Hydel Bullet

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

Issue - 7 Vol - 4 July 2016

ELIMINATING INEFFICIENCIES- MANAGING HRIS

Vydyuthi Bhavanam, Thiruvananthapuram will be witnessing a revolutionary step towards harnessing the possibilities of HRIS, the flagship software developed for managing the most important resource,the human capital. Most probably, from next month onwards, Vydyuthi Bhavanam employees will have no attendance book and the punching data will be captured directly in HRIS and linked to the payroll. It's a welcome step indeed.

Contd.....Page 4

CONGRATULATIONS

Sri. Paul Antony IAS
Chairman & Managing Director
KSEB LTD.

Sri. S. Rajeev
Director
(Generation-Civil & HRM)
KSEB LTD

Sri. N. Venugopal
Director
(Distribution, Safety & Generation-Electrical)
KSEB LTD

Sri. Shen Shaji, son of Er. Shaji K mathew, Executive Engineer, Generation Circle, Moolamattom secured 1200/1200 marks in Kerala Higher Secondary Examination. KSEBEA wishes him all success in all future endeavours.

Hydel Bullet

(A Monthly Publication of the KSEB Engineers' Association)
Vol - 4 Issue - 7 July 2016

Contents

The Human Resource Information System (HRIS) software was introduced in KSEB aiming to map all the Human resource functions of our organization namely employee information, payroll, provident fund, pension, leave and general transfer. The full-fledged implementation began from 2012 onwards, when all the ARUs were asked to export the legacy data into the software.

Human Resource Department should actively explore the merits of the organisation while extracting the scalability of HRIS package. The possibilities are countless. The HRIS software was intended to automate all the HR processes required by our organization in order to maintain an efficient workforce but has taken a very long time to come out of the incubator.

HRIS should have the whole service book data of an employee. It's high time that full employee data (leave, incumbency, service history, pay history etc.) is entered into HRIS. A concerted data entry effort can make these data available in a month's time. Elimination of Service books and automation of leave data, PF data and other related works will spare quality time to Engineers for managing the core technical issues.

At present Provident Fund data in HRIS is captured from payroll. But credit card preparation, interest calculation seems to be still manual. This shall also be automated.

The online transfer application which is coming up shall also be linked with the HRIS so that the relieving and joining will be done automatically through HRIS.

Other functions like pension, IB booking, processing of TA and DA allowances, reimbursement of medical expenses, medical advance etc. can be incorporated into the package subsequently. It is heard that the pension module is under testing phase at some places. The real concern is the long time taken for development of these modules.

The IT Act has given credential to Digital Signatures in Communication. Adopting Digital Communication with the help of Digital Signatures can eliminate the communication delays in the offices. Digital Signature Certificates (DSCs) along with Aadhar shall also be linked with HRIS so that the officers shall enjoy speedy and secure communication.

Training is one of the important tools to enhance the skill set of employees, especially in a technical and engineering organisation. Mapping training needs and introducing compulsory training for all employees shall be done through HRIS.

We urge the management to have a focused approach in fully leveraging the HRIS package by properly increasing the resources of the HRIS team and to cover all the functions of the HRM department. In a recent speech given to PWD engineers, Hon. Dr. E. Sreedharan lamented about the plight of engineering organisations which should have right mix of human resources to actively leverage the core competence of the organisation. In these turbulent, times KSEBL is being singled out by regulatory organisations for inefficiencies in human capital. By introducing sufficiently automated →

COVERED CONDUCTOR

Er.Vincent Varghese

Electricity is distributed by the utility through bare overhead conductors, Aerial bunched cables(ABC) or underground cable network. The most common amongst them being the bare overhead conductors strung on poles, being the inexpensive solution, underground cable network being the most expensive solution.

The bare conductor distribution system brings with it certain disadvantages along with the cost advantage :

- clearances between the conductors and to adjacent buildings
- clashing of conductors during wind and storm .
- electrocution due to growth of vegetation under the conductors.
- Trimming / cutting of trees or branches – an environmental issue.

The underground cable network, even though the best solution, is difficult to be incorporated due to the limited right of way available in existing cities and also is prone to high maintenance due to the frequent digging and disturbance to the system by other agencies. This leads to frequent damage to cable which leads to long time shutdown for tracing the failure, digging out the failed cable and making joints. Moreover the cost involved is very high when compared to the bare conductors.

The Ariel bunched cable did provide an intermediate solution, but is not being considered as a suitable alternative due to its inability to carry higher fault currents that are prevalent in the system today, and its frequent failure. Added to this is the number of joints and terminations necessary.

→

Human Resource systems, KSEBL can eliminate the inherent inefficiencies in managing these resources and making them a happier lot. Happy employees contribute to a vibrant workforce and a vibrant organisation.

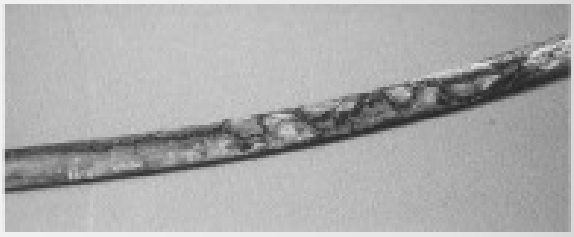
Simultaneously, we also urge the management to introduce ERP software in KSEBL that will facilitate information sharing across different organizational units located at various geographical locations. The integrated information from all the "information islands" can very well support the business activity and enable decision-makers for arriving at timely, reliable and consistent decisions for achieving organisational goals.

❖

Medium Voltage Covered Conductor system provide the best solution at very affordable cost which overcomes most if not all the problems associated with the bare overhead conductors.

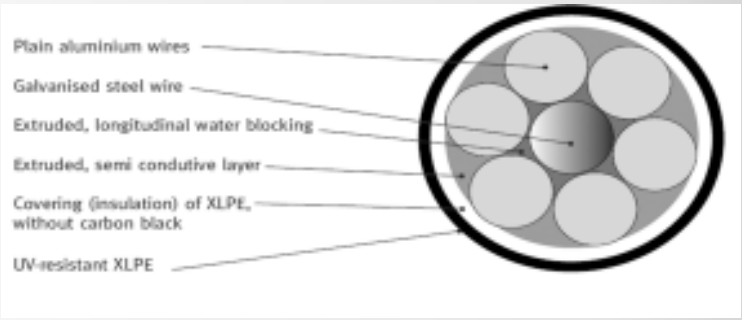
Till recently utilities were using the conductors with a coating of XLPE as covered conductors. The issues relating to this are :

- Since there is no water blocking, the water used to enter the conductor at any cut point, flow through the conductor and accumulate at the lowest sag point, create corrosion and final destruction of conductor.
- Normal XLPE is not able to withstand the tracing, erosion and weathering and gradually forms cracks and finally erodes.
- Full insulation against conductor clashing is not provided.
- Insulation against tree / branch falling and shorting is not provided for longer period of time.



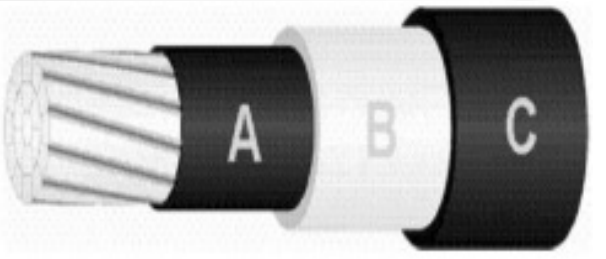
Medium Voltage Covered Conductor (MVCC) has a standard ACSR or AAAC conductor provided with water blocking compound, and three specific layers co-extruded onto the conductor. The first layer being the semiconducting layer for reducing the stresses, the second layer of XLPE providing the necessary insulation and the third layer being the additional insulation with the non-tracing, erosion and weather resistant property.

The three layers adhere completely to the conductor and the relative slip test proves the same. The breaking strength of the co-extruded MVCC is much higher than that of the bare conductor ensuring that there will not be any internal breakage of the conductor.



These layers on insulation ensure that the MVCC remains safe for transient faults like tree or branch falling across the conductors and thus will limit the interruptions in the system and also additional equipments like Auto-reclosers and sectionalisers intended to take care of these transient faults can be done away with.

Further, with the covered conductors providing the necessary insulation, upgrading of existing system to the next higher system voltage is possible without increasing the right of way or poles and cross arms in the system.



A – Semi conducting layer; B – Pure XLPE insulating layer and C – Non tracking and weather resistant XLPE

It is recommended to use the polymeric insulators and surge arresters along with cable ties, clamps for dead ends and joints for the jointing of conductors.

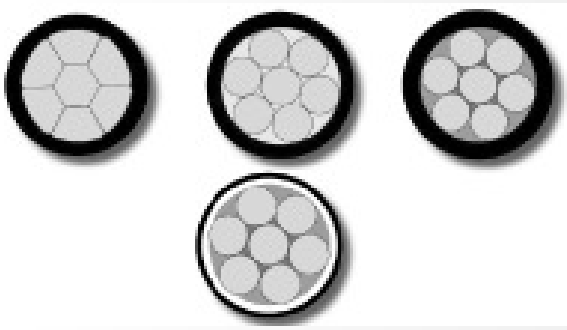
Covered conductors have been in successful use in Europe and America since late 70's. The usage of the covered conductors have resulted in bringing down the outages.


Tree on 33kV Live Line (CC)

When the failure density of bare conductor lines is 4.92 times / 100km, in covered conductor lines the failures occur only 0.3 times / 100km. This difference is huge

Comparison of Cost (in percentage) of covered conductor (CC), Bare conductor (BC) and Ariel Bundled Cables (ABC)

Sl. No	Cost component	BC	ABC	CC
01	Material cost	100	400	250
02	Insulator cost Cross arms, clamps etc	25	40	30
03	Joints/terminationsT-offs cost	5	75	5
04	Tree trimming cost	15	Nil	Nil
05	Revenue loss for outage	75	5	5
06	Accident liability	50	Nil	Nil
07	Maintenance exp	20	Nil	Nil
	Total Cost	**290**	**520**	**290**



Progressive developments in CC

Conclusion

Covered conductors (CC) have been used in Medium Voltage (MV) electrical distribution networks since 1970's in Finland. In the middle of 1990's the use of covered conductors has been expanded to high voltage level (110kV). In future the existing voltage level of the line can be upgraded using covered conductors without widening the Right of Way (ROW).

❖

Attention Deficit Trait (ADT)

Er.G. Chandran Pillai

"Multitasking is counterproductive. Stick to one thing at a time and you will get more done".

(Harvard Business Review)

Most business professionals suffer from a newly recognized neurological phenomenon called attention deficit trait or ADT. It is caused by brain overload. It is brought in when you become so busy attending to so many critical issues and deadlines that never end. Psychiatrist Dr.Edward Hallowell says ADT comes in when you are bombarded with continuous distractions of high-tech devices like phone calls, emails, voice mails and frequent alerts and meetings. As your mind fills with myriad noises and diversions, your brain gradually loses its capacity to attend fully and thoroughly anything. You become increasingly disturbed, irritable, impulsive, restless, unfocussed and over the long term underachieving. It costs you efficiency because you are trying to do so much beyond your capacity. It is as if you are juggling one more ball than you possibly can. As your brain struggles to keep up, it falters and you fall into the whirlpool of ADT.

We are living in an era of time-hungry organizations- from Silicon Valley to Techno Park or say KSEB Ltd in Trivandrum! Higher-ups routinely overload their subordinates, contact them outside of business hours, and make last-minute requests for additional work. To satisfy those demands, employees arrive early, stay late, pull all-nighters, work weekends and remain tied to their electronic devices 24/7. And those who are unable to respond typically get penalized. You may get ADT if you work in such an environment.

If it is not getting in your way forget about it. But if you find that you are having an awful lot of conflicts bouncing from one crisis to the next and not liking life very much and you are making hasty decisions without giving them the thought they need, then you need to do something about it. When ADT kicks in:

- You fall short of working at your full potential
- You know, you are capable of more, but you produce less
- You know your stuff but your decisions and actions don't show it
- You find that you can't concentrate on anything for very long
- Your creativity goes down, you start sacrificing your health and well-being to catch up
- You are clouded with emotions such as anxiety, helplessness, anger and irritation which are disallowing you to perform even the most basic tasks.

Human Brain

Our brain is divided into several lobes. The frontal lobes (the upper region) govern what is called executive functioning (EF). EF guides decision making, planning, organization and prioritization of information and ideas, time management and various other sophisticated managerial tasks. As long as our frontal lobes remain in charge everything is fine.

Beneath the frontal lobes lie the parts of the brain like temporal and occipital lobes. These deep centres govern basic functions like sleep, hunger, sexual desire, breathing, heart rate and emotions. When you are well and operating at peak level, the deep centres send messages of excitement, satisfaction and joy. They help to maintain your motivation, attention and don't interfere with working memory. But when you are confronted with a series of sophisticated problems and data, your brain begins to panic and fear. Fear shifts you into survival mode and prevents learning and nuanced understanding. If a beast is about to attack you, survival is the mode you want to be in. But if you are trying to solve a subtle task, survival mode is highly counter-productive.

When we begin to fear, the relationship between the higher and lower regions of the brain takes an ominous turn and we slip into survival mode. In survival mode, the deep areas of brain assume control and begin to direct the higher regions. They furiously fire signals of fear, anxiety, impatience, irritability, anger and panic and adversely affect the functioning of the frontal lobes. The body- particularly the endocrine, respiratory, cardiovascular and nervous systems- shifts into crisis mode and changes its baseline physiology from peace and quiet to red alert. In this state, intelligence dims and the brain reduces its ability to think clearly.

This neurological event occurs when people in leadership positions desperately try to deal with more problems than they possibly can. This can happen to engineers manning generating stations and major substations when confronted with cascade tripping or major line outages. They make impulsive judgements and are robed off their ability to deal with the setbacks. They become unable to see the real picture and lose their creative genius to change time plans. At these moments, they are prone to melting down, to throwing a tantrum, to blaming others and to sabotaging themselves. This is ADT at its worst.

Though ADT does not always reach such extreme proportions, it creates havoc among harried executives. Researchers have shown that as the human brain is asked to process dizzying amounts of data, its ability to solve problems flexibly and creatively declines and the number of mistakes increase. Contrary to widespread belief, brains are not storage facilities that we can cram with unlimited data. They are processing centres. In fact, our noggins are limited on many fronts, from data volume to working memory (maximum of four thought chunks at a time) to neural

channels that restrict us to one task at a time. When we overload our brain with multiple cognitive tasks and information overload, it is prone to short-circuiting!

ADT is neither inherited nor an illness and hence requires no medical treatment. The following preventive measures go a long way in helping managers/executives to tackle it.

Promote positive emotions

In one of my visits to New York, a vice-president (Indian origin) of a company told me the following story. It was in late 1990s that he went to US to take up a new assignment. In his department's hard-driven culture, ADT was rampant. The environment forbade any one to ask for help. Employees didn't trust one another. They worked on projects alone, which led to more untrust. Most people were in emotional pain. At one point, this led to the department's most gifted employee killing himself. His suicide note explicitly blamed the department for pushing him past his limit.

Instead of sweeping the tragedy under the rug, the company changed the departmental head and the supervisory system. The new head was a person who knew that if employees felt free to draw some lines between their professional and personal lives, organizations would benefit from greater engagement, more open relationships and more paths to success. He made them aware about the danger signs of mental wear and tear through counselling. These steps along with regular meetings with superiors led to a more humane productive culture in which the employees felt fully engaged. The department's performance became first rate, more over creative research blossomed.

The bottom line is this: Negative emotions, especially fear, can hamper productive brain functioning. To promote positive feelings, especially during highly stressed times, interact with someone you like. In environments where people are in physical contact with people they trust, brain functioning hums. By connecting comfortably with colleagues, you will help your brain's executive centre responsible for decision making, planning and information prioritizing, perform at its best.

Take physical care of your brain

Ample sleep, a good diet and exercise are essential for keeping away ADT. Some students appearing for examination keep awake till wee hours on the previous night. They fail to remember what they studied while writing the examination due to lack of sleep. For executives, sleep deprivation creates a lot of problems from impaired decision making and reduced creativity to reckless behaviour and paranoia.

Diet also plays a crucial role in brain health. The brain does much better if the blood glucose level can be held relatively stable. To do this, avoid sugar and white flour and consume more fruits, whole grains and vegetables. Protein is important. Multi vitamins and omega-3 fatty acids promote healthy brain

functions and even stave off Alzheimer's disease. Moderate your intake of alcohol because too much kills brain cells and accelerate the development of memory loss and even dementia.

Physical exercise induces the body to produce an array of chemicals that the brain loves. These chemicals promote brain development, stave off even the ravages of aging and keep the brain in tip-top condition. You are exercising enough while at work if you are taking a brisk walk or going up and down a flight of stairs a few times a day. Each day reserve some "think time" that is free from appointments, emails and phone calls. Do important and crucial works during times of the day when you perform at your best. Set up your office in a way that helps mind relaxing. If you focus better with music, play music if permissible in our context (of course with earphones). If you think best on your feet, work standing up or walk around frequently. These small strategies may sound mundane, but that address the ADT devil adequately.

To protect your frontal lobes, keep your lower brain from usurping control. Take time to comprehend what is going on, to listen and to ask questions so that you don't send your brain into panic. Open a dictionary and read a few definitions or go through a joke book. Spend some minutes doing a cross-puzzle. Improve concentration through meditation. Each of these little tasks quiets your lower brain and put your frontal lobes back in full control.

What organizations and leaders can do?

Companies induce and exacerbate ADT in their executives by forcing to work on multiple overlapping projects and initiatives. Still worse, they ask their executives to do too much at once and reward those who say yes to overload while punishing those who choose to say no. Moreover, companies compel executives to do more and more with less and less support staff. Under such circumstances, executives under achieve, create clutter, make careless mistakes and squander their brain power.

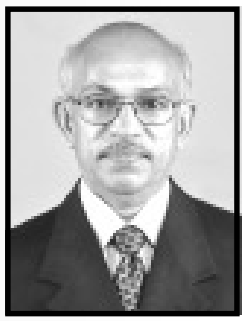
To conquer ADT, firms should invest in amenities that contribute to create an enabling positive environment. In this regard, world's most admired companies offer their employees a long list of perks: onsite gym, play courts, cafeteria that provides baby seats and high chairs so parents can have lunch with their children, unlimited sick days(*wonderful*!) and much more. Thus the atmosphere becomes warm, connected and relaxed. Happy employees return the favours with high productivity. And ADT never gains momentum in these companies!

Leadership approaches should combine flexibility, open-mindedness, humility and fierce resolve. Leaders must promote knowledge sharing and psychological safety among employees. They can also help prevent ADT by assigning duties to employees which best suit their skill sets. They should not stretch people too far or ask them to focus on what they are not good.

❖

Rendering with(out) Pen and Ink

(From publications of ksebea. 17 years back.)



Dr. Thomaskutty Mathew

The invention of Writing which gave man a memory in performing mental tasks, is the first major breakthrough in history to aid man in his thinking process. The devising of the Arab Number System, with its zero and positional notation, and the invention of Analytical Geometry and Calculus, which permitted the solution of complex problems in scientific theory are the major events prior to the invention of computers .Now the electronic digital computers combine the advantages and attributes of all these breakthroughs and make them available for decision making and management organisations.

The electronic device has revolutionalised the field of writing and has made it possible to render without Pen and Ink.

Partoons.

Drawing is the language of engineers. Hence or otherwise cartoons, a composite form of art presented with good sense of humour is liked by most of us. A slightly modified version, if not a fully pirated one, Partoon is introduced here proudly claiming the patent. The entity is explained thus:

1. *EDP Analogy. Many a computer programs are written in pirated software packages.*
2. *Analogy of Lightning. The subsequent strokes in lightning use the already ionized path of the Pilot Streamer.*

Letters to the Editor

കത്തുകൾ അയക്കേണ്ട വിലാസം

Chief Editor, Hydel Bullet,
KSEB Engineers' Association, Panavila
Thiruvananthapuram - 01, Phone : 0471 - 2330696
Email :hydelbulletin@gmail.com

എസ്.എൻ.സി. കഥകൾ

കലാസാഹിത്യരംഗങ്ങളിൽ ആവിഷ്ക്കാര ചാരുതയും അവതരണമേന്മയും കൈവരിക്കുന്നതിന് നൂതനമാനങ്ങൾ തേടിയുള്ള പ്രയാണത്തിൽ ഇനിയുമെത്രയോ നാഴികക്കല്ലുകൾ !

സാഹിത്യരാമത്തിന്റെ പരിസരത്തു കാണുന്ന കാട്ടുചെടികളായ കത്തുകളുടെയും സംഗീതാരാമത്തിലെ ഗ്രാഫ്റ്റ് ചെടികളായ പാരഡികളുടെയും ഇളംതലമുറക്കാരനായി വരുന്നു.

(ഗ്രാഫ്റ്റ് എന്നോ, ടിഷ്യുകൾച്ചറെന്നോ ഹൈബ്രിഡെന്നോ വിളാക്കാവുന്ന) പാർട്ടുൺ.

- ഇടുക്കിയുടെ ഇടുങ്ങിയ ചുവരുകൾക്കപ്പുറത്ത് വിശാലമായ ഒരു ലോകത്തേക്ക്, ആനയിക്കുമ്പോൾ

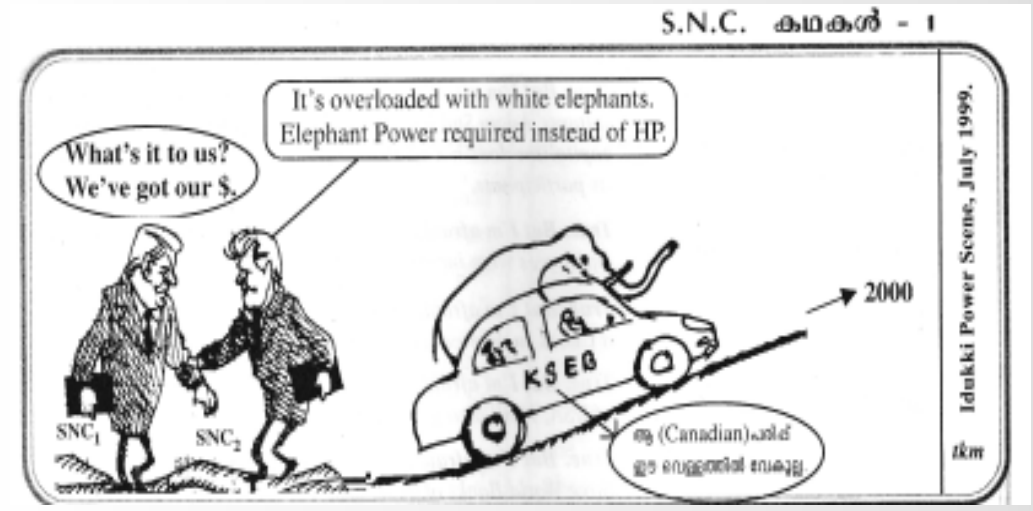
- വിജയശ്രീലാളിതനായി വരുവാൻ

അനുഗ്രഹിക്കൂ !

(ജനറേഷൻ പ്രോഫിറ്റ് സെന്ററിന്റെയും റ്റാസ്ക് ഫോഴ്സിന്റെയും ചരടുവലികൾ)

ഒരു ശരാശരി ഇലക്ട്രിസിറ്റി ബോർഡ് എൻജിനീയറുടെ ഹൃദയത്തിലെ നീറ്റലായി കത്തുന്ന കാര്യങ്ങൾ, എസ്.എൻ.സി.യുടെയും ബന്ധപ്പെട്ട കാര്യങ്ങളുടെയും പശ്ചാത്തലത്തിൽ ഒരു ജേർണലിസ്റ്റിന്റെ സ്വാതന്ത്ര്യം ഉപയോഗിച്ച് പാർട്ടൂണിലൂടെ ചിത്രീകരിക്കുന്നതാണ് എസ്.എൻ.സി. കഥകൾ. ഇതിന്റെ ആനുകാലികപ്രസക്തി നഷ്ടപ്പെടാതെ 99 ഓഗസ്റ്റ് മുതലുള്ള ഇടുക്കി പവർസീനുകളിലെ പാർട്ടൂൺ (Blurred Vision) പംക്തികളിൽ അവതരിപ്പിച്ചിട്ടുള്ളതാണ്.

❖



Renewable Energy - IET perspective

An interaction with Prakash Nayak, Senior Member of The IET(Institution of Engineering and Technology) and Director, PEnA Power Engineering and Automation Pvt Ltd., on the current state of renewable energy market in India.

Please share an overview of the renewable energy sector in India?

India has the fifth largest power generation capacity in the world. India's installed capacity stood at 273 GW as of FY15. Thermal power, the largest component .i.e. 189 GW, followed by hydro 42 GW, renewable energy 36 GW and nuclear 5.8 GW. India's total power generation capacity has increased at a Compound Annual Growth Rate (CAGR) of 9.4 per cent over FY09–15. On the production of electricity India is the third largest producer of electricity in the world. India is targeting a total of 88.5 GW of power capacity addition by 2017, of which, 72.3GW constitutes thermal power, 10.8 GW hydro and 5.4 GW nuclear.

Renewable energy is fast emerging as a major source of power in India. Wind energy is the largest source of renewable energy in India. It accounts for an estimated 60 per cent of total installed capacity (21.GW). There are plans to double wind power generation capacity to 20GW by 2022. India has also raised the solar power generation capacity addition target by five times to 100GW by 2022.

The Government of India has been supportive to growth in the power sector. It has de-licensed the electrical machinery industry and also allowed 100 per cent Foreign Direct Investment (FDI) in the sector.

Foreign participation in the development and financing of generation and transmission assets, engineering services, equipment supply and technology collaboration in nuclear and clean coal technologies is also expected to increase.

Many major investments in renewable and developments in the Indian power sector are happening viz., Inox Wind Ltd, a wind energy solutions provider, increasing its manufacturing capacity to 1,600 MW at a total investment of Rs 200 Crore by the end of the next financial year. Reliance Power Ltd signed an accord with the Government of Rajasthan for developing 6,000 MW of solar power projects in the state over the next 10 years etc.

The Government of India has identified power sector as a key sector of focus so as to promote sustained industrial growth. Many initiatives have been rolled out by the Government of India to boost the Indian power sector, viz., Joint Indo-US PACE Setter Fund has been established, with a contribution of 25Crores from each side to enhance clean energy cooperation., The announcement of massive renewable power production target of 175,000 MW by 2022., Union Cabinet of India approved 15,000 MW of grid-connected solar power projects of National Thermal Power Corp Ltd (NTPC) etc.

→

The Reserve Bank of India (RBI) has also notified to include renewable energy under priority sector lending (PSL). Therefore, banks can provide loans to borrowers for renewable energy projects. The Indian power sector has an investment potential of Rs 15 trillion in the next 4–5 years, thereby providing immense opportunities in power generation, distribution, transmission, and equipment.

From the above one can see surely agree with me that , there is larger focus and drive in the Power sector with much greater emphasis on Renewable Energy, which we never witnessed earlier years.

What are the challenges hindering the growth of the power sector in India?

While the Electricity Act, 2003, laid the framework for rapid development of the Power sector and it is attracting significant investments, the bottlenecks continue to remain. India has ambitious plans of adding over 175 GW of generation capacity as well as associated Power Systems in the 11th and 12th plans. Thus the country is poised to build more power generation capacity as well as supporting power systems in the next 10 years as compared to the previous 60 years. India is expected to maintain a robust economic growth rate of over 8 percent in the coming decade. This implies substantial increase in economic activities and raises the challenge of adding the infrastructure necessary to enable this development. While India witnessed spectacular progress in the telecommunication space with full privatisation in place, other infrastructure segments like roads, ports and electricity lacked similar progress due to a variety of bottlenecks. This necessitates flawless project execution of the projects with a strong focus on timely delivery and quality execution.

With large scale integration of renewable energy being variable in nature, there is need for base load stations to ramp up and ramp down as and when needed. Hence, hydro power as part of the Renewable sources besides bulk Fossil large power plants and corresponding incentives as available to wind and solar resulting in healthy and viable grid power.

While large-scale investments have been planned and numerous projects are underway, the lack of competent manpower to execute these projects and subsequently operate and maintain them is already being felt. From last one decade there are cases where government utilities and public sectors have stopped the man power resource recruitment. Manufacturing and project relates industries have failed to attract engineers as they opted to IT industries in which jobs are more attractive in terms of pay-packet and perks. The scarcity is increasing and unless the Government and all other stakeholders including private players invest in attracting and training the available talent on an urgent basis, it has the potential to become a major bottleneck and derail the rapid growth in the sector that has just begun.

The total manpower in the power sector at the end of 10th plan was approximately 950,000 as per the report of the Planning Commission's Working Group on Power for 11th Plan. It is estimated that over 500,000 technical manpower and 150,000

non-technical manpower need to be inducted into the sector in the 11th and 12th plan periods. These are huge numbers.

In addition to the technical manpower, tens of thousands of highly skilled managers will be required in areas such as project planning and management, project monitoring, project finance, contracts and materials management, etc., to execute flawless execution. Further, with increasing focus on energy efficiency and renewable energy, there is an opportunity to productively engage millions of people to participate in harnessing the renewable energy, provided they have the appropriate specialised knowledge. Moreover, demand side management, power trading, carbon credits, smart grids etc. will also require manpower with specialised training.

One of the key hindrances to ensuring adequate manpower for the sector is the lack of training infrastructure. While infrastructure for Thermal induction is sufficient, it is grossly inadequate for Hydro and Renewable Power System induction, so there is a need to get adopted for this. Though there are efforts being put from governments and industries, the scale at which this need to be enhanced, seeing the huge size of requirement.

Most importantly, there is huge deficit in infrastructure for managerial training, which currently caters only to 4 percent of the requirements. This has a significant impact in decision making capabilities, efficiency and effectiveness of project executions of both private and government organisations. At a time when the sector is undergoing rapid growth amidst a changing environment, lack of managerial competencies would hamper the ability of organisations to adapt and grow, thus applies to private organisations as well. In such a scenario, it is important that managerial talent is oriented towards commercial, social and environmental aspects of the industry.

The development of all the renewable resources to their fullest potential will require millions of people to contribute to the growth and development of these resources. Thus adequate care is taken for the training and development of manpower who will be involved in managing these assets.

Other emerging areas driven by the imperative to mitigate climate change, there is an increasing focus on energy efficiency and conservation. This includes implementation of energy efficient systems, monitoring and auditing. Other key focus areas include loss reduction (today the AT&C Loss is '30 percent in distribution utilities and improving demand side management (DSM). These would help efficient management of the power systems and generation facilities, reduce losses and provide better quality of service. Monitoring systems for detecting losses as well as DSM techniques require usage of advanced IT and Communication systems which call for a large number of personnel to be trained in these specialised areas.

What is the role of Clean & Green technology in the power sector?

Besides what is mentioned above, there are many challenges and hence the role of Clean & Green, in our country's vision to

make India's economic development energy-efficient, we must shift from economic activity based on fossil fuels to one based on non-fossil fuels and from reliance on non-renewable and depleting sources of energy to renewable sources of energy. With the emergence of competitive markets and Power trading systems like in advanced countries like US and Europe, a large number of highly skilled professionals with analytical, commercial and technical knowledge are required in this area. Other key decision makers and mangers also need to develop a good understanding of the trading systems in order to make commercial decisions.

Considering the country's commitments on climate change and inherent benefits to lower cost per MW, significant shorter gestation cycles, and the focus should continue with the push that has been created. We expect the incentives like Accelerated depreciation and Subsidy provided to continue however, flawless execution of this will be the key success factor. One need to remove the hurdles in the approval process to remove the delays and enhance the accountability, the present government has come out with many innovative ideas in other areas for distributing the benefits straight to the beneficiaries, adopt similar approach in this as well, this will motivate more to be part of this initiative. In large country with more than 50 percent with age group less than 25 years inclusiveness is the key to success.

In my opinion it would be better to prioritise few of them and address them very effectively, as the credibility of implementation is the key to success and inclusiveness of the society as mentioned above is yet another factor leading to success.

First one is, as mentioned whatever incentive are available make these schemes a flawless execution. Second, present state of State Electricity Boards (SEBs) is a bigger problem when it comes to large developers and banking communities. This situation we have invited for ourselves, mainly because of non-payment from the end user but mostly because of power theft and free power promised by political parties and also poor quality of power. The result is that the SEBs hardly ever realizes the full amount for the power they purchase from the generation companies. Second, there is a serious need to hike power tariff. Naturally, this will be an unpopular step for the political parties. Thus focus on the inflow of funds, once again flawless execution of PPA; this will increase confidence level of both short term and long term investors. More investments can happen provided government find some innovative way and improve their credibility. Third, I would also emphasise more of roof top to generate a power where the load is, and effective implementation of Net metering policy of the various state governments, with good execution could be the game changers.

How can India resolve its Power crisis?

Besides focusing green energy and Energy conservation, few measures mentioned above, like improving the credibility and also attracting more investment of global players with low interest funds, are the main measures required to be taken.

Government and ministry are continuously working on the various options, which are very much visible in the public domain compared to earlier times. Tax incentives, excise and customs duty benefits etc are there already to promote the scheme. Ministry tried with bundling of Viability Gap Funding (VGF) in the Solar Utility scale bidding. Even the recent bid result indicate that Indian solar sector may not require incentives such as bundling and Viability Gap Funding (VGF) going forward. There is continuous exploration of various initiatives like Ujwal Discom Assurance Yojana (UDAY) to revive the DISCOM Situation. These initiatives will attract more consumers to adapt to these technologies.

What is the scope of the IET Power Engineers panel?

Particularly in India considering the capacity expansion envisaged in power sector i.e. ~ 175 GW in the next planning period and to cope up with demand and further looking at employability of engineers and technicians as low as 30 percent we decided in 2006 forming a Power Engineers Panel as part of IET's energy sector for focused approach. Also help engineers as to why they should take the role in power by explaining them about the huge opportunity and growth both in terms of job profile and technology adaptation and research.

Further, IET UK also being home for professional communities with large base with large base close to 1,50,000 , worldwide can play larger role in supporting the initiative in skill development by involving the professional communities around the world, just a replication of what has been done in UK and other countries. IET Being a voluntary driven organization to take this forward and make it more effective, Vision, Mission as well as both short term and long term goals have been defined by this panel. The Vision of the team is "To be strong Partner and catalyst in developing Power Engineering Communities in around India and sub region" and the Mission is to "Facilitate and promote from time to time the solutions needed to strengthen the country's power system development and growth, focusing on resource development and also enhancing the awareness of technologies and trends to all stakeholders", by way of technology talks, published articles, conferences, etc., While doing so we created a Solar panel with senior members from across the industry, academia etc. to promote the same, in schools, and colleges etc. We also brought out a white paper on the same. To our surprise many of the industries whom we have interacted with also have matching vision and mission and there are lot many activities happening in the academia and industry connect initiative , with high profile events , lectures, technology lectures, white paper on solar etc.

Besides working on low hanging fruit, we are also working on some focused priority subjects to bring home the technological developments happening in the world and help the members and communities around an access to technology developments etc. in the area related to, Smart Grid approach(Energy Conservation), Renewable energy development and Environment Management.

GreenTechLead

❖

Overview of Personality Test

The Kerala Public Service Commission (KPSC) has published the shortlist for the posts of Assistant Engineer (Electrical) in KSEBL and the final ranklist will be published after the personal interview scheduled to begin in August 2016.This will be the first time after KSEB transformed from Board to Company (KSEB Ltd.) and the introduction of National Pension Scheme(NPS) , that the recruitment of AEs are being carried out by PSC for the 40% quota. The last recruitment was carried out in 2009-2014 from the ranklist published on 16.06.2009. About 773 total advices were given from that list till date and the last advice was given on 25.03.2014.

The personal interview process conducted by PSC for AE aspirants usually consists of 4 members.

1. PSC Member.
2. PSC Member.
3. Academic Member (Professor from a govt.engineering college).
4. Technical Member (Electrical Engineer from a government department, preferably KSEBL).

Generally the interview can be divided into three phases viz.

1. Discussion on general topics carried out by PSC members.
2. Discussion on academic topics carried out by Academic member.
3. Discussion on the organization/power sector by Technical member.

The language used for interview will be Malayalam/English. Even though PSC members use Malayalam language, the academic and technical members may resort to English Language. So the aspirants should be ready for answering the questions in both the language.

Er.Kunjunni.P.S.

Discussion on general topics

In this session, discussion will be on general topics. Please provide a brief introduction of your name, place of residence, basic qualification, the college name and any previous work experiences if you have. The language used for introduction may be Malayalam/English according to your convenience. The members may catch any part of your details and start their questions from them .For eg. If your name is Rahul, they may ask about any historical figure with a similar name (Sri Buddha's original name is Rahulan), or questions may be about your place of residence/work experience like why you are leaving your previous company.

If the members don't find anything striking in your profile, they will resort to ask you about any topics from the current affairs which have been discussed in the recent newspapers. Hence all aspirants should have a regular reading of any Malayalam daily to learn about the current issues. And read only news on government programs, development issues and other public affairs which are positive in sense. They will not discuss petty political issues and negative issues like war, conflicts and deaths.

Also they may ask you about your hobby and extra-curricular activities. If you have hobbies, you can go on explaining the details. Please don't come up with cooked up hobbies because if the interview panel finds that you are lying, then it may affect your reputation and may damage the confidence that you have. There is no issue, if you say that you don't have any hobbies/extra-curricular activities. Some people think that what I should say regarding hobbies. Think of all activities that you do apart from the normal routine, may be browsing internet, watching TV/movies etc., anything that you spend time on apart from the normal routine can be explained to the interview panel.

The aspirant should have a positive attitude, an alert mind, quick reflexes, and good at decision maker, have the ability to work under stress and is able to handle any difficult situation and free from any prejudices.

Some useful tips are:

a. To have a positive body language
b. To have a good personal appearance and the right posture
c. To answer questions clearly and confidently
d. Try to remain calm and composed even when faced with provocative questions
e. Try to answer to the point and not get into long winded explanations

How to behave during the Personality test:

i. Do not give long introductions. Come straight to the point.
ii. You should be logically consistent and analyse the answer rationally. You are supposed to defend what you say, but with due respect to the board. Stop trying to defend if it becomes difficult to do so logically and fairly.
iii. Do not make hasty or sweeping generalisations.
iv. Avoid the expression, 'I am sorry.'
v. Avoid technical jargon. However, if a member continues to probe you in any technical field, you can use technical expressions.
vi. Maintain a cheerful face. You can appear serious, now and then, but most of the time keep smiling and remain composed.
vii. If the board laughs, you should only smile. It may give positive reflection on the depth of your personality.
viii. Show human concern whenever possible in your answers.

Types of questions asked

a. Relating to your name, any famous personality who has a similar or same name or surname
b. Your career choice, why do you want to be a engineer in KSEB?
c. What are your Hobbies, why you pursue such a hobby or questions related to your hobby etc.
d. Current Affairs of recent days are most likely questions. So keep reading and watching the news. If the recent headlines have something to do with your subject then specially revise those portions.
e. Questions about your academic institution and related to them. If you have studied at the IGNOU, then even questions about Indira Gandhi and so on.

f. Questions from your educational qualification.

g. Situational questions, like if you were the assistant engineer at a particular section office, then how do you tackle a natural calamity.

Discussion on academic topics

Here the academic member, who will be a professor from a government engineering college will be testing your theoretical knowledge that you studied during the college days. Since there is no time to study all the topics in detail, the first thing that you should do is to make the list of topics that you studied from S3 to S8 including the labs. For e.g. If the academic member asks you about the semester in which you studied Power electronics, you should be able to answer it immediately.

Now prepare basic information on all these topics that you studied from S3 to S8, so that if the member asks you about what you studied in Solid State Devices, then you should be able to answer it immediately.

Also prepare notes of these topics, according to the following priority

For an electrical student

1. Basic Electrical Engineering
2. Electrical Machines
3. Power Systems
4. Control systems
5. Power electronics

For an electronics student

1. Basic Electronics Engineering
2. Analog electronics
3. Digital electronics
4. Electrical Machines
5. Power electronics

No need to prepare detailed notes in these topics. Just revise what you studied during the KSEB written test(assuming that you have prepared the notes).

Discussion on the organization/power sector

Here the discussion may concentrate on the organization i.e. KSEBL as well as a general discussion on the state of affairs in the power sector of our state and the country. You should have a basic awareness about the following bodies also

1. Power Ministry, Government of Kerala
2. Kerala Electricity Ombudsman
3. Kerala State Electricity Regulatory Commission(KSERC)
4. Kerala State Load Despatch Centre
5. Appellate Tribunal For Electricity (APTEL)
6. Central Electricity Regulatory Commission (CERC)
7. National Load Despatch Centre (NLDC)
8. Regional Load Despatch Centres (RLDC)
9. Bureau of Energy Efficiency (BEE)
10. Damodar Valley Corporation (DVC)
11. Central Power Research Institute (CPRI)
12. National Power Training Institute (NPTI)
13. National Thermal Power Corporation (NTPC)
14. National Hydroelectric Power Corporation (NHPC)
15. Rural Electrification Corporation (REC)
16. Power Finance Corporation (PFC)
17. Power Grid Corporation of India (POWER GRID)

18.Power System Operation Corporation Limited (POSOCO)

About KSEB, you can have the basic information from *www.kseb.in*. A detailed description about its history, organizational structure and functions of each wing has been provided in the website.

Also if you are a consumer of KSEBL, questions may also be asked about the bill details provided by KSEBL at your home. Hence go through the last KSEBL bill received at your home. Have a basic idea of the home wiring and the meter details installed at your home. Please try to know about how electricity comes to your home from a generating station. Locate the distribution transformer near to your home and analyse the different parts of a distribution transformer.

Awareness of the current affairs in the indian power sector and kerala power sector is very crucial for the personality test. Referring to the newspaper articles, kseb website and the websites of the power ministry and other third party websites will be enough.

Get a basic information of the emerging technologies in the power sector. Some of the topics are listed here.

1. Storage – Fuel cells, Lithium air batteries, Hydrogen energy storage and transport, Thermal storage.
2. Smart grid – First generation smart grid, Distributed generation.
3. Electricity generation – Tidal turbines, micro stirling engines, solar panel positioning robots, second generation bio fuels, photo voltaic transparent glass, third generation biofuels, space based solar power, micro nuclear reactors, thorium reactor.
4. Gas Insulated Substation
5. High Temperature Low Sag (HTLS) conductors.
6. Aerial Bunched Conductors (ABC).
7. High Voltage Distribution Systems(HVDS)
8. High Voltage Direct Current(HVDC) Technology
9. Automatic Power Factor Controllers(APFC)
10. Pumped Hydroelectric energy Storage.
11. Phasor measurement units.
12. Fixed Capacitor
13. Flexible AC Transmission Systems(FACTS).
14. Shale gas
15. Supervisory Control and Data Acquisition(SCADA).
16. Broadband over power lines
17. Fast Breeder reactor
18. Geothermal power stations
19. Organic LED
20. RFID systems
21. Static VAR
22. Variable speed drives.
23. Series compensation.
24. Automatic Meter reading(AMR) and Automatic Metering Infrastructure (AMI).
25. Availability Based Tariff(ABT) scheme.
26. Demand Side Management(DSM).
27. Distributed Control System(DCS)
28. Power Line Carrier Communication(PLCC)
29. Wireless power transmission.

30. Traction system.

(Please refer https://en.wikipedia.org/wiki/List_of_emerging_technologies#Energy for knowing more about the emerging technologies)

Have a basic awareness of the renewable energy sector, on which lot of programmes and projects are being launched in our country.

1. Solar energy
2. Wind energy
3. Hydro energy
4. Geothermal energy
5. Bio energy

Also have a basic idea of the following Central government schemes

1. Bachat Lamp yojana
2. DDUGJY
3. RGGVY
4. RAPDRP
5. IPDS
6. UDAY
7. Smart City
8. UJALA

NINE-POINT AGENDA TO FACE INTERVIEW SUCCESSFULLY

1. Good First Impression.

There is a famous saying, "in an interview, interviewers form their opinions about interviewee in first few minutes, rest of the time is used to reinforce those opinions." This happens because of the effect of first impression. About the first impressions, a general saying is, "first impression is the last impression." Looking at these phenomena, it is essential for you that you create good impression in the mind of the interviewers.

First impression or subsequent impressions is a matter of perception of the interviewers about you. This perception is formed on the basis of totality of your personality that is reflected by you the moment, you enter the interview room and your pattern of interaction with the interviewers within first few minutes. They will observe you first outwardly and subsequently inwardly. In order to make good first impression based on your outward features, it is desirable that your attire should be elegant and sober, professional briefcase/portfolio/bag, professional hairstyle, and other outlook. You should walk very confidently from the door to the chair in proper manner, sit on the chair in proper manner only after taking due permission, maintain proper eye contact with the interviewer who is asking question and use appropriate body language. Though many of these are outward things but they speak about you and are important for making good first impression. For inward things, use sweet and polite tone while talking to the interviewers or answering their questions, show your seriousness about the job and interview process even if you do not intend to join the job after being selected (in rarest of the rare case), and similar such things which show that you believe in high level of etiquette and mannerism.

2. Be a Good Listener.

In an interview, be a good listener. This will serve two-fold objectives, first, when you listen attentively, you tend to understand questions correctly. This understanding will help you to answer the questions second, when you listen attentively, it will impress the interviewers by creating a feeling that you are taking

genuine interest in whatever they are asking about. In the listening process, your facial expression should be such that you are taking active interest in what an interviewer is saying.

3. Communicate Effectively.

An effective communication is one which sends the subject-matter of the communication in a way that the receiver of the message understands it in the same way as intended by the sender. Besides sending the subject-matter, effective communication also involves putting higher emphasis on more important matter. In written communication, this is done through underlining the more important matters or putting them into italic or bold form. In the case of oral communication, this is done by changing tone style supported by body language. In order to make your communication effective, you can observe the following points.

After an interviewer has finished his questions, pause for a moment and organize your answer in a correct manner. Use appropriate words to communicate your answer. For answering a technical question, you may use technical words but for answering a non-technical question, it is not necessary to use technical words.

Follow the principle of brevity. It implies that you should answer a question in a very specific way that is required by a question. For example, if you have been asked to define a term, limit yourself to its definition only. Similarly, if you have been asked to narrate the features of an object, just mention the various points. Details of various points are not required at this stage. If the interviewers ask for detail of any point, narrate its detail. This way, time allotted to each candidate for interviewing is utilized properly.

4. Ask for a clarification.

If an interviewer has asked a question which you could not hear properly, may be because of lack of appropriate loudness of voice of the interviewer, disturbance of any kind, or your own inattention, it is better that you ask gently to the interviewer to repeat his question again. Similarly, there may be possibility that an interviewer may ask a question whose meaning is not as precise as wished. In such a case, you simply say, "sir, do you mean.....?" do not feel shy that the interviewer will feel agitated. On the contrary, he will be happy that your approach is precise and this will go in your favor. Instead of giving wrong answer to a question, it is better to ask for repetition and clarification. However, this practice, if adopted quite frequently, becomes annoying. Keep this phenomenon in your mind while using this practice.

5. Discuss but do not argue.

It is better that you treat an interview as a discussion forum and not an argument forum. Discussion involves deliberating on issues that may emerge from a question. In order to sort out the issues, it is possible that there may be questions over questions, particularly in an in-depth interview. If an interviewer expresses her opinion on an issue with you do not feel agreed, you gently say about your reservation. If the interviewer does not agree with your view and still persists on her earlier stand,it is better not to drag this discussion to prove the

interviewer wrong. If you adopt contrary practice, this will lead to argument and counter-argument which may go against you.

6. Admit Your Mistake.

If in answering any question, you make a mistake and the interviewer points out it, accept your mistake. A mistake is a wrong judgment of a situation and acting on that. Therefore, committing a mistake is not very unusual phenomenon while, committing a mistake is a natural phenomenon, persisting on that mistake after it has been discovered is a blunder. Therefore, if you commit any mistake during the interview process, admit it and offer an apology. Do not bring your ego which is false in this process.

7. Be Polite.

It is better that you remain polite throughout the interview process. Even if any unpleasant situation is created by an interviewer (this may be done deliberately to test your patience), do not loose your temper. If you loose your temper to protect your ego, you may be treated as a highly emotional person. Remember, these personality traits are not considered suitable for any job. If you are polite in the interview, it conveys that you have respect for other's perspective; you are open-minded to accept new ideas and change yourself accordingly, as per the demands of a given situation. All these will go in your favor.

8. Display Proper Etiquette and Manner.

Interview is a formal process though, sometimes, this process may be conducted by the interviewers in such a way that it appears to be an informal process. This is done deliberately to put a candidate at unease so as to extract maximum possible information about her/him. If such a situation comes before you, do not forget to display the etiquette and a manner of a formal interview process. It may also happen that during your interview, some refreshment is brought to the interviewers. Generally, on such an occasion, refreshment is also served to the candidate sitting in the interview room. If such a situation comes before you and the interviewers ask you to take refreshment, do not deny this offer as it is against etiquette. If you do not take any particular item of refreshment served (many persons do not take tea or coffee at all), say politely about it and take only the remaining items.

9. Create Good Last Impression.

Take an interview just like a one day cricket match, batsman score runs at a brisk rate during the first few overs; this rate goes down in the middle overs; but this rate goes brisk again during the last few overs to score a winning total. In the same way, if you have created good first impression in the beginning of the interview but have faulted in giving the best possible answers of some questions, you can erase the memory of such faulted answers by creating good last impression. Say 'Thank you" to all the members before leaving the interview room.

We wish you all the best for the personality test. There is no short cut for hardwork. It's always smart work which gives the intended results.

(PSC may alter the pattern of interview any time. The guide lines provided here are from a personal perspective and can vary.)

❖

Unit Activities

Muvattupuzha Unit

Unit meeting held on 13.07.2016 at Hotel Kabani International Muvattupuzha. Unit observed one minute silence as a mark of respect to the late Er. Jose Jacob (CE, Retd). Chairman Er Jose Mathew briefed about the current activities in KSEB Ltd. Secretary Er V.R.Vijayakumar read out the minutes of the last months unit meeting and was passed. Treasurer Er Damin John read the audited accounts of the financial year 2015-16 and was passed. Unit discussed about the subject for the next seminar series and proposed the topic "HARMONICS IN POWER SYSTEM-SOURCES, EFFECTS, MITIGATION AND REGULATION". Unit decided to electrify a house of a poor family after carrying out the wiring. Meeting opinioned that frequent interruptions of LT & HT lines may be the result of the substandard work of these lines. Unit decided to invite Mr. Shaji, a multi skilled man who had applied for patents for several products mainly on safety gadgets.

OBITUARY

Er. V.T. Alexander expired on 28-02-2016. He served the association as General Secretary during 1976 - 77 & as President, Benevolent Fund during 1981 - 1983. He was a very active member of our Association, guiding the association during the turbulent times.

KSEBEA expresses its deep condolences on his sad demise.

Er. Aravind Baburaj , son of Er. Baburaj, Rtd. Director KSEBL died in an accident. He was an employee of Infosys, Hyderabad .

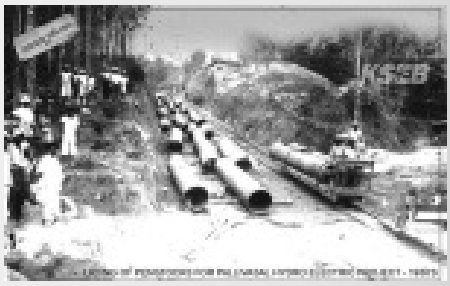
KSEBEA expresses its deep condolences on his sad demise.

KSEBL - Way Forward

History of Electricity Generation in Kerala

It was during 1912-13 that the government of erstwhile Travancore State seriously considered the idea of power generation in Kerala. Accordingly in 1913, a team under the leadership of Chief Engineer Sri. S.M Jacob was constituted to study the feasibility of electricity generation in Travancore, Kochi and Malabar states. In 1927 the Travancore Government decided to generate electricity for Trivandrum city and for this purpose an Electricity Division was formed under the Public Works Department. Finally, in 1929, the Trivandrum Power Station, built at a cost of Rs. 9 lakh, (the present Power House) started functioning. Subsequently, many agencies came forward to produce electricity in the private sector.

Pallivasal, the first Hydel Project



The State Electricity Department was formed in 1933, the year in which the works for the first hydro electric power station in Kerala began at Pallivasal, a village situated on the south western part of Idukki district. On March 19, 1940, Sir C P Ramaswamy Aiyer, the Dewan of Travancore inaugurated the first stage of the Pallivasal project, which had an initial installed capacity of 13.5 MW. It was the first Hydro Electric Project in Kerala, set up to serve the power needs of the general public. The State Electricity Department also took over the 200 kw power station ,set up in 1928 by the Kannan Devan Hill Produce Co. The Pallivasal project , at present, has a capacity of 37.5 MW (3x5 +3x7.5) . The renovation of the project was completed in 2002. In order to fully utilize the available water, a new project of 60 MW Pallivasal Extension Scheme (PES) is now under construction.

Formation of KSEB

The Kerala State Electricity Board was formed on August 31,1957 with head quarters at Trivandrum. Subsequently, major hydel stations viz Sengulam, Neriamangalam, Panniar, Poringalkuthu, Sholayar, Sabarigiri, Kuttiyadi, Idukki and Lower Periyar Power Stations were commissioned. Later on, two thermal stations viz BDPP and KDPP were also commissioned by KSEB for meeting the increased demand of Power. At present, 16 major Hydel stations, 15 Small Hydel stations, 2 Thermal stations and one wind farm with total installed capacity of 2186.14 MW are operating under KSEBL. Details are attached as Annexure 1.

Fourteen years after the commissioning of Pallivasal, the second powerhouse of the state of Kerala, the Sengulam power house with an installed capacity of 48 MW(4x12MW), was commissioned. The 300 MW Sabarigiri Hydro Electric Project, which was added to the Kerala System in 1966, enjoyed the special status of having a capacity higher than the capacities of all the other projects (including Sholayar which was also in the final stages of commissioning in 1966), in the Kerala system put together. Sabarigiri also elevated Kerala to a power surplus state in 1966. But the demand for power was steadily growing at a faster pace. Since then, project after project was added to the Kerala power system till 1976, when the first stage of Idukki HEP, with a capacity of 390 MW(3x130MW) was commissioned. When the stage II of Idukki , with a capacity of 390 MW was also added in 1986, Idukki HEP became the largest project in Kerala, with a total capacity of 780 MW.

The Idukki project continues to be the largest project, hydro or otherwise, of the KSEBL till date.After the commissioning of Idukki HEP in 1986, the Hydro Electric Projects which gave significant contribution to the capacity addition were the 75 MW Idamalayar, the 150 MW Kuttiyadi Extension Schemes, the 180 MW Lower Periyar and the 50 MW Kakkad project. After the commissioning of the Kakkad HEP, proposals for major Hydel projects like Silent Valley, Pooyamkutty etc. did not materialize due to issues related to environmental clearance . However, KSEB focused on small Hydel projects and commissioned 15 projects in this time. At present, implementation of 11 small Hydel projects is at various stages of construction.

Thermal Stations

KSEB also commissioned two Thermal Stations based on Diesel/LSHS at Brahmapuram and Kozhikode to meet the ever increasing demand for power. The Brahmapuram Diesel Power Plant (BDPP) , with a capacity of 106.6 MW(5x21.32MW) was commissioned in 1997-98 and the 128 MW(8X16MW) Kozhikode Diesel Power Project (KDPP) of capacity 128 MW(8X16MW) was commissioned in 1999. Recently two units each of BDPP and KDPP were decommissioned due to ageing. One 2.025 MW wind farm was also set up by KSEB at Kanjikode during 1995.


Control Room of Idukki Hydro Electric Project

Current Installed Capacity

The installed capacity of KSEBL as on 28-02-2015 is 2186.14 MW and generation capability is 8128.26 MU.

Apart from the KSEBL owned stations, a number of power stations (hydel, thermal and wind farm) were also set up by private agencies for which Power Purchase Agreement has been executed by KSEB . A 359.58 MW Thermal Power Plant was set up by M/s. NTPC at Kayamkulam during 1998-1999 and KSEB has executed PPA for the purchase of power.

At present KSEBL relies on the Central share, the power purchased from the Kayamkulam Thermal Power Plant and other private stations in addition to its own stations for meeting the demand.

Renovation of older Power Houses

The normal operative life span of hydro electric power plant is 35 years, after which renovation is required for extension of its life. Besides, the rapid strides in technology enables the manufacturers of components of hydro generating units to improve upon their older designs and field brand new products of better quality. It is therefore, not surprising that the older equipments turn obsolete very quickly. Added to this is the non availability of spare parts. Under these circumstances, the renovation/ replacement of these components becomes inevitable. The Central Electricity Authority(CEA) has also directed to take up the renovation of old power stations which have completed a life span of 35 years. Possibility of Capacity enhancement / uprating of the machines is also explored along with renovation works.

KSEBL has already completed renovation (RMU/R&M) of six power stations at Pallivasal, Sengulam, Panniar, Neriamangalam, Sabarigiri and Idamalayar . The renovation of three other stations is under various stages. The RMU of Poringalkuthu HEP is progressing and is expected to be completed by June, 2015. The R&M works of Idukki 1st stage (3 x130 MW) and Sholayar HEP(3x18MW) are under tender the stage of evaluation.

ISO Certification was obtained for Idukki, Sabarigiri, Lower Periyar and Malankara Power stations and the process of obtaining ISO certification for the remaining Stations is progressing.

Operation & Maintenance of Generating Stations.

The Operation & Maintenance of all power stations under KSEBL is co-ordinated by the Chief Engineer(Generation). The office of the Chief Engineer(Generation) is located at Moolamattom, Iduuki District, where KSEBL's prestigious and largest Power Station is situated. There are seven Generation Circles headed by the Deputy Chief Engineers, under the jurisdiction of the Chief Engineer (Generation), to take care of the Operation & Mace. of our Generating stations across the State.

Power Projects in Kerala

As on 30-09-2015

Sl.No	Name of Station	Installed Capacity (MW) of station	Firm annual Gen.Capability	
I	**KSEB Ltd.**	**Nos**	**MW**	**MU**
1	Idukki	6 x 130	780	2398
2	Sabarigiri	4 x 55 + 2x 60	340	1338
3	Idamalayar	2 x 37.5	75	380
4	Sholayar	3x18	54	233
5	Pallivasal	3 x 5+ 3x7.5	37.5	284
6	Kuttiyadi	3x25	75	268
7	Kuttiyadi Extension	1x50	50	75
8	Kuttiyadi Additional Extension Scheme	2x50	100	223
9	Panniar	2 x 16.2	32.4	158
10	Neriamangalam	3 x17.55	52.65	237
11	NES	1x25	25	58.27
12	Lower Periyar	3 x 60	180	493
13	Poringalkuthu	4x9	36	191
14	PLBE	1x16	16	74
15	Sengulam	4 x 12.8	51.2	182
16	Kakkad	2x25	50	262
	Sub Total (HEP)	**49 Nos**	**1954.75**	**6854.27**
II	**Small HEPs**			
1	Kallada	2x7.5	15	65.00
2	Peppara	1x3	3	11.50
3	Malankara	3x3.5	10.5	44.00
4	Madupatty	1x2	2	6.40
5	Malampuzha	1x2.5	2.5	5.60
6	Lower Meenmutty	(1x0.5 + 2x1.5)	3.5	7.63
7	Chembukadavu - 1	3x0.9	2.7	6.59
8	Chembukadavu - 2	3x1.25	3.75	9.03

9	Urumi -1	3x1.25	3.75	9.72
10	Urumi -2	3x0.8	2.4	6.28
11	KTR	3x1.25	3.75	15.00
12	Poozhithode	3 x 1.6	4.8	10.97
13	Ranni-Perinadu	2x2	4	16.73
14	Peechi	1x1.25	1.25	3.31
15	Vilangad	3x2.5	7.5	22.63
16	Chimmony	1x2.5	2.5	6.70
17	Adyanpara	2x1.5 +0.5	3.5	9.01
	Sub Total (SHEP)	**31Nos**	**76.4**	**256.1**
	Total (Hydel)	**80 Nos**	**2031.15**	**7110.4**
III	**Thermal Plants**			
1	BDPP	3x21.32	63.96	363.6
2	KDPP	6x16	96	672
	Sub Total (Thermal)	**13 nos.**	**159.96**	**1035.6**
	Wind/ Solar			
1	Kanjikode Wind Farm	9x0.225	**2.025**	4
2	Kanjikode Solar plant		**1**	1.63
	TOTAL (KSEB)	**102 Nos**	**2194.135**	**8151.60**
IV	**IPP/CPP IN THE STATE**			
1	Maniyar	3x4	12	36
2	Kuthungal	3x7	21	79
3	Ullunkal	2x3.5	7	32
4	Iruttukanam	3 x 1.5	4.5	16.5
5	Karikkayam		10.5	43.7
6	Mankulam		0.11	0.29
7	Meenvallom		3	8.37
8	Kallar		0.05	0.13
	Sub Total		**58.16**	**215.99**
1	MP Steel Co-Gen	4+3x2	10	67.67
2	Sreesakthi	2.2	2.2	
3	Philips Carbon Black	1x10	10	55.41

4	Wind-Agali	31x0.6	18.6	26.6
5	Wind-Ramakkalmedu	19x0.75	14.25	27.46
6	KPCL	3x7.3	21.93	140
7	BSES (BKPL)	3x40.5+ 35.5	157	1099
8	RGCCPS-NTPC	2x116.6+126.6	359.58	2158
9	Solar Plant (PORINGAL)		0.05	
10	Solar Plant		0.096	0.12
	Sub Total (IPP/CPP)		**593.71**	**3574.3**
	GRAND TOTAL (Kerala)		**2846.001**	**11941.9**

System Operation

The Kerala power system recorded a maximum peak demand of 3602 MW on 26.3.2015, where as the morning demand rose to 3072 MW on 6.04.2015. The daily consumption of the state reached a maximum of 70.99 MU on 26.3.2015. A notable change in the load pattern of the Kerala power system is the flattening of the load curve during the recent years.

The system operation wing was able to manage the grid without load shedding since June 2013 through meticulous planning and effective management of the system even on the face of increasing power prices and while the rest of the country was reeling under severe power cuts. This was achieved by exploring market opportunities and also through efficient utilization of the hydro resources.

Transmission

Transmission network, the backbone of any power system enables transfer of bulk power from the generating stations to the load centers. Over the years the intra state transmission infrastructure in Kerala has grown substantially with the addition of more and more EHT substations and lines. The Kerala grid is presently connected to the national grid mainly through three 400 kV double circuit lines viz. (1) Udumalpett – Madakkathara, (2) Thirunelveli – Pallippuram (Trivandrum).

The transmission sector of KSEB Ltd is geographically divided in to two zones – the North Zone headquartered at Kozhikode and the South Zone headquartered at Thiruvananthapuram. Each zone is headed by a Chief Engineer. In addition to the above, the System Operations wing which performs the real time management of Kerala Power System also comes under the Transmission SBU. The System Operations wing is headed by a Chief Engineer and is headquartered at Kalamassery.

The Kerala grid has grown considerably during the recent years. We have as many as 375 Substations spread across the state as on 30.06.2015. Also the total length of our transmission network is 11814.251 Ckm. The total power transfer capacity of our Substations stands at 17,548 MVA.

An abstract view of the transmission system of the State is given in the table below.

Sl No	Voltage	No of Substations	Line length in Circuit kms
1	400 kV	1+4*	*837.4
2	220 kV	19	2797.536
3	110 kV	140	4347.29
4	66 kV	76	2145.51
5	33 kV	135	1686.515

(* - Substations and lines owned by PGCIL)

Distribution

The Strategic Business Unit-Distribution of Kerala State Electricity Board Ltd is responsible for the distribution of electricity in the State of Kerala except in Thrissur Municipal corporation and Munnar(Kannan Devan Hills). The SBU-D of KSEBL comprises three distribution regions namely South, Central and North.

The South region, headed by the Chief Engineer (Distribution South) with head quarters at Thiruvananthapuram, has a consumer strength of 31,77,121 . This region consists of 7 Electrical Circles, 20 Electrical Divisions, 63 Electrical Sub Divisions and 211 Electrical Sections, as on February 2015.

The Central region is headed by the Chief Engineer (Distribution Central) with head quarters at Ernakulam. Its consumer strength is 35,20,958 and consists of 7 Electrical Circles, 23 Electrical Divisions, 69 Electrical Sub Divisions and 227 Electrical Sections, as on February 2015.

The Northern region, with its head quarters at Kozhikode is headed by the Chief Engineer (Distribution North). This region has a consumer strength of 47,11,715 and consists of 11 Electrical Circles, 27 Electrical Divisions, 79 Electrical Sub Divisions and 310 Electrical Sections, as on February 2015.

With the intention of providing quality power and for assuring better customer service, Kerala State Electricity Board Ltd has made all its Distribution Section offices more customer friendly. All Section offices are equipped with vehicles for attending to complaints from consumers. The grievances of consumers are redressed within the time frame stipulated by KSERC. The Training Centres ensure the timely imparting of training to employees through orientation programs and separate sessions arranged at Section offices and at various levels. They are motivated to achieve the goals with top priority to Safety aspects. Sunrise meetings are conducted in Sections offices everyday. Scheduling of maintenance works, deployment of various wings, daily allocation of vehicle, material allocation, arranging new service connections, reviewing previous day's work and other important issues are discussed transparently and effectively in such meetings. Continuous monitoring/evaluation of progress of works (both Capital and O&M) at various levels helps in achieving the plan targets. KSEBL is now engaged in a mission to electrify all the households in the State and hence the drive is to establish a wider distribution network throughout the state with the support of Govt. of India and the State Government. *(Source : www.kseb.in)*

❖

പുസ്തക പ്രകാശനം

Er. *എ. വി. നമ്പ്യാർ*

ഈ വർഷത്തെ രാമായണമാസമാദ്യദിനം ഒരു മഹനീയ ചടങ്ങിന്റെ ഭാഗമാകാൻ സാധിച്ചതിന്റെ സന്തോഷത്തിലാണ് ഞാൻ. പതിനൊന്നു കൊല്ലമായി കണ്ണൂരിൽ മാസന്തോറും മുടങ്ങാതെ ചിരിയരങ്ങ് നടന്നു വരുന്നു. ഞാൻ പലപ്പോഴും ചിരിയരങ്ങിൽ സജീവ സാന്നിദ്ധ്യമാകാറുണ്ട്. എല്ലാമാസവും മൂന്നാം ഞായറാഴ്ചകളിലാണ് നർമവേദി ചിരിയരങ്ങ് സംഘടിപ്പാക്കാറുള്ളത്. ഈ മാസം മൂന്നാം ഞായറാഴ്ച കർക്കിടകം ഒന്നായിരുന്നു. അന്ന് ചിരിയരങ്ങിൽ രാമായണപ്രതിഭാ സംഗമവും, കാവാലം നാരായണപ്പണിക്കർ അനുസ്മരണ ഗാനാഞ്ജലിയും, നമ്മുടെ റിട്ടയേർഡ് അസിസ്റ്റന്റ് എക്സിക്യൂട്ടീവ് എഞ്ചിനിയർ കെ. ശശിധരൻ എന്ന ശശി രചിച്ച **'നുറുങ്ങുകഥകൾ നർമചിന്തകൾ'** എന്ന പുസ്തക പ്രകാശനവും ഉണ്ടായിരുന്നു. നർമവേദി സെക്രട്ടറിയായ ശശിയുടെ രണ്ടാമത്തെ പുസ്തകമാണ് **'നുറുങ്ങുകഥകൾ നർമചിന്തകൾ'**

കേരള സ്റ്റേറ്റ് ഇലക്ട്രിസിറ്റി റെഗുലേറ്ററി കമ്മീഷൻ മുൻ ചെയർമാൻ സി. ബാലകൃഷ്ണൻ മുഖ്യാതിഥിയായ ചടങ്ങിൽ റിട്ടയേർഡ് കെ.എസ്.ഇ.ബി. ചീഫ് എഞ്ചിനീയർ പി.കെ. ചന്ദ്രൻ പുസ്തകം പ്രകാശനം ചെയ്തു. അത്സ്വീകരിക്കുവാനുള്ള ഭാഗ്യം എനിക്കാണ് ലഭിച്ചത്. പുസ്തകം പരിചയപ്പെടുത്തിയത് നർമവേദി പ്രസിഡന്റ് ആർ. പ്രഭാകരൻ മാസ്റ്ററായിരുന്നു. ഏത് അരസികന്മാരേയും രസിപ്പിക്കാൻ പോന്ന ധാരാളം നർമ മുഹൂർത്തങ്ങൾ പുസ്തകത്തിലുണ്ടെന്ന് പുസ്തകം പരിചയപ്പെടുത്തികൊണ്ട് അദ്ദേഹം പറഞ്ഞു. വളരെ രസകരമായി തോന്നിയ ഏതാനും തമാശകൾ തന്റെ ഉദ്ഘാടന പ്രസംഗത്തിൽ എഞ്ചി. സി. ബാലകൃഷ്ണൻ അവതരിപ്പിച്ച് കയ്യടി നേടി. മലയാള ഹാസ്യസാഹിത്യ ചരിത്രത്തിലെ പ്രഗത്ഭരായ കുഞ്ചൻ നമ്പ്യാർ, കുഞ്ഞുണ്ണി മാഷ് പോലുള്ളവർക്ക് ശേഷം നമ്പൂതിരി ഫലിതങ്ങളും സർദാർ ഫലിതങ്ങളും ഏറെ ഇഷ്ടപ്പെട്ടുകൊണ്ടിരിക്കുന്ന മലയാളി ശശിയുടെ 'നുറുങ്ങുകഥകൾ നർമചിന്തകൾ' ഇഷ്ടപ്പെടുമെന്ന് പുസ്തകം പ്രകാശനം ചെയ്തുകൊണ്ട് എഞ്ചി. പി.കെ.ചന്ദ്രൻ പറഞ്ഞു. കാർട്ടൂണിസ്റ്റ് ജെപ്പി നിർമലഗിരി, ഹാസ്യ സാഹിത്യകാരി ശ്രീമതി കെ.എസ്. മിനി എന്നിവർ ആശംസകൾ അർപ്പിച്ചു. തമാശയിൽ അച്ഛനാണ് ഗുരുവെന്ന് തന്റെ രചനാനുഭവങ്ങൾ പങ്കുവെച്ചുകൊണ്ട് ശ്രീ. ശശി പറഞ്ഞു. കണ്ണൂർ കോളേജ് ഓഫ് കോമേഴ്സിൽ വെച്ച് നടന്ന ചടങ്ങിൽ കെ.എസ്.ഇ.ബി.യിലെ ധാരാളം സീനിയർ എഞ്ചിനീയർമാരും നർമവേദിയിലെ സ്ഥിരം അംഗങ്ങളും പങ്കെടുത്തു.

ജീവിതത്തിലെ വീർപ്പുമുട്ടലുകളിൽ നിന്ന് മോചനം നേടാൻ ചിരി ഉത്തമ ഔഷധമാണെന്ന് മാനസീകാരോഗ്യവിദഗ്ധർ കണ്ടെത്തിയിട്ടുണ്ട്. പത്തുസെക്കന്റ് നേരത്തെ മനസ്സുതുറന്നു ചിരി പത്തുമിനിറ്റുനേരത്തെ വെളളം തുഴയിൽ നിന്ന് ലഭ്യമാകുന്ന ഊർജ്ജത്തിന് തുല്യമാണെന്ന് ഡോ. വില്യം ഫ്രൈ രേഖപ്പെടുത്തിയിട്ടുണ്ട്. എന്നിട്ടുമെന്തേ നമുക്ക് ഹൃദയം തുറന്ന് ചിരിക്കാൻ സാധിക്കുന്നില്ല എന്ന ചോദ്യം വളരെ പ്രസക്തമാണ്. ചിരിക്കാനായാലും ഒരു കാരണം വേണം. മനസ്സതിന് പാകപ്പെടണം. ഈ പുസ്തകം അതിനുളള അവസരം ഒരുക്കുമെന്നുളളതിന് സംശയമില്ല. ചുറ്റുപാടും കാണുന്ന ജീവിതാനുഭവങ്ങളെ നർമഭാവനയോടെ നോക്കികാണുകയും അതിനെ മനുഷ്യമനസ്സുകളെ പിടിച്ചുലയ്ക്കാൻ പാകത്തിൽ ആവിഷ്കരിച്ച് അവതരിപ്പിക്കുകയും ചെയ്യുന്ന കാര്യത്തിൽ ശശി വിജയിച്ചിരിയ്ക്കുന്നു.

ചാർലിചാപ്ലിനും ബിയാൻ കൊളേളലിയും എബ്രഹാം ലിങ്കണും കെന്നഡിയും, ചിത്രഗുപ്തനും ചാണക്യനും മാത്രമല്ല മദൻമോഹൻ മാളവ്യ, മേൽപ്പത്തൂർ നാരായണഭട്ടതിരി തൊട്ട് ഒട്ടേറെ മഹാത്മാക്കൾ നുറുങ്ങ് കഥകളിലെ കഥാപാത്രങ്ങളാണ്. ഇവരുടെയെല്ലാം ജീവിതത്തിൽ നിന്നടർത്തിയെടുത്ത അനർഘ നിമിഷങ്ങൾ വായനക്കാരുടെ മുന്നിൽ ശശി കാഴ്ച വെക്കുന്നു. ചിരിയുടെ ചക്രവർത്തി ചാർലിചാപ്ലിനിൽ തുടങ്ങി വർത്തമാനകാല സാമൂഹ്യ ജീവിതത്തിലെ സാങ്കേതിക നേട്ടങ്ങളെ ഉപയോഗപ്പെടുത്തികൊണ്ടുളള യാചകവൃത്തിയിൽ പര്യവസാനിക്കുന്ന എഴുപത്തിനാല് നുറുങ്ങു കഥകൾ മനുഷ്യ ജീവിതത്തിലെ പിരിമുറുക്കങ്ങൾക്ക് അയവേകാൻ പര്യാപ്തമാകുമെന്ന് ഞാൻ ഉറച്ച് വിശ്വസിക്കുന്നു.

ശ്രീ ശശിക്ക് എല്ലാഭാവുകങ്ങളും നേരുന്നു. അടുത്ത പുസ്തകത്തിനായി ഞങ്ങൾ കാത്തിരിക്കുന്നു.

❖

ഒരു അമേരിക്കൻ 'ട്രയംഫന്റ് ഹിൽ'

Er. രാജൻ വി.

ഇത് അമേരിക്കൻ പ്രസിഡന്റ് തിരഞ്ഞെടുപ്പു വർഷമാണല്ലൊ. റിപ്പബ്ലിക്കൻ സ്ഥാനാർത്ഥിയായി ഡൊണാൾഡ് ജോൺ ട്രംപിനെ പ്രഖ്യാപിച്ചു കഴിഞ്ഞു. ഇന്നോ നാളെയൊ ഡമോക്രാറ്റിക് സ്ഥാനാർത്ഥിയായി ഹിലാരി ക്ലിന്റനും പ്രഖ്യാപിക്കപ്പെട്ടേക്കുമെന്നാണ് പത്രവാർത്ത. ട്രംപിന്റെ അസ്വീകാര്യത്തെക്കുറിച്ചു നമ്മുടെ പത്രക്കാർ പലതും പറയുന്നുണ്ട്. പക്ഷെ അദ്ദേഹം പിന്നെങ്ങനെ സ്ഥാനാർത്ഥിയായെന്ന് അവർ പ്രത്യേകിച്ചൊന്നും പറയുന്നില്ലെങ്കിലും ചില സൂചനകൾ വാർത്തകളിലുണ്ട്. എഴുപത് വയസ്സോളം പ്രായമുള്ള 58000 കോടി രൂപയോളം ആസ്തിയുള്ള ഇന്ത്യയിൽ പോലും റിയൽ എസ്റ്റേറ്റ് - ഹോട്ടൽ താല്പര്യമുള്ള ഒരു വൻ ബിസിനസ്സുകാരൻ, ഇന്ന് വരെ ഉത്തരവാദപ്പെട്ട രാഷ്ട്രീയ സ്ഥാനങ്ങളിലൊന്നും ഇരുന്ന് കഴിവ് തെളിയിച്ചിട്ടില്ലാത്ത, ഒന്നും വായിക്കുകയും ഗൗരവമായി പഠിക്കുകയും ചെയ്യാത്ത ഒരു ബോറൻ എന്നൊക്കെയാണ് ഇവിടെ പറയുന്നത്. അതെ സമയം ഒഹായെ സംസ്ഥാനത്തു നടന്ന കൺവെൻഷനിൽ വോട്ടെടുപ്പു നിർദ്ദേശിച്ച നേതാവിനെ അണികൾ കൂകിവിളിച്ചാണ് പുറത്താക്കിയതും അതിനുശേഷം ഏകകണ്ഠമായി ട്രംപിനെ സ്ഥാനാർത്ഥിയായി പ്രഖ്യാപിച്ചതും.

അതെ സമയം ട്രംപ് 1987 - ൽ പ്രസിഡന്റ് സ്ഥാനാർത്ഥിത്വത്തിന് ഒന്ന് ശ്രമിച്ചിരുന്നു. പക്ഷെ അന്ന് ബിസിനസ്പരമായ ഒരു പ്രശ്നം കാരണം അത് വിജയിച്ചില്ല. പിന്നീടും ചില ശ്രമങ്ങൾ നടത്തിയിരുന്നു. ഇപ്പോൾ സാധാരണ അമേരിക്കക്കാരുടെ അടക്കി വച്ചിരിക്കുന്ന നേതൃത്വത്തോടുള്ള വെറുപ്പു ട്രംപ് മനസ്സിലാക്കിയിട്ടുണ്ടെന്നാണ് രാഷ്ട്രീയ നിരീക്ഷകർ പറയുന്നത്. അതിനായി വംശദേശീയതയെ രാഷ്ട്രീയമായി ചൂഷണം ചെയ്യുകയാണ് ട്രംപിന്റെ ലക്ഷ്യമെന്നാണ് നിരീക്ഷണം. അങ്ങനെ രാജ്യത്തിനും ജനത്തിനും നഷ്ടപ്പെട്ട സ്വത്വവും വംശീയമായ ആത്മാഭിമാനവും വീണ്ടെടുക്കുകയെന്നുള്ളതാണ് ട്രംപിന്റെ ലക്ഷ്യം. ഏതാണ്ട് ഒരു കോടി വരുന്ന വിദേശികളും കുടിയേറ്റക്കാരും ഭീകരരെ സഹായിക്കുന്നവരും നാട്ടിനെ നശിപ്പിക്കുന്നു. അങ്ങനെ സാധാരണക്കാരന്റെ ജീവിതം ദുഃസഹമാക്കുന്നു, അതുപോലെ കൊള്ളക്കാരായ മെക്സിക്കോക്കാരെ നിലയ്ക്കുനിർത്തുമെന്നും ട്രംപ് വ്യക്തമാക്കുന്നു. ഇതൊക്കെ ആയിരുന്നു ട്രംപിന്റെ തുറുപ്പുചീട്ടുകൾ. അതിനെ സാധാരണക്കാർ രണ്ട് കൈയും നീട്ടി സ്വീകരിച്ചു. ഇതുകൂടാതെ മുൻ പ്രസിഡന്റുമാർ അമേരിക്കയുടെ വ്യക്തിത്വം നശിപ്പിച്ചു, ലോകശക്തിയെന്ന സ്ഥാനം കളഞ്ഞുകുളിച്ചു. ചൈനയും യൂറോപ്പും അമേരിക്കയെ കരുവാക്കി ആഗോള വല്ക്കരണത്തെ മുതലെടുക്കുന്നു എന്നിങ്ങനെയാണ് പ്രസംഗങ്ങൾ. ഇതൊക്കെ കാരണമാണ് തൊഴിലില്ലായ്മ വർദ്ധിക്കുന്നതെന്നാണ് താഴെക്കിടക്കാരെ പറഞ്ഞ് വിശ്വസിപ്പിച്ചിരിക്കുന്നത്. ഇങ്ങനെയുള്ള ഭയവും ആശങ്കയുമാണ് ട്രംപിന്റെ ബലവും.

ആദ്യകാലത്ത് പാവപ്പെട്ടവരുടെ പാർട്ടിയെന്ന് അറിയപ്പെട്ടിരുന്നത് റിപ്പബ്ലിക്കൻ പാർട്ടിയായിരുന്നു. അങ്ങനെ കറുത്തവർക്കും അധഃസ്ഥിതർക്കും ആശ്രയമായിരുന്ന പാർട്ടി കാലം കഴിഞ്ഞപ്പോൾ അത് സമ്പന്നന്മാരുടെ പാർട്ടിയായിമാറി. അങ്ങനെ ഡമോക്രാറ്റിക് പാർട്ടിയായി ഈ അശരണരുടെ പാർട്ടി. ആ കാഴ്ചപ്പാടിനെ മാറ്റിയെടുക്കാനുള്ള ശ്രമമാണ് ട്രംപ് നടത്തുന്നത്. അതിനായി രാജ്യത്തിന് സുരക്ഷിതം, ജനങ്ങൾക്ക് തൊഴിൽ, നഷ്ടപ്പെട്ട പ്രതാപം വീണ്ടെടുക്കുക എന്നിങ്ങനെയുള്ള വാഗ്ദാനങ്ങളാണ് ട്രംപ് ജനങ്ങൾക്ക് നല്കുന്നത്. ഇന്ത്യയെക്കുറിച്ചും അദ്ദേഹത്തിന് അത്ര നല്ല അഭിപ്രായമല്ല ആദ്യസമയങ്ങളിൽ ഉണ്ടായിരുന്നത്. പിന്നീട് അത് മാറ്റി. ഇങ്ങനെയൊക്കെയാണെങ്കിലും ഇന്ത്യ ചില നല്ലകാര്യങ്ങളും ചെയ്യുന്നുണ്ടെന്നും പറഞ്ഞു. അങ്ങനെ അഭിപ്രായ സ്ഥിരതയില്ലാത്ത, ജനപിന്തുണയില്ലാത്ത, കാര്യബോധമില്ലാത്ത ഒരു കച്ചവടക്കാരനാണ് അദ്ദേഹമെന്നാണ് അടുപ്പക്കാർ പറയുന്നത്. സർവ്വേകളിൽ 60% പേർ പ്രസിഡന്റാകാനുള്ള ഒരു കഴിവും ട്രംപിനില്ലെന്നാണ്

→

PIB Releases

☞**Street Lighting National Programme Launched in 112 Urban Local Bodies**

The Street Lighting National Programme(SLNP), being implemented by Energy Efficiency Services Limited (EESL), a joint venture company of four Power Sector PSUs, envisages replacement of conventional street lights with LED lights by March, 2019. EESL is playing an important role as a catalyst in replacing these streetlights, while several other suppliers are also carrying out the same in cities/states

The target for 2015-16 was to launch the programme in 100 Urban Local Bodies (ULBs) whereas EESL has already launched the programme in 112 ULBs. The State/UT- wise details of LED street lights installed by EESL are given below:

S. No	State	LED Street Lights
	Installed by EESL	
1	Andhra Pradesh	3,93,500
2	Delhi (Only South Delhi Municipal Corporation area)	1,88,973
3	Kerala (Only Alleppey District)	5,676
4	Rajasthan	3,74,914
5	Tripura (only Agartala city)	34,200

→

പറയുന്നത്. അതെ സമയം ഹിലാരി ഈ സർവ്വെയിലൊക്കെ വളരെ മുന്നിലാണ്. ഇവിടെ ഒരു കാര്യം ശ്രദ്ധിക്കുക; ബ്രെക്സീറ്റ് സർവ്വേ ഫലങ്ങളും ഇങ്ങനെയൊക്കെ ആയിരുന്നു; പാവപ്പെട്ടവരും സാധാരണക്കാരും എങ്ങനെ ചിന്തിക്കുന്നുയെന്നുള്ളതാണ് ഫലം തീരുമാനിക്കുന്നത്.

മുസ്ലീം തീവ്രവാദത്തിനെതിരെ ട്രംപ് എടുത്ത നിലപാടുകൾ ഫ്രാൻസിലേയും ജർമ്മനിയിലേയും ഭീകരാക്രമണങ്ങളുടെ വെളിച്ചത്തിൽ വലിയ ഗുണം ചെയ്തിരുന്നു. ഈ ആക്രമണങ്ങൾ ബ്രെക്സീറ്റ് ഫലത്തിലും പ്രതിഫലിച്ചിട്ടുണ്ടെന്നാണ് ട്രംപ് അഭിപ്രായപ്പെട്ടത്. ബ്രിട്ടനിലേയും സാധാരണ ജനങ്ങൾ കുടിയേറ്റവും ഭീകരതയും കാരണം പൊറുതി മുട്ടി കഴിയുകയാണല്ലൊ. മുസ്ലീം ഭീകരത നടമാടുന്ന രാജ്യങ്ങളിൽ നിന്ന് അഭയാർത്ഥികൾ യൂറോപ്പിലേക്കാണല്ലൊ എത്തുന്നത്. ഒരേ മതക്കാർ തന്നെ മേൽക്കോയ്മക്കായി അരും കൊലകൾ നടത്തുന്നതിന്റെ തിക്തഫലം മറ്റ് രാജ്യങ്ങളും, മാനുഷിക പരിഗണനയുടെ പേരിൽ എന്നും അനുഭവിക്കണമെന്ന് പറയുന്നത് ന്യായമല്ല. ഈ ക്രൂരതകൾ ഒരവസാനവുമില്ലാതെ നീണ്ട് പോകുമ്പോഴാണ് വംശ-സ്വത്വ ദേശീയതകൾ പ്രാമുഖ്യം നേടുന്നത്. അങ്ങനെ വരുമ്പോൾ ചിലപ്പോൾ ആ വികാരമൊക്കെ നാസിസത്തെപ്പോലെ ലോകത്തിന് വിനയായി ഭവിച്ചുകൂടായ്കയില്ല. അതുകൊണ്ട് ഈ അമേരിക്കൻ പ്രസിഡന്റ് തിരഞ്ഞെടുപ്പ് ലോക രാഷ്ട്രീയത്തിൽ പലമാറ്റങ്ങൾക്കും നാന്ദിയായേക്കാം.

❖

6	UP (Aligarh & Varanasi Cities)	17,290
7	Assam	3,535
8	Telangana	971 (pilot project)
9	Pondicherry	300 (pilot project)
10	Maharashtra	659 (pilot project)
11	Bihar	150 (pilot project)
	Total	10,20, 168

☞ **Inter-Regional Transmission Corridors for Supply of Power from Surplus States to Deficit States**

Shri PiyushGoyal Minister of State (IC) for Power, Coal, New & Renewable Energy and Mines, informed that the inter-state transmission lines are planned and implemented as a part of the evacuation system from inter-state generation stations and also as system strengthening projects. These lines are mainly used for delivery of power from these generating stations to their beneficiaries in various states. The inter-state transmission lines i.e. the transmission lines within a region and also the inter regional lines are also used for transfer of power from surplus states/regions to deficit states/regions, subject to availability of margins in these lines.

Further, the Minister said that a number of inter-regional links have been planned which interconnect the five regional grids i.e. Northern, Western, Southern, Eastern and North Eastern regions. Presently, the total transmission capacity of such inter-regional links is 59,550 MW (June 2016) which is expected to increase to 68,050 MW by the end of 12th Plan i.e. March 2017.

Shri Goyal noted that Gujarat and other surplus States are entitled to seek Long Term, Medium Term and Short Term Open Access (STOA) for export of power to any part of the country. The nodal agency for the grant of Long Term Access (LTA) / Medium Term Open Access (MTOA) is Central Transmission Utility (CTU) and for STOA is the Regional Load Dispatch Center (RLDC). In Case, Gujarat or such surplus States intend to sell surplus power outside the state on long term basis they should seek long term transmission access well in advance as creation of any new transmission infrastructure takes a period of three to four years.

As per the scheme for operationalization of Power System Development Fund (PSDF), PSDF may be utilized for creating necessary transmission systems of strategic importance based on operational feedback by Load Dispatch Centers for relieving congestion in Inter-State Transmission Systems (ISTS) and intra-state system which are incidental to

the ISTS are eligible for funding from PSDF. As per information available in Central Electricity Authority (CEA), no such scheme has been submitted by any entity till date, the Minister added.

☞ **Interface of Solar with DC Technology will help Secure Energy Security: Shri Piyush Goyal -Lays Foundation Stone for Energy Saving Chilled Water Storage & Centre for Battery Engineering & Electric Vehicles at IIT-Chennai**

Shri Piyush Goyal, Minister of State (IC) for Power, Coal, Mines and New & Renewable Energy said that the interface of solar technology with DC technology inspired me most. "It will help to secure energy security & provide green energy", he said this after laying foundation stone for energy saving chilled water storage & centre for battery engineering & electric vehicles at the IIT-Chennai today. Shri Goyal further said that I believe this fusion of Solar Technology for providing green energy & energy security can be utilized for serving the under privileged & ultimately, the whole nation.

Speaking on the occasion, Shri Goyal stated that India has the skill, knowledge, capacity to develop cutting edge green technology which would provide power to the weaker section of society. He emphasized that India has to innovate; it has to invest in R & D & promote young innovators. "This way, we can provide a way forward to the World", the Minister added.

Referring to innovative green technology research being undertaken at IIT Madras, the Minister said that this highlights a new kind of partnership made possible between Public-Private-Professor-People (PPPP). He said these technologies can make uninterrupted power accessible and affordable for the poor and aligns with the Government's commitment to make power available to every home in India. He said these technologies are a significant leap towards India achieving energy security goals.

While replying to the questions of the media persons during press conference, Shri Goyal said that if Tamil Nadu signs the UDAY scheme, it will save over Rs.22,400 crore in the next 3 years and a further saving of Rs. 7000 cr per year after 2019. He stressed upon the need of 'Right of Way' being given to the projects by the State governments in order to make South India power surplus.

Talking about transparent auctions, the Minister explained in detail the economies of scale being achieved in the Power sector. He quoted the example of Rajasthan where new tenders have been recently opened, which has led to a progressive decrease in the price of Solar Power to Rs. 4.35 per unit. Renewable energy is no more unviable today. "Its price is decreasing on a year-on-year basis unlike other conventional sources of power", he said.

The Minister expressed pride in telling the media that most of the power plants in India are power surplus today and the Government at the Centre is proactive in helping the power deficit States in meeting their power requirements.

Listing the initiatives taken by the government to give thrust renewable energy, the minister said the centre has launched two pilot projects at Phalodi in Rajasthan and Sasar at a cost of 80 crore rupees to provide solar power to all households in these two areas.

On the occasion, Shri Goyal also launched energy efficient LED tube light and bulbs as a part of green technology innovation at the IIT campus and visited solar power green house.

☞ **Power Ministry Undertake Several Steps to Ease the Process of "Getting Electricity" Connection**

Ministry of Power has undertaken several reforms measures to ease the process of 'Getting Electricity' over a period of last two years.

The Government has made it mandatory to provide electricity connection within fifteen days to the consumers in normal conditions. A simplified procedure for getting electricity connection has been adopted after detailed discussions with Delhi and Maharashtra Discoms and other concerned agencies. DERC has made the necessary changes to allow LT connection up to 150 KVA and had also rationalized the tariff for the same in 2015.

Ministry has also stipulated time for each step required for providing the connection. Within three days of online form submission for electricity connection, the field inspection of the site will be done, which will lead to the process to estimate preparation, load sanction and intimation for fee deposit to be completed in next four days. After this, installation work including meter and flow of electricity will be done in eight days, thus completing the whole process in 15 days.

While applying for connection, consumers in Delhi and Mumbai will be required to provide the self certification for type of consumer along with ID proof and premises ownership. An amendment to CEA notification have been made to waive off electrical approval for 11 KV installation carried out by Discoms and allowing self certification by Discoms engineers in such cases.

It has been agreed by the Discoms that reliability of Power supply will be improved progressively each year till international benchmark are achieved. An amendment in CEA notification for allowing installation of transformers up to 500 KVA on double pole structure has also been made. Apart from these initiatives, a simplified online

mechanism for Right of Way (RoW) approval process for electrical works is also under process.

These measures will drastically reduce the time taken for getting an electricity connection and will benefited citizens and industry alike.

☞ **13-Year-Old Distributes LED Bulbs to Underprivileged -600 Families to Benefit from 1,800 LED Bulbs Provided under Government of India's Ujala Scheme**

Government of India's Unnat Jyoti by Affordable LEDs for all (UJALA) programme is not only making waves in India but has also created a buzz internationally as well. The immense potential of this programme has impacted a young girl of Indian origin, Meera Vashisht from Houston, Texas to such an extent that she took it upon herself to raise funds and distribute LED bulbs to the section of society, which still can't afford it. With the support of her parents and after almost a year of reaching out to five hundred people in her vicinity, Meera collected $2,079.51 or approximately Rs 1,40,000, to purchase LED bulbs from Energy Efficiency Services Limited (EESL), the implementing agency for the UJALA programme and distributed them to the residents of JJ clusters in Keshavpuram in Delhi.

Meera Vashisht, a 13-year-old girl, chanced upon news of the Government of India's UJALA programme while working on her 7th standard science project. The success stories of this initiative were enough to intrigue her and on further research, she was overwhelmed by the impact of this programme on the country and its environment. Meera recognized the potential impact of LED bulbs and took it upon herself to raise funds and contribute towards a big change.

During the occasion, cheerful Meera said, "LED bulbs use less than half the energy of an inefficient bulb and runs for over 7-8 years. I am very happy to have been able to carry out the distribution of LED bulbs and hope to inspire young minds across the globe for working towards energy efficiency."

Meera also believes that her effort will result in lighting up 46 houses for one year, reducing electricity bills by Rs. 2,500 and most importantly there will be significant reduction in CO2 emissions every year. Notably, her initiative will further strengthen India's commitment to achieving 30-35% reduction in carbon emissions.

Under UJALA, over 12.60 crore LED bulbs have already been distributed across India. This is leading to a daily energy savings of about 4.48 crore kWh and resulting in avoidance of about 3,278 MW of peak demand. Through the scheme, the estimated cumulative cost reduction of bills of consumers, per day, is INR 17.94 crores. The initiative is part of Government of India's efforts to spread the message of energy efficiency in the country.

☞ **Shri Piyush Goyal Reviews Coal, Power, New and Renewable Energy Sectors Development in Karnataka**

The Union Minister of State (IC) for Power, Coal, Renewable Energy and Mines, Shri. Piyush Goyal reviewed the issues related to Power, coal, renewable energy and mines sectors with the Govt. of Karnataka.

Addressing the media after the review meeting, Shri. Goyal said that there are four ongoing power projects linking with various states to bring surplus power from the central grid to Karnataka state. 400 KV Yelahanka LILO , 400KV Dharmapuri-Somanahally D/C Line, 400 KV Madhugiri –Yelahanka D/C line and 765 KV Madhugiri –Dharmapuri (Salem New) S/C Line are the four projects which have been stalled from last many years due to the demand of high compensation. The Government of Karnataka has now agreed to provide all assistance to complete these projects. The completion of these projects will help Karnataka in getting surplus power. The centre has also approved a Renewable Energy Management Center for Bengaluru to support large scale grid integration , added Shri Goyal .

Regarding Coal & Mining sectors , Shri Goyal said India should look at doubling its mineral output in the next 3 to 4 years and become a net exporter of minerals. Coal problems are history in India. It is requested for steel industry of Karnataka to secure coal linkages. Last year the imports of coal have been reduced to the tune of Rs. 24,000 crore. This year the target is Rs. 40,000 crore . From 2-3 days stock of coal available to Power plants to straight 51 days stock of coal, it is a reflection of the hard work & commitment of all mine employees, the Minister said.

Shri Goyal thanked Government of Karnataka for signing UDAY, even though the Government has accepted only the operational efficiencies and not its financial aspects. The Minister said that Central Government is willing to help Karnataka Government in every possible way. The Central Government has been requesting to Karnataka Government to sort out right of way issues so that transmission lines can be laid out smoothly , the Minister added.

In the last 2 years the capacity of the Southern grid has been increased by 71%. Shri Goyal stated that he has requested Karnataka Government to come up with plans for rapid expansion of output of mines and creation of jobs in Karnataka

❖

GB Meeting held at Kottayam on 23-07-2016

Er. C. Balakrishnan, Rtd Chairman,KSERC releasing the book
"Nurungu kadhakal Narma kadhakal" authored by Er.Sasikumar, Rtd.AEE at Kannur

KSEB ENGINEERS' ASSOCIATION

Price ₹ 10

HYDEL BULLET Monthly
RNI Reg.No.KERENG/2013/48628
Reg. No. KL/TV(N)/645/2016-2018

Licensed to Post without pre payment.
No. KL/TV(N)WPP/203/ 2016 - 18 at Tvpm. RMS
Date of P ublication 25-07-2016

Ernakulam Unit organized Technical Tour to Siemens Industries, Goa

Edited, Printed & Published by P. Murali, Chief Editor, Hydel Bullet for and on behalf of KSEB Engineers' Association, Panavila, Trivandrum -01, Ph : 2330696, email:hydelbulletin@gmail.com,web : ksebea.in at Bhagath Printers, Pattom,Trivandrum - 4 , Ph : 4017097, bhagathpattom@yahoo.com,bhagathprinters@gmail.com