KARNATAKA POWER CORPORATION LIMITED(KPCL) / RAICHUR THERMAL POWER STATION (RTPS) S POWER GENERATION: A COMPARATIVE PERFORMANCE

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Abstract

The Karnataka Power Corporation Limited is a registered company under company's Act 1956, in the year. It is engaged in its construction of power projects in Karnataka. The corporation is managing various other projects viz., Sharavathi Generating Station, Bhadra Dam Power House, Linganmakki Power House, Nagjhari Power House, Supa Dam Power House, Ghata Prabha Dam Power House, Mini Hydel Projects and Wind Energy Project etc. In addition to the operation and maintenance of these projects the KPCL is poised to execute other new projects for the betterment of the Karnataka in the coming years. The power projects are undertaken in all the parts of the state and their offices are situated in these projects areas only. The registered and corporate office is functioning from its head office at Bangalore.

All the administrative of the corporation is managed by the managing director (MD) as per the directives of the board of directors, which is constituted by Government of Karnataka. The KPCL is wholly owned by state government as its owner. The entire paid up share capital is held by the government of Karnataka. Honorable chief minister and power minister are chairman and vice-chairman of the corporation respectively.

For over three decades, the Karnataka Power Corporation has been a prime mover and catalyst behind key power sector reforms in the state – measures that have spiraled steady growth witnessed in both industrial and economic areas.

Right from the year of inception, in 1970, KPCL set its sights on "growth from within" meeting growing industry needs and reaching out to touch the lives of the common man, in more ways than one.

Introduction:

KPCL today has an installed capacity of 5739.83 MW of hydel, thermal and wind energy, with 789 MW in the pipeline and 6270MW in planning stage. The 1470MW Raichur Thermal Power Station located in Raichur dist. Is accredited with ISO 14001-2004 certification for its environment protection measures. From an industry vantage point, KPCL has raised the bar on the quality of deliverables and is constantly working at lowering the cost per megawatt- a commendable cost-value equation that has become a benchmark on the national grid. KPCL's stock in trade is industry proven – well-established infrastructure & modern, progressive management concepts and a commitment to excel, helping it meet the challenges of the rising energy demands of Karnataka.

The leverage point of KPCL initiatives are its resource management strengths- right across planning, financing and project engineering. KPCL also has a high rating in terms of project completion and commissioning within the implementation calendar. Karnataka is the one of the first state to unbundled the generation from transmission and distribution in the country.

The Karnataka Power Corporation Limited is a registered company under the Company's Act 1956, in the year 1970. It is constantly engaged in the investigation, identifying and construction of power generation projects in the state of Karnataka. The corporation in managing a number of power projects throughout the state of Karnataka. The power corporation is pioneer state organization in power sector.

The registered and corporate office is functioning from its head office situated at Bangalore. All the administration of the corporation is managed by the Managing Director as per the direction of Board of Director, which is constituted by the Govt. of Karnataka. The KPCL is wholly owned by State Govt. the entire paid up capital is held by the Government of Karnataka. Chief Minister and Power Minister as the chairman and vice-chairman respectively are responsible to the corporation.

KPCL at present having the capital investment of more than Rs.25,000.00 millions and the capacity to generate the electricity is about 15000 MU per year from more than 17 generation stations. With its richer experience, commitment to the work and with the modern management concept the KPCL is able to handle the major Hydel and Thermal Power projects in the state. The corporation has been honored with several awards from Govt. of India, for its outstanding performance in the field of power generation. It has also managed to bag the rolling shield award too.

The day today general administrative affairs of the corporation are managed from the MD's Office at Head Office. Each functional wings are controlled by functional directors viz. Technical Director,

Financial Director. Each project is headed by the Executive Director's/Chief Engineer's and they are the controlling heads of respective projects.

At present KPCL is having strong employee force of more than 6500 both technical and non-technical staff. The corporation has completed 39 years of dedicated service to the nation.

Origin of KPCL

The Karnataka is pioneer in the area of electric generation. In 1902, the Sivanasamudram hydro power station, first in Asia was started. The success of power generation is the vision of Sir M.Vishveshwaraiah the great engineer.

The Karnataka government has started the power corporation, to construct, operate and maintain the power projects with the professional and dedicated team of engineers. It is now possible to meet the twin purpose of irrigation and hydro electric power generation, as many rivers are flowing into Karnataka.

The Mysore Power Corporation Ltd. (MPCL) was started in 1970 as a substitute for Hydro Electrical Construction Project (HECP) Sharavathi. At present the KPCL (MPCL) has earned rich experience in execution of large power projects. The technocrats and administrative staff are much experienced and committed to work. The capital investment of KPCL is more than 25,000 millions and the capacity to generate the electricity is about 15,000 MU per year from more than 17 generation stations. With the modern management concept the KPCL is able to handle the major hydel and thermal power projects in the state.

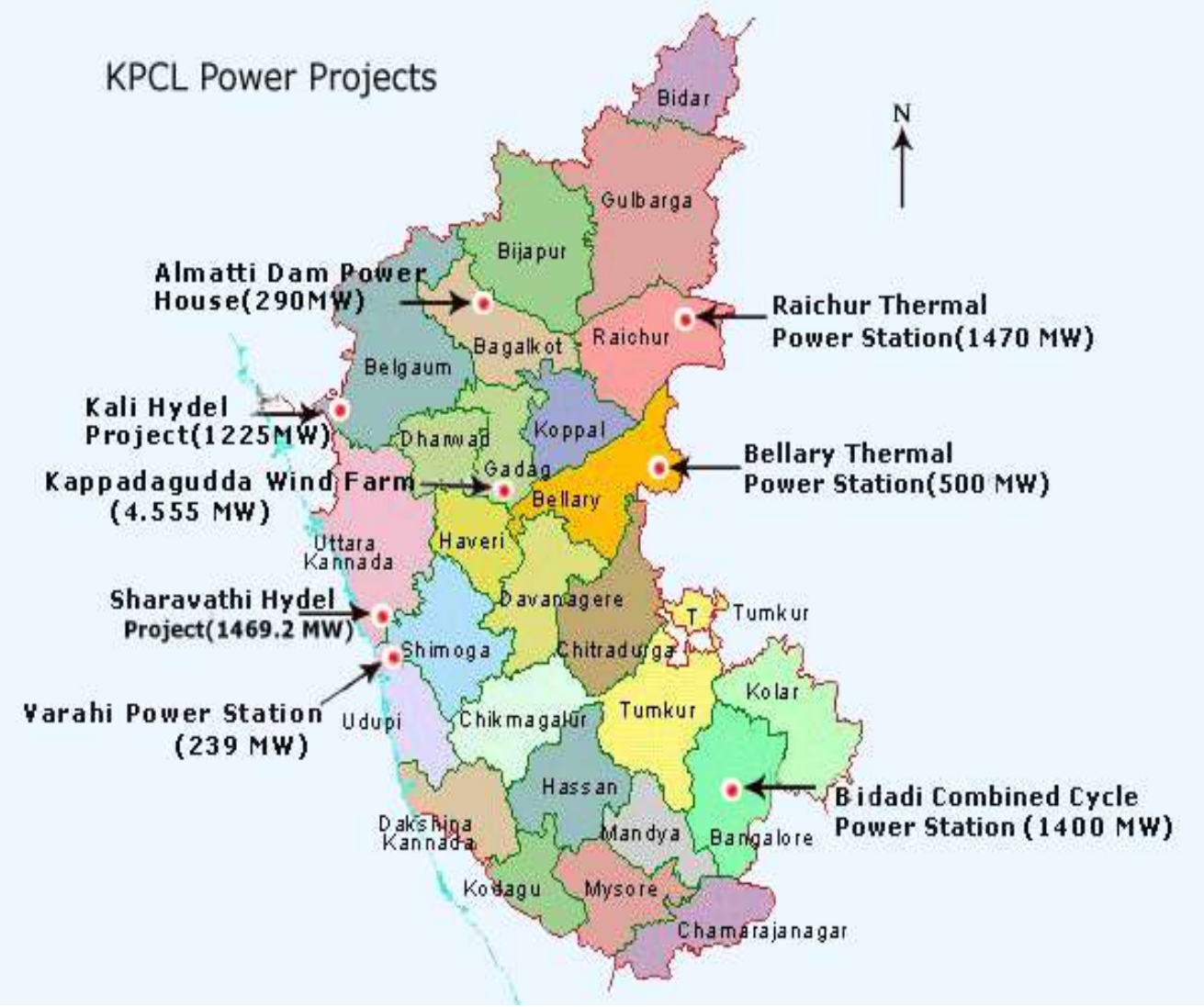
The KPCL so far has constructed and commissioned 30 dams and 17 power projects in the state. The Kalinadi Hydro Electro Projects include the Supa Dam, Bommanahalli Dam and Nagjari Power House (NPH). Other projects built and operated by KPCL include Sharavathi Dam and Raichur Thermal Power Station (RTPS). And also, there are several mini hydel projects and wind energy projects completed by KPCL. The Corporation has been honoured with several awards from government of India for its outstanding performance in the field of power generation. It has managed to get the rolling shield awards too.

The KPTCL (KEB) purchases the total power produced by the KPCL and distributes through its transmission lines directly to the consumers, like others SEBs. The KPCL and KPTCL are both together able to meet the challenges and power demands of the state and helping the national growth.

Today KPCL takes great pride in experience it has gathered, the expertise it has developed and the skills it has honed, especially in the planning, investigation, design, execution and effective operation of large power projects.

A strong infrastructure coupled with modern technical and management concepts have helped KPCL to meet the challenges of the rising energy demands of Karnataka. A dedicated workforce of about 7,000 professionals shares the vision of KPCL. Technocrats, administrators and supporting staff are joining hands to give more power to Karnataka.

DISTRIBUTION OF POWER PROJECTS IN KARNATAKA



Map-3.1

KPCL,Currently have 20 dams and 24 power stations across the state

CONTROL ROOM, RTPS

Photo—3.4

View of RTPS photo—3.5

NATIONAL AWARD PHOTO—3..6

ORGANIZATIONAL HIERARCHY OF KPCL

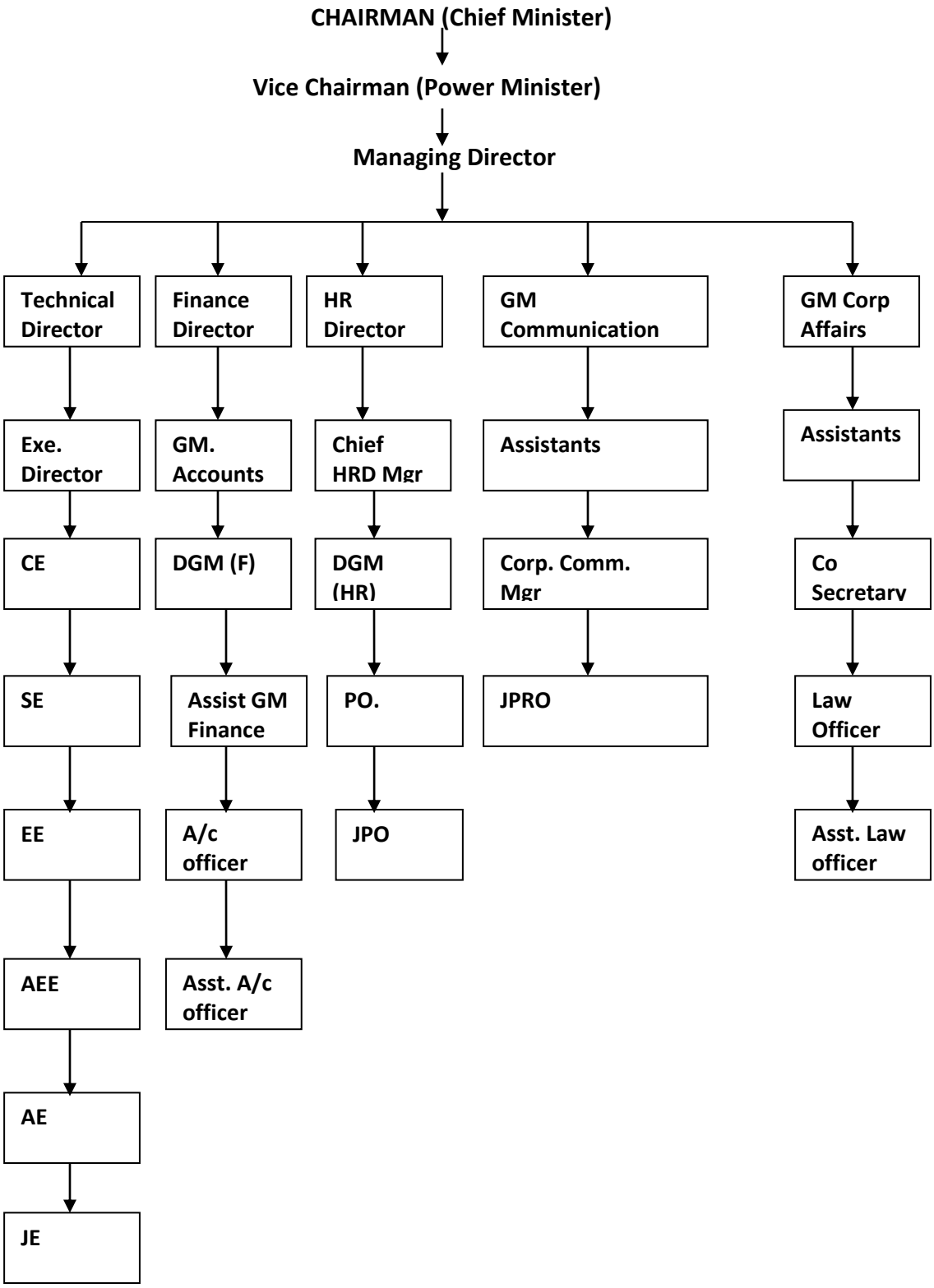


Figure-3.1

The Organizational chart of RTPS

(Symbolic)

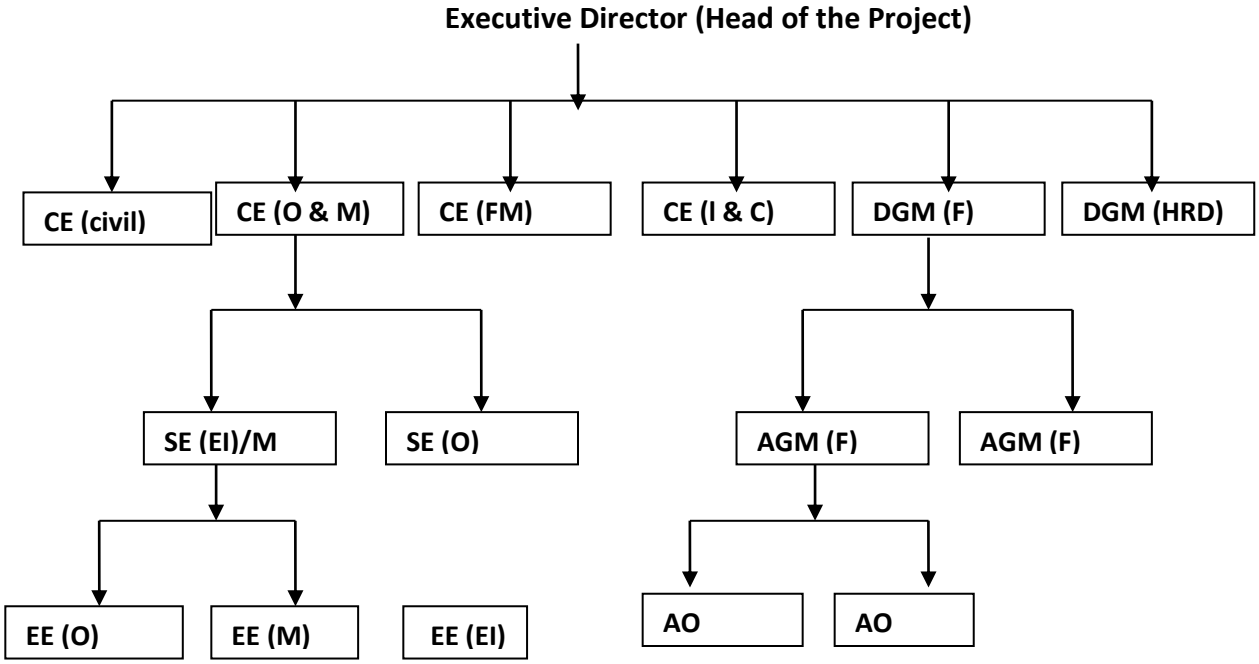


Figure-3.2

Table—3.4

KPCL Generation in Million Units in last five years

Year	Hydro	Thermal	Wind / DG	Total
2003-04	7017.12	11392.82	15.46	18425.40
2004-05	7308.50	10730.86	14.39	18053.75
2005-06	10709.07	9183.31	15.09	19906.47
2006-07	14997.45	11483.43	14.93 + 139.53	26635.35
2007-08	14281.14	10704		24985.14

Organizational structure of KPCL:

The day to day general administrative affairs of the corporation are managed and maintained from the Managing Director's (MD's) Office. The MD is one of the senior most IAS officer who is disputed from the Government of Karnataka will be the in charge of Entire Corporation. Each project is headed by the General Managers (GMs)/ Chief Engineers (CEs) and is the controlling heads of respective projects. The projects are managed or maintained by the GMs/CEs under the direct administrative control of MD/TD (Technical Director). All the head of departments are responsible and accountable for Total Quality Management (TQM) to be maintained in the projects. The entire workforce is striving to achieve the goals of KPCL with their dedicated service.

Table-3.5

WORKFORCE IN KPCL

Cadre	**Workforce**		
	Male	**Female**	**Total**
Corporate	1849	280	**2129**
Non-corporate	3087	600	**3687**
Total	**4936**	**880**	**5816**

Source: HRD, KPCL, Bangalore

KPCL seeks to be the world class organization emphasizes on efficiency, cost effectiveness and harmony with the environment.

The total installed capacity logged by KPCL is 4,995 MW across a project canvas that covers expansions, renovations and upgrading of existing plants, and their details are shown in the Table-3.5

Table-3.6

INSTALLED CAPACITY OF KPCL IN MW

Date of commission	Power Station	No. of Units	Installed Capacity in MW	Total capacity in MW
Thermal Project				
1984-85	Raichur	8	210	1,470
Hydel Projects				
Sharavathi				
1976-77	Linganmakki	2	27.5	55
1970	Sharavathi	10	103.5	1,035
	Gerusoppa	4	60	240
Bhadra				
1997-98	Bhadra Rigt Bank	1 1	7.2 6	13.20
	Bhadra Left Bank	2 1	12 2	26
Kalinadi				
1985-86	Supa	2	50	100
1980-81	Nagjhari	3 3	135 150	855
1997-98	Kadra	3	50	150
1998-99	Kodasalli	3	40	120
Varahi				
1989-90	Varahi	2	115	230
1992-93	Mani	2	4.5	9
Others				
1992-93	Ghataprabha	2	16	32

1998-99	**Almatti**	**1**	**15**	**290**
Mini Hydel Projects				
1993-94	**Mallapur**	**2**	**4.5**	**9**
1992-93	**Sirwar**	**1**	**1**	**1**
1989-90	**Kalamala**	**1**	**0.40**	**0.40**
1993-94	**Ganekal**	**1**	**0.35**	**0.35**
Wind Projects				
	Kappadgudda	**9**	**0.225**	**4.44**
	Total			**4640.505**
Visheshvaraya Vidhyut Nigam Limited (VVNL) Projects				
	Total Installed capacity			**354.32**

Source: Corporate communications department of KPCL

Table—3.7

Profit and Loss Account (Rs. Crores)

INCOME	**2010-2011**
Sale of energy	4150
Other Income	473
TOTAL	4623
EXPENDITURE	
Fuel Consumption	2591
Administrative and others	552
Finance charges	549
Royalty on Power sold	45
Depreciation	451
TOTAL	4188
Profit for the year	435
Prior period adjustments	-252
Profit before taxes	686
Provision for taxes	
Current tax	141
Deferred tax	34

Fringe benefit tax	
Tax adjustment of previous year	-14
Profit after taxes	52

Table—3.8

Ratios

Debt.Equity Ratio	1.44:1
Current Ratio	9.95:1
Liquid Ratio	9.44:1
PBT to Sales (%)	16.54%
PBT to Capital employed (%)	18.54%
PAT to Net Worth (%)	11.82%

The total installed capacity of power and share of the KPCL is how in the Table-3.9

Table-3.9

TOTAL INSTALLED CAPACITY OF POWER IN KARNATAKA IN MW

Units	KPCL	VVNL	Central	Pvt.	Total
Hydel	3165.95	226.40	-	185.95	3578.30
Thermal	1470.00	127.92	840	911.90	3349.82
Wind	4.55	-	-	257.82	262.37
Total	**4640.50**	**354.32**	**840**	**1355.67**	**7190.49**

Source: corporate communications department of KPCL year-2008.

KPCL SHARE IN TOTAL INSTALLED CAPACITY OF POWER IN KARNATAKA

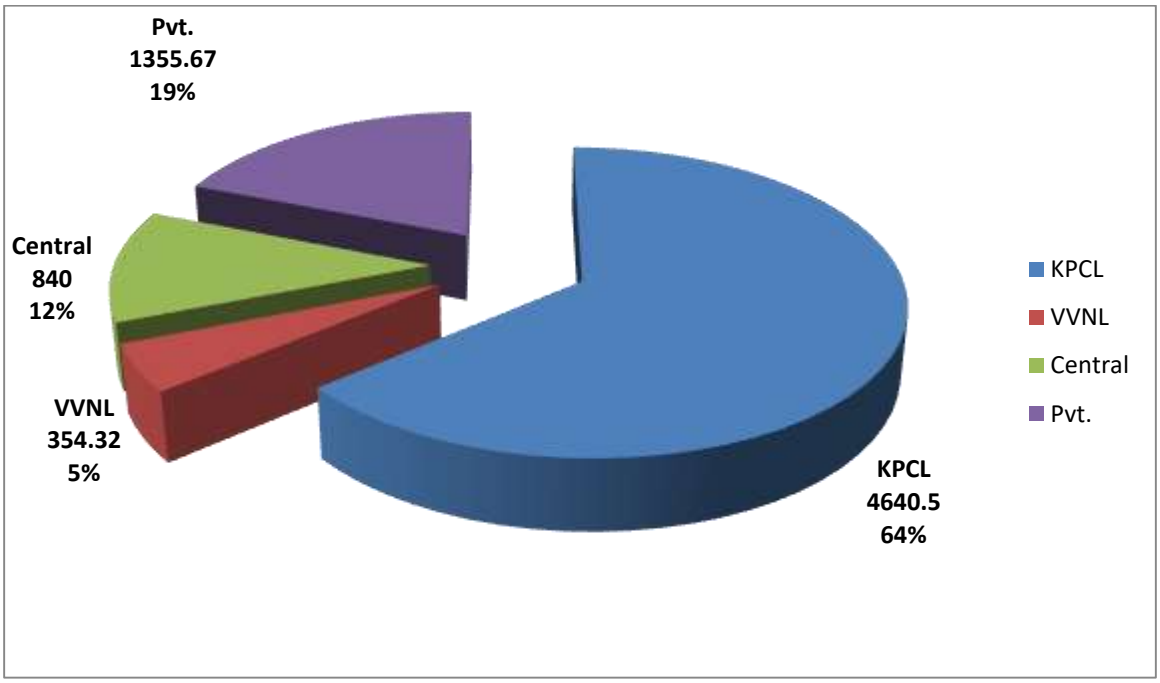


Diagram-3.5

Table 3.10

KPCL'S ON GOING AND NEW PROJECTS

SL.NO	Project	Capacity(MW)	Cost (Rs. In million)	Generation (MU)
1	Bellary Thermal Power Station	500	21000	3300
2	BTPS Satage-II	500	19610	3300
3	Bidadi Combined Cycle Plant	14000	37500	9800
4	Varahi Hydro Electric Project	230	3000	Peaking
5	Nagjhari Power House R & M	45	450	-
6	Gundia High Head Scheme	400	851	656
	TOTAL	3285	89,151	18,556

Source: Corporate communications department of KPCL.

Table-3.11

KPCL'S POWER GENERATION: A COMPARATIVE PERFORMANCE

Generation	2009-10	2008-09	2007-08	2006-07	2005-06
Thermal	13263	11717	10876	11484	9165
Diesel + Hydro + Wind	12757	13363	14737	15151	10724
Total	26020	25080	25613	26635	19889
Thermal Details					
Generation (MU)	13263	11717	10875	11484	9165
Aux. Consumption (%)		8.55	8.66	8.22	8.62
Plant Load factor (%)		67.90	84.45	89.18	71.17
Specific Coal Consumption (KG/KWH)		0.646	0.643	0.658	0.660
Specific Oil Consumption (ML/KWH)	0.455	1.770	0.741	0.742	0.668

Source: Corporate communications department of KPCL year-2008

AWARDS AND MERITS

2008-2009 - Karnataka Ratna Award By Government Of Karnataka For Best Overall Performance Among Psus

2008 - First Prize For Unit-6 Of Rtps - Best Safe Power Boiler From Director Of Factories And Boilers(37th Nsc)

2008-2009 - Bronze Medal For Varahi Hydro Electric Project For Best Performance

2008-2009 - Gold Medal For Varahi Hydro Electric Project For Early Completion Of The Project

2008 - First Prize From Ieema For Excellence For Sharavathi Generation Station

2007-2008 - Bronze Medal For Gerusoppa Dam Power House Third Best Performing Hydel Station

2006-2007 - Bronze Medal For Kodasalli Dam Power House(Kali) Third Best Performing Hydel Station

2005-2006 - Certificate For Varahi Hydro Electric Project - Best Performance In Hydel Station

2005-2006 - Certificate For Almatti Dam Power House Unit 6 Best Executed Project

2004-2005 - Certificate For Almatti Dam Power House Unit 3 Best Executed Project

2003-04: Gold shield & Certificate for outstanding performance-88.23%PLF.

2002-03: Gold shield & Certificate for performance-90.39%PLF.

2000-01 & 2001.02: Certificate & Silver shield for good performance

2000, 2002: Certificate for reduction in auxiliary consumption.

2001, 2002, 2003: Certificate for reduction in secondary fuel oil.

1999-2000: Rs. 22.82 lakhs for reduction in secondary fuel, oil, auxiliary consumption & high PLF of 81.52%.

1998-99 Rs.6.65 lakhs for cash reward & bronze medal for achieving high PLF of 81.65%

1998: Rs.9.94 lakhs for reduction in secondary fuel oil & auxiliary consumption

1997-98: Rs.9.22 lakhs for reduction in secondary fuel oil & auxiliary consumption.

1996-97: Rs.16.75 lakhs cash reward and shield for achieving high PLF of 70% & reduction in secondary fuel consumption.

1995: Rs. 6.10 lakhs for reduction in secondary fuel oil & auxiliary consumption.

1994: Rs. 6.10 lakhs for reduction in secondary fuel oil consumption.

1993: Rs. 12.5 lakhs for reduction in secondary fuel oil & auxiliary consumption.

1992: Rs. 16.88 lakhs for reduction in secondary fuel oil & auxiliary consumption.

1991: Rs. 9.26 lakhs for reduction in secondary fuel oil consumption.

1990: Rs. 14.48 lakhs cash reward & a gold medal for achieving high PLF of 78.59%.

1989: Rs. 10.00 lakhs for achieving high PLF of 72.99%

1988: Rs. 8.00 lakh for achieving high PLF of 66.3% for renewable energy.

1993: A rolling shield for best performance in renewable energy.

ACHIEVEMENTS OF KPCL

- Highest generation of 26635 million units (2006-2007).
- Highest thermal generation of 11484 million units 2006-07.
- Highest plant load factor (PLF) of 90.39% at Raichur Thermal Power Station (2002-2003).
- Highest capacity addition of 600MW, in 1999.
- Highest annual turnover of Rs. 3387 crores (2006-2007) commissioning of Unit-7 at RTPS in 25 months- A national record.

Table-3.12

PROJECT-WISE WORK FORCE IN KPCL AS ON 1ST APRIL 2009

Sl.No	Projects		Corporate	Non-corporate	Total
1	Register Office Bangalore		383	182	565
2	RTPS Shaktinagar		733	1349	2082
3	KHEP: I	Ambika nagar	136	376	512
		Ganeshudi	79	213	292
	GDPH:	Hidkal	13	23	36
	KHEP: II	Kadra	105	242	347
4	SVP	Jog	123	300	423
		Kargal	41	149	190
		Linganmakki	27	83	110
		Bhadra	12	45	57
	GERUSOPPA	Gerusoppa	54	95	149
5	VHEP	Masktikatte	23	104	127
		Hosangadi	106	273	379
6	ADPH	Alamatti	46	36	82
		Munirabad	09	06	15
7	BTPS: Bellary		235	204	439
8	Wind Mill; Gadag Kapatgudda		01	01	02
9	Mini Hydel: Gangavthi		03	06	09
	TOTAL		2129	3687	5816

Source: HRD Information KPCL, Bangalore.

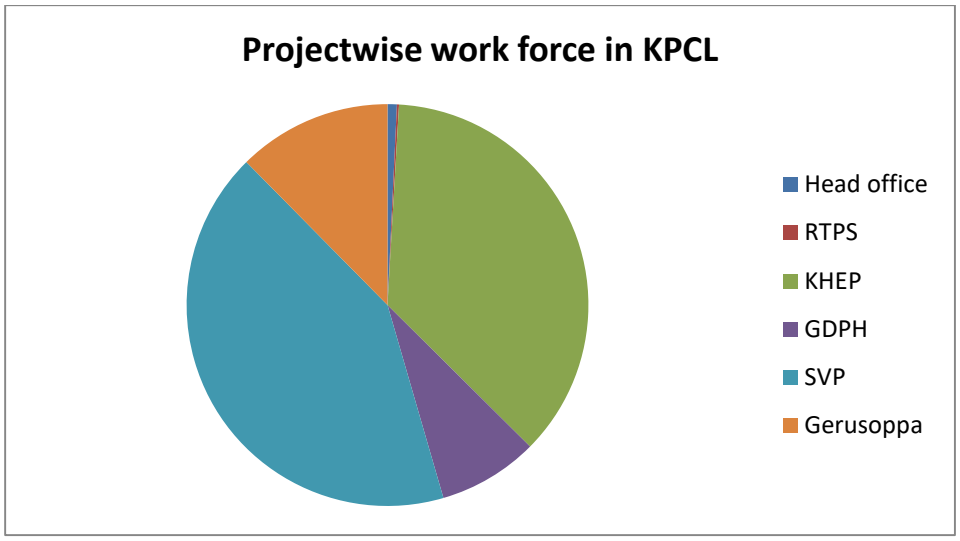


Diagram-3.6

The Power of Technology- KPCL forays.

KPCL has always believed in keeping pace with the latest technologies. To keep them operating efficiently and at maximum efficiency, even while increasing their capacity, KPCL has undertaken the renovation, modernization and uprating (RMU) of its power station in a phased manner.

The most advanced technology was utilized to uprate al the 10 units of Sharavathi generating station from 89.1 MW to 103.5 MW, there adding 144 MW capacity. Outdated rotary mechanical governors have been replacing by state of art digital excitation to aid the increased system stability.

In Nagjhari power house too, three units have been uprated from 135MW to 150MW and uprating of the remaining three units is ongoing. Additionally, a comprehensive, time bound plan has been finalized to modernize all old hydro stations. This plan envisions the setting up of sophisticated equipment and controls in all the stations by the year 2005.

KPCL also has the distinction of being the first state-owned utility in the power sector to have established computerized satellite communication network through very small aperture terminal (VSAT) among all its power stations and in Bangalore. The hi-tech VSAT network, called shaktinet was commissioned in June 1997.

The power to move in to new directions

KPCL's consultancy and engineering services division, as off short of its core competency, offers its clients a wide range of high quality services in different aspects of power project development. This includes:

- Feasibility studies and preparation of details project reports.
- Design, engineering procurement and construction services related to thermal and hydel power stations, including handling of international competitive bids.
- Project management from project scheduling to preparation of final invoice and certification.
- Supervision of erection, commissioning and operation of civil, electrical and mechanical systems and equipments.
- Operation and maintenance services, including rehabilitation of dams in distress, renovation, modernization and uprating of hydro stations and overall generation management.

The power to give back to Mother Nature

The modern civilization is looking for sustainable development, which in real sense means improving quality of human life, and much depends on healthy environment. Development cannot be achieved at the cost of strengthening of environment destruction, ecological imbalance and human health, at any time, Sustainable development has little value without environment protection.

Keeping this in mi, KPCL is stringently adhering to its comprehensive environment action plan that covers systematic strengthening of environment management, pollution monitoring at power stations and implementation of specific environment projects.

Every time KPCL implements a new project, it undertakes a comprehensive environmental impact study to examine the impact of the proposed project on the environment. It is also prepares an environmental management plan complying with all the conditions stipulated by Karnataka State Pollution Control Board (KSPCB)/ Ministry of Environment and Forestry (MOEF).

In order to maintain aqua-balance in reservoirs constructed for power generation, fish fingerlings, have been let in. Apart from developing fisheries in reservoirs, KPCL also undertakes eco-friendly techniques like controlled blasting; constructing colonies with least destruction to ecology, installation of electro static precipitators in thermal plants etc., and particular care is also taken to minimize pollution.

Power for the future

KPCL took the lead in mapping potential sites for non conventional energy sources such as mini hydel location and windy spots, KPCL established pilot mini hydel and wind projects of 10.75MW and 4.5MW respectively. This endeavor and the data base created, as facilitated significant participation by independent power producers in their areas. Today, a capacity of over 150MW in Hydel and 100MW of wind projects have been possible in Karnataka.

A bright, powerful ad promising future

The Karnataka government has initiated a reforms package in the power sector to improve viability and customer standards. The appointment of an independent regulator is expected to usher in greater transparency, efficiency and accountability in the working power utilize like KPCL. KPCL recognizes the changing environment as part of a global movement and has geared itself to be market driven and customer-friendly, meeting the expectations of all stakeholders.

The power of people

The corporate office at Bangalore has the project offices have management councils, comprising senior and middle level executives. These councils focus on policy matters. The emphasis is on accountability, control and achievement of goals at all levels throughout the corporation.

Dedicated core group and committed teams for project management, materials management, operation and maintenance, financial management and human resource management work in synergy to achieve the highest industry standards in their respective areas.

Professionalism continues to be dormant ethos at KPCL. The operational freedom it offers, the on-going training programs those constantly upgrade skills, the welfare amenities that it provides, make KPCL one of the most sought after government organizations by professionals of KPCL are sought on deputation by many public sectors proves this point. This model employer strives to promote a work culture that brings out the best in its people. Employee participation in decision-making is actively encouraged. The employee employer relationship at KPCL is one of the best in the state. Employee unions and associations full back up the KPCL management philosophy. Regular training programs both in India and abroad give the engineering cadre a global perceptive in power generation. Senior executives participate in management development programmes. In fact, KPCL has separate training centre to meet the raining needs of its people.

Multi skilling and structure kill development programmes are effectively put in to action to upgrade the skills of employees to meet future requirements. Deputation to higher studies is another step in this direction. KPCL has also structure a selective voluntary retirement scheme (VRS) in right sizing its work force.

PROFILE OF THE RAICHUR THERMAL POWER STATION

NIGHT VIEW OF RTPS

Photo-3.8

COOLING TOWERS, RTPS PHOTO—3.9

Raichur Thermal Power Station (RTPS) is one of the successful mega organizations of the Govt. of Karnataka. This project is the first thermal power project in Karnataka state. The RTPS consists of 7 units of 210MW each total of 1,470MW of production per day.

After thorough investigation and finding the site suitable for the construction of thermal plant foundation stone was laid by the then honorable president of India Sri. Neelam Sanjeeva Reddy on 18th of January 1980. The construction and errection work of 1st stage consisting of 2 units started in the ear 1978-79 and commissioned in the year 1985 and successive 3 units were commissioned in the year 1986,

1991 and 1994 respectively. Other 2 units 5th and 6th were constructed and commissioned during the year January 1999, July 1999 respectively.

The RTPS is situated at a distance of 18 KMS Raichur town on the right bank of river Krishna near Edlapur. The projects cover an area of 3,146 acres of land and are in the vicinity of Madras-Bombay broad gauge railway line, and on the right side of Raichur-Hyderabad highway.

The factors which influence to select the above site for setting up of thermal plant are:

1) Nearer to fuel (coal) available are i.e. Singrani collieries and western coal Ltd. Located at about 550Kms.

2) Water facility: Required water will be drawn from river Krishna flowing adjacent to the site.

RTPS ranked one among the top ten stations in the country; RTPS as it is well-known is a coal-based power station that generates on an average 32 million units per day from seven units of 210MW each. The first four units were commissioned between 1978 and 1994. In 1999, units 5th and 6th of 210MW were commissioned in 28 and 34 months respectively.

RTPS heralded a new beginning in the implementation of thermal power projects. The pace and success of units 5 & 6 motivated KPCL to further expand by adding unit-7. These 210mw units synchronized to grid in just 25 months created a new national record in the history of RTPS implementation.

The annual generation is around 10,000 Million Units (approximate) and around 76 lakh metric tonnes (MT) of coal are received every year.

RTPS-Geographic location

Geographically RTPS is established at Shaktinagar, 18km. from Raichur town on the right bank of river Krishna, which is connected by the Chennai-Mumbai railway line for connectivity to different collieries.

Water requirement of the project is met from the river Krishna and the coal required for the plant is supplied from various mines of Andhra Pradesh, Maharastra, Chattisgarh and Orissa through rail.

Table-3.13

RTPS-DETAILS OF LAND ACQUISITION

Deosugur Village	2010 Acres
Yedlapur Village	945 Acres
Karekal Villae	191 Acres
Total	**(1274 Hectares)**

Table-3.14

ALLOTMENT OF LAND FOR DIFFERENT ACTIVITIES IN RTPS

Plant area	1324 Acres
Ash pond area	1164 Acres
Township	547 Acres
Rehabilitation centre	111 Acres
Total	**3146 Acres**

Source: Karnataka Power Corporation Ltd., book let for commencement of work unit-8(250MW) RTPS

Table-3.15

TOTAL INSTALLED CAPACITY OF RTPS

Unit 1	210 MW	March 1985
Unit 2	210 MW	March 1986
Unit 3	210 MW	March 1991
Unit 4	210 MW	September 1994
Unit 5	210 MW	January 1999
Unit 6	210 MW	July 1999
Unit 7	210 MW	December 2002
Unit 8	250 MW	April 2010

Source: Karnataka Power Corporation Ltd., book let for commencement of work unit-8(250MW) RTPS

Coal requirement/ supply

- Daily coal requirement; 21,000 MT on an average.
- Annual coal requirement; 76 lakhs MT on an average.
- Sources: M/s SCCL, Andhra Pradesh, M/s. WCL, Maharashtra, M/s ECL, Chattisgarh and M/s MCL, Orissa.

RTPS Generation

- RTPS daily Generation: 32MU.
- Contribution from RTPS: 35 to 40% to the state grid (Approximate).
- RTPS annual generation: 10,000 Mu (Approximate).

YEAR-WISE PERFORMANCE OF RTPS

SL. NO.	Particulars	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
1	Generation in MU	11393	10730	9165	11484	10875	10519
2	Plant load factor %	88.23	83.33	71.17	89.18	84.22	81.68
3	Plant Availability %	89.78	88.12	89.12	93.25	89.65	95.26
4	Aux consumption	8.49	8.68	8.63	8.22	8.33	8.66
5	SP coal consumption (Kg/Kwh)	0.618	0.647	0.653	0.656	0.661	0.643
6	Special Oil Consumption (ml/Kwh)	0.739	0.602	0.735	0.444	0.712	0.741
PLF-National Average 72.7% CEA norms for 210MW units - 80% Auxiliary consumption - 9.0% Special Oil consumption 3.5 ml/Kwh							

Source: Karnataka Power Corporation Ltd., book let for commencement of work Unit-8 RTPS

Table-3.17

FLY ASH MANAGEMENT IN RTPS

Ash Generation From Seven units per day	7000MT
Bottom Ah (daily)20%	1400MT
Fly Ash (daily)80%	5600MT

Source: Karnataka Power Corporation Ltd., book let for commencement of work Unit-8 RTPS

Action taken for utilization of Fly Ash

- Free issue of Fly Ash for small industries and for agriculture use.
- Supply agreement with cement manufacturers to lift 9.5 MT per year.
- A society named Centre for Ash Utilization Technique (CASUTEC) formed to encourage fly ash utilization in manufacture of bricks, blocks, pavers, mosaic tiles, pavements construction and in agriculture use.

Afforestation activities around RTPS

- Afforestation started during 1985.
- From 1985 to 2001 total plantation: 1,93,700 (200 hectares, 986 trees per hectare)
- The MOEF has insisted to increase the density of trees from present level to 1500-2000 trees per hectares.

Objectives of RTPS

1) Capacity creation
2) Improvement and training and development
3) Reliable and quality supply
4) Power supply at minimum possible lost.

Records of awards

Raichur super thermal power station has its own records of meritorious awards, gold medals and records of certificate from Govt. of India.

1) Raichur Thermal power station has been awarded for productivity at the national level and more production from Govt. of India.
2) Productivity awards at the national awards and received cash prizes.
   a) Rs.8 lakhs for achieving the highest plant load factor (PLF) of 66.30% in 1988.
   b) Rs.10 lakhs in 1989 for achieving plant load factor of 72.98%
   c) Rs.14.48 lakhs in 1990 for achieving plant load factor of 78.59% along with gold medal
3) The Raichur thermal power station has bagged the national awards for the year 1994 for consuming the least quantity of heavy fuel Rs.8 lakhs.
4) The 1995 awards for achievements related to Raichur Thermal plant functioning are to be announced by the Union Govt.
5) For minimum consumption of fuel, The Govt. of India have sanctioned prize of 6.10 lakhs to Raichur thermal power station.
6) Achieving plant load factor (PLF) of 75% for 1995-96 for the entire Raichur thermal power station has won the President's Gold medal.

Table-3.18

WORK FORCE IN RTPS

Cadre	**Work force in RTPS**		
	Male	**Female**	**Total**
Corporate	1232	191	**1423**
Non-Corporate	697	74	**771**
Total	**1929**	**265**	**2194**

Source: HRD Information of RTPS

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