



Current Waves

ELECTRICAL CONSULTANTS ASSOCIATION BANGALORE

VOLUME I - ISSUE 1

www.elcaindia.com

OCT - DEC 2002

From the President of ELCA...



It is my privilege and pleasure to address you in the first newsletter CURRENT WAVES of Electrical Consultants' Association.

ELCA, as far as I know, is the first and the only organisation of its kind in India. It was formed with the prime objective to emphasise, insist and implement safe electrical installation practices in the projects. I am proud that, to a good measure, we have achieved the above objective. This was possible only with the active involvement of the architects, clients, electrical consultants, electrical contractors and the department of electrical inspectorate.

The only route to achieve the safe electrical installation practice, is for the end user to employ the services of a professionally qualified, experienced and competent electrical consultant and implement his professional advice, and the consultant on his part to achieve the safe practice by insisting on the use of genuine quality materials and superior workmanship from the electrical contractor.

This practice will go a long way in reducing considerably the needless, avoidable, fatal and crippling electrical accidents that are taking place daily across our country and in increasing the uptime of the industries.

There is a general misconception, that an electrical consultant is an additional cost to the project. But the reality is that a competent electrical

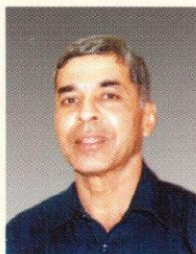
consultant will save the client much more than he will cost him.

I hope that a day will come soon when the services of electrical consultants will be made mandatory by the appropriate authorities, as is in vogue in advanced countries, for all projects, for the benefit of the country, clients and indeed the mankind.

Thank you and wishing you a happy, prosperous and safe New Year.

B. K. Charan Dev

A note from the editor



Since the inception of our Association, ELCA, in 1990, it was our ambition to publish a newsletter to spread our messages on safe electrical installation practice, electrical safety and electrical energy conservation to the consumers of electricity all over India.

I am glad that, on Thursday, 30th January 2003, the inaugural issue of our newsletter CURRENT WAVES was released and our website www.elcaindia.com was launched in Bangalore. CURRENT WAVES, a quarterly, will be mailed to electrical business houses of all sizes and categories and the professionals all over India. The inaugural issue, as an introduction, mainly features ELCA - covering objectives, events conducted, members, messages etc.

INAUGURAL ISSUE

It is my aim to make CURRENT WAVES an interesting newsletter with value addition and useful information. I look forward to contributions from the readers by way of technical articles, titbits, real life case studies and experiences in the field of electrical engineering and snippets on lighter side of life. I welcome feedback from the readers to make my aim a reality.

Well then, thanks for sparing your time for CURRENT WAVES, happy reading and happy New Year.

J. D. Krupakar

ABOUT ELCA

Electrical Consultants' Association (ELCA) was founded and registered in 1990 at Bangalore by a group of consulting professionals actively involved in the field of electrical consultancy.

ELCA was formed with the following main objectives:

1. To create an awareness amongst the electricity consumers towards a better and safer quality of electrical installation.
2. To provide a platform for interaction between the manufacturers and the end users by way of arranging technical seminars, workshops, exhibitions etc.
3. To take up such technical aspects with the statutory authorities as are relevant for a proper and safe installation, considering the present trends in the design of the systems and development of electrical products.

4. To promote professional approaches to electrical consultancy and highlight the benefits to clients arising from competent consultants.
5. To keep abreast with the latest developments in technology, new products and processes.

ELCA is a body having several experienced and recognised consulting professionals as its members. Many of its members have been associated with prestigious electrical projects in the public and private sectors.

As a part of the above objectives, ELCA organised & conducted the following events:

A workshop, in 1994, in Bangalore, on MCB Distribution Boards and their installation practice, in memory of Late Sri C. A. K. Murthy of SANELAC Consultants (P) Ltd, Bangalore.

An interaction meet, in 1994, in Bangalore, with the members of the Indian Institute of Architects - Karnataka Chapter - to highlight the technical features of electrical installations.

'ELEX 95', in the year 1995, an Exhibition of Electrical Industrial Products, at Holiday Inn, Bangalore.

In 1996, a one-day seminar on 'Captive Power Generation' at The Taj West End, Bangalore.

A one-day Seminar on 'Fire Safety and Protection', on 27th August 1999, at Le Meridien, Bangalore.

ELEX-2000, an Exhibition Cum Seminar on Electrical Industrial Products, from 14th to 17th April 2000, at Le Meridien, Bangalore

'Electrical Safety Programme', with exhibition and seminars, in technical association with the Department of Electrical Inspectorate, from 13th to 19th September 2001, at Sree Kanteerava Indoor Stadium, Bangalore.

A one-day Seminar on 'Electrical Energy Conservation', on 9th August 2002, at The Atria Hotel, Bangalore.

A one-day Seminar on 'Art & Science of Illumination', on 21st September 2002, at The Atria Hotel, Bangalore.

EVENTS AT A GLANCE



Inauguration of Electrical Consultants' Association (ELCA) on 15th December 1990 at Hotel Windsor Manor, Bangalore. Mr. R. Narasimha Murthy, Chairman, Karnataka Electricity Board, seen lighting the lamp to mark Inauguration.



A section of invitees at the Inaugural function of ELCA.



Mr. Vasanth Salyan, Minister for Ports & Fisheries, Government of Karnataka, Chief Guest, lighting the lamp to inaugurate the Workshop on MCB & MCB Distribution Boards & Cabling, on 5th August 1994 at St. Mark's Hotel, Bangalore.



A section of participants at the Workshop.



ELEX-95: An exhibition of Electrical Industrial Products was held from 15th to 17th September 1995, at Holiday Inn, Bangalore. Mr. R. V. Deshpande, Chief Guest, Minister for Large & Medium Scale Industries, Government of Karnataka, seen delivering the Inaugural speech.



Mr. M. K. G. Pillai, Director General, Central Power Research Institute, Bangalore, addressing the gathering, during ELEX-95.



Mr. K. L. Ramesh, President, Federation of Karnataka Chambers of Commerce and Industry, Bangalore addressing the gathering during ELEX-95.



Mr. R. V. Deshpande, Chief Guest, opening the exhibition ELEX-95.

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The Chief Guest visiting the stalls.



Dr. A. Ravindra, IAS, Managing Director, Karnataka Urban Infrastructure Development & Finance Corporation, Government of Karnataka, delivering the key-note address, during the inaugural function of Fire Safety & Protection Seminar.



Mr. R. Sathiyabal, B.E., F.F.I.I., D.I.S., Insurance, Fire Protection & Risk Management Consultant, Chennai, delivering speech on 'Industrial electrification-Fire hazards and Fire protection' during the seminar.



A section of invitees, stall holders during the inaugural function of ELEX-95.



Mr. Moiez Ahamed, Senior Instructor, R.A. Mundkur Fire Service College, Government of Karnataka, Bangalore, delivering speech on 'Fire due to Electricity' during Fire Safety & Protection Seminar.



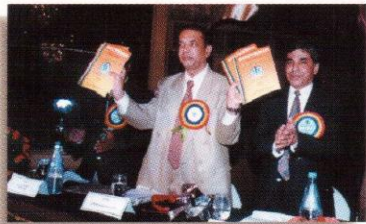
A section of stalls on Fire safety Products displayed during Fire Safety & Protection Seminar.



Dr. K. Sreenivasan IPS, Chief Guest, Director General of Police, Director of Fire Services, Government of Karnataka, lighting the lamp to inaugurate the one day seminar on Fire Safety & Protection, on 27th August 1999, at Le Meridien, Bangalore.



Mr. B. G. Changappa, Deputy Director (Technical), Karnataka State Fire Services, Bangalore, presenting 'Fire prevention and Fire fighting requirements in highrise structures' during the Seminar



Mr. K. Krishnamurthy Naik, B.E., F.I.E., Chief Electrical Inspector to Government of Karnataka, releasing the Souvenir during the inaugural function of Fire Safety & Protection Seminar.

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Current Waves

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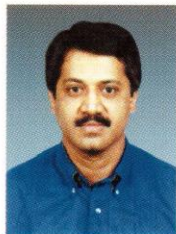
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Er. K.B. Shashiraj B.E.(Electrical)
Dy. Electrical Inspector, Bangalore.

Electricity-a friend and a foe

It gives me a deep sense of satisfaction to learn that a newsletter on matters of electrical safety and conservation is being brought out by ELCA, which is very much needed with the present day dependency on electricity.

The impact of electricity and its use in the modern times is phenomenal. Electricity has come to be a part of our daily life and its importance is felt most when there is a power failure. Although modern science has come out with alternatives in the event of power failure, the same is only a stop gap. The alternatives again depend on the resumption of power, to charge the batteries etc. to be an effective standby.

So intense is the need for electricity, that its use has been largely negligent. While the above negligent acts have resulted in breakdowns of machinery and equipment, it has also brought about catastrophes in the form of electrical shocks, fires and deaths.

Starting from generation of power to the utilisation by domestic, commercial and industrial consumers, safety has to be ensured all through, for reliable operation. It is needless to add that as a first step towards electrical safety, the end user requires to be supplied with quality and safe power. Although the industrial and commercial consumers are comparatively better informed of the need for the safety and the rules associated with it, the common public cannot be expected to be completely aware of the same. In this context, it may be worthwhile to bring about awareness among common public regarding some

of the provisions of the rules and regulations and also educate them through this newsletter on the dangerous aspects of electricity and how it could be avoided. Again, it is upto every individual to constructively use electricity or control the destructive face of electricity. The friend it is, in our daily life, unfortunately, it strikes without warning. Because of this characteristic nature, it has to be treated with respect and care to ensure that electricity becomes a slave and not a master.

The department of electrical inspectorate which functions as a watchdog to administer the various electricity acts and rules, is primarily responsible to ensure that safe electrical power is generated, transformed, transmitted and utilised. In the course of administering the acts and rules, the primary objective of the department is to ensure that electrical accidents are prevented at all costs.

However, electrical accidents do occur, which are investigated and reported to the government by the department of electrical inspectorate. Hence it also means that merely implementing the acts or rules, would be of no use, unless every individual is educated on the perils of unsafe handling of electricity in his/her own field.

While the department of electrical inspectorate strives to educate the public, a few provisions of rules and its implications are enumerated in this article for general information of common man.

Merely administering the acts or rules would be a futile exercise unless the accidents are prevented in all walks of life, by applying one's mind, since he or she alone can practise safety to prevent accidents.


Statistics indicate that 1000 to 1200 electrical accidents occur in the state of Karnataka in a year. However, the most disturbing fact is that about 300 to 350 human lives are lost every year. It is all the more appalling that about 25 to 30 workmen of electricity supply company lose their lives on account of electrical accidents.

Being a part of the department of

electrical inspectorate, we have the first hand feel of electrical accidents, the after effects on the victim and the next of kin. Needless to add here that we are eager to share our experience and knowledge with common man to save precious lives and properties. The number of electrical accidents in India amounting to a spine chilling figure of around 12000 per year should wake up every electrical engineer. Analysing the electrical accidents in the state of Karnataka, we find that the total number of electrical accidents is very large compared to other states, and this requires immediate attention of all concerned. It is a matter of grave concern that the total number of fatal electrical accidents is next only to the road accidents. Further, the fact that on an average one person amongst us succumbs to an electrical accident every day, requires immediate attention.

There are many reasons for electrical accidents. While primarily it can be attributed to lack of awareness, especially in rural areas where maximum number of animals and human lives are lost on account of snapping of conductor and consequent contact with the same, these can be prevented by effective implementation of rules. While the system - the supplier, the law enforcing authorities and the general public could be held responsible for the loss of lives and properties on account of electrical accidents, the fact that the distribution networks have grown in unplanned and unmanageable manner should also be taken into account. Although the extension of LT lines far and wide has contributed to the snapping of conductors, the fact remains that the concerned agencies have not been able to comply with the safety requirements. On one hand the haphazard laying of the lines and equipment has contributed to the electrical accidents and on the other hand, the lack of protective devices has also contributed to a number of accidents. While the maintenance of transformers and distribution lines has become very difficult, because of remote locations and shortage of staff, the handling of the same by unauthorised persons has also contributed to many accidents. Further the trees grown in the vicinity of the lines have contributed to a number of accidents on account of maintenance shortcomings in the form

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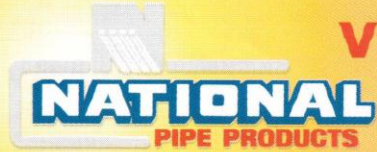


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YEAR OF ACCIDENT	FATAL		NON FATAL		FATAL	TOTAL
	DEPT.*	NON DEPT.	DEPT.	NON DEPT.	ANIMALS	
1990 -1991	21	163	308	133	268	893
1991 -1992	51	217	333	89	348	1038
1992 -1993	40	205	276	90	315	926
1993 -1994	31	253	207	114	287	892
1994 -1995	37	194	240	90	256	817
1995 -1996	44	187	215	105	371	922
1996 -1997	29	190	224	100	278	821
1997 -1998	48	211	217	95	325	896
1998 -1999	44	252	223	160	401	1080
1999 -2000	23	261	192	151	386	1013
2000 -2001	25	309	225	194	439	1192

* DEPT. - Electricity Supply Company

of pre monsoon trimming. The above shortcomings could be to a large extent countered by avoiding the long LT lines by replacing the same by HT lines which has a better back up protection.

It is a matter of concern that many lives are lost in the supplier organisations, more on account of negligence and over confidence. The line crossings, mal-operation of the operating blades/limbs in RMU/DP structure/breakers along with lack of fool-proof line clearance practices have increased the electrical accidents.

The most touching and gruesome electrical accidents have been to the children, that too in the cities. Although the prevailing rules have largely checked the unsafe growth, we still find buildings at unsafe distances from the lines causing atleast a dozen of accidents every year involving children. Further, though the laws prevent the construction of buildings near the lines, the additions and alterations to the existing buildings have by and large accounted for the unsafe clearances, which have caused electrical accidents.

The next major reason for electrical accidents is on account of the non-standard practices being followed at industries, commercial establishments and residences. Usage of spurious

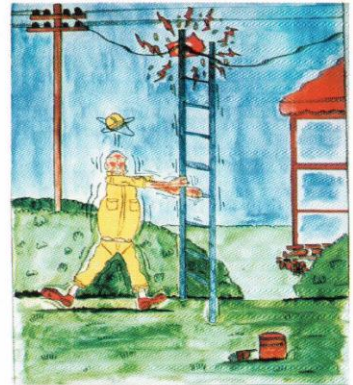
materials like switches, wires, motors etc. have also largely contributed to the electrical accidents in the form of fire and loss of life. Many a time the electrical materials available in the free market being substandard, sell solely on the cost saving basis, thereby endangering safety. With this backdrop in mind the common man should take precaution by consulting a specialist to prescribe and select the right kind of equipment, materials and electrical ware. It will not be out of place to mention that the work be entrusted to an authorised person so that he is able to take care of the safety of the equipment and the installation. It should be remembered that a few rupees saved by compromising safety might cost very dearly later. It will be pertinent to mention that it is mandatory on the part of any person to have all the electrical work executed only by an electrical contractor who is licenced by the department of electrical inspectorate. It would be relevant here to state that the execution of electrical works by a non licensee would amount to violation of Karnataka licencing rules and violation of Rule 45 of Indian Electricity Rules 1956.

The safe clearances for buildings are as follows:

	Low/ Medium voltage lines	upto 11kV lines	above 11kV upto 33kV	Extra high voltage
above the building/ structure (vertical clearance)	2.5 m	3.7 m	3.7 m	3.7 m plus 0.3 m for every additional 33kV
adjacent to the building/ structure (horizontal clearance)	1.2 m	1.2 m	2.0 m	2.0 m plus 0.3 m for every additional 33kV

The rules also provide for shifting the lines as certified and directed by an electrical inspector to a safe distance subject to remittance of the cost involved, by the person who requests shifting of lines.

It is upto all of us to work earnestly towards achieving the goal of minimal electrical accidents by following safety measures.



DOs in electricity

- Always use wires/cables/switches with ISI mark and of approved quality.
- Use an appropriate MCB to limit the load.
- Install an ELCB/RCCB to avoid fatal shock.
- Get an electrical installation effectively earthed as per standard earthing practice.
- Frequently water the earth electrode to maintain the least soil resistivity.
- Periodically check the earth resistance and the earth lead for its continuity.

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WELL-WISHERS



S.M. KRISHNA
CHIEF MINISTER



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DATED: 02.01.2003

MESSAGE

Electrical Consultants' Association (ELCA) an Association of practicing electrical consultants in Bangalore has been playing a pivotal role in enlightening the practicing electrical consultants in the areas of electrical safety, electrical energy conservation etc and I am glad that the Association is bringing out its News Letter namely "Current Waves" and launching Website to further its objectives.

I send my greetings and best wishes on the occasion and hope that the News Letter "Current Waves" would come off colorfully with useful articles on electrical engineering, electrical safety and energy conservation and allied subjects.

S.M. Krishna
(S.M.KRISHNA)



R.V. DESHPANDE
MINISTER FOR LARGE AND MEDIUM INDUSTRIES



TELEPHONE : OFF : 2252834
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FAX : 2252876
HOME OFFICE : 2252207
VIHARA SOUDA, BANGALORE-1
DATED: December 26, 2002

M E S S A G E

I am extremely glad to note that the Electrical Consultants Association is bringing out a newsletter "Current Waves" which would carry technical articles on electrical engineering, electrical safety, energy conservation and other related issues. At the outset, I complement the Electrical Consultants Association for the bold initiative.

Industrialisation has been recognized as one of the most important tools for economic development of a nation. Electrical power is undoubtedly the most important input for the industrial sector. In fact, economic well being of a nation is measured in terms of per capita power consumption. Electrical power plays a predominant role in all walks of life, including rural areas in agricultural sector. While electrical power plays a dominant role in furthering activities, proper knowledge about its danger and misuse are also equally important, otherwise the same may lead to accidents, which could some times be fatal.

Further, to meet the ever increasing demand for electrical energy we are consuming the natural resources, be it fossil fuel, petroleum reserves, hydro potential, etc. With the ever-increasing demand for electrical power these natural resources are getting depleted fast. In this context, conservation of energy is perhaps more important than generation.

In the above context, the initiative taken by the Electrical Consultants Association to bring out "Current Waves" on all aspects concerning electrical power is very appropriate and desirable. I am sure the Association would devote attention to all aspects of energy and suggest policy initiatives and also conservation measures from the consumers' angle.

I wish that "Current Waves" meets the requirement of all sections of the society and spreads the message to a wide cross section of the society.

I wish the newsletter all success.

R.V. Deshpande
(R.V. DESHPANDE)

R. ROSHAN BAIG
MINISTER FOR SMALL SCALE INDUSTRIES & HAJ



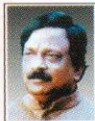
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VIHARA SOUDA, BANGALORE-1
DATED: 26.12.2002

MESSAGE

I am delighted to know that Electrical Consultants Association is bringing out a quarterly news letter "Current Waves" to disseminate relevant information including the articles on electrical engineering, electrical safety and electrical energy conservation. I trust this news letter will dwell on current issues such as Regulator's role in electricity generation, transmission and distribution apart from stressing the need for electrical safety alongwith electrical energy conservation. In this information age, it is of utmost importance to keep abreast of the latest technological developments and the happenings all around. I hope this news letter will bridge gap between the services providers and consumers.

It is also heartening to note that the Association is also launching its Website which will go a long way in providing information to both Indian and NRIs across the globe.

I wish all success to the Association in its endeavour to provide relevant information on both technical and non-technical electrical items.



R. Roshan Baig
(R.ROSHAN-BAIG)
Minister for Small Scale Industries and Haj

BASAVARAJ PATIL
MINISTER OF STATE FOR ENERGY



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VIHARA SOUDA, BANGALORE-1
DATED: 22/12/2002

No. : PROCEED : 395 / 2002

MESSAGE

Electrical Consultant's Association has been the forum for discussion, consultation, innovation to adopt to the changing times. The association has been conducting Lectures & Seminars, annually on all aspects concerning electrical industry. This has benefited the association members and consumers. It is heartening to know that the association releases its inaugural newsletter, "CURRENT WAVES", and launches the website "www.elcaindia.com" on Friday, 17th January 2003, in Bangalore.

I hope that the news letter which will be circulated through out India, will be of help to all those who are in one way or the other concerned with Electrical Industry.

I wish the function all success.



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WELL-WISHERS



MESSAGE

I am happy to know that Electrical Consultants' Association is 12 years old and has done tremendous work in field of Electricity by organizing trainings, workshops and seminars in the field of electricity. I am also pleased to note that the association is launching its web site and releasing its inaugural newsletter 'CURRENT WAVES' which will carry technical articles on Electrical engineering, safety and Conservation.

I wish the association all success in their new endeavor.

K.N. Shrivastava
K.N. SHRIVASTAVA
 Managing Director, KPTCL
 & Chairman ESCOMS.



BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED
 (wholly owned Government of Karnataka Undertaking)

P.B. RAMAMURTHY, IAS
 MANAGING DIRECTOR.

DATE: 18.12.2002

MESSAGE

I am indeed very happy to know that the Electrical Consultants' Association (ELCA) is releasing a quarterly newsletter commencing from January 2003. The inaugural newsletter with caption 'CURRENT WAVES' is being released on Friday 17th January 2003. Apart from this, their website is also being launched.

I am sure that the quarterly newsletter will bring in awareness among all the concerned in respect of Electrical Engineering, Electrical Safety and Electricity Conservation.

It is learnt that Electrical Consultants' Association is conducting workshops, interaction meetings, seminars etc., on all electrical engineering related issues. It is heartening to note that they are keen in spreading electrical safety and electrical energy conservation among the public.

I wish Electrical Consultants' Association (ELCA) all the success in their endeavor in making the quarterly newsletter an informative one.

P.B. Ramamurthy
P.B. RAMAMURTHY,
 MANAGING DIRECTOR

೨೨೦೮
 2 January 2003



ಕರ್ನಾಟಕ ವಾಣಿಜ್ಯ ಮತ್ತು ಕೈರೋಟಿಕ್ ಚೇಂಬರ್ಸ್ ಒಕ್ಕೂಟ
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This has reference to your letter No. ELCA/NL/WS/01 dated 05 December 2002, seeking a message from Sri K.N. Jayalingappa, our President on the occasion of the release of your newsletter, "CURRENT WAVES". Sri Jayalingappa has the following message:

Quote:
"I have great pleasure extending my best wishes to the current release of the inaugural issue. I am sure the newsletter will be of great use to the electrical consultant community in conveying the latest developments on the electrical industry, particularly in the area of technology, safety and energy conservation and also practical non-technical matters. I wish the ELCA all success in this endeavor."

Unquote
 We are really sorry for the delay in sending this to you.

Thanking you,
 Yours faithfully,
T. Ramakrupa
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ROLE OF CONSULTING ENGINEERS IN PROJECT IMPLEMENTATION (reproduced)



Mani Samuel B.Sc. (Engineering)
Procon Engineers, Bangalore

Consulting engineer has a very important role to play in the successful completion of any project. He is concerned with three specific aspects of project implementation viz. technical, financial and management.

The most important responsibility of a consulting engineer is to provide competent and appropriate technical advice. For this, he depends on the technical education that he has undergone, coupled with the practical experience of many years he has been in the field of project engineering. More often a purely theoretical solution has to be tempered with a practical approach, arising out of the experience. This brings out the utmost importance of experience in the successful practice of consultancy services.

It is very important that consulting engineers keep abreast with the latest technological developments and new products/processes introduced in the field of his specialisation. Books, periodicals, product catalogues, technical seminars etc. provide the necessary inputs.

The best technical solution need not be satisfactory if the cost attached to it is exorbitant. This aspect is often overlooked and sometimes resented by consulting engineers. However, it is to be borne in mind that the business/project to which advice is given has to operate in a fiercely competitive market and the cost of the final product depends on the cost of the project/capital equipment that is required to be put up. It is the responsibility of the consulting engineers to project a realistic cost estimate so that adequate financial budgets are provided for execution of the work. In case of any revision necessitated by changed requirement/process during the execution stage, cost revision should immediately be intimated to the authorities for necessary sanctions.

Project management is an important role of consulting engineers. In India, unfortunately, project management practices are usually not followed seriously. The reasons for it are many: lack of adequate technical staff from contractor's side etc. However, the usefulness of project management techniques cannot be ignored. As a key agency responsible for execution of the job, consulting engineers can influence adoption of project management techniques in the construction industry.

In all the above aspects, role of consulting engineers is complementary to the staff from the clients side. Success or otherwise of consulting engineers in project execution depends largely on the accuracy of inputs from the owners/users and the support he receives from them.

WHO IS WHO in KARNATAKA STATE

- | | |
|---|---------------------------------|
| 1. Governor | Mr. T. N. Chaturvedi |
| 2. Chief Minister | Mr. S. M. Krishna |
| 3. Minister for Large and Medium Industries | Mr. R. V. Deshpande |
| 4. Minister for Small scale industries & Haj | Mr. Roshan Baig |
| 5. Minister of state for energy | Mr. Basavaraj H. Patil |
| 6. Minister for Information Technology | Mr. D. B. Inamdar |
| 7. Principal Secretary, Energy Department | Mr. K. P. Pandey, IAS |
| 8. Joint Secretary, Energy Department | Mr. M. Lokaraj |
| 9. Chairman, Karnataka Electricity Regulatory Commission | Mr. Philipose Matthai, IAS |
| 10. Managing Director, KPTCL | Mr. K. N. Shrivastava, IAS |
| 11. Chief Electrical Inspector to Government of Karnataka | Mr. H. Gangaiah, B. E. F. I. E. |
| 12. Director General of Karnataka State Fire Services | Mr. Jai Parkash, IPS |
| 13. Chairman / MD, BESCOM | Mr. P. B. Ramamurthy, IAS |
| 14. Chairman, KPCL | Mr. Jyothi Ramalingam IAS |
| 15. President, FKCCI | Mr. K. N. Jayalingappa |

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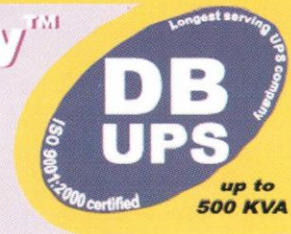
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Er. K. S. Anjanappa B.E. (Electrical), M.I.E
Dy. Electrical Inspector, Bangalore

Role of Electrical Inspector in power sector

Q1 Which are the agencies that generate power in the state of Karnataka?

- Karnataka Power Corporation Limited is licenced to generate power.
- Independent power producers for wheeling to the grid and for own use with specific permission from the government.
- Captive power generation by consumers for own use.

Q2 Which agency is responsible for transmission of power?

- Karnataka Power Transmission Corporation Limited above 66kV. Below 66kV the distribution companies will distribute power.

Q3 Who distributes power in the state of Karnataka?

- At present Electricity supply companies viz BESCOM, MESCOM, GESCOM, HESCOM, HUKKERI SOCIETY.

Q4 Who are the major consumers of Power?

- Industries, Commercial Complexes, Agriculture Sector and Domestic Sector.

Q5 Who ensures Safety in all the above installations?

- The **Department of Electrical Inspectorate** under the Administrative control of **Department of Energy**, Government of Karnataka.

Q6 How is Electrical Safety Achieved?

- The Department implements the Statutory Rules in all the installations, listed in 1 to 4 above, by pre-commissioning and periodical inspections.

Q7 Which are the installations inspected for safety by the Department of Electrical Inspectorate?

- Transmission and Distribution lines.
- Transformer installations.

- Generator installations.
- Lift and Escalator installations.
- Cinema installations.
- X-Ray installations.
- Neon sign installations.
- Video installations.
- All medium voltage power installations.
- Multistoreyed buildings.

Q8 What are the other duties and functions carried out by the Department?

- The Chief Electrical Inspector is advisor to government on electrical matters.
- Issue of licence and permits to carryout electrical works.
- Issue of permits to cinema operators.
- Investigation of electrical accidents to assess the reasons and report to government and suggest remedial measures to prevent such accidents.
- Quality analysis of electrical works and materials used.
- Investigation of electrical fires.
- Technical scrutiny of electrical estimates for government works.
- Adjudication of disputes such as:

Between electrical contractor and consumer on quality of work and materials used.

Between electricity consumer and supplier on disputed electricity bills.

Disputed meter recordings, disputed positioning of meter boards and equipment.

Disputed locations of electrical equipment and lines in public places in the interest of safety.

Q9 How is an Electrical Inspector useful to the general public?

- Educating the public on safe use of electricity.
- Educating consumers on conservation of power.
- Collection of electricity taxes and duties in the state of Karnataka.

Q9 How is an Electrical Inspector useful to the general public?

- He can be consulted:
To suggest the right person to execute the electrical works and materials to be used in an electrical installation.

To suggest safety clearances for the buildings from the O/H lines.

To suggest safety clearances for electrical equipment in any installation.

To suggest the type and method of construction of earthing arrangements.

To test the safe earth resistance in any existing/proposed installations.

To educate on the statutory Acts and Rules on electricity matters and suggest Safety Rules.

On any issue concerning safety in and around electrical lines / equipment.

On electricity tax and duty matters.

To adjudicate on disputes concerning wrong and erroneous billing, slow/fast recording of energy meters, power factor meters and maximum demand indicators.

For the sizing of the cables, switchgears, protective devices, etc.

Q10 Where can an Electrical Inspector be consulted?

- In all the district Headquarters apart from the Head Office at Bangalore. (Capital of the State).

Q11 What is expected of public in the event of an electrical accident?

- Isolate power supply immediately.
- Ensure no bare contact is made with the victim until power supply is disconnected.
- Remove the victim from contact with the supply for first aid.
- Report the matter to electricity supplier immediately and to the jurisdictional police and Electrical Inspector.

Q12 How is the victim compensated?

- Depending on the cause of the accident as investigated and reported by an E.I., compensation is paid by the supplier as and when the supplier is held responsible for the accident.

Q13 Which are the simple devices to prevent electrical shocks and fire in a residential installation?

- The RCCB/ELCB and MCB along with proper earthing can prevent accidents.

Q14 How many electrical accidents occur in India and in Karnataka?

- Around 12,000 (Twelve Thousand) electrical accidents occur in a year in our country. Fatal, non-fatal and fatal to animals put together, around 1000 - 1200 accidents per year occur in the state of Karnataka, out of which around 300 - 350 human lives are lost. Around 25 - 30 employees of the supplier lose their lives every year in the state.

So ensure safety by using quality materials and insisting quality workmanship, under the supervision of a qualified person.

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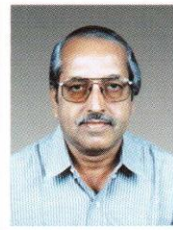
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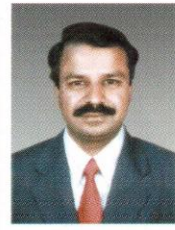
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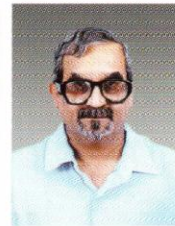
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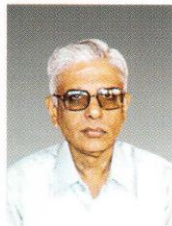
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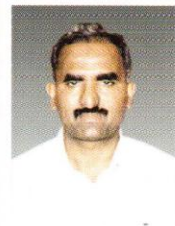
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POTPOURRI PAGE

Laugh a little

A boy to his friend:
"You know, my father is an author.
He took one full year to complete a book".

His friend replied:
"That's nothing, my father is a criminal.
He took twelve years to complete a sentence".

THINK

There are two tragedies in life -
one when you get to heart's content and
when you do not get
- George Bernard Shaw -

He who will not economise will agonise
- confucius -

When the shoes fits, it's forgotten
- Chuang Tzu -

You want to impress?

THEN REMEMBER

First impression is the best impression
Last impression is the lasting impression



EXPERIENCE

Good judgement comes from experience
Experience comes from bad judgement



That depends on your
BMI

BMI (Body Mass Index)
is the ratio of your body
weight in kg to the square
of your height in metre

BMI lesser than 18.5
You are under nourished
Eat man eat

BMI 18.5 to 25
You are normal
Keep it up

BMI >25 but ≤30
You are overweight
Take care

BMI above 30
You are obese
Be doub(ce)lly careful

History repeats itself
- because man never learns.

An attempt may be a failure
but there should not be
a failure of attempt

To spend - we should have
To have - we should save
To save - we should get
To get - we should sweat
To sweat - we should work
To work - we should be Healthy

by
Y. M. N. Murthy
Founder president
Humour club international
Bangalore

Word POWER

MATCH THE WORD - POWER

- | | |
|-----------|----------------------|
| 1. peta | a. 10 ⁻⁶ |
| 2. nano | b. 10 ⁻³ |
| 3. mega | c. 10 ⁻¹² |
| 4. tera | d. 10 ⁹ |
| 5. kilo | e. 10 ¹⁵ |
| 6. exa | f. 10 ¹² |
| 7. atto | g. 10 ¹⁸ |
| 8. milli | h. 10 ⁻⁹ |
| 9. giga | i. 10 ³ |
| 10. femto | J. 10 ⁶ |
| 11. micro | k. 10 ⁻¹⁵ |
| 12. pico | l. 10 ⁻¹⁸ |

Answer:
1 - g; 2 - h; 3 - j; 4 - d; 5 - e; 6 - f; 7 - g; 8 - b; 9 - d; 10 - k; 11 - a; 12 - c;

Sticker on the rear bumper of a car:

"Let us not meet by accident"

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