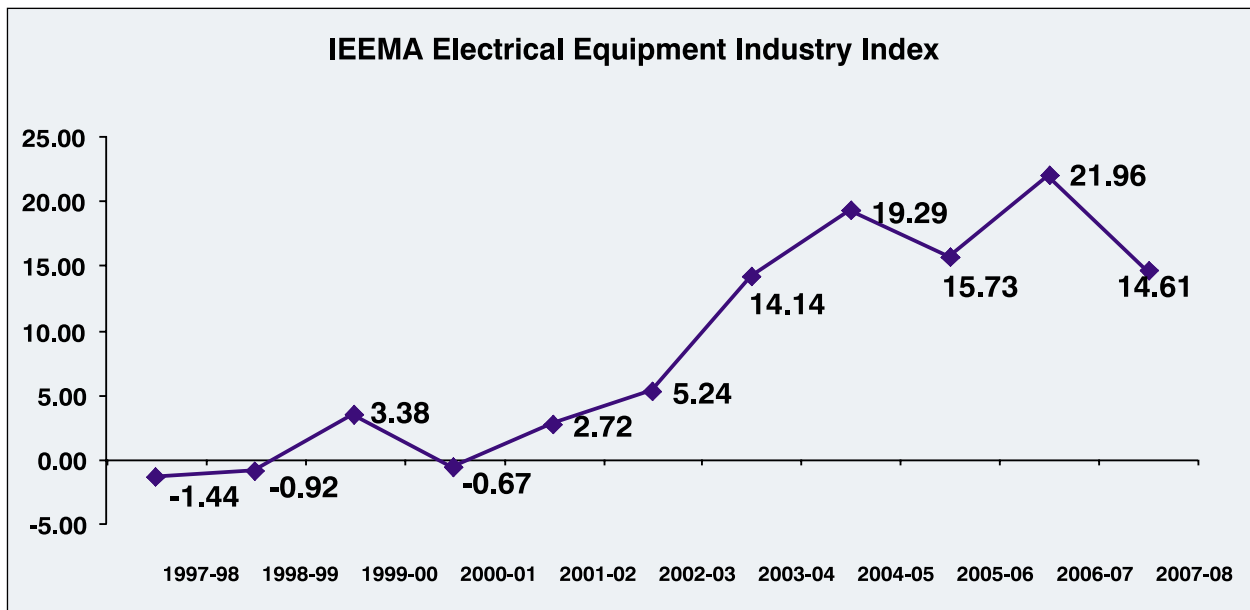
Based on the weightage for a particular product group, its performance during the specified period of the year vis-a-vis its performance during the previous year is compared to arrive at the growth for the said sector.

Finally, The IEEMA Electrical Equipment Industry Index is calculated taking into consideration growths and weightages of individual sectors. The Index thus represents the overall growth of the industry.

Overall Growth Analysis

We are presenting below growth of the Indian electrical equipment industry, which supplies the equipment to the power sector. The analysis is based on production or sales data; as the case may be; compiled and monitored by IEEMA on a regular basis in actual quantitative or volume terms.

Overall growth for the industry has been registered at 14.6%. Though the growth looks attractive, it is considered moderate since the industry was growing at a much higher rate during the previous years and in fact, the growth this year is less than the average growth of 15.5% recorded for the past 5 years. The drop in the growth has taken place since there is an apparent slowdown experienced by the industry during the second half of the financial year and particularly, the last quarter of the year, where the



Growth Indices for Electrical Industry Cumulative Growth Compared to same period of previous Year (CCPY)							
Product	Estimated Market size 2006-07	Weightages	1st Quarter 2007-08	Half Year 2007-08	3rd Quarter 2007-08	Year 2007-08	Estimated Market size 2007-08
Rotating Machines	5600	14.3	21.6	17.9	14.8	13.0	6000
Switchgears	6475	16.6	20.21	19.48	19.89	12.30	7500
Cables	11000	28.3	4.76	16.35	12.23	15.90	13250
Transformers	8100	20.8	16.57	31.22	23.24	15.02	10000
Capacitor Industry	350	0.9	-18.67	-10.66	-4.34	1.38	350
Energy Meters	1395	3.6	3.52	10.85	10.42	7.29	1400
Transmission Lines	6000	15.5	21.52	15.16	16.73	18.17	8000
Total	38920	100.0	14.53	19.55	16.64	14.61	46500

QUARTELY % AGE GROWTH 2007-08					
Product	Wt.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Rotating Machines	14.3	21.6	15.5	10.4	14.8
Switchgears	16.6	20.21	19.49	19.68	-5.23
Cables	28.3	4.76	25.32	5.04	21.38
Transformers	20.8	16.57	44.82	9.49	2.26
Capacitor Industry	0.9	-18.67	0.57	13.23	36.38
Energy Meters	3.6	3.52	17.52	9.64	-8.82
Transmission Lines	15.5	21.52	12.76	19.61	12.24
Quarterly Electrical Equipment Growth Index	100.0	14.53	24.55	11.65	9.68

growth was only about 12.5%. Whether the downfall continues or is arrested will only be clear after the results of the first quarter are known.

Product Sector Analysis

Though, on an average, the growth has slowed down, some of the sectors of the industry have

continued growing. The Power Cable Industry, for example, has registered a growth of 21.8% and is the highest among the sectors of electrical equipment. This high growth is attributed to the higher demand from Infrastructure projects, development of SEZs etc.

Transmission Line industry has reported an above-average growth of 18.2% supported by Transmission Tower production growing at 22%, though the Conductors business grew at only 12.4%. Power Grid Corporation, who is the major driver for this sector, has really got into action from the 3rd quarter by finalizing new orders.

The Transformer industry has registered an average growth of 15% with Power and Distribution Transformers reporting 18.2% and 12.8% growth respectively. Evacuation and transmission of power generated mainly at 220 and 132 KV levels was the key reason for this growth. However, growth has decelerated in the last quarter by about 2.3%. This is a relatively a new phenomenon since the production levels are generally higher during the last quarter.

Switchgear and Controlgear industry posted a below average growth of 12.3%. HT Switchgear

Production Statistics of major Electrical Equipment						
Product	Acc.Unit	2003-04	2004-05	2005-06	2006-07	2007-08
Distribution Transformer	000'KW	3518	4438	5115	6229	7498
HT Motors	000'KW	658	790	1128	1888	2444
Switch Fuse & Fuse Switch Unit	Nos	591134	677318	848004	947878	931280
LT Circuit Breaker	Nos	415023	608357	621689	809183	1187732
Miniature Circuit Breaker	000' Poles	25174	35190	38374	49664	58965
HT Circuit Breaker	Nos	27979	34957	45705	53526	57781
Power Cables	KM	N.A.	N.A.	111954	159576	179555
LT Capacitors	000'KVAR	2848	3825	4339	5127	4816
HT Capacitors	000'KVAR	8741	9685	11250	9900	11557
Distribution Transformer	000'KVA	19862	26195	29211	35463	40405
Power Transformer	000'KVA	50276	55014	61758	77845	94390
Current Transformer	000' Nos	188	206	343	484	453
Voltage Transformer	Nos	20283	27883	39683	44976	47628
Motor Stamping	MT	32760	42144	49797	62053	66651
Transformer Laminations	MT	10401	10793	19022	25555	30820
Energy Meters	000' Nos	N.A.	10191	10198	12487	14765
Transmission Line Tower	000' MT	190	283	396	418	490
Surge Arrester	Nos	485762	456341	744652	770359	794193

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 all India production.

Sr No	Product Group	2006-07		2007-08	
		Import	Export	Import	Export
		(Value in Rs Lakhs)			
1	Stepper, Micro, Wiper motors etc..	32,162.16	8,340.01	50,428.98	14,140.95
2	DC motors & generators	33,927.14	2,767.08	45,200.82	6,102.53
3	FHP Motors	4,837.51	23,548.68	5,829.92	27,969.86
4	AC Motors	24,144.63	8,343.45	39,124.41	10,064.75
5	AC Generators	8,025.36	5,688.65	15,107.72	13,276.79
6	Generating sets with Diesel engines	16,635.37	21,236.55	95,962.89	20,981.29
7	Liquid dielectric Transformers- up to 650 kVA	3,675.80	4,621.65	10,283.89	6,725.08
8	Liquid dielectric Transformers- above 650 kVA	3,809.23	54,413.20	8,884.78	104,168.58
9	Power Capacitors	3,887.01	1,055.85	3,139.34	2,291.00
10	HV Breakers	7,024.01	937.00	1,070.90	1,085.33
11	LT Fuses - all types	6,093.44	22,293.15	6,506.36	18,548.26
12	Air circuit breakers	1,087.63	3,851.18	1,194.83	2,901.50
13	Moulded case circuit breakers	1,901.74	3,682.05	2,524.48	4,609.24
14	Miniature circuit breakers	188.58	4,264.40	481.25	7,102.66
15	Other Automatic circuit breakers	21,436.25	1,825.62	23,701.05	2,469.71
16	MCC, PCC & Switchboard/Panels for voltage not exceeding 1,000 V	44,531.60	37,617.43	64,544.74	38,330.13
17	MCC, PCC & Switchboard/Panels for voltage exceeding 1,000 V	5,239.31	15,794.87	14,724.41	28,774.03
18	Halogen Lamps	2,840.54	568.42	3,314.24	803.77
19	Compact Flourecent Lamps	12,450.92	5,423.97	13,042.78	16,339.10
20	Mercury Vapour,Sodium Discharge,Metal Halid Gas Discharge Lamps	3,362.62	1,356.79	3,537.69	357.19
21	LV Cables	33,852.52	16,036.65	385.26	21,072.17
22	HV Cables	10,615.23	25,233.80	12,556.32	40,869.84
23	Electrical insulators of ceramics - Procelain disc/post/pin	4,497.97	8,423.75	7,928.43	14,705.60
24	Electrical insulators of other material	6,204.41	8,356.31	8,109.42	8,042.62
25	Electricity Energy Meters	8,528.03	931.06	7,732.04	3,984.32
26	Measuring instruments like Ammeters, Voltmeters, Capacitance Meters	20,698.06	10,801.65	5,156.85	6,457.31
27	Transmission Line Towers	289.60	28,121.04	405.23	47,894.58

Source: Private Agency, Select Ports data

growth of 10.3% was mainly for the pent-up demand at 220 KV level. Imports of MV Breakers have increased substantially and with low cost and quicker deliveries, they are now competing successfully with the domestic industry.

LV Switchgear however continued to grow at about 17%. Boom in the construction projects coupled with increased awareness of safety, in-coming new Building Electricity Code are the main reasons for this growth.

The last quarter for this sector was not encouraging and production level was dropped to almost 20% except for MCBs and HV circuit breakers.

Energy Meters and Power Capacitors have reported a meager growth of 7.3% and 1.4% respectively.

Decline in demand for Poly phase Meters was due to reduction in orders from schemes like APDRP. Demand for HT Capacitors has grown by 12.3% due to continued off-take by progressive utilities. Decline in LT capacitors was due to high base of previous year created on account of a large off-take by one particular utility for distribution to farmers for their pump sets.

The Rotating machinery industry has registered a 13% growth in production. This sector largely depends on the demand from large industries like cement, steel and sugar. A trend of increasing imports of HT Motors was also noticed during the year due to the fact that they were of better quality, competitively priced and supplied with shorter deliveries.

Very interestingly, a new business segment has emerged in case of alternators in the form of the communication towers, which require continuous power supply. The captive power generation requirement in case of industries also continues in view of the power shortage and outages.

Export and Import Data Analysis

Analysis of Import and Export data is based on data of select major ports compiled by a private agency. 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 is worth to review.

Imports

Overall imports of major electrical equipment have grown by 27%. Major growth of above 100% is seen in DC Motors and Generators, HT Motors, AC Motors up to 750 KVA, Generating sets with diesel engines up to 75 KVA, Distribution Transformers, MV Breakers, HV Switchgear Custom built products and Parts of Electricity Meters.

High imports of about Rs 2,000 crore was reported in LV Switchgear products followed Rs 1,200 crore in AC and DC Motors and Generators.

Top Importing countries were China, Germany, USA, Singapore, Japan, Korea, Italy, France, UK and Switzerland.

Exports

Exports of major electrical equipment have grown by 40% thus reducing the trade deficit to some extent. Major growth of exports was visible in AC Generators above 375 KVA, Power Transformers, Compact Fluorescent Lamps, Telephone cables, LV cables, Electrical Insulating fittings of porcelain and glass, Electricity Energy Meters and Transmission Line Towers. Highest exported product sector was Transformer with about Rs 1,700 crore of export followed by Rs 1,500 crore by LV Switchgear. Major exporting destinations were Middle East countries like UAE, Qatar, European countries like UK, Netherlands, USA and some African and Latin American countries.

Raw Materials

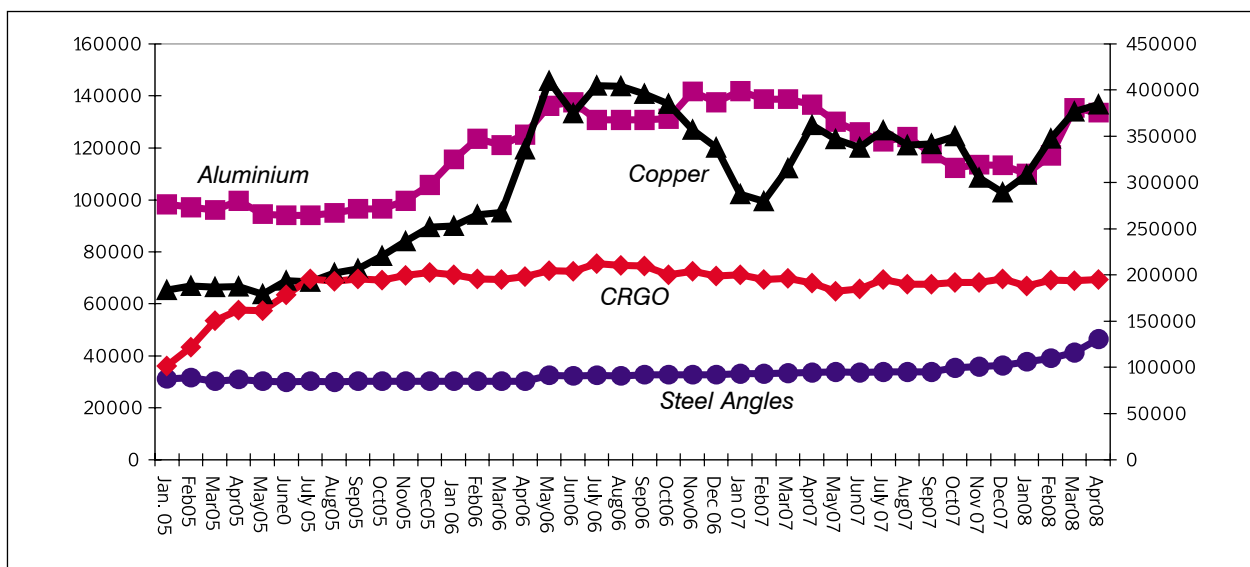
After the unprecedented increase in prices of most of the raw materials during 2005-06 and 2006-07, rise in raw material prices such as Aluminium, Copper and CRGO was moderate and up to 3-5% except for other steel, highly used in Cables, Switchgear and Transmission sector; which rose by more than 12%. Adding to the woes, the crude Oil prices rose sharply in the last quarter and hovering around US\$125 per barrel. This is apart from growth in manpower cost which increased by approximately 15%.

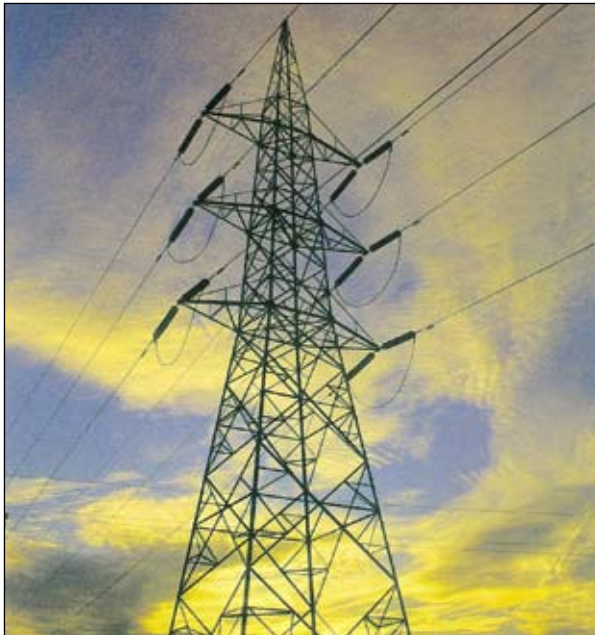
Issues faced by the industry

* Supply of CRGO

CRGO is a special steel required in the manufacture of electrical equipment like very large generators, transformers etc.

Trend of major raw material prices for past 3 years





The process being intrinsic, only 11 Manufacturers in the world manufacture it. Major manufacturing countries are Japan, Germany, USA, France, Korea, China etc. However, the 'hot bands' required for the manufacture of CRGO are made by only 6 manufacturers who control the supply and price of the material.

Demand for CRGO is expected to touch 2,00,000 MT in 2011-12 (Approx. Rs. 3500 crore).

The emerging demand for CRGO as well its nature of strategic importance justifies establishment of a manufacturing facility in India.

* Testing facilities of high voltage products

CPRI, the Government testing laboratory under the Ministry of Power, is a renowned institution, where majority of the electrical products are tested and certified. The present capacity of CPRI is however, inadequate both in terms of capacity and voltage class. The Government has embarked upon an ambitious Programme for the Power Sector, where 11th Plan itself requires a huge investment in excess of Rs 1,000,000 crores.

On the other hand, for augmentation of facilities to cater to the testing of equipment for this massive power programme, CPRI needs a comparatively small allocation of Rs 800 crores (hardly 0.08% of planned investments).

* Infrastructure bottlenecks resulting in delay in deliveries

Though our Economy is growing at an average rate in excess of 8%, unfortunately, the basic

infrastructure, be it; ports, airports, roads or railways, is unable to keep pace with the development. As a result, deliveries are affected disturbing the project schedules.

* Burden of levies and taxes

While we compliment the Government for rationalizing the taxation structure, other levies like, sales tax, octroi, entry tax etc. continue to exist causing difficulties, distress and time delays and making some products uncompetitive as compared to the imported ones.

* Bunching of orders

Bunching of orders is a concern as this leads to haphazard planning and uneven capacity utilization. Industry has faced this problem especially from 3rd quarter onwards.

* Acute shortage of skilled manpower

The industry today, faces acute shortage of people with engineering expertise and Managerial skills.

Huge manpower would also be required for support and auxiliary services including those required by utilities, equipment vendors and service providers in the sector.

Conclusion

The demand for the electrical equipment industry depends to a large extent on the addition to the power generating capacity. Electricity, as everybody knows, is one of the major growth engines of the economy and addition to power generating capacity must grow at a minimum of 15 to 20% to achieve an expected economic growth of 9%.

Today, more than 95% of the equipment successfully in operation in Indian power sector has been produced, installed and commissioned by the Indian electrical industry. The Indian electrical industry produces high-tech products of capacities, mostly matching with world leaders. Indian Industry is capable of supplying to the requirements of the Indian Power Sector. Government commitment to the power development programmes and assurance of completion of all projects including those under APDRP and RGGVY will go a long way and boost the confidence of the industry considerably to continue its investment in capacity addition programme.



Ninad Ranade
IEEMA, Mumbai