



Hydel Bullet

A Monthly Publication Of the Kerala State Electricity Board Engineers' Association

Issue - 10

Vol - 3

October 2015

Familiarity Breeds Contempt ?

The very purpose of the enactment of the Electricity Act 2003 was to provide functional autonomy to the ailing power utilities. In order to curtail the mounting financial losses and instability of the SEBs, the Act envisaged the regulatory regime in the power sector. The Kerala State Electricity Regulatory Commission during the initial stages was constituted with eminent Engineers in the power sector who were well aware of the issues of the sector. This is quite evident while referring to the Electricity Supply Code 2005, which provided the licensees to function with autonomy. The difficulties which subsequently cropped up were addressed then and there.

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**Great dreams of great dreamers
are always transcended.**





Er. E Mohammed Shereef inaugurating the new website of KSEBEA in the GB meeting held at Kozhikode on 17-10-2015





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The relationship of the regulator with the KSEB was also generally cordial, though bumpy at times. But of late, the functioning of the regulator has become detrimental to the very existence of the largest public sector utility and has also begun to impose undue restriction on the functioning of the organisation. For eg. in the name of employee cost, they are now trying to tarnish the employees by highlighting the pay and allowances, which incidentally is much less when compared with other power utilities, and are slowly trying to remotely control the business function of the utility.

The revised Supply Code 2014 is an example of the highhandedness of the regulator in the functional autonomy of the utility. In the name of simplification and uniform procedures they are imposing Utopian rules for electric service connections, tariff change, electric line shifting etc. However these regulations do not protect the interest of the consumers, but are only harassing them. The imposition of penalty to door locked consumers, dismantling electric connection after 45 days of disconnection, additional security for energy meters, utter disregard to safety regulations etc. are some examples. Also these rules were seen framed treating KSEBL as a private business entity This has invited public wrath and criticism against the KSEBL and its employees. Recently different media celebrated door lock issue tarnishing the image of KSEBL. The government had to intervene to stay the implementation of this order.

This type of hyper activism of regulator has caused severe damages to the power sector and the KSEBL and much hardship to the consumer. Why the consumers need to be penalised for door lock issues? According to the KSEBL statistics, about 10 Lakh consumers are being billed for average consumption for want of meter readings. There has not been any grave complaints or litigations against this well accepted pattern. Ample fund is available with KSEBL through central sponsored schemes such as R-APDRP, IPDS, DDUGY for replacing energy meters of such consumers, with new technology energy meters, even having facility for remote and automatic meter reading. However, the faulty meter changing cannot be achieved overnight. At the same time, how far the available opportunity is put to use by our management is a matter to be looked into by the top management of KSEBL.

Of late, unhealthy autocratic tendencies have been developed in the Regulatory Commission under the pretext that they are the saviours of power sector in the State. For the sake of demonstrating their functional independency, they often penalise and pass orders against KSEBL. After imposing such rules and regulations, which are infact detrimental to the consumer, the KSERC is trying to impose its implementation through compliance examiners. Because of many such regulations, it is distressing to note that the public, view KSEBL as an organisation looting money from them through dubious ways. Since the



Renovated Website Inaugurated

KSEB Engineers' Association website, which is one of the major interfaces between the association, members and the general public, has been renovated. The site is modified with a design for the user and by keeping our key objectives in mind. Our commitments to members, Engineering fraternity, KSEB Ltd. and Society is reflected in our new website also. The special emphasis given to the advancement of technology in power sector makes our website unique. We used design principles to get aesthetically pleasing, easy to use, engaging and effective contemporary style layout.

The website uses word press frame

work. It is basically a content management system. The old website and contents have been archived for future use. All units can directly post the activities and photos in the site. The design and implementation took nearly two months of continued effort. All colours and layouts are based on suggestions by experts in the area. Over ten design revisions are made before finalizing the blueprint. It is designed with a current look and trend in the portal design. The site is designed with color combination in such a way to make a pleasant feeling to the visitor. We made it in such way to make it an effective interface between our association & prospective members, members and

government is finally answerable to the public, the government needs to intervene appropriately as envisaged in the Act.

The supply code regulations were finalised *suo moto* by the Commission without conducting proper hearing. For any regulation, the elementary step is to publish the draft and invite the views from the concerned. But it is astonishing to note that the Commission did not publish the draft of the Supply Code 2014 before enforcing the same. The KSEBL management also failed to challenge the same at the appropriate forum. For field officers, there exist many ambiguities with regard to some of the regulations and hence the service rendered to consumers vary from section to section. The Commission harass the field officers with the weapon of non compliance of

regulations. The employees are reluctant to work in distribution field offices. The recent acts of the regulator is reiterating the saying that "Familiarity breeds contempt" with the full quorum having past experience in the utility. It is only but natural that these past employees of KSEBL, who are now finding fault with each and every act of the KSEBL, are equally responsible for such a state of affairs since they had also contributed in this. We urge KSEBL management to examine meticulously the orders of the KSERC before releasing the same for implementation and challenge whenever necessary at the appropriate forum within the time limit. We also urge the State Government to subject the actions of the regulator to serious review for corrective actions, before it spells doom on it.





KSEBEA
Kerala State Electricity Board Engineers' Association

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President's Desk

Throwing Stones at Glass houses
The recent orders of the KSEERC relating to regulations 95 of supply code and the observations.. more...

Why KSEBEA?

If you are interested in furthering your career, KSEB Engineers' Association is a good start. We are a synergistic group.. more...

Join our Association

We welcome the Electrical Engineers in Kerala State Electricity Board Ltd. to the network of a non-political professional more...

Press Releases

The Kerala State Electricity Board Engineers' Association (KSEBEA) will celebrate Engineers' Day on September 15 in honour of more...

Latest News **Unit Activities** **KSEB News** **Transfer & Posting**

Renovated website launched
Our renovated website launched

Unit Meeting - Eranakulam
Unit Meeting - Eranakulam on

System Statistics

MAXIMUM DEMAND	GENERATION
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family, consumers, students and all other stake holders. We have introduced and given special stress to column like president's desk, why KSEBEA, join our association, press releases etc.. Importance is given to 'History' of KSEBEA to make all power engineers proud. The site also includes the photos of our past leaders. Special pages are included for giving updates and trends in technology and latest news. The units and activities are accessible from front page itself. Each unit can upload their activities and photos. Special scrolling images show our major activities. .Hydel bullet is listed in a more attracting way. Quiz corner, My EA, achievements, obituary, anniversaries etc added to attract more people to visit site.

Our renovated site has the following salient features;

Our homepage illustrate top priorities and variety. The primary goal of our homepage is to highlight new technological and service information and top priorities. It has a clear hierarchy: visitors know what is most important but also have enough variety to find what they're looking for.

Site provides consistent navigation. The main sections and labels are kept consistent throughout the site: the colors, labels and location of the site's navigation remains exactly the same on each and every page of the site.

It is designed keeping the end user in mind. The vast majority of visitors to our website will want to find specific information quickly and easily. Organisation and label sections of our site that facilitate their task-oriented needs



മൈസൂർ - അരീക്കോട് 400 കെ.വി. ലൈൻ ചാർജ്ജ് ചെയ്തു - മലബാർ മേഖലയ്ക്ക് നേട്ടം

ഏറെ നാൾ നിർമ്മാണം തടസ്സപ്പെട്ടുകിടന്നിരുന്ന മൈസൂർ - അരീക്കോട് 400 കെ.വി. ലൈനിലൂടെ വൈദ്യുതി പ്രവഹിച്ചുതുടങ്ങി. ഇതോടെ മലബാർ മേഖലയിൽ വൈദ്യുതി രംഗത്ത് അനുഭവപ്പെട്ടിരുന്ന വോൾട്ടേജ് ക്ഷാമത്തിന് പരിഹാരമായി. മൈലാട്ടി സബ്സ്റ്റേഷനിലെ 220 കെ.വി. ബസ്സിൽ ഇന്നലെ 216 കെ.വി. ആയിരുന്നു വോൾട്ടേജ്. മുൻപ് ഇത് 200 കെ.വി.യിലും താഴെയായിരുന്നു.

കേരളത്തിന്റെ പരിധിയിലുള്ള ലൈനിന്റെ നിർമ്മാണം തന്നെ പൂർത്തിയാക്കിയിരുന്നുവെങ്കിലും കർണ്ണാടകയിലെ തോട്ടമുടമകളുടെ എതിർപ്പുമൂലം മുടങ്ങിക്കിടന്ന ലൈനാണ് 14-10-2015 വൈകുന്നേരം 5.33ന് ചാർജ്ജ് ചെയ്തത്. കർണ്ണാടക സർക്കാരിന്റെ നിശ്ചയദാർഢ്യതയോടുകൂടിയുള്ള ഇടപെടൽ നിമിത്തമാണ് ലൈൻ നിർമ്മാണം വേഗം പൂർത്തിയാക്കാൻ കഴിഞ്ഞത്. പുറമേ നിന്നും കേരളത്തിലേക്ക് വൈദ്യുതി എത്തിക്കുന്നതിന് പ്രധാന തടസ്സമായിരുന്ന പ്രസരണ ഇടനാഴിയുടെ ശേഷിക്കുറവിനും ഇതുവഴി പരിഹാരമായി. ഈ ലൈൻ വന്നതോടെ ഇന്നലെ

മുതൽ 300 മെഗാവാട്ട് അധികം എടുക്കാനായിട്ടുണ്ട്.

ഈ ലൈൻ വന്നതോടെ കേരളത്തിന്റെ വൈദ്യുതി ഇറക്കുമതി ശേഷി 500 മെഗാവാട്ട് വർദ്ധിച്ച് 2400 മെഗാവാട്ടായി. ഇപ്പോൾ നിർമ്മാണത്തിലുള്ള നരേന്ദ്ര (കർണ്ണാടക) - കോൽഹാപ്പൂർ (മഹാരാഷ്ട്ര) ലൈൻകൂടി പൂർത്തിയാകുമ്പോൾ നേരത്തെ കരാർ ചെയ്തിട്ടുള്ള 440 മെഗാവാട്ട് വൈദ്യുതി അധികമായി ലഭ്യമാകും. കാലവർഷം കുറഞ്ഞതുമൂലം ജലവൈദ്യുതി പദ്ധതികളുടെ വാർഷിക ഉല്പാദനശേഷിയിൽ വൻകുറവു നേരിടുന്ന ഈ അവസരത്തിൽ അധിക വൈദ്യുതി ലഭ്യമാകുന്നത് വേനൽക്കാലത്തെ വർദ്ധിച്ച ആവശ്യകത നേരിടുന്നതിന് സഹായിക്കും.

ഈ ലൈൻ കമ്മീഷൻ ചെയ്തതുവഴി പ്രസരണ നഷ്ടത്തിൽ 25 മെഗാവാട്ടിലധികം കുറവുണ്ടാകുമെന്നാണ് കണക്ക്. നഷ്ടത്തിലുള്ള ഈ കുറവിലൂടെ പ്രതിവർഷം ശരാശരി 220 ദശലക്ഷം യൂണിറ്റ് വൈദ്യുതി ലാഭിക്കാനാകും.

We use page titles simple, descriptive and unique. Visitors don't want to be surprised or confused about an article's contents. A strong page title tells the exactly what they're going to get – and will help them decide if they should read more or move on.

We follow web conventions. Over time, web users come to expect certain conventions – so the key navigation at the top of the page. We think that predictability will help ensure that your visitors find what they're looking for quickly and easily.

We kept graphics simple. We doesn't used fancy graphics. Graphics should

facilitate task completion, not obscure it or detract from it.

Uses images of real members. The pictures illustrate and enhance the story or message. We use real people and not models in stock photos, so it will help readers understand and connect with our message.

The following key ideas are kept in mind during design of the website namely Purpose, Communication, Typefaces, Appealing colors, Images, Navigation, Load time, Mobile friendly, and White space and clean design. We hope that the members will enjoy the new website.

Unit Activities - October 2015

KANNUR UNIT



The unit meeting for October 2015 conducted on 20-Oct-2015 at Engineers House kannur at 5.30 pm. Er Jayakrishnan P , Chairman Benevolent Fund attended the meeting. There was discussions about meter rent, meter reading issues and boards decision of not to supply single phase meters to consumers in the general discussion. Meeting came to a close at 7.30 pm.

TECHNICAL TOUR



Kannur unit conducted a technical visit to 15 MW Barapole generating station (under construction) in kannur district and construction site of Kannur International Airport Limited (KIAL) on 14-Oct -2015. The team consisting of 32 members started at 9.00 am from kannur Vydhuthi bhavanam and visited barapole power house, intake, canal of project, the fore bay tank and the penstock. The project consist of three machines of 5 MW. The turbine used is horizontal Kaplan. The Speciality of the Project is that it has no dam or vier, the water is diverted to intake by a trench having varying depth of 1.5 m at one end to 4.5 m in other end in the river.



After having lunch at iritty visited the construction site of Kannur airport. Visited Run way of airport, air traffic control building, passenger terminal building and site office of L&T. KIAL & L&T officials arranged a presentation about the salient features of kannur air port at site office of L&T. Air port visit concluded at 7.00 pm and the team reached back kannur at 8.30 pm.

KASARGOD UNIT



സൗജന്യ നേത്രപരിശോധന ക്യാമ്പ്

കെ.എസ്.ഇ.ബി. എഞ്ചിനിയേഴ്സ് അസോസിയേഷൻ കാസർഗോഡ് ശാഖയുടെയും കാമത്ത് നഴ്സിംഗ് ഹോം കാസർഗോഡിന്റെയും പാഠക്കൂട്ട ശ്രീ മുത്തപ്പ സേവാസമിതിയുടെയും സംയുക്ത ആഭിമുഖ്യത്തിൽ പാഠക്കൂട്ട മടപ്പുര ശ്രീ മുത്തപ്പൻ ക്ഷേത്രത്തിന്റെ ഹരിഹര ഗോപുരത്തിൽ സെപ്റ്റംബർ 27 ന് ഞായറാഴ്ച സൗജന്യ നേത്രപരിശോധന ക്യാമ്പ് സംഘടിപ്പിച്ചു. പരിപാടിയിൽ മൂന്നുറോളം ആൾക്കാരുടെ നേത്രപരിശോധന നടത്തുകയും ആവശ്യക്കാർക്ക് സൗജന്യമായി കണ്ണടകൾ വിതരണം ചെയ്യുകയും ചെയ്തു. പ്രശസ്ത നേത്ര വിദഗ്ദ്ധൻ ഡോ. അനന്ത കാമത്തും ഡോ. സുമതി ഗണേശും ക്യാമ്പിന് നേതൃത്വം നൽകി. പ്രസ്തുത പരിപാടിയുടെ ഉദ്ഘാടനം ഡോ. അനന്ത കാമത്ത് നിർവ്വഹിച്ചു. കെ.എസ്.ഇ.ബി. എഞ്ചിനിയേഴ്സ് അസോസിയേഷൻ സംസ്ഥാന ബൈനവലന്റ് ഫണ്ട് ചെയർമാൻ ശ്രീ. പി. ജയകൃഷ്ണൻ അദ്ധ്യക്ഷത വഹിച്ചു. ഡോ. സുമതി ഗണേശ്, കെ.എസ്.ഇ.ബി. എഞ്ചിനിയേഴ്സ് അസോസിയേഷൻ കേന്ദ്രകമ്മിറ്റി അംഗം ശ്രീ. നാഗരാജ ഭട്ട്, ശ്രീ. ഗണേശ് പാഠക്കൂട്ട എന്നിവർ സംസാരിച്ചു. ശ്രീ. കെ. രഘുവീര ഷെട്ടി (മുത്തപ്പ സേവാസമിതി) സ്വാഗതവും ശ്രീ.പി. സുരേന്ദ്ര, കെ. എസ്.ഇ.ബി. എഞ്ചിനിയേഴ്സ് അസോസിയേഷൻ യൂണിറ്റ് ചെയർമാൻ നന്ദിയും പറഞ്ഞു.

ERNAKULAM UNIT



.....*In the memory of the “Missile Man “who was the first “Peoples’ President” of our country... ..*



Sometimes, the unit meetings of KSEB EA Ernakulam unit turn out to be special occasions in which the unit members get a refreshing experience in the company of certain noble personality or with certain unforgettable reminiscences. Such a day was 15th Oct 2015, in which the monthly meeting of EA Ernakulam unit took place at Youth Hostel, Kakkanadu. That day being the 84th birth anniversary date of our Late President Dr APJ Abdul Kalam, a distinguished guest was invited to the venue, to give a talk commemorating the contributions of Dr Abdul Kalam. Dr. Vijayakumar, Professor, Department of Mathematics, CUSAT, delivered this talk narrating the events from his own personal experiences, when he got a number of opportunities to visit and interact with Dr APJ Abdul Kalam.

The talk was inspiring and interwoven with a couple of incidents highlighting the wonderful character traits of Dr APJ Abdul Kalam, to inspire and ignite the spark



in others, especially in the younger generation. Dr. Vijayakumar narrated an event in which a third semester Civil Eng Student while meeting Sri.APJ was insisted by him to emulate the excellence of Metro Man, E.Sreedharan and to be passionate as him in work. Another was about an assurance given by Dr APJ Abdul Kalam to the deaf students, in a function at their school at Kochi that a reasonably priced hearing aid will be made available to them within the near future. Similar incidents, throwing light to the selfless efforts of Dr APJ Abdul Kalam - for making India a prosperous, happy and peaceful country for every Indian , Kalam's sensitivity to small people, his concern about connectedness to a larger world existence, his personal tenacity about creating extra-ordinary success with ordinary lives etc, were included in the talk delivered by Dr. Vijayakumar.

During the talk, the unit members relished in the memory of that legendary scientist, great visionary and 'terrific human being who could touch the hearts of millions through his simple deeds and words. Later on, the unit Chairman expressed gratitude to Dr. Vijayakumar and wished him success in his endeavors in educating the youth of India.



ENGINEER'S DAY REPORT

Pathanamthitta Unit

KSEB Engineers' Association, Pathanamthitta Unit and Musaliar College of Engineering and Technology combinedly celebrate Engineers' Day on 15 Sept 2015 at Musaliar College of Engineering and Technology. Er. Suresh, Secretary, KSEBEA PTA Unit welcomed the gathering.

Er. Suresh chand inaugurated the function. Dr. Jubilant Kizhakkethottam, Principal, Musaliar College of Engineering and Technology addressed the gathering.

Asst. Professor Er.Syam Balachandran presented seminar on "Modern Challenges in Knowledge Era"

Er.George Mathew, General Secretary KSEBEA delivered Keynote Address.



METERING WOES

C. P. George

Dear Engineers,

Recent controversies and public reaction on meter security and penalty on meter making meter inaccessible for reading need some in depth evaluation of the issue, the licensee's responsibilities and rights for common public good and the consequences there of.

With the evolution of better technology for measurement of electricity, measuring its demand with respect to time and frequency, the old scenario of approximation and averaging has changed drastically. With the emergence of electricity Act 2003 and its sub ordinate regulations the electricity is legitimately accepted as a commodity and its trading need to be done only as specified in the relevant statutes.....

As such the licensee is expected to function on commercial principles and every expense made and every man hour spend need to be accounted reflected in to its accounts and balance sheets.....

Accordingly we have enabling provision in Section 47 of the electricity Act 2003 which is quoted below.

"Section 47. (Power to require security): – (1) Subject to the provisions of this section, a distribution licensee may require any person, who requires a supply of electricity in pursuance of section 43, to give him reasonable security, as may be

determined by regulations, *for the payment to him of all monies which may become due to him -*

- (a) in respect of the electricity supplied to such persons; or
- (b) where any electric line or electrical plant *or electric meter is to be provided for supplying electricity to person*, in respect of the provision of such line or plant or meter, *and if that person fails to give such security, the distribution licensee may, if he thinks fit, refuse to give the supply of electricity or to provide the line or plant or meter for the period during which the failure continues.*
- (2) Where any person has not given such security as is mentioned in subsection (1) *or the security given by any person has become invalid or insufficient*, the distribution licensee may, by notice, require that person, within thirty days after the service of the notice, to give him reasonable security for the payment of all monies which may become due to him in respect of the supply of electricity or provision of such line or plant or meter.
- (3) If the person referred to in sub-section (2) *fails to give such security*, the distribution licensee may, if he thinks fit, discontinue the supply of electricity for the period during which the failure continues.



- (4) *The distribution licensee shall pay interest equivalent to the bank rate or more, as may be specified by the concerned State Commission, on the security referred to in sub-section (1) and refund such security on the request of the person who gave such security.*
- (5) A distribution licensee shall not be entitled to require security in pursuance of clause (a) of sub-section (1) *if the person requiring the supply is prepared to take the supply through a pre-payment meter."*

As such the statute is very clear and evident. Licensee is entitled to collect security if the meter installed in the premise of the licensee is supplied by the licensee...

Now the confusion on collecting the rent for the meter after collecting the security...!

Again we have enabling provision in Section 45 of Electricity Act

"Section 45. (Power to recover charges): – (1) Subject to the provisions of this section, *the prices to be charged by a distribution licensee for the supply of electricity by him* in pursuance of section 43 shall be in accordance with such tariffs fixed from time to time and conditions of his license.

- (2) The charges for electricity supplied by a distribution licensee shall be -
- (a) fixed in accordance with the methods and the principles as may be specified by the concerned State Commission ;
- (b) published in such manner so as to give adequate publicity for such charges and prices.
- (3) The charges for electricity supplied by a distribution licensee may include
- (a) a fixed charge in addition to the charge for the actual electricity supplied;
- (b) *a rent or other charges in respect of any electric meter or electrical plant provided by the distribution licensee."*

We need to know that the rent is for maintaining the 'correct meter' as specified in Section 55 of EA which says **"No licensee shall supply electricity, after the expiry of two years from the appointed date, except through installation of a correct meter in accordance with the regulations to be made in this behalf by the Authority"**

And Authority defines correct meter as per regulation 2 (k) of CEA Metering regulation 2006 as 'Correct Meter' means a meter, **which shall at least have, features, Accuracy Class and specifications as per the standards on Installation and Operation of Meters given in Schedule of these Regulations"**.

Regarding the ownership and responsibility for maintaining the correct meter regulation 6(2) is very clear

- (a). *Consumer meters shall generally be owned by the licensee*
- b). *If any consumer elects to purchase a meter, the same may be purchased by him.*

Meter purchased by the consumer shall be tested, installed and sealed by the licensee. The consumer shall claim the meter purchased by him as his asset only after it is permanently removed from the system of the licensee.

- (c). All consumer meters shall bear BIS mark, meet the requirements of these regulations and have additional features as approved by the Appropriate Commission or pursuant to the reforms programme of the Appropriate Government. To facilitate this, the licensee shall provide a list of makes and models of the meters.

CEA metering regulation read with Section 55(1) of EA make the licensee fully responsible for installation and maintenance of a correct meter in the consumer premise, but at the cost of the security and rent entitled by the license. As we are obliged to pay the interest on security, the rent should include all the financial charges for purchase of a meter including the loan cost and then the establishment cost for maintaining the 'correct meter'. This include the routine calibration at specific intervals, replacement cost for the incorrect meters during the life time of the consumer and the cost of site calibration on disputed accuracy of the meter by the consumer.

As the licensee is fully responsible for installation and maintenance of meters, selling electricity through an "incorrect meter" may be compared to the selling of a commodity without valid "legal metrology seal" in the weighing balance...!!

As such, the Meter Security and Meter rent are legally and financially correct and delayed due to no reasons. As per the recent information, KSEBL is running at 5000 Crore overdraft by end of every month, the implementation of this provision at the earliest shall provide better financial security for the organisation. The issue is our reluctant approach in implementing the relevant provision of the electricity act and the time chosen for implementing the provisions...! KSERC have implemented all the consumer friendly provisions in one shot and played to the gallery....!! Even after 12 years, we have so many provisions in EA 2003 to be implemented to make the sector financially viable and the licensee's officers are left to face the wrath of the public without correct PR and conflict of interests.....

Let us hope that some better sense shall prevail in PR and timing while enforcing such decisions in future....



Letters to the Editor

കത്തുകൾ അയക്കേണ്ട വിലാസം



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FOURIER SERIES AND HARMONICS IN MUSIC AND ELECTRICITY

Continuation from last article.....

P.V. Pramod
Assistant Executive Engineer
220KV Substation, Orkatteri

18. TRIPLEN HARMONICS

Triplen harmonics are odd harmonics are the odd multiples of the third harmonic ($n=3,9,15,21\dots$). They deserve special consideration because the system response is often different for triplens than for the rest of the harmonics.

Consider the system with balanced loads shown in Fig 22. Assume that fundamental and 3rd harmonic components are present in current. Now the sum of fundamental component at neutral N is zero, but the third harmonic components coincide in phase and time so that sum is 3 times the phase currents.

Triplen harmonics create problem in grounded star systems with current flow on neutral –overloading the neutral and interference to telephone. Also the mis-operation of some load devices occurs due to the distortion in line to neutral voltage because of voltage drop in neutral conductor.

Transformer winding connections have significant impact on the flow of triplen harmonics currents from single phase nonlinear loads. In star-delta connection the triplen harmonics get added in the neutral as they are in phase. Triplen harmonics currents flow in delta side also to have ampere –turn balance, but they are trapped within the delta and do not flow out to the line. When the currents are balanced, the triplens behave as zero sequence currents. But during imbalance triplens may have positive or negative sequence components too. Measuring the current on delta side will not show triplens, and so, not give a true idea of heating of transformer. The star-delta connection with the delta connected to HV side is most commonly used in distribution transformer. See Fig 23(a).

Star-star connection with grounding at both sides (Fig 23(b)) allows balanced triplens to flow from LV side to HV side. They will be present in equal proportion on both sides. Removing the neutral ground in one or both star windings blocks the flow of triplens. There is no place for ampere-turn balance. A three legged core transformer behave as if they have a 'phantom' tertiary delta winding. So a star-star connection with only one neutral point grounded will still be able to conduct triplens from that sides.

Delta-delta transformers are used to feed 3 phase arc furnace to block the flow of triplens or zero sequence currents (Fig 24). Under balanced conditions such a blocking results. However during scrap melt down, the furnace is in unbalanced mode with only two electrodes carrying current. Now large 3rd harmonic currents circulate in these two phases. However these are not zero sequence currents but contain both positive and negative sequence currents.

19. HARMONICS IN ALTERNATORS

An alternator consists a rotating field (rotor) and stationary armature (stator). Armature consists of conductors in which voltage is induced. The terminal voltage of the alternator is the vector sum of voltage in the individual conductors. The voltage waveform of

individual conductors is an exact reproduction of the flux distribution round the air gap. So to have sinusoidal voltage, the air gap flux is to be sinusoidal.

If the stator surface is smooth without slot and teeth, a sinusoidal voltage wave form could be obtained by shaping the poles so that the length of air gap at point is proportional to $1/\cos \theta$ where θ is the electrical angle between centre of the pole and the point.

The presence of slot and teeth in stator render its iron surface discontinuous. This affects the flux distribution from the poles, the airgap reluctance at any point depending on its position relative to the adjacent stator teeth. The movement of the poles past the teeth is accompanied by small variation of the flux distribution which are superimposed on the main flux and these produce corresponding small voltage in the conductors, the frequency of which are multiples of main voltage. These small voltages produce harmonics in the terminal voltage waveform of the alternator.

The flux distribution in the air gap greatly affected by type of field pole of the alternator rotor -ie salient pole or cylindrical. With a salient pole field system, the flux distribution is not sinusoidal but approximately rectangular as shown in figure 25(a). Such a flux distribution possesses a very pronounced third harmonics. With a cylindrical rotor having distributed field winding, the m.m.f distribution is stepped. Because of fringing, the flux distribution rounds off the corners, thus giving a rough sine wave for the flux density as shown in fig 25 (b).

20. ELIMINATION OF HARMONICS IN ALTERNATORS.

A. Using distributed winding

Harmonics can be much reduced by using distributed winding instead of concentrated winding in stator (armature). If the winding is distributed in such a way that several slots per pole and phase exists, the voltage induced in individual conductors in each phase have slight phase difference. These voltage act in series so that their resultant (terminal) voltage contains less harmonics

If the slot pitch is ψ electrical degrees, the phase difference of the components of fundamental frequency for two consecutive coils will be ψ , for the third harmonics it will be 3ψ , for the fifth harmonics 5ψ and so on. The vector diagrams for group coils considering different harmonics separately are shown in fig 26. Here the alternator is 3 phase having 4 slots per pole and the phase spread of 60° so that ψ is 15° . It is seen that in the case of harmonics, the vector sum of voltages are much reduced.

Fig 27 shows the individual voltage induced in each loop and the total voltage induced in a multi turn distributed coil of 6 loops. Here we see that the individual voltages are non-sinusoidal, but resultant is sinusoidal.



22.1 Switched Mode Power Supplies

Power supplies for single phase electronic equipments produce harmonic currents. There are two types of single phase power supplies. Older type employ ac side voltage control methods such as transformers to reduce voltage to the level required for dc bus. The inductance of the transformer provides a beneficial side effect by smoothing the input current waveform, reducing harmonic content.

In modern switched mode power supplies (Fig 32), the input diode bridge is directly connected to the a.c line eliminating the transformer. This results in a coarsely regulated dc voltage on the capacitor. This d.c is converted back to a.c at a very high frequency by the switcher and subsequently rectified again. The non-requirement of input transformer makes the SMPS lightweight, compact, efficient, and tolerant to large variation in input voltage. But the lack of a.c side inductance causes the input current to become very short pulses as the capacitor C1 regains its charge on each half cycle. Thus increasing harmonic content in the current. Thus very high third harmonic currents are present in SMPS; which get added in the neutral of 3 phase system; overloading the neutral conductors of building wiring and overheating the transformers.

Fig 33 shows the current waveform of SMPS and its spectrum.

22.2 Fluorescent Lighting

Fluorescent lightning constitutes the majority portion of lightning load due to its high energy swings. Florescent lights are discharge lamps. So they require a ballast to give a high initial voltage to initiate the discharge for the current flow between two electrodes in the fluorescent tube. Once the discharge is established, the voltage decreases and current increases. Now the ballast quickly reduces the current to a suitable level for specified lumen output.

There are two types of ballasts-magnetic and electronic. A magnetic ballast is made up of an iron core and insulated winding. It operates at the line fundamental frequency 50 Hz. The heat loss in iron core make this ballast less efficient. However the harmonics in such ballasts are comparatively less. Fig.34 shows the ballast current wave and its harmonic spectrum.

Electronic ballast uses a switch mode type power supply to convert the incoming fundamental frequency voltage to a higher frequency 25-40 KHz. This high frequency has two advantages- 1) a small inductor is sufficient to limit the arc current. 2.) it eliminates the 100Hz flicker associated with a magnetic ballast. However the harmonic output is typically double or triple of that of magnetic ballast. Fig.35 shows the ballast current wave and harmonic spectrum of electronic ballast. Good quality electronic ballast are equipped with the passive filters to reduce input current harmonics.

22.3 Three phase power converters

Three phase power converters differ from single phase converters as they do not generate third harmonic currents. Most important use of 3 phase converters are in Adjustable Speed Drives (ASD). An ASD consists of an electronic power converter that converts ac voltage and frequency into variable voltage and frequency. The variable voltage allows the ASD to control motor speed to match the application requirement.

In an a.c ASD the rectifier output is inverted to produce a variable frequency a.c voltage for the motor. Inverters are classified as voltage source inverters (VSI) or current source inverters (CSI). A VSI requires a constant dc (low ripple) voltage input to the inverter stage. This is achieved with a capacitor or LC filter in the DC link. The CSI requires a constant current input, hence a series inductor is placed in the dc link. AC drives generally use squirrel cage induction motors.

Popular a.c drives use VSI employing PWM technique to synthesise an a.c waveform as a train of variable width d.c pulses (Fig 36). The rectifier feeds directly from a.c bus to a large capacitor on the d.c bus with little inductance, the capacitor is charged in very short pulses creating the distinctive rabbit ear shaped ac side current waveform with very high distortion as indicated by the spectrum in Fig (37). The merit of PWM drives is that, to control motor speed, it is not necessary to vary the rectifier output voltage. So rectifier thyristors can be replaced with diodes, thus eliminating the control circuitry. They also have best energy efficiency over wide range of speed.

CSI drives (Fig 38) have good acceleration /deceleration characteristics but require motor with leading p.f. The harmonic in a.c side current waveform is comparatively lesser than that of PWM type VSI drives (Fig 39).

22.4 Arc furnace and welding

The VI characteristics of electric arcs are non-linear. After arc ignition, the voltage decreases as the arc current increases, limited only by the impedance of the system. This gives the arc a negative resistance characteristics over a portion of its operating cycle. In electric arc furnace, the limiting impedance is the furnace cable and leads with some contributions from the furnace transformer. The electric arc itself is a source of voltage harmonics. If a probe is placed across the arc, a trapezoidal waveform will be observed, the magnitude of which depends on length of the arc. However the impedance of the ballast or furnace leads acts as a buffer and the supply voltage is only moderately distorted. The arcing load thus appears as stable harmonic current source.



The harmonic content of the arc furnace load and the other arcing devices is similar to that of magnetic ballast. These phase arcing devices can be arranged to cancel the triplen harmonics through the transformer connection. However this cancellation may not work in three phase arc furnaces because of the frequent unbalanced operation during the melting phase. During the refining stage; when the arc is more constant, the cancellation is better.

23. HARMONIC ANALYSER

The process of splitting up a complex wave into fundamental and harmonics is called harmonic analysis. It involves the determination of amplitude and frequency of fundamental and harmonics. A harmonic analyser is an instrument used to measure the harmonic current in a complex wave. Harmonic analysis at power frequency can be made simply with a circuit set up shown in Fig40. D is a dynamometer wattmeter with centre zero. Its voltage is supplied with an analysing current from a variable frequency oscillator. The current being analysed is passed through the current coil. The voltage coil current is read by means of a thermal milli-ammeter A.

The oscillator is first tuned to the fundamental frequency of current being analysed. The wattmeter pointer deflects maximum when current waves in fixed and moving coils are at same frequency and in phase with one another. The maximum deflection now gives the r.m.s value of the fundamental.

Higher harmonics are measured similarly by tuning the oscillator to the appropriate harmonic frequency and measuring maximum swing. The analyzing current magnitude in the voltage coil is usually kept constant when doing analysis, because then the ratios of the maximum indications for the harmonics to that of the fundamental give the harmonic analysis directly.

25. HARMONIC INDICES

The most commonly used indices for measuring the harmonic content of a wave form are the Total Harmonic Distortion (THD) and the Total Demand Distortion(TDD). Both are measures of the effective value of a waveform and may be applied to either voltage or current.

A. Total Harmonic Distortion

It is a measure of the effective value of the harmonic components of a distorted waveform. It corresponds to the potential heating value of the harmonic relative to the fundamental

$$THD = \frac{\sqrt{\sum_{n>1}^h M_n^2}}{M_1}$$

Where M_n is the r.m.s value of n^{th} harmonic component of the quantity M , h is the maximum value of n and M_1 is the r.m.s value of fundamental.

THD index give a good idea of how much extra heat is realized when a distorted voltage waveform is across a resistive load. Thus it gives an indication of the additional losses caused by the current through a conductor. However it is not a good indicator of the voltage stress within a capacitor because that is related to the peak value of the voltage waveform, not the heating value.

THD index can be calculated for either voltage or current. But it is commonly used to describe voltage distortion. Harmonic voltages are referenced to the fundamental of the waveform at the time of the sample. Since the fundamental voltage varies only a few percent, the voltage THD is a meaningful number.

Variations in the THD over a period of time follows a pattern representing non-linear load activities in the system. Fig41 shows the voltage THD variation at 11kv distribution substation (transformer) supplying residential load over a one week period. High THD occurs at night and early morning as non linear loads are being used more during these hours.

B. Total Demand Distortion

When current distortion levels are characterised by THD index, it may give misleading observation. A small current may have a high THD but not a significant threat to the system. For example an ASD may have high THD for the input current when operating at very light loads. This is not a significant concern as the magnitude of harmonic current is low, even though its relative current distortion is high.

This difficulty can be avoided by referring THD to the fundamental of the peak demand load current rather than fundamental of the present sample. This is called Total Demand Distortion (TDD).

$$TDD = \frac{\sqrt{\sum_{n=2}^h I_n^2}}{I_1}$$

I_L is the peak demand load current at the fundamental frequency component measured at the point of common coupling. I_L can be calculated as the average of the maximum demand current for preceding 12 months. For a new facility, I_L is estimated based on the predicted load profile.

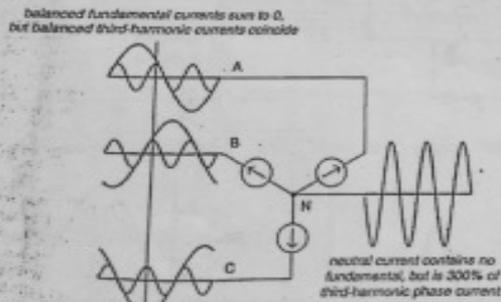


Fig. 22. High neutral currents in circuits of single phase nonlinear loads

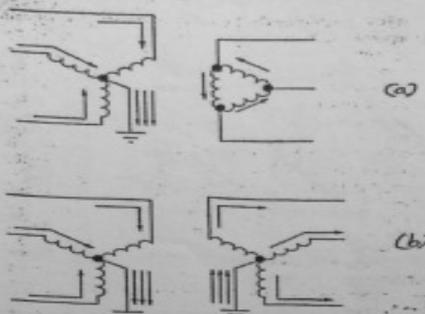


Fig. 23. Flow of third harmonic currents in 3 phase transformers.

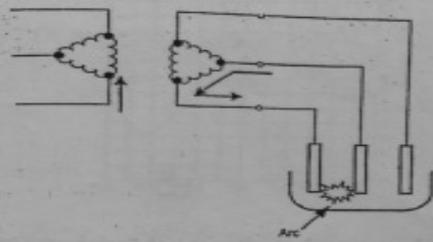


Fig. 24. Arc furnace operation in unbalanced mode

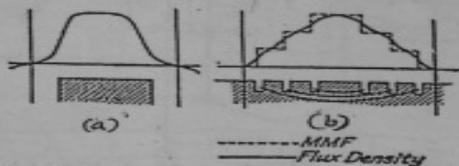


Fig 25. MMF and Flux density waveforms in salient pole and cylindrical rotor alternators.

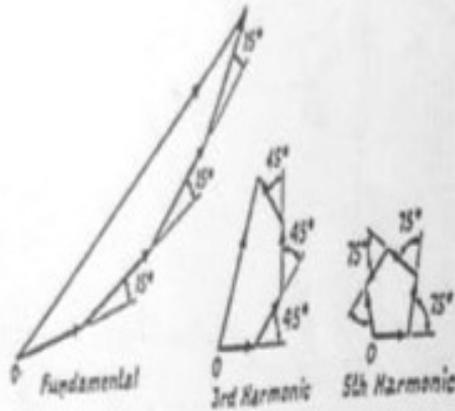


Fig. 26 Vector sum of voltages for fundamental and harmonics in distributed winding

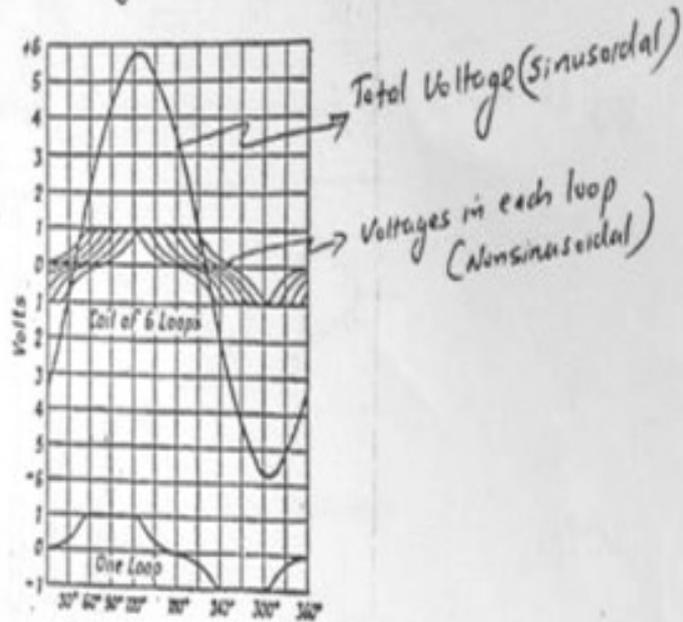


Fig. 27. Voltage induced in each loop and total voltage of multiloop distributed coil.

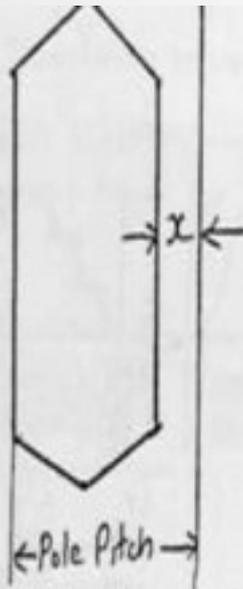
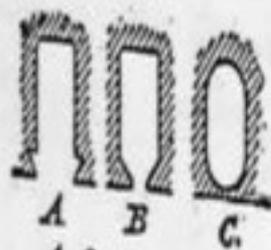


Fig. 28. A Short Chord Winding



- A. Open
- B. Semi-Enclosed
- C. Totally Enclosed.

Fig. 29. Different Types of Stator Slots

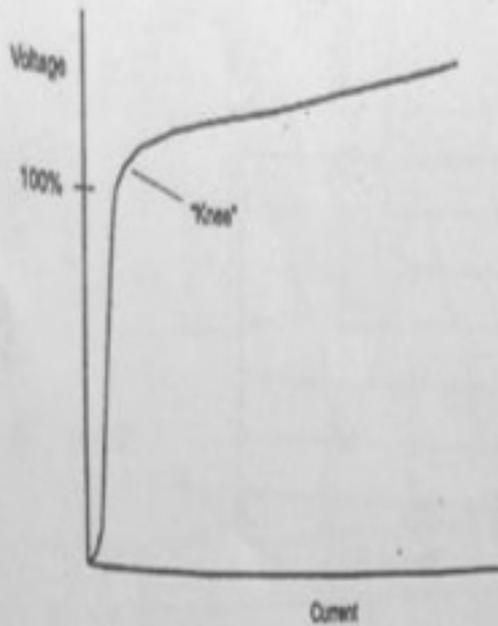


Fig. 30 Transformer magnetizing characteristics

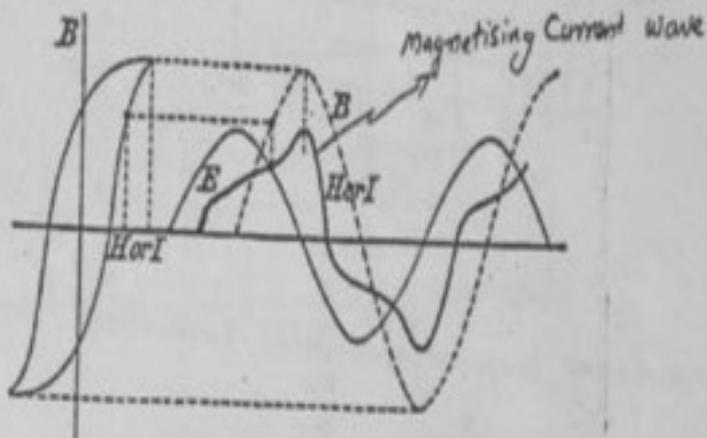


Fig. 31. Magnetizing waveforms of Transformers

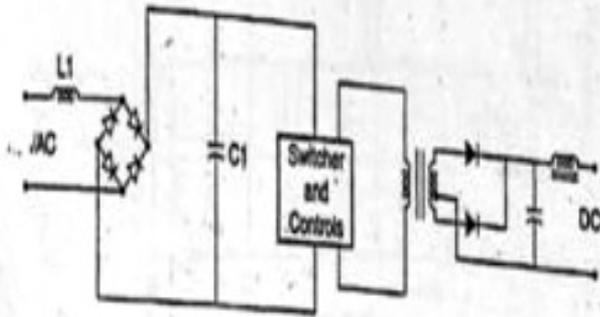


Fig 32: Switch-mode power supply.

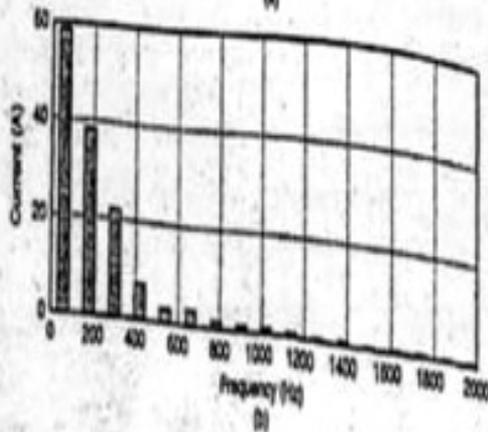
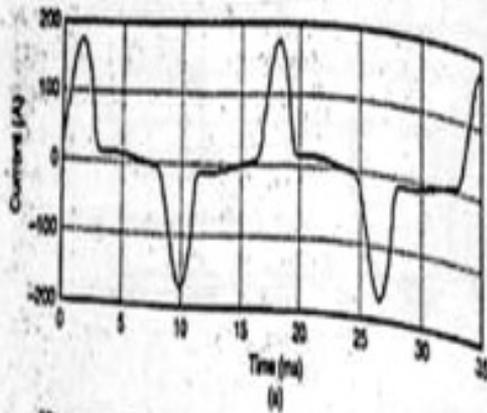


Fig 33: SMPS current and harmonic spectrum.

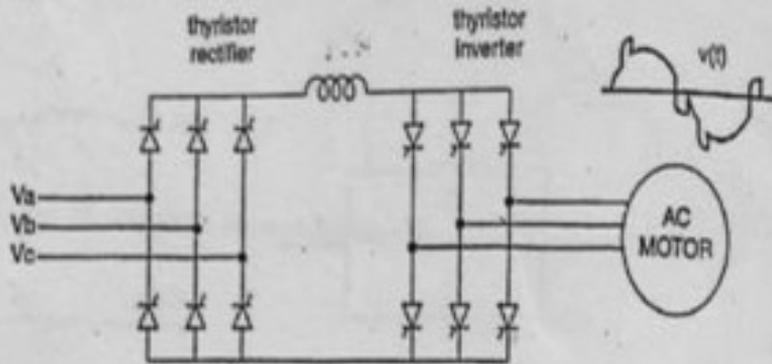


Fig. 38 CSI drive for AC motor

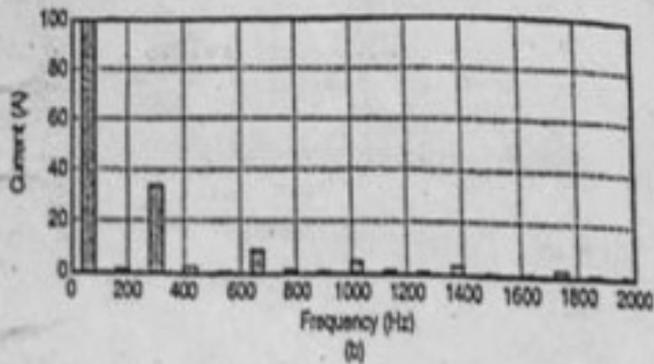
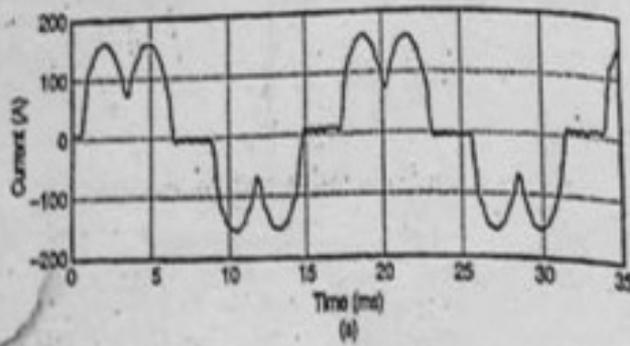


Fig. 39 Current and harmonic spectrum for current source inverter (CSI)-type ASD.

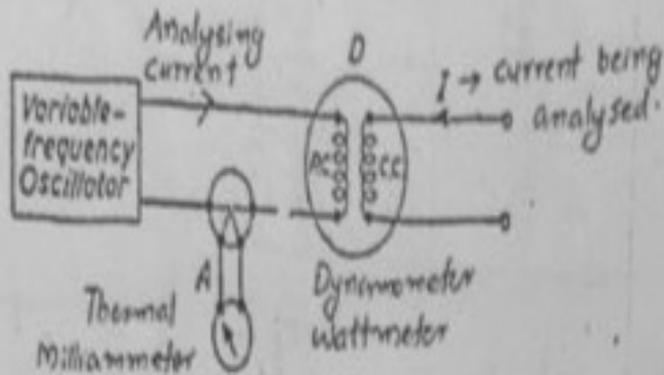


Fig. 40. Basic Harmonic Analyser

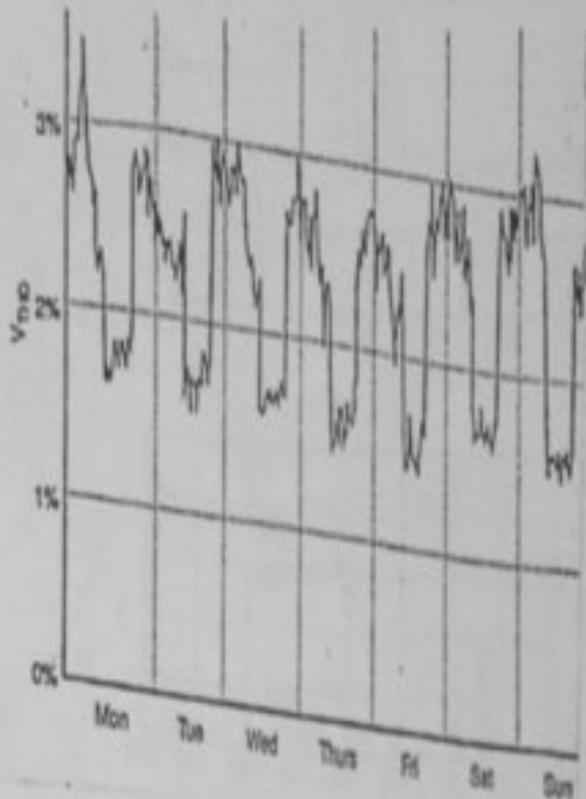


Fig 41. Voltage THD at 11 kv Distribution Transformer for 1 week .

to be continued.....



മാട്ടിറച്ചി, അസഹിഷ്ണത, ദളിത്പീഡനം....

Er. രാജൻ വി.

ഇന്ത്യ വൈവിധ്യങ്ങളുടെ ഒരു മഹാരാജ്യമാണ്; ഓരോ സംസ്ഥാനത്തും ഓരോ ജീവിതരീതിയാണ്. ഇതിനെക്കൊണ്ട് കൂട്ടിയോജിപ്പിക്കുന്ന ചിലഘടകങ്ങളുണ്ട്. അതിന്റെയടിസ്ഥാനത്തിലാണ് എല്ലാ ജാതിമതസ്ഥരും ഐക്യത്തോടെ കഴിയുന്നത്. നേരത്തെ പറഞ്ഞ വ്യത്യസ്തമായ ജീവിതരീതികളിൽ ഓരോ വിഭാഗവും കടുംപിടിത്തം നടത്തിയാൽ പല പ്രശ്നങ്ങളുമുണ്ടാകും. നമ്മുടെ സംസ്ഥാനവും ഉത്തരേന്ത്യൻ സംസ്ഥാനങ്ങളും തമ്മിൽ സാമൂഹിക-സാമുദായിക-സാമ്പത്തിക മേഖലകളിൽ വലിയ അന്തരമുണ്ട്. എന്തിന് നമ്മുടെ തൊട്ടടുത്ത സംസ്ഥാനങ്ങളിലും നമ്മുടെതിന് ഘടകവിരുദ്ധമായ വ്യവസ്ഥിതി പല രംഗത്തുമുണ്ട്. അതിന്റെ അടുത്തകാലത്തുണ്ടായ ഒരുത്തമ ഉദാഹരണമാണ് ചെറുപ്പന്റെ വാർ അഴിക്കൽ പ്രശ്നം. നമ്മുടെ മാധ്യമങ്ങൾ രണ്ട് മൂന്ന് ദിവസം ആഘോഷിച്ച ഒരു വിഷയമായിരുന്നല്ലോ അത്. അതെ സമയം ഇങ്ങനെയുള്ള പ്രവൃത്തി തൊട്ടടുത്ത സംസ്ഥാനമായ തമിഴ്നാട്ടിൽ ഒരു വിഷയമേയല്ല.

അത്പോലെയാണ് ചില മദ്ധ്യമ മേഖല സംസ്ഥാനങ്ങളിൽ നടന്ന ആവിഷ്കാര സാതന്ത്ര്യത്തിനെതിരെയുള്ള അതിക്രമങ്ങളും കൊലപാതകവും. ആ പ്രശ്നം രാജ്യത്ത് പല സ്ഥലങ്ങളിലും പലസമയത്തും ഉണ്ടായിട്ടുണ്ട്. നമ്മുടെ സംസ്ഥാനത്ത് പോലും പൊതുവേയുള്ളത് മതനിന്ദയുടെ പേരിലാണ് നടക്കുന്നത്. ഇപ്പോൾ നടക്കുന്നത് പ്രധാനമായും ഹിന്ദു മതവുമായി ബന്ധപ്പെട്ടാണ്. നേരത്തെ മുസ്ലീം മതവുമായും, അപൂർവ്വമായി ക്രിസ്തുമതവുമായും ബന്ധപ്പെട്ട് ഇവിടെ ബഹളങ്ങൾ നടന്നിരുന്നു. പൊതുവെ ഇങ്ങനെയുള്ള കുറ്റകൃത്യങ്ങളിൽ കുറ്റവാളികളെ അറസ്റ്റ് ചെയ്യുന്നതും ശിക്ഷിക്കുന്നതും അത്ര എളുപ്പമുള്ള

കാര്യമല്ല. ഇപ്പോഴത്തെ സംഭവങ്ങളിൽ കേന്ദ്രത്തിലെ ഭരണകക്ഷി പ്രതികൂട്ടിൽ നിൽക്കുന്നതുകൊണ്ട് സാംസ്കാരിക നായകർ വിശേഷിച്ചും സാഹിത്യകാരന്മാർ വളരെ വികാരഭരിതരാണ്. അങ്ങനെ പലരും ലഭിച്ച പുരസ്കാരങ്ങൾ നിരസിച്ച് നൽകി പ്രതിഷേധം പ്രകടിപ്പിക്കുന്നു. ഇതൊരു വെറും പ്രകടനങ്ങൾ മാത്രമാണെന്ന് പറഞ്ഞ് മാറി നിൽക്കുന്നവരുമുണ്ട്. എന്തായാലും കഴിഞ്ഞ ദിവസം കേന്ദ്ര സാഹിത്യ അക്കാദമി ഈ ആവിഷ്കാര സാതന്ത്ര്യത്തിന് നേരെയുള്ള ആക്രമണങ്ങളെ അതിക്ഷേപിച്ചുകൊണ്ട് പ്രമേയം പാസ്സാക്കി. സാധാരണപോലെ ഈ വിഷയങ്ങളിൽ പ്രതികരണങ്ങൾ നടന്ന നടക്കുന്നത് നമ്മുടെ സംസ്ഥാനത്താണ്.

ഇതിനിടയ്ക്കാണ് മാട്ടിറച്ചി പ്രശ്നം വരുന്നത്. ഗോമാംസം നിരോധിക്കുന്ന വിഷയത്തിൽ തുടങ്ങി അവസാനം യു.പി.യിൽ ഗോമാംസം കഴിച്ചതിന്റെപേരിൽ ഒരു കൊലപാതകം തന്നെ നടന്നു. അതിന്റെ അലകൾ ഇവിടെ കാമ്പസുകളിലും അലയടിച്ചു. അങ്ങനെ ബീഫ് ഫെസ്റ്റിവലുകൾ നടന്നു. നേരത്തെ പറഞ്ഞത്പോലെ ഗോവിനെ മാതാവായി ആരാധിക്കുന്ന ഒരു പ്രവണത ഉത്തരേന്ത്യയിൽ പണ്ടേയുള്ളതാണ്. അതുകൊണ്ട് അവിടെ ആ വിഷയത്തിലൊരു വൈകാരികതയുണ്ട്. അപ്പോൾ വിഷയത്തെ ഇവിടെത്തെ സംസ്കാരവുമായി താരതമ്യം ചെയ്യേണ്ടകാര്യമില്ല. ഇവിടെ ബീഫ്ഫെസ്റ്റിവൽ നടത്തുന്നതുകൊണ്ട് പ്രത്യേകിച്ചൊരു പ്രയോജനവും ഉണ്ടായില്ല. അതുപോലെ മറ്റ് സംസ്ഥാനങ്ങളിലൊന്നും ഇങ്ങനെ ആഘോഷം നടന്നതായിട്ടൊരറിവൊന്നുമില്ല. ഇപ്പോഴും വിഷയം സജീവമായി നിലനിൽക്കുന്നു.



ഈ ബഹളങ്ങൾക്കിടയിലാണ് ഹരിയാനയിൽ രണ്ട് ദളിത്കുട്ടികളെ ഉയർന്ന ജാതിക്കാർ നേരത്തെയുള്ള കുടിപ്പകയുടെ ഭാഗമായി ചുട്ടുകൊന്ന സംഭവം നടന്നത്. അവിടത്തെ സാമൂഹിക ചുറ്റുപാടിൽ ഈ ഹീന പ്രവർത്തിക്ക് അത്ര പ്രാധാന്യമൊന്നുമില്ല. അവിടെ ഇങ്ങനെയുള്ളകാര്യങ്ങൾ ശരിക്കും കൈകാര്യം ചെയ്യുന്നത് ഖാപ് (ജാതി) പഞ്ചായത്തുകളാണ്. അവരുടെ തീരുമാനങ്ങളെയും പ്രവർത്തികളേയും അവിടത്തെ രാഷ്ട്രീയ പാർട്ടികൾ, അതുകൊണ്ടുതന്നെ സർക്കാരും കണ്ടതായി ഭാവിക്കാറില്ല. ഈ പഞ്ചായത്ത് തീരുമാനങ്ങളെ എതിർത്താൽ അത് വോട്ട് ബാങ്കിനെ ബാധിക്കും. അവിടെ വേരോട്ടമില്ലാത്ത ഇവിടത്തെ പാർട്ടികൾക്ക് മാധ്യമ ചർച്ചകളിൽ ഇരുന്ന് ആവേശംകൊള്ളാം. അതുകൊണ്ട് ഒരു ഗുണവും ഉണ്ടായില്ലെങ്കിലും ഇതിനിടയ്ക്കാണ് ഒരു കേന്ദ്രമന്ത്രി ഈ വിഷയങ്ങൾ പത്രക്കാരുമായി സംസാരിക്കുന്ന കൂട്ടത്തിൽ ഒരു ഉപമ പ്രയോഗിച്ചത്. അടുത്ത കാലത്തായി സംഭാഷണത്തിലോ, പ്രസംഗത്തിലോ ഭാഷയിലെ ഒരു ശൈലിയോ, ഉപമയോ പ്രയോഗിക്കാൻ സാധിക്കില്ല. അതിനെ ഉടനെ സങ്കുചിത താല്പര്യങ്ങൾക്കായി പ്രയോജനപ്പെടുത്തും. വേശ്യയുടെ സദാചാരപ്രസംഗം പോലെയെന്ന് പറഞ്ഞാലുടനെ ഉദ്ദേശിച്ച ആളിനെ വേശ്യയെന്ന് വിളിച്ചെന്നാണ് വ്യാഖ്യാനം. ഭാഷയുടെ വിശുദ്ധി സൂക്ഷിപ്പുകാരെന്ന് അവകാശപ്പെടുന്ന മാധ്യമങ്ങളാണ് ഈ പ്രയോഗങ്ങൾക്കെതിരെ ബഹളമുണ്ടാക്കുന്നതെന്നതാണ് ഏറ്റവും രസകരമായ കാര്യം. ഇവിടെ അവസാനം മന്ത്രി മാപ്പ് പറഞ്ഞ് രക്ഷപ്പെട്ടു. അതുപോലെ ഇന്ത്യ ഫെഡറൽ ഭരണക്രമം നിലനിൽക്കുന്ന രാജ്യമാണ്. അതുകൊണ്ട്തന്നെ സംസ്ഥാനങ്ങളിൽ നടക്കുന്ന എല്ലാ കാര്യത്തിലും കേന്ദ്രഗവൺമെന്റ് അല്ലെങ്കിൽ പ്രധാനമന്ത്രി പ്രതികരിക്കണമെന്ന് പറയുന്നതിന്റെ ന്യായം എന്നാണ് മാധ്യമങ്ങളും മറ്റ് രാഷ്ട്രീയ പാർട്ടികളും

തരംപോലെ മറ്റ് ലക്ഷ്യങ്ങൾ വച്ചാണ് പ്രതികരിക്കുന്നത്. ഇങ്ങനെയുള്ള കാര്യങ്ങളിൽ മാധ്യമങ്ങൾ നിശ്ചയിക്കുന്ന ഒരു അജൻഡയിലാണ് കാര്യങ്ങൾ നടക്കുന്നത്. അത് കാരണം രാഷ്ട്രീയ നേതാക്കളും സത്യം ഒളിച്ച് വയ്ക്കും (ഇങ്ങനെ മാധ്യമങ്ങളും കുറെ സാംസ്കാരിക നായകരും നിശ്ചയിച്ച അജണ്ട പ്രകാരം കാര്യങ്ങൾ നടത്തിയാണ് നമ്മൾ മുല്ലപെരിയാറിൽ തോൽവികൾ ഏറ് വാങ്ങിയത്. തമിഴ്നാട് കേസ് നടത്തി; നമ്മൾ രാഷ്ട്രീയം കളിച്ചു. ഗവൺമെന്റിനുപോലും അവസാനം ഒന്നും ചെയ്യാൻ സാധിക്കാത്ത പര്യവൃത്തിൽ വിഷയം എത്തി. അങ്ങനെ കേസ് നടത്തിയവർ ജയിച്ചു; രാഷ്ട്രീയം കളിച്ചവർ തോറ്റു. നമ്മുടെ ആ സ്വഭാവത്തിന് ഇപ്പോഴും ഒരു മാറ്റവും വന്നിട്ടില്ല.

ഈ ബഹളത്തിനിടയിൽ മുംബൈയിൽ ഒരു പാകിസ്ഥാൻ എഴുത്തുകാരന്റെ പുസ്തക പ്രകാശനം 'മഷിപ്രയോഗത്തിൽ' കലാശിച്ചു. അത്പോലെ ഒരു സംഗീതജ്ഞന്റെ പരിപാടി അവിടെ നടത്താൻ അനുവദിക്കില്ലെന്നും അതെ പാർട്ടി പ്രഖ്യാപിച്ചു. മുംബൈയിലെ ഭീകരാക്രമണങ്ങളുടെ പ്രതികരണമെന്നുള്ള രീതിയിലാണ് ഈ പ്രതിഷേധങ്ങളെ ആ പാർട്ടി കാണുന്നത്. ഭീകരാക്രമണം നേരിട്ടു അനുഭവിച്ചതുകൊണ്ട് മഹാരാഷ്ട്രക്കാർക്ക് ഭീകരരെ സഹായിക്കുന്ന പാകിസ്ഥാനോട് എതിർപ്പുണ്ടാകുന്നത് സ്വാഭാവികം. അവിടെ യൊക്കെ ആവിഷ്കാര സ്വാതന്ത്ര്യമെന്നൊക്കെ ദൂരെയിരുന്നു വാചക കസർത്ത് നടത്തുന്നത്കൊണ്ട് പ്രത്യേകിച്ചൊരു ഗുണവും ഉണ്ടാകില്ല.

ഇങ്ങനെയുള്ള കാര്യങ്ങളിൽ നമ്മൾ വളരെ ഉപരിപ്ലവമായാണ് പ്രതികരിക്കുന്നത്. വൈകുന്നേരത്തെ ചാനൽ ചർച്ചകളിൽ സ്ഥിരം 'ജഡ്ജിമാർ' സ്ഥിരം അഭിപ്രായങ്ങളുമായി ജനത്തെ ബോധവൽക്കരിക്കും. അതിൽ പൊതുവെ സത്യം തമസ്കരിക്കപ്പെടും. രാഷ്ട്രീയ വിശ്വാസങ്ങൾ പ്രാമുഖ്യംനേടും



സമകാലികം

വീണ്ടും ഹെൽമറ്റ് ഭീഷണി

ഇടയ്ക്കിടെ വിവാദം സൃഷ്ടിക്കാറുള്ളതാണ് റോഡ് ഹെൽമറ്റ് നിയമം. ഇരുചക്ര വാഹനങ്ങളിലെ പിൻസീറ്റ് യാത്രികരും ഹെൽമറ്റ് ധരിക്കണമെന്നസ്ഥിതി സംജാതമായിരിക്കുന്നു. ഒരു നിയമമുണ്ടായാൽ അതു നടപ്പാക്കണമെന്നുപറയാനേ കോടതികൾക്കാവൂ. നിയമങ്ങൾ ജനഹിതമനുസരിച്ചല്ലെങ്കിൽ അത് പിൻവലിക്കുകയോ അസാധുവാക്കുകയോ ചെയ്യാൻ നിയമ നിർമ്മാണ സഭകളിലെ ജനപ്രതിനിധികൾ തയ്യാറായില്ലെങ്കിൽ അത് ജനാധിപത്യത്തിന്റെ പരാജയമാണ്.

നിയമനിർമ്മാതാക്കളും ജനങ്ങളെ സേവിച്ചേ അടങ്ങൂ (ആരോഗ്യപരിപോഷണത്തിന് ച്യവനപ്രാശം ലേഹ്യം സേവിക്കും പോലെ) എന്ന് ശപഥം ചെയ്തിരുന്നിട്ടുള്ള രാഷ്ട്രീയ നേതാക്കളും നാലുകാര്യങ്ങൾ പ്രധാനമായും പരിഗണിക്കേണ്ടതുണ്ട്.

ഇ.എം. നസീർ, ചിറയിൻകീഴ്

- 1) ലോകത്തിലെ ഏറ്റവും വലിയ ജനാധിപത്യ രാജ്യമായ ഇന്ത്യയിലെ നിയമങ്ങൾ ഭൂരിപക്ഷം വരുന്ന ജനങ്ങളുടെ ആഗ്രഹാഭിലാഷങ്ങൾക്ക് അനുയോജ്യമായിരിക്കണം.
- 2) ഇരുചക്രവാഹനയാത്രികരിൽ ഭൂരിപക്ഷവും റോഡുനിയമങ്ങൾ പാലിച്ച് സുരക്ഷാബോധത്തോടെ, കരുതലോടെ അപകടരഹിതമായി വാഹനമോടിക്കുന്നവരാണ്. സുരക്ഷയിൽ തങ്ങൾക്കില്ലാത്ത ആശങ്ക മറ്റുള്ളവർക്കുവേണ്ട.
- 3) ബഹുഭൂരിപക്ഷം വരുന്ന ഇരുചക്ര വാഹനയാത്രികർ ഇടത്തരക്കാരോ ലളിതജീവിതം നയിക്കുന്നവരോ ആണ്.
- 4) ഹെൽമറ്റ് നിയമപരമായി ബാധകമല്ലാത്ത സിക്യൂമതക്കാരായ ഇരുചക്രവാഹനയാത്രികരുടെ സുരക്ഷയെക്കുറിച്ചാർക്കും

അതുകൊണ്ട്തന്നെ ജനം ഇതിനെ ഒരു തമാശയായിമാത്രം കാണുന്നു. ആവിഷ്കാര സ്വാതന്ത്ര്യ പ്രശ്നത്തിൽ പൊതുജനം ഒരു താല്പര്യവും കാണിക്കുന്നില്ലെന്ന് സാംസ്കാരിക നായകർക്കും മാധ്യമങ്ങൾക്കും പരാതിയുണ്ട്. ജനം ഇവരൊക്കെകൂടി സംഘടിപ്പിച്ച് നൽകിയ വ്യക്തി സ്വാതന്ത്ര്യവും മനുഷ്യാവകാശങ്ങളും പ്രയോജനപ്പെടുത്തി ജീവിതം ആസ്വദിക്കുകയാണ്. മറ്റൊന്നിലും വിശേഷിച്ചും മറ്റുള്ളവരുടെ കാര്യത്തിൽ ഇടപെടാനൊന്നും അവർക്ക് സമയവുമില്ല. താല്പര്യവുമില്ല. അതിനവരെ കുറ്റം പറഞ്ഞിട്ട് കാര്യമൊന്നുമില്ല. ഈ സ്വാതന്ത്ര്യങ്ങളെ അങ്ങനെയൊന്നവർ മനസ്സിലാക്കിയിരിക്കുന്നത്. അതുപോലെ ഖാപ്പ് പഞ്ചായത്തിനെ

യും നാട്ടുകുട്ടങ്ങളെയും ഇവിടെയിരുന്നു സൈദ്ധാന്തികമായി എതിർക്കുന്നത്കൊണ്ട് ഒരു ഗുണവും ഉണ്ടായില്ല. അവിടങ്ങളിലെ സാമൂഹിക-സാമുദായിക സാഹചര്യങ്ങൾ മാറ്റി എടുക്കാൻ അവിടത്തെ രാഷ്ട്രീയക്കാരും സാംസ്കാരിക നായകരും ശ്രമിച്ചാലെ സാധിക്കൂ. അതിന് പിന്തുണ കൊടുക്കുന്ന രീതിയിലുള്ള പ്രവർത്തികൾ നമുക്കും ചെയ്യാം. അതല്ലാതെ നമ്മുടെ അജൻഡ അവിടെ നടപ്പിലാക്കാൻ സാധിക്കില്ലെന്ന കാര്യം പ്രത്യേകം ശ്രദ്ധിക്കുക. പൊതു പ്രവർത്തകരെ വിശേഷിച്ചും രാഷ്ട്രീയക്കാരെ സത്യം സത്യമായി പറയാൻ മാധ്യമങ്ങൾ അനുവദിക്കണം. അപ്പോഴെ നാട്ടിൽ നീതി നടപ്പിലാകൂ.





ആശങ്കയേയില്ലാത്ത സമീപനം മറ്റുള്ളവരുടെ കാര്യത്തിലും കാണിക്കണം.

അമിത വേഗവും മദ്യപിച്ചുള്ള വാഹനമോടിക്കലുമാണ് ഒട്ടുമിക്ക അപകടങ്ങൾക്കും കാരണം. ഹെൽമറ്റ് ധരിക്കുന്നതുമൂലമുള്ള കാഴ്ച - കേൾവിക്കുറവുകളും മറ്റ് അസ്വസ്ഥതകളും അപകടങ്ങൾക്ക് വഴിയൊരുക്കാറുണ്ട്. ഓർക്കാപ്പറ്റത്തു പ്രത്യക്ഷപ്പെടുന്ന കുണ്ടുകുഴികൾ മുന്നറിയിപ്പ് സൂചനകളില്ലാത്തതും ഒട്ടും ശാസ്ത്രീയമല്ലാത്തതുമായ ബാബുകൾ, മഴവെള്ളത്തിന്റെ കുത്തൊഴുക്കുകൾ സൃഷ്ടിക്കുന്ന ചരൽ - മണൽക്കുന്നകൾ, മറ്റ് അപ്രതീക്ഷിത പ്രതിബന്ധങ്ങൾ, ഹെൽമറ്റ് വേട്ടയ്ക്കായി ചതിക്കണിയൊരുക്കി പതുങ്ങിയിരുന്ന് യാത്രക്കാരുടെ മേൽ ചാടിവീണുള്ള 'ഗവൺമെന്റ് ഗുണ്ട'കളുടെ വാഹന പരിശോധനകൾ, തെരുവുനായ്ക്കളുടെ സമാന്തര ശൈലിയിലുള്ള കുറുകേചാട്ടം തുടങ്ങിയവ അപകടങ്ങൾക്കിടവരുത്തുന്നു. സർക്കാരിന്റെ ഭാഗത്തുനിന്ന് നിസ്സാരമായി പരിഹരിക്കേണ്ട കാര്യങ്ങളിൽ കടുത്ത അനാസ്ഥയും നിരുത്തരവാദിത്തവും ഉണ്ടെങ്കിലും അതിലാർക്കും കുറ്റബോധമോ പരാതിയോ ആരോപണമോ ആശങ്കയോ ഇല്ല. ആകെയുള്ളത് ലാഭബോധം മാത്രം. ഇക്കാര്യത്തിൽ എല്ലാ രാഷ്ട്രീയ പാർട്ടികളും മാധ്യമങ്ങളും ഒറ്റക്കെട്ടാണ്. അവർക്കതിന്റെ പിൻവാതിൽ പ്രയോജനവുമുണ്ട്. അപകടമുണ്ടായ ശേഷമുള്ള കാര്യങ്ങൾക്ക് കൊടുക്കുന്നതിലും പ്രധാന്യം അപകടങ്ങൾ ഒഴിവാക്കാനാണ് നൽകേണ്ടത്. രോഗംവന്നിട്ട് ചികിത്സിക്കുന്നതിലുംഭേദം രോഗംവരാതെ സൂക്ഷിക്കും പോലെ.

ഇരുചക്രവാഹനങ്ങളുപയോഗിച്ച് അപകടസാധ്യതകളുള്ള സാഹസികാഭ്യാസ പ്രകടനങ്ങൾ നടത്തിയിരുന്നവരുടെ സുരക്ഷയ്ക്കായിട്ടാണ് ഹെൽമറ്റ് ജനം കൊണ്ടത്. സാഹസികതകൾ റോഡുകളിലേക്ക് വ്യാപിച്ച് അപകടങ്ങളുണ്ടായപ്പോൾ കമ്പോളവൽക്കരണത്തിന്റെ പ്രയോക്താക്കൾ അവസരോചിതമായി അനാ

വശ്യ ഭീതി ജനിപ്പിച്ച് ഹെൽമറ്റ് ബിസിനസ്സ് വ്യാപകമാക്കി. നിസ്സാര രോഗങ്ങൾക്ക് ഫലങ്ങളുള്ളവാക്കുന്ന ഔഷധങ്ങൾ വിപണിയിലെത്തിച്ചതുപോലുള്ള വാണിജ്യ തന്ത്രം. അതിനുവേണ്ടി ഓരോരുത്തരുടെയും ദൗർബല്യത്തിനൊത്ത് കാണേണ്ടവരെ കാണേണ്ടരീതിയിൽ കണ്ടതുകൊണ്ടാണ് ആഗോളതലത്തിൽ ഹെൽമറ്റിന് ആവശ്യകതയും പ്രാധാന്യവും കൈവന്നത്. വാഹനങ്ങളുപയോഗിച്ചുള്ള അഭ്യാസങ്ങൾ തടഞ്ഞും റോഡുകൾ കർശനമായി സുരക്ഷായോഗ്യമാക്കിയും അപകടങ്ങൾ ഒഴിവാക്കുകയാണ് വേണ്ടത്. അപകടക്കണികളൊരുക്കി അപകടങ്ങളുടെ എണ്ണം പെരുപ്പിക്കുന്നതും ഒഴിവാക്കണം. ഉരുട്ടിയിടാൻ വേണ്ട വിദ്യകളെല്ലാം ഒരുക്കിയിട്ട് അതിനിരയാകുന്ന വരോട് കപടസഹതാപം കാട്ടുന്നത് ആർക്കും ഭൂഷണമല്ല. അപകടക്കണികളിൽപ്പെടുന്ന ഇരകളുടെ ഉടലും കൈകാലുകളും ചത്തന്തരഞ്ഞ് ചമന്തിയാകുമ്പോൾ തലമാത്രം സംരക്ഷിച്ചതുകൊണ്ട് ഒരുകാര്യവുമില്ല, ഫ്രീഡ്ജിൽ സൂക്ഷിക്കാൻ കൊള്ളാമെന്നല്ലാതെ.

സർക്കാരാശുപത്രികളിൽ മരുന്നിനു കാശില്ലാതെ മരണവുമായി മല്ലടിക്കുന്ന വർക്കരുടെ ലഭ്യമാക്കാൻ താൽപര്യമേയില്ലാത്ത, കുറ്റകരമായ അനാസ്ഥ കാട്ടി നിർധന രോഗികളെ മരണത്തിനു കീഴടങ്ങാൻ വിധിക്കുന്ന അധികാരി വർഗ്ഗത്തിനാണ് അപകടത്തിൽപ്പെടാൻ സാധ്യതയേയില്ലാത്ത ബഹുഭൂരിപക്ഷം വരുന്ന ഇരുചക്രവാഹനയാത്രികരുടെ തലച്ചോറിന്റെ പേരിലുള്ള ഹിമാലയൻ ഉത്കണ്ഠ!!! ഈ വിരോധാഭാസത്തിനെതിരെ ജനാധിപത്യപരമായി പ്രതികരിക്കാനുള്ള മറുമരുന്നാണ് തിരഞ്ഞെടുപ്പുകളിൽ പ്രയോഗിക്കാവുന്ന 'നിഷേധവോട്ട്' സൗകര്യം.

ഒരിക്കൽ പരീക്ഷിച്ചാൽ രാഷ്ട്രീയക്കാരെ തിരുത്താനാകും. ജനം ഇക്കാര്യത്തിൽ നിസ്സംഗത കാട്ടിയാൽ ചൂഷകരായ സ്വേചരാധിപതികളെ തിരഞ്ഞെടുക്കുംപോലെയായിപ്പോകും.





കവിത

അന്നും ഇന്നും

P. Ramachandran

Assistant (Engineer Rtd. Kannur Unit)

അന്ന്,
 എന്റേയും നിന്റേയും
 ചിന്തകളും, വാക്കുകളും
 പ്രവൃത്തികളും ഒന്നായിരുന്നു.
 എപ്പോഴാണ്
 ഏതോ ഒന്നിൽ പിഴച്ചത് ?
 ചിന്തകളിലും, വാക്കുകളിലും
 പ്രവൃത്തികളിലും ഇരുട്ട്
 നുഴഞ്ഞുകയറിയത്?
 അറിയുമോ നിനക്ക്
 കുത്തിയൊഴുകുന്ന
 മാധുര്യമുറുന്ന വാക്കുകൾ
 നിർഗ്ഗമിക്കുവാൻ ഭംഗംവന്നതും
 അണഞ്ഞുപോയതും ?
 ഇടയിൽ അസൂര വിത്തുകൾ
 മുളച്ചുപൊങ്ങിയതെങ്ങനെ ?
 എല്ലാറ്റിനും വിരാമമേകാൻ !
 കണ്ണുകളിൽ അന്യംചാർത്താൻ !
 മനസ്സു നഷ്ടപ്പെടാൻ !
 സമാന്തരരേഖകളായി
 പരിണമിക്കാൻ !
 കാര്യമില്ലാതെ കാരണങ്ങൾ
 ഉരുത്തിരിഞ്ഞത്?
 എനിക്ക് എന്റെ വഴി,
 നിനക്ക് നിന്റെ വഴി
 നിയതിതൻ നിയമമല്ലാതെ !
 ഭ്രമണം നിൽക്കുന്നില്ല !





BOARD ORDERS

KERALA STATE ELECTRICITY BOARD LIMITED

Abstract

Approval of miscellaneous charges as approved by KSERC- Inclusion of revised charges of meter rent and clarification on date of implementation - sanctioned- orders issued.

Corporate Office (Commercial & Tariff)

B.O. (FTD) No.1998 /2015(KSEB/TRAC/R3/SOP/2014-15) Tvp.m.dated 11- 08 - 2015

Read :

1. Order dated 1.7.2015 of KSERC in OP No. O.P. No. 4 of 2015
2. B.O. (FTD) No.1735/2015(KSEB/TRAC/SOP/2014-15/R3) dtd 16.7.2015
3. B.O.(FTD)No.2891/2014(KSEB/TRAC/TariffRev-2014-15) dtd 05.11.2014.
4. Note No. KSEB/TRAC/R3/SOP/2014-15/2020 dtd 24.7.2015 of the Chief Engineer (Commercial & Tariff)

ORDER

Hon'ble commission in its order read as 1st paper above, has approved various Miscellaneous Charges along with methodology for calculation of residual cost of meter, security deposit for meters and charges for protected load etc. These charges were in addition to the charges contained in the schedule1 of miscellaneous charges of Kerala Electricity Supply code 2014(KESC 2014). As per the B.O. read as 2nd above, the schedule of miscellaneous charges in schedule-1 of KESC 2014 was revised with inclusion of the newly approved items. Subsequently, it is noticed that the monthly rental charges for energy meters has been revised by the Commission vide order dated 30th September 2014 on petition No.OP 9 of 2014 among other charges. Vide B.O. read as 3rd paper above, KSEB Ltd has adopted the revised charges.

These rates are different from the schedule to the KESC 2014. Thus, while revising the schedule of miscellaneous charges, the revised charges of meter rent need to be incorporated as decided by KSERC in its order dated 30.9.2014. Also, while the date of implementation of the new rates is specified from 1.9.2015, the charges approved earlier are already in existence now. It is also necessary to clarify that the date of implementation of only newly introduced charges shall be from 1.9.2015 and all other charges shall continue as such. Chief Engineer (Commercial & Tariff) as per the note read as 4th paper above, placed the matter before the FTD.

Having considered the note read above, Board hereby orders to

1. approve the revised schedule of miscellaneous charges as appended to this order.
2. implement the newly introduced charges as per item 11 and item 13 to 17 in schedule of miscellaneous charges appended to this B.O. from 1.9.2015 and to continue other charges as per existing orders.

By order of the Board
Sd/-
R. Rajasekharan Nair
Secretary (Administration)



Annexure to B. O.(FTD) No. 1998 /2015 (KSEB/TRAC/R3/SOP/2014-15) dated 11 -08-2015

Schedule of Miscellaneous Charges		
Sl. No.	Description	Approved Amount Rs.
1	Application Fee	
	a Service Connection	
	i . L.T. Supply	50
	ii H.T. Supply	1,000
	iii E.H.T. Supply	5,000
	b Shifting of meters, change of tariff, connecting up additional load, change of ownership, disconnection & reconnection on request, testing accuracy of meters, testing transformer oil etc. for individual benefit	10
	c Realignment of lines, shifting of posts / lines etc. for individual benefit	
	i For LT lines	100
	ii For HT lines	500
	d Hire & Hire purchase of materials	50
	e Request by consumer	
	i Reduction / increase of connected load / contract demand	25
	ii Meter Reading and associated billing	50
	Note: Applications for Voltage Improvement, mass petition for line extension and deposit works by local bodies are exempted from remitting application fee. A petition signed by four or more people may be considered as a mass petition.	
2	Processing fee	
	a For change of ownership	100
	b For shifting of lines	
	For LT lines	200 per work
	For HT lines	500 per work
3	Monthly Rental Charges	
	Energy Meter (Rupees per month or part thereof) for service connection provided with	
	Single Phase Meter	6
	ii Three Phase Meter	15
	iii Three Phase CT Meter	30



Sl. No.	Description	Approved Amount Rs.		
iv	3 phase AC static Trivector energy meters with ABT, ToD facility and compliant to DLMS protocol	1000		
	Note: Charges shown above are uniform irrespective of whether the meters are mechanical electronic or special meter.			
4	Reconnection Fee	LT	HT	EHT
	a When the supply to installation remains disconnected for period not exceeding six months due to non-payment of electricity charges	30	1,000	2,000
	b When the supply to installation remains disconnected for period exceeding six months due to non-payment of electricity charges or on request of the consumer (including testing fee)	100	2,000	4,000
	c When the supply to installation remains disconnected due to fault in installation / due to noncompliance with the provisions of the KSEB Terms and Conditions of Supply, 2005 (even if the period of disconnection does not exceed six months) (including testing fee)	100	3,000	6,000
5	Testing Fee			
	a The first test and inspection of a new installation shall be carried out free of charge.			
	b If any further test and/or inspection becomes necessary owing to any fault in the installation or due to non compliance with KSEB Terms and Conditions of Supply, 2005 or for testing for extensions, the charges payable in advance for each additional test and / or inspection shall be as follows:			
	i LT Single Phase	25		
	ii LT Three Phase	50		
	iii HT	1,000		
	iv EHT	2,000		



c	Testing fee for metering equipment at consumer's request per test.		
	i	Single Phase Meter	100
	ii	Three Phase Meter	200
	iii	CT / TOD Meter	1,000
	iv	Trivector Meter	1,000
	v	CT/PT Unit	1,500
	vi	HT – CT alone (per set)	750
	vii	LT- CT (per CT)	100
	viii	HT-PT	750
	Note: 1) Consumer can entrust the meter testing either in the Electrical Section office or can directly submit the meter to the approved Laboratories for testing. Consumer who entrust the meters (to be tested) in the Electrical Section Office, are to remit transportation cost with packing charge of Rs 100/- per meter in addition to testing fee mentioned above.		
2)	If the error in the meter is found to be beyond the limits of accuracy as prescribed in the Regulations, in force from time to time, the testing fee shall be returned to the consumer.		
	d	Testing of Transformer Oil (per sample)	200
6	Miscellaneous Charges		
	a	Dismantling of service connection (On request by consumer)	100
7	Establishing Credit in the meter (prepaid meter)		
	a	First Credit establishment for the month	Nil
	b	Subsequent Credit establishment	100
8	Fee for appeal under Section 127–Up to Rs.100,000	2% of the assessed amount, subject to a minimum of Rs.500.	
9	Fee for appeal under Section 127 – Above Rs.100,000	1% of the assessed amount, subject to a minimum of Rs.2,000.	
10	Rate of interest for delayed payment	12% per annum, based on actual number of days of delay from the due date, up to a period of 30 days and thereafter at the rate of 18% per annum for the entire period of default from the due date.	



11	Penal charges for making the meter inaccessible for billing		
	As per Regulation 111 of the Kerala Electricity Supply Code 2014, if the meter is rendered inaccessible on two consecutive meter reading of two billing cycles, penal charge is to be levied		
	i	LT Single Phase	250
	ii	LT three Phase	500
	iii	HT	5,000
	iv	EHT	10,000
12	Energisation charges	300	For energisation of individual consumers located inside colonies, high rise buildings or commercial / industrial residential complexes developed by promoters / builders etc at the time of applying for separate connection as per regulation 49(6) & 49(7)(c) of Kerala Electricity Supply Code 2014
13	Processing fee for application as per Regulation 75 (11) of supply code 2014		
	i.	Load upto 5KW	150
	ii	Load above 5 KW and upto 20KW	300
	iii	Load above 20KW and upto 100KVA	1,000
	iv	Load above 100KVA and upto 3000KVA	3,000
	v	Load above 3000KVA and upto 12000KVA	10,000
	vi	Load above 12000KVA and upto 20000KVA	20,000
	vii	Load above 20000KVA and upto 40000KV	40,000
	viii	Load above 40000KVA	50,000
	Note : Processing fee shall not be applicable to the BPL category connections with connected load of and below 1000 watts.		
14	Inspection fee for inspection on Holidays /specified date of consumer as per Regulation 77(3) Supply Code 2014		
		Inspection fee on working days as chosen by the consumer	Inspection fee on holidays as chosen by the consumer
	i	LT Single Phase	25
	ii	LT Three Phase	50
	iii	HT	1,000
	iv	EHT	2,000

15.	Security Deposit of meters	
	i. Single phase ToD meters	700
	ii Three phase ToD meters	2,100
	iii CT Meters ToD 2,500	
	iv Single phase ToD meters with AMR and modem	700
	v Three phase ToD meters with AMR and modem	2,100
	vi CT Meters ToD with AMR& modem	2,500
	vii Single phase AMI Complaint Meter with modem	2,000
	vii Three phase AMI Complaint Meter with modem	4,000
	viii ABT Complaint Meter	92,817
16	Residual cost of meters	
	<p>The residual cost of meters as per Regulation 22 of Kerala Electricity Supply Code 2014 shall be calculated on the basis of purchase cost of the meter [Cost Price (CP)]. KSEB will publish the purchase cost of all makes of meters made in all previous years for working out the residual cost at the time of replacement. At the end of every year the depreciation value shall be deducted from the CP and the value thus arrived shall be considered as the Residual Price (RP) in the beginning of the subsequent year This way the Residual Cost of the meter is calculated as on the date of replacement of the meter. The rate of depreciation for meters as per the CERC Depreciation Schedule is 6% and hence it is taken as the depreciation rate per year for calculating residual cost of meter</p> <p>Thus $RP = CP [1 - (D \cdot n / 100)]$ where, RP = Residual Price at the time of replacement CP = Purchase Cost of meter D = Depreciation rate n = number of years elapsed from year of procurement to year of replacement; the maximum value of n being '15' If the fraction of years thus considered is below 6 months, it is ignored and if it is above 6 months, it is taken as a full year. On completion of 15 years from the date of manufacture (which may be marked on the name plate of the meter), the residual value will be only 10% as per the CERC Depreciation Schedule.</p>	
17	Additional charge for protected Load	
	<ol style="list-style-type: none"> 1. 20% additional demand charges over the monthly recorded maximum demand during the period of load shedding to be levied from the consumer with protected load status as per Regulation 48 of Kerala Electricity Supply Code, 2014 2. The consumer with dedicated feeder from grid substations shall apply for and obtain protected load status Protected load status can be applied for at any point in time and the consumer has the discretion to decide the period for which this status is required. 3. If such consumer consumes more energy than their eligible quota during the period of power restrictions and load shedding he shall pay charges for such excess consumption at the rates approved by the Commission. 	



KERALA STATE ELECTRICITY BOARD LIMITED

Abstract

Miscellaneous charges as approved by KSERC- Freezing collection of processing fee for connections and security deposit of meters-sanctioned- orders issued.

Corporate Office (Commercial & Tariff)

B.O. (FTD) No. 2514 /2015 (KSEB/TRAC/R3/SOP/2014-15) Tvpm dated 07.10.2015

- Read :** 1. Order dated 1.7.2015 of KSERC in OP No. O.P.No. 4 of 2015
2. B.O. (FTD) No.1735/2015(KSEB/TRAC/SOP/2014-15/R3) dated 16-7-2015
3. B.O. (FTD) No.1998/2015(KSEB/TRAC/R3/SOP/2014-15) dated 11.8.2015
4. Note No.KSEB/TRAC/R3/SOP/2014-15/2007 dated 6.10.2015 of the Chief Engineer (Commercial & Tariff)

ORDER

Hon'ble commission in its order read as 1st paper above has approved various Miscellaneous Charges along with security deposit for meters, processing fee etc. Accordingly, the schedule of miscellaneous charges in schedule-1 of KESC 2014 was revised with inclusion of the newly approved items as per the Board orders read as 2nd and 3rd papers above. The revised schedule was included as annexure to the above Board orders.

Due to protest from various corners, Hon' ble Minister for Electricity has directed to freeze the order for implementation of security deposit of meters and processing fee for connections until Hon'ble Commission reviews the direction and approval of the Council of Ministers is obtained.

Chief Engineer (Commercial & Tariff) as per the note read as 4th paper above has placed the matter for consideration of the Board. Having considered the note, Board hereby accords sanction

1. to freeze the implementation of item 13&15 of annexure to the Board orders read 1st and 2nd above till further orders.
2. to instruct the field officers to defer the collection of processing fee for connections and security deposit of meters till further orders.

By order of the Board
Sd/-

R. Rajasekharan Nair
Secretary (Administration)



KERALA STATE ELECTRICITY BOARD LTD.

(Incorporated under the Indian Companies Act, 1956)

Registered Office: Vidyuthi Bhavanam, Pattom,
Thiruvananthapuram - 695 004.

Abstract

Operationalisation of the Master Trust - Engagement of the employees of KSEBL for the disbursement of terminal benefits through the Master Trust - Sanctioned - Orders issued.

CORPORATE OFFICE (FINANCE WING)

B.O (FTD) No. 2594/2015 (FA&CAS/Master Trust/2015-16) Thiruvananthapuram, dt: 15/10/2015.

- Read: 1) G.O (MS) No. 46/2013/PD dt: 31/10/2013.
2) Minutes of the Board of Trustees Meeting of the Master Trust held on 16/04/2015.
3) Note No. FA&CAS/Master Trust dtd: 25/09/2015 of the Deputy Chief Accounts Officer in charge of Financial Adviser.

ORDER

As stipulated in 6 (8) & 6 (9) of the Kerala State Electricity Second Transfer Scheme, the Master Trust for the pension fund of employees of KSEB Ltd. was registered on 12/02/2015. As per clause 18 of the Bye-laws of the Master Trust, the existing employees of the KSEB Ltd. can also be engaged for various support functions. Also clause 21 of the Bye-laws stipulates that all expenses incurred by the Trust in connection with the administration of the fund shall be born by KSEB Ltd. In view of the above provisions the services of the existing staffs of KSEB Ltd. now engaged in the pension disbursing ARU's can be utilized for the support functions required for the functioning of the KSEB Ltd. Employees Master Pension and Gratuity Trust.

The first meeting of the Board of Trustees of the Master Trust was held on 16/04/2015. In the meetings of the Master Trust it was proposed that separate cell will be made functional in all pension disbursing ARU's with the existing staff of KSEB Ltd. as being engaged now for the disbursement of pension. The present Drawing and Disbursing Officer of pension disbursement ARU's of KSEBL will function in future as the pension Drawing and Disbursing Officer of KSEB Ltd. Employees' Master Pension & Gratuity Trust. The meeting also decided to open separate Bank Account for the Trust at SBT, KSEB Administrative Complex Branch, Pattom and to open separate Bank Account of the Trust in all the pension disbursing ARU's, where the existing drawing account of the ARU's is maintained for the disbursement of pension and other retirement benefits. The following resolution was passed in Master Trust meeting.

- 1) To open a Bank Account with State Bank of Travancore, KSEB Administrative Complex Branch, Thiruvananthapuram in the name and style of Kerala State Electricity Board Limited Employee's Master Pension and Gratuity Trust and that



- the Financial Adviser of KSEBL and Treasurer of Master Trust be and is hereby authorized to make an application to the said Bank for the above purpose.
- 2) That the Treasurer & Secretary of the Trust shall be the Authorized Signatories of the Trust and they are authorized to operate the Bank Account jointly with the said Bank as stipulated in clause 22 of the Trust Deed.
 - 3) To request KSEB Ltd. to transfer the initial corpus fund of '10 lakh to the Master Trust Account. The Secretary is hereby authorized to take necessary action for the same.
 - 4) To open a Bank Account of the Trust for disbursement of pension and terminal benefits with the concerned Branch of State Bank of Travancore, where the ARUs of KSEB Ltd. is maintaining the existing drawing account, in the name and style of Kerala State Electricity Board Limited Employee's Master Pension and Gratuity Trust.
 - 5) That the pension drawing and disbursing officers of KSEB Ltd. (ARU Officers) shall be authorized to open a Separate Bank Account in the same Branch where, the existing drawing account of the ARUs is maintained for the disbursement of pension and retirement benefits. The account shall be operated only for the disbursement of pension and terminal benefits of the pensioners of KSEB Ltd.
 - 6) That the present method of disbursement of monthly pension and other pensionary benefits to the pensioners of KSEB Ltd. shall be continued in the existing manner utilising the existing staff of ARUs of KSEB Ltd. and the concerned ARU Head shall function as Drawing and Disbursing Officer of Pension through the Master Trust.
 - 7) That the Treasurer is authorized to issue necessary accounting procedures for operationalisation of pension payments through Master Trust after due approval by the Chairman and the Convenor of the Trust.
 - 8) To subscribe the bonds issued by KSEB Ltd. as envisaged in the Kerala Electricity Second Transfer (Amendment) Scheme (Re-Vesting) 2015 as notified vide G.O. (P) No. 3/2015/PD dated 28/01/2015.
 - 9) To Request to Government for including the representatives of Association of Officers having recognition and Pensioners' Union in the Board of Trustees of the Master Trust. The Secretary is authorized to take further action in this regard.

Accordingly as per the note read as 3rd paper above, the matter was placed before the Full Time Directors. Having considered the above, the Full Time Directors in the meeting held on 03/10/2015 decided to continue the present method of disbursement of monthly pension and other terminal benefits to the pensioners of KSEB Ltd. in the same manner in the Pension Master Trust by utilizing the existing staff of ARUs and the concerned ARU Head shall function as Drawing & Disbursing Officer of pension through the Master Trust.

Orders are issued accordingly.

By Order of the Full Time Directors

Sd/-
R. Rajasekharan Nair
Secretary (Administration)



Electricity employees to go on one day nation wide strike on Dec 8

National Coordination Committee Of Electricity Employees & Engineers (NCCOEEEE) has decided to observe one day strike on December 8 next against Electricity (Amendment) Bill 2014 during winter session of parliament. Decision to go on a day strike has been taken by NCCOEEEE in its meeting held at Delhi recently. All India Power Engineers Federation (AIPEF) Chairman Shailendra Dubey said today that NCCOEEEE meeting was presided by veteran trade union leader A B Bardhan and attended by President & General Secretary of All India Power Engineers Federation, All India Power Diploma Engineers Federation, Electricity Employees Federation Of India (CITU), All India Federation Of Electricity Employees (AITUC), Indian National Electricity Workers Federation (INTUC) and All India Power Mens Federation. Mr Dubey said NCCOEEEE has termed the proposed bill as anti people and has decided to oppose it tooth and nail. He said that it has been decided to go on strike on December 8 throughout the country. About 12 lakh power employees and engineers are likely to participate in nationwide power strike. Mr Dubey said that as per decision of NCCOEEEE all state units of power engineers and employees will hold state conventions, mass demonstrations and rallies at state capitals in November to mobilize for December strike. NCCOEEEE has also planned for massive demonstration on November 6 at Kochi where power ministers conference of all states has been arranged by Ministry Of Power Government Of India. The Electricity (Amendment) Bill, 2014 initiated in the Parliament on December 19, 2014 with the purpose of further splitting of Electricity Distribution Sector into carriage and content to enable profit mongers to enter into supply business of urban and revenue potential area without any investment for development or expansion of the Power Industry. The proposed Bill if enacted will open the sector for cherry picking by the suppliers pressing the poor and low end consumer to pay more for consumption of Electricity. The NCCOEEEE has appeal to Government of India to be restrained from the proposed action plan.

Indian Power Sector Roundup

(Source : WebIndia)



Dr.Vijayakumar, Professor, Department of Mathematics, CUSAT delivering the commemoration talk on Dr. A P J Abdul Kalam on his 84th Birthday. The function was conducted by Ernakulam unit on 15.10.2015



Eye testing camp organised by Kasaragode unit

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Technical tour conducted by Kannur unit to
Barapole Generating Station and Kannur International Airport