Hydel Bullet

A Monthly Publication of the Kerala State Electricity Board Engineers Association

A New Paradigm in Power Sector.....

The survival of the KSEB and the future of the State power sector is very much dependent on the adoption of the changes that is essential for minimum functional efficiency of the organisation. The Regulatory Commissions were established to introduce competition, efficiency and economy in the power sector, to safeguard the consumer interest and to improve the quality of supply. This delinked a substantial part of the entire process of regulation of the power sector, from the government. It was done so with the hope that greater professionalism, transparency of process and procedure and the participation of a larger group of stakeholders in the decision making process, will result in informed, unbiased, efficient, fair and commercially sound decision making. The Electricity Act, 2003 has entrusted the regulators with additional responsibilities, inter-alia, of development of market, grid security etc. But it is time now for the top echelons to introspect whether the intention provided for in the Act is infact fulfilled. We feel that the intentions are not realistically implemented. The provisions promoting competition include allowing non-discriminatory open access to transmission and distribution lines for use by generating companies, trading/distribution licensees from the very beginning and by consumers in a phased manner. Again the market determined tariff with maximum/minimum thresholds and determination of tariff through competitive bidding is provided to promote competition to further levels. The Electricity Act, 2003 envisages two broad modes of tariff determination- Tariff determination by Regulatory Commissions under section 62 (regulated tariff) and Tariff determination through competitive bidding process under section 63 (to be adopted by the Appropriate Commission).

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Engineers' Day

September 15

Sir Mokshagundam Visvesvaraya

Engineers' Day Celebration - Kottayam Unit

It was realised that the competitive market in power will evolve gradually. During the intervening period, the regulation of generation tariff will have to be continued on cost of service approach. Even under this approach the objectives of achieving economic efficiency and encouraging investment would remain. Transmission being a natural monopoly, its tariff will also need to be regulated under a similar principle. In addition to the above two modes, prices for electricity are also decided / mutually agreed in the short term market through bilateral transactions (direct or through traders) or through power exchange. In addition to the above two modes, prices for electricity are also determined / mutually agreed in the short term market through bilateral transactions (direct or through traders) or through power exchange. Regarding the frequency linked pricing through UI mechanism, the Central Commission has already conveyed that it was not meant for commercial transaction but was primarily meant for managing the imbalances and ensuring grid discipline

The main role of the regulator lies in the tariff determination under section 62. But the regulatory intervention in the tariff determination under section 63 of the Act and price discovery through short term transaction is limited. Traditionally, tariff whether in generation, transmission or distribution is determined by the Regulatory Commission based on cost plus approach. The Act provides guiding principles for the Appropriate Commission for specifying tariff regulations which includes inter alia the Multiyear Tariff principles, rewarding efficiency in performance and the requirement of

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safeguarding of consumers' interest and at the same time ensuring recovery of the cost of electricity in reasonable manner.

As per the National Electricity Policy, the Regulatory Commission need to provide facilitative framework for non-discriminatory open access. This requires load dispatch facilities with state-of-the art communication and data acquisition capability on a real time basis. The Appropriate Commission should permit adequate capital investments in new assets for upgrading the transmission system. As per Tariff Policy all power purchase costs need to be considered legitimate unless it is established that the merit order principle has been violated or power has been purchased at unreasonable rates. The reduction of Aggregate Technical & Commercial (ATC) losses needs to be brought about but not by denying revenues required for power purchase for 24 hours supply and necessary and reasonable O&M and investment for system upgradation. Consumers, particularly those who are ready to pay a tariff which reflects efficient costs have the right to get uninterrupted 24 hours supply of quality power. The Tariff Policy stipulates that, the SERC should ensure that tariffs should be within ± 20 % of the average cost of supply.

Though we appreciate KSERC's proactive approach on regulations that concerns with consumer rights, the same approach is required for providing the necessary infrastructure, appropriate technology and working environment for achieving the targets by the Board . This basic approach necessary for the healthy development of the State power sector is found missing. The SERCs have so far been consumer/distribution focused and any initiative on application of relevant technology in generation and transmission is found missing. It is observed that instead of insisting for implementing the CEA standard, SERC is diluting the relevant CEA standards in favour of the consumers, without much concern over the consequences. The real time energy accounting, transmission automation and grid visibility are the three areas which require urgent technological innovation for efficient & economical operation of the power sector. An initiative from the SERC in right direction shall provide enough motivation for KSEB to move forward with right investment plans.

The evaluation of performance without appropriate functional autonomy and proper energy accounting is meaningless. Generation Tariff needs to be determined by the SERC based on the guiding principles. Separate ARR and investment plan for Transmission, Distribution and SLDC are long pending. The capital works need to be executed & accounted through a separate mechanism in each wing, without mixing it up with the O&M works. These are the minimum pre-requisite for a realistic tariff, based on balanced requirements in state electricity sector & actual cost of supply. The Act prohibits the SLDCs & STUs / Transmission licensees from engaging in trading in electricity. Now KSEB is utilising SLDC for doing the day ahead trading operation and the EHT consumers are treated as consumers of the transmission system. This violation needs to be corrected to comply with the provisions of the IE Act. Actually the present arrangement can lead to the question of compromising the functional autonomy and independency in many

ഇന്നു ഞാൻ !! നാളെ നീ..... !!! ???

പ്രഭാ പാൽരാജ്

ജന്മാന്തരങ്ങൾക്കൊടുവിലൊരു
കുറിഞ്ഞി മലരിന്റെ മടിത്തട്ടിൽ -
ജാതയായറിഞ്ഞൂ നാഥ സുഗന്ധപൂരിത-
മാം പൂവല്ല ഞാൻ വെറുമൊരു കള !! ?
എന്നശ്രുപൂരിതമാം മിഴിനീർ
നിറഞ്ഞു രൂപംകൊണ്ടു മറൈനാട്രഞ്ച്-
അപ്പോഴും ഞാനറിഞ്ഞു ഞാൻ വെറുമൊരു കള
പെട്ടെന്ന് തമോ ഗർത്തത്തിൽ
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കോടി പ്രകാശ വർഷങ്ങൾക്കുമപ്പുറം !!
മാറിയെൻ ജീനുകൾ ജീൻകോഡുകൾ
ഇന്നുഞാൻ കേവലം കളയല്ല
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അപാരതയിൽ ഗോളാന്തരങ്ങളിൽ
അനിർവ്വചനീയയാകുന്നു ഞാൻ വേഗം !!
അപാരതയിൽ ഗോളാന്തരങ്ങളിൽ
സജ്ജീവയാകുന്നു ഞാൻ വേഗം !!!

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decisions taken by the SLDC and STU. It is the responsibility of the distribution licensee to estimate and ensure relevant power purchase through proper planning and regulatory approval. The present mechanism of involving officers from STU and SLDC in power purchase decisions needs to be relooked. Power purchase decision need to the done by the distribution licensee and it needs to be ensured that decisions in the power purchase are in tune with the spirit of the IE Act. We expect the decision makers to look into such serious affairs rather than play to the gallery thereby further deteriorating the financial healthiness of the utility.

As such we need to stride a long way to cope up with the new paradigm in the power sector. The consumer oriented regulations need to be supplemented with appropriate regulations and actions to provide proper infrastructure and functional autonomy for various functions. Actually SERC need to have functional divisions staffed with competent electrical engineers who shall work in tune with the corresponding profit centres of KSEB.. Similarly KSEB need separate TRAC wing functional under each functional heads of the transmission, distribution and Generation wings to make respective functions accountable, efficient and function as a profit centre in true sense. The decision makers need to realise that ***after all the spirit of electricity reform is functional structure, functional autonomy and functional freedom.***

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Engineers' Day - September 15th

Engineers' Day is observed in India on September 15th in honour of Sri Mokshagundam Visvesvaraya.

Bharat Ratna Sir Mokshagundam Visvesvaraya, KCIE was a notable Indian Engineer, Scholar, Statesman and the Diwan of Mysore during 1912 to 1919. He was a recipient of the Indian Republic's highest honour, the Bharat Ratna, in 1955. He was knighted as a Commander of the Indian Empire by King George V for his myriad contrib- utions to the public good. Every year, September 15 is celebrated as Engineer's Day in India in his memory. He is held in high regard as the first and pre-eminent engineer of India. He was the Chief designer of the flood protection system for the city of Hyderabad.

Visvesvaraya was born to Srinivasa Sastry and Venkachamma in Muddenahalli village, 40 miles from Bangalore, India. His family was a Smartha Brahmin family of the Vaidiki Mulukanadu sub-caste. In fact his ancestors actually belonged to Mokshagundam village, near Giddalur in the Prakasam district of present-day Andhra Pradesh, and had migrated to Mysore some three centuries ago. The family name "Mokshagundam" preserves the memory of his association with Andhra Pradesh. His father was a Sanskrit Scholar and an authority on Hindu Dharmashastras (theology), besides being an Ayurvedic practitioner. Visvesvaraya lost his father at the age of 15. The family was in Kurnool when this happened, and moved back to Muddenahalli there after. Sir M.V. attended primary school in Chikballapur and high school in Bangalore. He earned his B.A. from Madras University in 1881 and later studied Civil Engineering at the College of Science, Pune.

Upon graduating as an Engineer, Visvesvaraya took up a job with the Public Works Department (PWD) of Bombay and was later invited to join the Indian

Irrigation Commission. He implemented an extremely intricate system of irrigation in the Deccan area. He also designed and patented a system of automatic weir water floodgates that were first installed in 1903 at the Khadakvasla Reservoir near Pune. These gates were employed to raise the flood supply level of storage in the reservoir to the highest level likely to be attained by a flood without causing any damage to the dam. Based on the success of these gates, the same system was installed at the Tigra Dam in Gwalior and the Krishnaraja Sagara (KRS) Dam in Mandya/ Mysore, Karnataka. In 1906-07, Government of India sent him to Eden, (Africa) to study water supply and drainage system and the project prepared by him was implemented in Eden successfully.

Visvesvaraya achieved celebrity status when he designed a flood protection system for the city of Hyderabad. He was instrumental in developing a system to protect Visakhapatnam port from sea erosion

Bharat Ratna Sir Mokshagundam Visvesvaraya was called a wizard in Engineering. He was also called the precursor of economic planning in India. He took an interest not in Engineering alone, but was capable of applying his talent to many allied matters connected with the development of the nation. His learned discourse on economic planning in India titled 'Planned Economy for India and Reconstructing India' was the first available document on the planning effort of the country and it is still held as the parent source matter for economic planners.

Visvesvaraya supervised the construction of the KRS Dam across the Cauvery River from concept to inauguration. This dam created the biggest reservoir in Asia when it was built. He was rightly called the "Father of modern Mysore State". During his period of service with the Government of Mysore state, he was responsible for the founding of, the Mysore Soap Factory, the Parasitoide Laboratory, the Mysore Iron & Steel Works (now known as Visvesvaraya Iron and Steel Limited) in Bhadravathi, the Sri Jayachamarajendra Polytechnic Institute, the Bangalore Agricultural University, the State Bank of Mysore, the Century Club, Mysore Chambers of Commerce and numerous other industrial ventures. He encouraged private investment in industry during his tenure as Diwan of Mysore. He was instrumental in charting out the plan for road construction between Tirumala and Tirupati. He was known for sincerity, time management and dedication to a cause.

After opting for voluntary retirement in 1908, he took a foreign tour to study industrialised nations and there after, for a short period he worked for the Nizam of Hyderabad. He suggested flood relief measures for Hyderabad town, which was

under constant threat of floods by Moosi River. Later, during November 1909, Visvesvaraya was appointed as Chief Engineer of Mysore State. Further, during the year, 1912, he was appointed as Diwan (First Minister) of the princely State of Mysore. He was Diwan for 7 years.

With the support of Krishnaraja Wodeyar IV, Maharaja of Mysore, Visvesvaraya made an arguably unprecedented contribution as Diwan to the all-round development of the State. Not only the achievements listed above, but many other industries and public works owe their inception or active nurturing to him. He was instrumental in the founding of the Government Engineering College at Bangalore in 1917, one of the first Engineering Institutes in India. This institution was later named the 'Visvesvaraya College of Engineering' after its founder. It remains one of the most reputed institutes of Engineering in Karnataka. He also commissioned several new railway lines in Mysore States. Visvesvaraya was Sir Mirza Ismail's mentor and in 1926 by way of recommendation to the King who supplemented Mirza Ismail by elevating him to the coveted position of the List of Diwans of Mysore.

Visvesvaraya was appointed a Companion of the Order of the Indian Empire (CIE) in 1911. In 1915, while he was the Diwan of Mysore, Visvesvaraya was knighted as a Knight Commander of the Order of the Indian Empire (KCIE) by the British for his myriad contributions to the public good. After India attained independence, Sir M. Visvesvaraya was given the nation's highest honour, the Bharat Ratna, in 1955.

In honor of Sir Visvesvarayya, a number of educational institutions are being constructed in the Muddenahalli-Kanivenarayanapura region. Among these is the Sathya Sai Baba University and School of Medicine the elite Indian Institute of Technology Muddenahalli, as well as the Visvesvaraya Institute of Advanced Technology. These developments made the historical town of Muddenahalli the premier education hub in northern Bangalore.

Sir M.V. was honoured with honorary membership of the international Institution of Civil Engineers (London) and a fellowship of the Indian Institute of Science Bangalore. He was awarded several honorary doctoral degrees like D.Sc., LL.D., D.Litt. from eight universities in India. He was president of the 1923 Session of the Indian Science Congress. Sir M.V. was awarded honorary Membership of London Institution of Civil Engineers for an unbroken 50 years. Every year September 15 is celebrated as World Engineers Day worldwide in honour of this great technocrat and visionary.

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Legislative Brief

The Pension Fund Regulatory and Development Authority Bill, 2011

Highlights of the Bill

- The Pension Fund Regulatory and Development Authority Bill, 2011seeks to give statutory powers to the interim authority set up in 2003. It also alters the name of the New Pension System to National Pension System (NPS).
- NPS is a 'defined contribution' scheme for all central government employees who joined after January 2004. It is implemented through a combination of retailers, pension fund managers, and a record keeper. This scheme is different from the earlier 'defined benefit' scheme.
- Under the NPS, every subscriber will have an individual pension account, which will be portable across job changes. The subscribers will choose fund managers and schemes to manage their pension wealth. They will also have the option of switching schemes and fund managers.
- The NPS was extended to all general citizens through central government notification in May 2009.

Key Issues and Analysis

- The Bill provides a structure (NPS) to plan for old age income security. However, it is optional for those in the unorganised sector. This differs from the system in countries such as the United States, which have a mandatory system to ensure that all persons have old age income security.
- The NPS is a defined contribution scheme. It is different from existing pension schemes in the organised sector such as the EPS, and the GPF. Both the EPS and GPF are defined benefit schemes.
- In the NPS, the investment risk is entirely borne by the employees. They are no longer exposed to the risk of default by the government as was the case under the defined benefit system.
- There will be no explicit or implicit guarantee on the pension wealth, except in cases where the subscriber purchases market based guarantees. This rule is different from the case of bank deposits, where deposits up to Rs 1 lakh are guaranteed.
- The total corpus and number of enrolments to the NPS have been lower than expected. Recommendations have been made by different committees to the government to make efforts to popularise the scheme.

PART A: HIGHLIGHTS OF THE BILL

Context

Till 2009, old age pension was available only to government employees and individuals in the organised sector. In 2000, the Old Age Social and Income Security (OASIS) Report, under the chairmanship of Dr. S.A. Dave, recommended that pension schemes be extended to the unorganised sector as well. In October 2003, an interim Pension Fund Regulatory and Development Authority (PFRDA) was constituted through a notification to develop and regulate the pension sector.

In December 2003, the central government (through a notification1) implemented the New Pension Scheme (NPS) for its employees appointed from January 2004 onwards. The NPS shifted the pension scheme for government employees from the defined benefits (DB) system to a defined contribution (DC) system.* In order to give statutory powers to the interim body, a Bill was introduced in Parliament in March 2005. This Bill defined the architecture of the pension system. However, it lapsed with the dissolution of the 14th Lok Sabha in 2009.

In the meantime, the interim PFRDA appointed 22 retailers (Points of Presence - PoPs), seven pension fund managers (PFMs), and a central record-keeper (CRA). In May 20092 the NPS was extended to all citizens (including workers in the unorganised sector, on a voluntary basis). In March 2011, the PFRDA Bill, 2011 was

introduced in the Lok Sabha. It seeks to give statutory status to the interim PFRDA, and changes the name of the New Pension System under the previous bill to the National Pension System (NPS). As of July 2011, the NPS had 24 lakh subscribers, and managed funds of Rs 10,000 crore [3].

Key Features

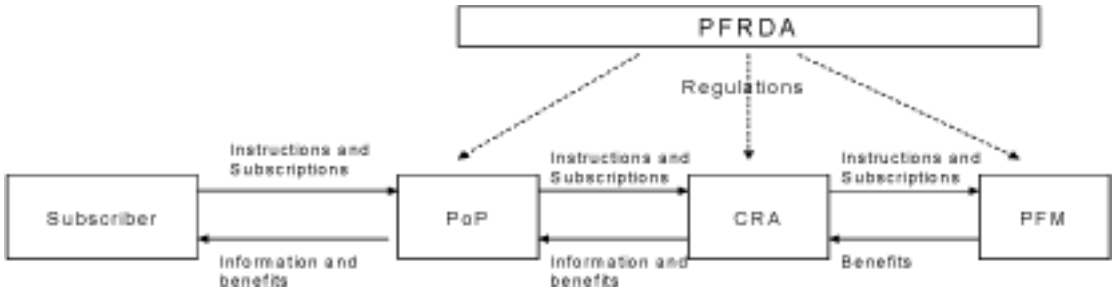
The Bill gives statutory recognition to the PFRDA, defines its powers and duties, and sets the broad contours of NPS.

The NPS Architecture

The NPS is a DC pension system set up by the PFRDA. It comprises the following:

- **Central Recordkeeping Agency (CRA) -** The CRA shall maintain records and accounts, and execute all instructions regarding subscription, switching of options, and withdrawals by the subscriber[4]. The subscriber may obtain information about his account directly from the CRA.
- **Pension Fund Manager (PFM) -** The PFMs shall provide a set of schemes with varying risk-return profiles (i.e., balance between risk taken and returns expected), and manage assets of subscribers.
- **Point of Presence (PoP) -** The PoPs shall function as the retailers of the NPS. They shall receive instructions and contributions from subscribers, transmit these to the CRA, and pay out benefits to subscribers. They will be the initial point of contact between subscribers and the system.

Chart 1: The NPS Architecture



Working of the NPS

The working of the NPS can be explained under the following heads:

- **Eligibility norms** - The PFRDA shall prescribe norms on matters such as minimum capital requirement, past track-record (including ability to provide guaranteed returns), costs and fees, information technology capability, and customer base.
- **Foreign investment** – Subscribers' funds may not be invested abroad by PFMs.
- **Individual Pension Account** - Every subscriber shall have an individual pension account (IPA). The subscriber has the option of selecting the PFMs and schemes[5]; he can switch his funds across PFMs and schemes. The IPA will be portable in case of change of employment.[6] The subscriber cannot exit from the system except as specified by the notification. The current notification specifies two options: (a) if the subscriber chooses to exit at the normal age of retirement (60 years), he shall use at least 40 per cent of accumulated pension wealth to purchase an annuity[7] from a life insurance company. This annuity will provide pension for the lifetime of the employee, his dependent parents and spouse; (b) if the subscriber chooses to exit prior to retirement, 80 per cent of the accumulated pension wealth shall be converted to an annuity.
- **Permanent Retirement Account Number (PRAN)** – Every subscriber on registering with the NPS gets a unique PRAN issued by the CRA.
- **Two tier structure** - The notification mentions a two tier structure for government employees under the NPS. In Tier-I both the employee and the government will contribute 10 per cent of (basic+DA)[8], and there will be no withdrawals till exit. The employee can opt to contribute a further amount into a Tier-II account, which will not have any contribution by the government and from which he can make withdrawals.[9]

Establishment, powers and duties of the PFRDA

- The PFRDA shall perform promotional, developmental and regulatory functions relating to the pension system. It shall also impose penalties in case of any regulatory violations.
- The PFRDA comprising a Chairman, three whole time members, and three part time members shall be appointed by the central government for a five year term, and may be removed from office only under specified conditions.
- The PFRDA shall regulate the NPS, and all intermediaries including the CRA, PFMs and PoPs. It shall approve the schemes and norms (including investment guidelines) for management of the investments by PFMs. It shall be responsible for protecting the interests of

subscribers and establishing a mechanism for redressal of their grievances. It shall standardise dissemination of information about performance of pension funds and performance benchmarks.

- The PFRDA may establish a Pension Advisory Committee, with a maximum of 25 members. This committee would represent the interests of employee associations, commerce and industry, subscribers, intermediariesn and organizations engaged in pension research. It would also advise the PFRDA on matters referred to it.

Extent of the Bill

- The Bill exempts certain schemes and funds. These include the Coal Mines Provident Fund and Miscellaneous Provisions Act 1948, the Employees' Provident Funds and Miscellaneous Provisions Act 1952, the Seamen's Provident Fund Act 1966, the Assam Tea Plantations Provident Fund and Pension Fund Scheme Act 1955, and the Jammu and Kashmir Employees' Provident Funds Act 1961, and contracts covered by the Insurance Act 1938. It also exempts employees of the central government and All-India Services appointed before January 1, 2004.10 Any person governed by any of these exempt schemes may voluntarily choose to join NPS in addition to their mandatory cover.

- The Bill permits state governments and union territories to extend the NPS to their employees. Any employee in the excluded category can opt to join the NPS in addition to his mandatory cover.

PART B: KEY ISSUES AND ANALYSIS

EPS versus NPS

Employees who joined the central government after January 2004 are covered under the NPS. Those employed with the government before 2004 are covered by the General Provident Fund (GPF). Employees in the organised sector subscribing to the Employee Pension Scheme (EPS) also have a pension facility. In Table 1, we compare the NPS with other pension schemes such as the EPS, and GPF.

Table 1: Comparison of features of EPS and NPS

Feature	EPS / GPF	NPS
Coverage	Organised sector employees through EPS, and government employees before 2004 under GPF.	Available to all subscribers, including the unorganised sector.
Eligibility Requirement	Minimum term of employment (typically 10 -20 years)	None.
Portability across job changes	None for government employees.Limited portability for those covered under EPS.	Portable.
Type of account	Pooled.	Individual pension account (IPA).
Type of pension	Defined benefit.	Defined Contribution.
Risks	The employee carries no investment risk. However, there is a risk of default/delay in pension payments by GPF/EPS.	The employee carries the entire investment risk. There is no risk of default by PFMs.
For government employees (covered by GPF)	For existing central government employees, the government pays 50% of the average of last 10 months' pay (Basic+DA) if employee has 33 years' service. There is no contribution	Government and the employee will each pay 10% of Basic+DA into a scheme of a PFM. Separate account for each

	by the employee or the government into a fund but this is paid out of the Consolidated Fund of India.	employee will be maintained. At the time of exit, a part (40%) of the pension wealth will be used to buy an annuity, and the remaining paid as a lump sum amount.
For those not employed by the government	For those covered by EPS, the employer pays 8.33% of Basic+DA to the EPS (maintained by EPFO), and the government pays 1.16%. Pension after retirement will be paid based on the years of service and last pay drawn.	No contribution from the employer. The employee selects a particular scheme.
Disclosure of Performance	Not mandated. There is no regular update on performance of the EPS. Government pensions are unfunded.	Each PFM will publish the performance of schemes managed by him at regular intervals. The subscriber can see the balance in his IPA.
Investment strategy	The EPS board decides the strategy. This strategy and the investment portfolio are not disclosed	Each scheme has to follow a specified investment pattern. The subscriber chooses his portfolio of schemes.

Sources: PFRDA website, EPS-1995, PRS

Defined Benefit versus Defined Contribution

The DB system, applicable to government servants appointed before 2004, and EPS subscribers, promises a fixed monthly pension. This amount is linked to the pay drawn, number of years of service etc., and has no direct linkage to the contribution of the employee or employer towards a pension fund. The entire investment risk is borne by the pension fund manager and the government. The total benefits liable from such a scheme could amount to be higher than the funds available, which can lead to delays and defaults. Traditionally, a large proportion of pension funds around the world have been of the DB type. However, many have been under funded, and some have collapsed. This has led to a debate in a number of countries regarding the sustainability of their pension and social security systems.[13]

In the DC system (as proposed in the NPS), each employee contributes a proportion of his monthly income to an individual account. The funds in this account are invested in one or more schemes offered by pension fund(s). The balance in the account belongs to the employee, which will be accessible at the time of exit. The employee bears the entire investment risk and there is no risk of default by the fund as the liability of the fund to its subscriber equals the assets owned. Table 2 lists some advantages and disadvantages of the DB and DC system.

Table 2: Defined Benefits versus Defined Contributions

	Defined Benefits	**Defined Contribution**
Advantages	- Guaranteed retirement income	- Participants have more choice in investing
	- Employees do not bear investment risk	- Participants can benefit from better returns
	- Flexibility for inflation and wage adjustments	- Plans are easily portable across job changes
	- Independent of participant's savings	- Option to switch fund managers and schemes
		- No risk of default by fund managers

Disadvantages	- Not beneficial to employees who leave before minimum eligible service	- Returns are subject to market performance
	- Less portable in switching employers	- Participants bear investment risk and may make misinformed choices
	- Fund manager could default if funds are not invested appropriately	- Difficult to build a fund for those who enter late
		- Shifts administration costs to employees

Coverage

The Bill excludes employees of the central government who joined before January 1, 2004. Those who joined from this date must be part of the NPS. State governments may mandate NPS for their employees by issuing a notification. Sixteen state governments14 have notified NPS for their employees. The Bill excludes all schemes covered by EPF Act. Thus, employees covered by the EPS are exempt from the provisions of this Bill.

The Bill makes the NPS available to the unorganised sector. However, there is no compulsion to join the system. Many countries (e.g., the social security system in the US) require a mandatory contribution from individuals to ensure that they have old age income security. According to the Standing Committee Report submitted in August 2011, approximately 51,000 individuals have joined the voluntary part of the NPS as of July 2011.

The government extended pension schemes to the unorganized sector in May 2009. However, according to a committee15 report, the scheme has drawn few subscribers as of May 2011. In order to attract more subscribers in the unorganized sector, the government initiated new schemes such as the NPS Lite16 and Swavalamban17, which provide additional facilities and benefits.

Risks

Under the NPS, PFMs offer an array of schemes5 with differing risk-return profiles. The subscriber divides his contribution (as well as existing pension wealth) into these schemes, and has the option of changing this combination at any time. The final pension wealth will depend on the performance of the schemes chosen by the subscriber. Thus, the subscriber takes the entire investment risk. The premise is that fluctuations in market value will smooth out over the working life of the subscriber.

However, the subscriber is exposed to two major risks at the time of exit. If there is a major market shock at the time of retirement (say, an incident such as a terror attack or financial crisis), leading to a fall in asset prices, the entire accumulated wealth is at risk. A subscriber with a few years remaining before exiting would be more likely to ride over this shock bu**t a** subscriber retiring at that time will be affected adversely. Second, the subscriber has to purchase an annuity at the time of exit, and is similarly exposed to any sharp downturn in the annuity market at that time.

The Bill states that there will not be any explicit or implicit assurance of benefits except market based guarantees to be purchased by the subscriber. This rule is different from the case of bank deposits, where deposits up to Rs 1 lakh are guaranteed by the Deposit Insurance and Credit Guarantee Corporation.

Committee recommendations

Standing Committee Report, 2011

The PFRDA Bill, 2011 has incorporated a number of recommendations made by the Standing Committee in its 2005 report. Two key recommendations of this committee are not incorporated. These were:

- More flexibility in the Tier 1 account to allow subscribers to withdraw funds in case of any exigency.
- Restrictions on foreign investment in pension funds, bringing it in line with the restrictions in the insurance sector; (26% cap on foreign investments).

The Standing Committee on Finance submitted its report on the PFRDA Bill, 2011 in August 2011. It reiterated the above two recommendations made in 2005. In addition, the Committee made other recommendations. These include:

- Need for efforts to popularise the different schemes.
- Stringent monitoring and implementation of the schemes.
- Insuring funds of subscribers and giving minimum guaranteed returns to ensure safety of their deposits.
- Making the schemes more broad based and flexible.

Report of the Committee to Review Implementation of Informal Sector Pension (CRIISP), 2011
This Committee was constituted in August 2010 under the chairmanship of Mr. G.N. Bajpai to look into the implementation of the NPS, especially in the informal sector. The report was released in July 2011. The recommendations include:

- Removing entry barriers – Minimum requirement of Rs 6000 for the NPS should be removed.
- Rationalise CRA charges - CRA charges for the NPS members should be made the same as those for the members of NPS Lite.
- Change the structure for subscription – A new structure with a charge at the rate of 0.5 per cent of the subscription raised by the PoPs from each subscriber. This maximum amount of subscription at which this rate is charged by the retailer (PoP) is Rs 50,000. This is to prevent the PoPs from chasing high value clients only.
- Customer ownership – PFRDA should set up a marketing division to ensure proper branding of the schemes and the different products.

വിശ്വാസവും അന്ധവിശ്വാസവും

Er. V. Rajan
Rtd. Deputy Chief Engineer

മനുഷ്യൻ ഒരു സമൂഹ ജീവിയാണ്. സമൂഹത്തിലല്ലാതെ ഒരു നിലനിൽപ് അവന് പ്രയാസമാണ്. ഇതിനുള്ള പ്രധാനകാരണം സമൂഹമായി കഴിയുമ്പോഴുള്ള സുരക്ഷിതത്വബോധമാണ്. ഒരു ആപത്ഘട്ടത്തിൽ നമ്മെ സഹായിക്കാൻ പലരും ഉണ്ടാകുമെന്നുള്ള തിരിച്ചറിവു തന്നെ മനുഷ്യന് ഒരു വലിയ ധൈര്യമാണ്. പണ്ടുകാലം മുതലെ ഈ കാഴ്ചപ്പാടിന് വലിയ പ്രസക്തി ഉണ്ടായിരുന്നു. എങ്കിൽ തന്നെയും പ്രകൃതി ശക്തികളുടെ പ്രഭാവത്തിന് മുന്നിൽ മനുഷ്യൻ എപ്പോഴും ബലഹീനനായിരുന്നു; അതുപോലെതന്നെ മരണാനന്തര ജീവിതത്തെക്കുറിച്ചുള്ള ആകാംക്ഷയും പേടിയും അതിന്റെ ഫലമായി കുറെ ആചാരങ്ങളും (അനാചാരങ്ങളും) സമൂഹത്തിലുണ്ടായി. ഇരുപതാം നൂറ്റാണ്ട് ആയപ്പോൾ തത്വ ചിന്തകളുടെയും യുക്തിവാദത്തിന്റെയും സയൻസിന്റെയും പ്രചാരണത്തോടെ ഈ ആചാരങ്ങൾ പലതും ചോദ്യംചെയ്യപ്പെട്ടു. കൂടാതെ അവദൂതസമാനരായ നമ്മുടെ സാമൂഹിക പരിഷ്കർത്താക്കളുടെ ഉത്ബോധനങ്ങളും നൂതന രാഷ്ട്രീയ ചിന്താസരണികളും കൂടി സമൂഹത്തിൽ നവോത്ഥാനപരമായ പല മാറ്റങ്ങളും ഉണ്ടാക്കി. അതിന്റെ ഫലമായി സമൂഹത്തിൽ നാസ്തികരും ഒരു പ്രബല വിഭാഗമായി മാറി. അങ്ങനെ അന്നുവരെ ആചരിച്ചിരുന്ന പല വിശ്വാസങ്ങളും അന്ധവിശ്വാസങ്ങളാണെന്ന വാദത്തിന് പ്രസക്തിയേറി.

ഇതിനിടയ്ക്ക് രാജ്യം സ്വാതന്ത്ര്യം നേടി. അങ്ങനെ ജനാധിപത്യ ഭരണക്രമം നടപ്പിലായി. സമൂഹം വിദ്യാഭ്യാസപരമായും സാമ്പത്തികമായും വളരെ പുരോഗമിച്ചു. പുതിയ യുക്തിചിന്തകൾ പലതും അംഗീകാരം നേടി. അതിനനുസരിച്ച് നമുക്കു ജീവന രീതിയും ജീവന വീക്ഷണങ്ങളും മാറി. 1990 കളിൽ ആഗോളവൽക്കരണമെന്ന വ്യവസ്ഥിതിയുടെ വരവോടുകൂടി ലോകം ഒരു ഒറ്റ കമ്പോളമായി. അതിന്റെ ഫലമായിസാമ്പത്തിക വളർച്ചാ നിരക്ക്കൂടി. അത് സമൂഹത്തിൽ നല്ലരീതിയിൽ പ്രതിഫലിക്കാനും തുടങ്ങി; വലിയ വീടുകൾ, കാർ, മുന്തിയതരം വസ്ത്രങ്ങൾ, പോഷക സമ്പുഷ്ടമായ ആഹാരം, വിനോദ സഞ്ചാരം അങ്ങനെ പലതും വളരെപെട്ടെന്ന് നമുക്ക് ലഭിച്ചു. 21-ാം നൂറ്റാണ്ടിന്റെ ആദ്യ ദശകത്തിൽ ഈ പ്രതിഭാസം ഉച്ചസ്ഥായിയിലായി. അതിനനുസരിച്ച് സമൂഹം വ്യക്തി കേന്ദ്രീകൃതമായി. അങ്ങനെ മനുഷ്യർ തമ്മിലുള്ള സഹകരണം വളരെ കുറഞ്ഞു. വ്യക്തി ബന്ധങ്ങളെ ഇത് സാരമായി ബാധിച്ചു. മനുഷ്യർക്ക് ദു:ഖങ്ങളും പ്രയാസങ്ങളും പങ്കുവയ്ക്കാൻ ഒരു സഹായ ഹസ്തം ഇല്ലാതായി. എല്ലാം ദൈവത്തിൽ അർപ്പിക്കേണ്ട ഒരു സാഹചര്യത്തിൽ അവൻ എത്തി; അല്ലെങ്കിൽ എത്തിച്ചു. ഇതിന് രാഷ്ട്രീയ പാർട്ടികളുടെയും ബുദ്ധിജീവികളുടെയും പങ്ക് വളരെ വലുതാണ്. അവരാണ് സമൂഹത്തെ ശരിക്കും ഷണ്ഡീകരിച്ചത്. ജനത്തിന് സമൂഹം നല്കിയിരുന്ന സുരക്ഷിതബോധം അങ്ങനെയാണ് ഇല്ലാതായത്. ഇതിന്റെ ഏറ്റവും വലിയ ദുരന്തമാണ് ഇന്ന് സ്ത്രീകളും കുട്ടികളും

സമൂഹത്തിൽ അനുഭവിക്കുന്ന യാതനകൾ. സർക്കാർ എന്ത് നിയമം ഉണ്ടാക്കിയാലും കുറ്റവാളികൾക്ക് കടുത്ത ശിക്ഷകൾ നല്കിയാലും സമൂഹം നല്കുന്ന സുരക്ഷിതത്വം സർക്കാരിനു നൽകാൻ സാധിക്കില്ല.

സമൂഹത്തിന്റെ സുരക്ഷിതവലയം നഷ്ടപ്പെട്ടപ്പോൾ ജനം മനഃസമാധാനത്തിനായി അവരുടേതായ വഴികൾ നോക്കാൻ തുടങ്ങി. അങ്ങനെ വാസ്തു, ജ്യോതിഷം, പൂജകൾ, ആൾദൈവങ്ങൾ, സിദ്ധന്മാർ, ആശ്രമങ്ങൾ എന്നിവരൊക്കെ പൂർവ്വാധികം ശക്തിയോടെ തിരിച്ചുവരാൻ തുടങ്ങി. ജനം ഇതിനെയൊക്കെ രണ്ട് കൈയും നീട്ടി സ്വീകരിക്കാനും തുടങ്ങി. സ്ഥിരമായി യാത്ര ചെയ്യുന്ന ഒരാൾ വിശേഷിച്ചും ഇരുചക്ര വാഹനത്തിൽ അയാളുടെ ധൈര്യത്തിന്, മനഃസമാധാനത്തിന് ഒരു ജപിച്ച ചരട് ധരിക്കുന്നത് എങ്ങനെ തെറ്റാണെന്ന് പറയും. റോഡപകടത്തിൽപ്പെടുന്നവരെ സഹായിക്കാൻ ആരും ഇപ്പോൾ തയ്യാറുമല്ല. അപകടം കണ്ടാൽ അതിന്റെ ഫോട്ടോയെടുക്കും അത്രതന്നെ. അതുപോലെ ആത്മീയതയിലേക്കുമൊക്കെ തിരിയുമ്പോൾ ജനത്തിന് മനഃസമാധാനം കിട്ടുന്നുണ്ടെങ്കിൽ അത് നൽകാൻ കഴിയുന്നവർ എന്തിനാണ് അവരെ കുറ്റം പറയുന്നത്. ഇടയ്ക്കൊരു മുൻ വി.സിക്ക് ചെറുപ്പക്കാർ ജപിച്ച ചരടും കെട്ടി നടക്കുന്നത് കണ്ടിട്ട് തൊലിപൊളിയുന്നതായി തോന്നി; പക്ഷെ അദ്ദേഹത്തിന് രാഷ്ടീയ എതിരാളിയെ പതിയിരുന്നു കൂട്ടത്തോടെ വെട്ടി കൊല്ലുന്നതിലൊ, അച്ഛന്റെയും അമ്മയുടെയും ഭാര്യയുടെയും മക്കളുടെയും മുന്നിലിട്ടു എതിരാളിയെ നിഷ്ഠൂരം കൊലചെയ്യുന്നതിലോ ഒരു പ്രയാസവും തോന്നിയില്ലായെന്നുള്ളതാണ് അതിശയം.

അവിടെയാണ് വിശ്വാസത്തിന്റെയും അന്ധവിശ്വാസത്തിന്റെയും പ്രസക്തി. എന്താണ് യുക്തി; എന്താണ് അയുക്തി. നമ്മുടെ വിശ്വാസങ്ങളെല്ലാം യുക്തിയുള്ളതും മറ്റുള്ളതെല്ലാം യുക്തിയില്ലാത്തതാണെന്നുള്ള വിശ്വാസവും ഒരു അന്ധവിശ്വാസമാണ്. ഇതിനിടക്ക് മുംബൈയിൽ ഒരു യുക്തിവാദി നേതാവ് കൊല്ലപ്പെട്ട സംഭവത്തിൽ വിശ്വാസികളും അവിശ്വാസികളും തമ്മിൽ ഒരു തർക്കം നടക്കുന്നുണ്ട്. പോലീസ് അന്വേഷണം നടത്തുന്നതെയുള്ളൂ. ജനത്തിന് സുരക്ഷിതത്വ ബോധം നൽകാൻ സാധിക്കാത്തിടത്തോളം കാലം ഈ വിഷയത്തിൽ കുറെ സെമിനാറും വിപ്ലവ പ്രസംഗങ്ങളും നടത്തിയിരുന്നാലും ഒരു കാര്യവുമില്ല. അതു കൊണ്ടാണ് ജാതി പഞ്ചായത്തുകളും ജാതിമത സംഘടനകളും പല ആചാരങ്ങളും അവരുടെ അംഗങ്ങൾക്കായി നടപ്പിലാക്കി തുടങ്ങിയത്. ജന പ്രതിനിധികളും സർക്കാരും വോട്ട് ബാങ്ക് സമർദ്ദംകാരണം ഒന്നും ചെയ്യാൻ പറ്റാത്ത രീതിയിൽ നിലനിൽക്കുന്നുമുണ്ട്.

സാമ്പത്തിക സൗകര്യമുള്ളതുകൊണ്ട് ജനം പല ആചാരങ്ങളും അനുഷ്ഠിക്കുന്നുണ്ടെന്നുള്ളത് ശരിയാണ്. പക്ഷെ അവരുടെ ഭാഗത്ത് നിന്ന് നോക്കുമ്പോൾ മനഃസമാധാനത്തിനായി എന്തും ചെയ്യാമെന്നൊരു ന്യായീകരണവുമുണ്ട്. അതുകൊണ്ട് ഇതിനൊക്കെ വിപ്ലവ വായാടിത്തംകൊണ്ട് എതിർക്കുന്നവർ ജനത്തിന് സുരക്ഷിതബോധം നൽകാൻ കഴിയുന്ന കാര്യങ്ങൾ ചെയ്യുക. അതല്ലാതെ മറ്റൊരു പോംവഴി ഇതിന് തൽക്കാലമില്ല.

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KERALA STATE ELECTRICITY BOARD
ABSTRACT

Re-organization of the functions presently handled by the Chief Engineer (Corporate Planning) - Orders issued

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Corporate Office (Planning wing)

B.O. (FM) No. 1841/2013 (CP/Plg.1/Misc.) dated 26.08.2013
Read: Note No. CP/Plg.1/Misc./219 dated 12.08.2013 of Chief Engineer (CorporatePlanning)

ORDER

The following proposals for re-organising the functions under the Chief Engineer (Corporate Planning) were submitted to the Board vide note read above, as directed bythe Member (Distribution & Generation Electrical) and Member (Transmission & System Operation).

1. Proposal to shift few functions to the office of Member (D & GE)

For the effective follow up in the implementation and monitoring of the ongoing RGGVY, APDRP and RAPDRP works, it was recommended to bring these projects under the direct control of Member (D & GE). The stages in implementation of these works include purchase of materials, execution of projects and monitoring of physical and financial progress, which are presently being managed through the offices of Chief Engineers in the concerned regions, Chief Engineer (SCM) and Financial Advisor, in addition to Chief Engineer (Corporate Planning). Of which the functions, which are presently managed by the Chief Engineer (Corporate Planning) viz.

(1) all implementation works regarding RAPDRP (Part B) and RGGVY, closure works regarding APDRP, and
(2) correspondence with related Chief Engineers, implementing agencies, nodal agencies and the Government.

were proposed to be shifted to the office of Member (D & GE).

In the office of Chief Engineer (Corporate Planning), these works are handled at present by an Executive Engineer (Ele.), three Asst. Executive Engineers (Ele.) and one Assistant Engineer (Ele.), out of which the Asst. Executive Engineers and Assistant Engineer were proposed to be shifted to the office of Member (D & GE), whereas the place of Executive Engineer was proposed to be retained with different functions assigned to him. All matters related with the transferred functions including correspondence of every nature with Governments and other agencies shall also be handled by the office of the Member (D & GE).

2. Proposal to shift few functions to the office of the Member (T & SO)

System Study Group and Design wing functioning under the Executive Engineer (Research, Design & SSG) in the office of the Chief Engineer (Corporate Planning) is carrying out the power system planning, load flow analysis, ground grid design works

and energy & performance auditing of the EHT network pertaining to KSEB. Studies on long term open access and connectivity, issues in the SR region and the recommendations to the Board are the other functions of this office. It was suggested that the functions under the System Study Group and Design wing shall be managed by the transmission utility in an unbundled scenario, hence proper to be dealt under the Member (T & SO) in the present set up.

Accordingly it was proposed to shift the following places along with files concerning to System Study and Design from the office of Chief Engineer (Corporate Planning) to the office of Member (T & SO).

- Executive Engineer - One place
- Asst. Executive Engineers - Three places (of which one remaining vacant)
- Asst. Engineers - Four places

3. Proposal to shift FEMU and PMC functions

Forest and Environment Management Unit (FEMU) is engaged in the titled activities and is functioning under the Chief Engineer (Corporate Planning). Project Monitoring Cell (PMC) with the responsibility of monitoring the progress of ongoing hydroelectric projects of KSEB, which was a different division under the control of an Executive Engineer (Civil), is now attached to FEMU. The said activities of FEMU and PMC are jointly managed by the team having the strength as follows.

- Executive Engineer (Civil) - One place
- Asst. Executive Engineers (Civil) - Three places
- Asst. Engineer (Civil) - One place (remaining vacant)

It was noted that many of the functions under this office relate or overlap to similar files under other offices. Hence it was suggested to shift the files and places of FEMU and PMC now under the office of Chief Engineer (Corporate Planning) to those office/offices where deemed appropriate.

4. Proposal to shift few functions from the office of Chief Engineer (IT & Safety Commissioner) to the office of Chief Engineer (Corporate Planning)

Safety, being a corporate function, which is presently under the control of Chief Engineer (IT & Safety Commissioner), was recommended to be shifted to the office of Chief Engineer (Corporate Planning). One Asst. Executive Engineer (Ele.) and one Senior Assistant who are dealing with these functions under Chief Engineer (IT & Safety Commissioner) were proposed to be shifted to the office of Chief Engineer (Corporate Planning).

Since the safety functions were proposed to be shifted to the office of Chief Engineer (Corporate Planning), the office of Chief Engineer (IT & Safety Commissioner) was proposed to be re-designated as Chief Engineer (IT).

5. Creation of an Innovation Group under Chief Engineer (Corporate Planning)

KSEB had entered into a MoU with Startup Village in Kochi towards setting up of an Electrical Innovation Zone. Among others the goal of the Innovation Zone is to support small and large entrepreneurs in energy sector to do the real research for providing viable solutions to the energy issues of the state. In order to coordinate the

functions related with the Startup Village in KSEB, it was proposed to constitute an Innovation Group under the Chief Engineer (Corporate Planning). For a beginning, the following persons were suggested as members in the said Innovation Group.

1. Shri. Vinod Jacob, Asst. Executive Engineer(Ele.), now working in the office of Chief Engineer (SCM)
2. Smt. Sreedevi. R, Asst. Executive Engineer (Civil), now working in the office of the Deputy Chief Engineer (Civil-Design)
3. Shri. Jibu K.C., Assistant Engineer (Civil), now working in the office of Chief Engineer (Civil Construction South)

The following shall be the functions of the Innovation Group.

- Review the quarterly progress reports to be submitted from the Startup Village and give recommendations to the Board. As per the direction of the Board, represent KSEB in the demo events in the Startup Village and provide report to Board and process the feedback of Board on such events.
- Gather/propose innovative ideas to be presented before the Board.
- To cater for the discussions and mentorship in the Startup Village.
- Recommend to the Board and the Financial Adviser on any financial claim that shall be made by the Startup Village.
- Other than the above, to act as the interface of KSEB in all the matters related with the Startup Village.

6. Revised Organisation Structure of the Chief Engineer (Corporate Planning)

After the reorganization, the functions under the Chief Engineer (Corporate Planning)shall be brought under two Deputy Chief Engineers designated as Deputy Chief Engineer(Corporate Planning-I) and Deputy Chief Engineer (Corporate Planning-II). The division of functions between the two are proposed to be made such that planning at conceptual level shall be undertaken by the Deputy Chief Engineer (Corporate Planning-I), while the pre-implementation strategy and formation of execution model prototype including the bid preparation shall be undertaken by Deputy Chief Engineer (Corporate Planning-II).

The other existing functions of the Chief Engineer (Corporate Planning) are divided between the Deputy Chief Engineers according to their appropriateness.

Having considered the above proposals in the Full Time Members' meeting held on 19.08.2013, the Board decided:

1. to shift the places of three Assistant Executive Engineers (Ele.) and one Assistant Engineer (Ele.) along with the files on pending and ongoing works under APDRP, RAPDRP and RGGVY schemes from the office of Chief Engineer (Corporate Planning)to the office of Member (Distn. & Gen. Electrical).

2. to shift one place of Assistant Executive Engineer (Ele.) and one place of Senior Assistant, dealing with safety, from the office of Chief Engineer (IT & Safety Commissioner) with their functions and files with direction to report to the Executive Engineer under Deputy Chief Engineer (Corporate Planning-II) in the office of Chief Engineer (Corporate Planning).

3. to re-designate the office of Chief Engineer (IT & Safety Commissioner) as Chief Engineer (IT).

4. to re-designate the office of Chief Engineer (Corporate Planning) as Chief Engineer (Corporate Planning) & Safety Commissioner.

5. to shift one place of Executive Engineer (Ele.), three places of Asst. Executive Engineers (Ele.) (of which one remains vacant as of now) and four places of Assistant. Engineers (Ele.) Presntly dealing with the system study and design under the Chief Engineer (Corporate Planning), with their function and files to the office of Member (Tran. & System Operation).

6. to re-designate the Executive Engineer (Research, Design and System Study) as Executive Engineer (Power System Engineering).

7. to attach the Forest and Environment Management Unit (FEMU) and the Executive Engineer (PMC) in charge of FEMU, presently under the office of Chief Engineer (Corporate Planning), to the office of Chief Engineer (investigation & Planning).

8. that the functions of Project Monitoring Cell (PMC), presently under Chief Engineer (corporate Planning), Shall be co-ordinated by the office of chief Enginner (Project Electrical Designs) with their existing staff.

9. to suitably re-deploy the posts of PMC, presently under Chief Engineer (Corporate planning).

10. to form an innovation Group under Chief Engineer (Corporate planning) with the following persons as its inital members :
    1. Shri. Vinod Jacob, Asst. Executive Engineer (Ele.) , now working in the office of Chief Engineer (SCM)
    2. Smt. Sreedevi R., Asst. Executive Engineer (Civil), now working in the office of the Deputy Chief Engineer (Civil - Design)
    3. Shri. Jibu K.C. Assistant Engineer (Civil), now working in the office of Chief Engineer (Civil Construction South).

11. to approve the revised organization structure, attached as annexure, resulting from the re-organisation of the function of the office of the chief Engineer (Corporate planning) as mentioned above

By order of the Board,
Sd/-
(N. Madhusoodanan Asari)
Secretary

KERALA STATE ELECTRICITY BOARD

Abstract

KSEB Employees Welfare Fund – *Disbursement of Rs.50,000/- immediately upon the intimation of the death of a member of* Employees Welfare Fund to the nominee as per records or spo*use - Sanctioned* – Orders issued.

PERSONNEL DEPARTMENT

B.O.(CM) No. 1768/2013 (PSWF/GB/2011) Dated, Thiruvananthapuram 17.08.2013.

Read:- (1) Decision of GB of KSEB EWF dated 01.01.2013 Agenda Item No.5.
(2) Decision of Governing Body of KSEB EWF dated 30.04.2013 Agenda Item No.7.

ORDER

Governing Body of the KSEB Employees Welfare Fund in its meeting held on 01.01.2013 had decided to disburse Rs.50,000/- as immediate relief upon the intimation of the death of a member of Employees Welfare Fund to the nominee as per records or spouse, as the case may be.

In the governing Body meeting held on 30.04.2013, it was decided to entrust the head of ARU concerned to disburse the relief to the nominee/Spouse immediately upon the intimation of death of a member of Employees Welfare Fund, from the KSE Boards' account. It was also decided that the amount will be refunded to the ARU concerned, by the KSEB Employees Welfare Fund on receipt of the intimation from the ARU.

In pursuance of the decisions taken by the Governing Body, Board is pleased to decide that Rs.50,000/- (Rupees Fifty thousand only) will be disbursed immediately to the nominee/Spouse of a member of KSEB Employees Welfare Fund, on intimation of the member's death, by the head of ARU concerned. The intimation of the death of the member and the receipt of payment shall be forwarded to the Secretary, KSEB Employees Welfare Fund along with the request for refund.

Detailed Circular instruction and accounting procedure in this regard shall be issued separately.

By Order of the Board
Sd/-
Secretary

Letter to Chairman

KSEBEA/Letters/2013-14 27/08/2013

To

The Chairman
K.S.E.Board

Sir,

Sub :- Reckoning of prior service –rejection of request of Sri. Benny Jose–reg.

Ref:- 1. B.O(FB) 2966/2011(PS1/1757/2009) dated 24-12-2011
2. Letter PA/GL 1/02/2013 dated 19-03-2013 of the Accounts Officer, Pension Authorisation
3. Representation dated 23-07-2013 from Sri.Benny Jose

Sri Benny Jose ,Assistant Engineer, Electrical Section, Kalloorkad is due to retire from service on 30-11-2013. Prior to joining Board service, he worked as Section Officer (Electrical) in Central Warehousing Corporation (A Government of India Undertaking) for about six years. His request for reckoning his prior service was rejected as per ref (2) above, citing that the request was received after the deadline of 31-03-2012. As per representation cited (3) above, Sri Benny Jose has requested to condone the delay in submission of his request and to consider his application for reckoning his prior service.

In this regard it is pointed out that since the incumbent has only 22 years service in the Board, we request that the matter may please be considered sympathetically and necessary directions may please be issued to reconsider the application of Sri.Benny Jose and admit the same if it is otherwise eligible, by condoning the delay in submission of the request. The duly forwarded representation of Sri Benny Jose, Assistant Engineer, Electrical Section, Kalloorkad is enclosed herewith.

Acc. A/a

Yours faithfully,
Sd/-
General Secretary

Letter to Chairman

KSEBEA/Letters/2013-14 03/09/2013

To

The Chairman
K.S.E.Board

Sir,

Sub:- Denial of pay and allowances to Smt Parvathy V.S Assistant Engineer – reg.
Ref :- Representation of Smt.Parvathy V.S

This is to bring to your notice a serious matter of human rights violation meted out to a newly recruited lady employee. Smt.Parvathy V.S joined the services of K.S.E.Board as Assistant Engineer on 12-07-2013 and she has not received her pay and allowances till date. On her enquiry with the MIS, she was told that her pay could not be claimed due non generation of her employee code due to some clarification needed in the provident fund scheme. We feel that the reason cited for denial of the legitimate pay and allowances is the most deplorable one. The incumbent is made a victim for a non-decision at the management level. We demand that immediate directions be issued to all concerned to release the pay and allowances of Smt.Parvathy V.S, Assistant Engineer and other similarly placed engineers.

Yours faithfully,
Sd/-
General Secretary

Letter to Hon. Minister for Power & Transport

KSEBEA/Letters/2013-14 24-09-2013

To

The Hon.Minister for Power & Transport Government of Kerala.

Sir,

Sub: - Issue of stagnation of Assistant Engineer(E) – redressal -reg:

Ref:- 1. B.O(FM) No 479/2011/CE (HRM) GENL/2/AE-AEE (E)2011 dated 11/02/11.

2. B.O (FB) No 623/2011/CE (HRM) GENL/2/AE-AEE (E) 2011 dated 26/02/11.

3. Govt. letter 1470/A2/11/PD dated 03-08-2011

The issue of the unfortunate Assistant Engineers (Ele.) who were stagnating at the entry cadre for the 15- 16 years was taken up with the Board as well as the Government, particularly with reference to the embarrassing situation wherein an under qualified junior is promoted ahead of a more qualified senior. In the mean time, State Government departments like PWD and Irrigation revised the Engineering Service Rules by introducing seniority protection clause in AE to AEE promotion to solve similar anomalous situation in those departments, even though it resulted in the alteration of quota stipulated by the Engineering Service Rules. In line with the above, KSEB also adopted the Govt. Order relating to seniority protection clause as per the Board order cited (1) above.

The Board, after considering the stagnation issue of Assistant Engineers decided, as per B.O cited under ref (2) above, to upgrade 167 posts of Assistant Engineer(E) to Assistant Executive Engineer(E) after obtaining sanction from the Government and the matter was taken up with the Government. The Board as per letter PRC/4955/ 2011 dated 05-09-2013 has provided confirmation sought for from the Government vide letter cited (3) above. It is felt that if the above upgradation materializes the stagnation issue of Assistant Engineer(E) can be addressed to a large extent. We would also like to highlight the fact that since most of these unfortunate Assistant Engineers are already drawing the pay of Assistant Executive Engineers, the financial commitment will only be minimal and when compared to the career prospect obtained after much delay this is only a meagre amount. Moreover, since it is envisaged for a temporary upgradation of places to the cadre of Assistant Executive Engineers, which will be downgraded to the place of Assistant Engineers on retirement of the present incumbent and/or as and when vacancies of Assistant Executive Engineers arises, the question of future financial commitment does not arise .

In view of the facts mentioned above, we earnestly request that sanction of the Government in Power department for the temporary upgradation of 167 places of Assistant Engineers(E) may be accorded at the earliest considering the plight of the Assistant Engineers of 1997 PSC batch.

Yours faithfully,
Sd/-
GENERAL SECRETARY

ആനുപാതികമായെങ്കിലും

Er. V. Suresh

ഭൂമുഖത്ത് ലഭ്യമായിട്ടുള്ള ഓരോ വസ്തുവും ഉപയോഗത്തിന്റെ തോതനുസരിച്ച് അളവിൽ കുറഞ്ഞുവരുന്നു. ആവശ്യക്കാർ കൂടുകയോ ഉള്ള ഉപഭോക്താക്കളുടെ ഉപഭോഗം വർദ്ധിക്കുകയോ ചെയ്യുമ്പോൾ സംഭവിക്കുന്നതാണ് ഇത്. അല്ലെങ്കിൽ കുറവ് വരുന്ന അളവനുസരിച്ച് വസ്തു കൂടുതൽ ഉത്പാദിപ്പിക്കപ്പെടണം. ഇങ്ങനെ ഉത്പാദനം കൂടാത്ത വസ്തുവാണെങ്കിൽ അവ ലഭിക്കുന്നതിന് ചെലവ് വർദ്ധിക്കുന്നു.

വൈദ്യുതിയെ വസ്തു എന്ന് തൽക്കാലം വിളിക്കാം. കേരളത്തിൽ അങ്ങോളമിങ്ങോളം ഒഴുകുന്ന വൈദ്യുതിയുടെ ഏതാണ്ട് മൊത്ത ഇടപാടും കെ.എസ്.ഇ.ബി തന്നെയാണ് നടത്തുന്നത്. വൈദ്യുതിയുടെ ഉപയോഗം തുടങ്ങിയ കാലത്ത് വൈദ്യുതി മിച്ചമായിരുന്നു. എന്നാൽ കാലക്രമേണ ആവശ്യക്കാർ ഏറുകയും അതിനനുസൃതമെന്നതുപോയിട്ട് നാമമാത്രമായ ഉത്പാദന വർദ്ധനവുണ്ടായതും കാരണം കെ.എസ്.ഇ.ബി. വൈദ്യുതി വാങ്ങി ഉപഭോക്താക്കൾക്ക് വിതരണം ചെയ്യേണ്ടിവരുന്നു.

ഉപഭോക്താവിനെ സംബന്ധിച്ചിടത്തോളം കെ.എസ്.ഇ.ബിയുടെ ഉത്പാദന നിലയങ്ങളിൽ നിന്നുള്ള വൈദ്യുതിയാണോ കെ.എസ്.ഇ.ബി. കൂടിയ വിലയ്ക്ക് വാങ്ങി കുറഞ്ഞ വിലയ്ക്ക് വിതരണം ചെയ്യുന്നതാണോ എന്നതൊന്നും അലട്ടുന്നതല്ല. അവർക്ക് ഇടതടവില്ലാതെ വൈദ്യുതി കിട്ടണം. വൈദ്യുതി മാത്രമല്ല ഏതൊരു വസ്തുവിനേയും പറ്റിയുള്ള കാഴ്ച്ചപ്പാട് ഇത് തന്നെ.

മറ്റെല്ലാ വസ്തുക്കളുടെയും ലഭ്യത/ആവശ്യത്തിലെ വർദ്ധനവ് അനുസരിച്ച് അവയുടെ വിലയിൽ കാലാനുസൃതമായി വൻവ്യത്യാസമാണ് ഉണ്ടായിട്ടുള്ളത്. ഈ വ്യത്യസങ്ങൾ പലതും വർദ്ധവായി പരിണമിച്ചിട്ടുണ്ട്. എന്നാൽ കേരളത്തിൽ വൈദ്യുതിക്ക് മാത്രം ഈ മേലോട്ടുള്ള ആനുപാതിക വ്യതിയാനം പോലും വരുത്തിയിട്ടില്ല. ഈ ആനുപാതിക വ്യതിയാനം വരുത്തിയാൽ ജനങ്ങൾ എതിരാകുമെന്നും വോട്ട് ബാങ്ക് ചോർച്ചയുണ്ടാകുമെന്നും മാറി മാറി കേരളം ഭരിക്കുന്ന മുന്നണി സർക്കാരുകൾ ഭയക്കുന്നു. അതുകൊണ്ട് ഇപ്പോഴും ജനത്തിന്റെ കണ്ണിൽ പൊടിയിടുന്ന സമീപനം രണ്ടു കൂട്ടരും തുടരുന്നു.

വൈദ്യുതി മിച്ചമായിരുന്ന കാലത്ത് ഉപഭോക്താവ് എത്ര അലക്ഷ്യമായും ലാഘവബുദ്ധിയോടുകൂടിയും ഉപയോഗിച്ചിരുന്നുവോ അതേ മനോഭാവം തന്നെയാണ് ഭൂരിഭാഗം വരുന്ന ഉപഭോക്താക്കൾ ഇന്നും പുലർത്തുന്നത്. ഊർജ്ജ സംരക്ഷണത്തെക്കുറിച്ചുള്ള ബോധവത്കരണവും വിഭവദൗർലഭ്യത്തെക്കുറിച്ചുള്ള പ്രസ്താവനകളൊന്നും ഉപയോഗത്തിൽ കാര്യമായ കുറവ് വരുയിത്തിയിട്ടില്ല. ഏറ്റവും അടുത്ത കാലത്ത് പ്രഖ്യാപിക്കപ്പെട്ട കുറഞ്ഞ ഉപയോഗത്തിനുള്ള ആനുകൂല്യ പെരുമഴയും എത്ര കണ്ട് ഫലപ്രദമായി എന്ന് പരിശോധിച്ചാൽ വ്യക്തമാകും .

ഉപയോഗത്തിൽ കുറവ് വരുന്നില്ലെന്നു മാത്രമല്ല ദൈനംദിനം വർദ്ധനവും വരുന്നു. ഈ വർദ്ധിക്കുന്ന വൈദ്യുതി ഉപയോഗമെ

ല്ലാമൊ അല്ലെങ്കിൽ നല്ലൊരു ശതമാനമോ ക്രമ പ്രകാരമുള്ളതല്ലാത്ത ഉപയോഗമുള്ളത് കൊണ്ടാണെന്ന് നമുക്കെല്ലാം നന്നായിട്ടറിയാം. ഇതെന്തുകൊണ്ടാണെന്ന് വിവേകബുദ്ധിയോടെ വിലയിരുത്തി തിരുത്തൽ നടപടികൾ യുദ്ധകാലാടിസ്ഥാനത്തിൽ സ്വീകരിക്കേണ്ടിയിരിക്കുന്നു.

കെ.എസ്.ഇ.ബി ഇപ്പോൾ തുടരുന്ന ഓരോ തരം ആവശ്യത്തിന് ഓരോ താരിഫ് എന്നതും ഓരേ ആവശ്യത്തിനു തന്നെ വിവിധ സ്ലാബുകളും എന്ന രീതി കുറഞ്ഞ താരിഫുള്ളവർക്ക് വൈദ്യുതി പാഴാക്കാനും ദുരുപയോഗം ചെയ്യാനും പ്രേരകമാണ്. ദുരുപയോഗത്തിൽ അനധികൃത അധിക കണക്ടഡ് ലോഡ്, കൂടിയ താരിഫ് ആവശ്യത്തിന് കുറഞ്ഞ താരിഫ് കണക്ഷനിൽ നിന്നുള്ള ഉപയോഗം (അപകടകരമായ രീതിയിൽ) അനധികൃതമായി മറ്റൊരു പ്രമിസിസിലേക്ക് വൈദ്യുതി നൽകൽ, വൈദ്യുതി മോഷണം എന്നിവ ഉൾപ്പെടും. ഈ പ്രതിസന്ധിയിലും ഓൺ ആക്കിയാൽ ഓഫ് ആക്കാൻ കൂട്ടാക്കാതേയും പ്രവർത്തിക്കപ്പെടുന്ന കൃഷിയിടങ്ങളിലെ മോട്ടറുകൾ, മദ്ധ്യാഹ്നത്തിലും പ്രകാശിക്കുന്ന ലൈറ്റുകൾ വൈദ്യുതി പാഴാക്കലാണ്.

ഇതിനു തടയിടാൻ വൈദ്യുതി ആവശ്യകത (Average- Demand), ഉപയോഗം (Consumption) എന്നിവയെ അടിസ്ഥാനപ്പെടുത്തി ഏത് വോൾട്ടേജിൽ വൈദ്യുതി നൽകുന്ന (Supply voltage-LT/HT/EHT) അതിനനുസരിച്ചും വൈദ്യുതി ആഭ്യന്തര ഉത്പാദന ചിലവ്, വൈദ്യുതി വാങ്ങൽ ചിലവ് എന്നതു കൂടി കണക്കിലെടുത്തും ആയിരിക്കണം താരിഫ് നിശ്ചയിക്കേണ്ടത്. ഈ താരിഫ് വൈദ്യുതി ലഭ്യതയനുസരിച്ച് ഏറിയും കുറഞ്ഞും നിൽക്കുമെങ്കിലും ഒരു മാസത്തെ ശരാശരി കണക്കു കൂട്ടി തൊട്ടടുത്ത മാസത്തിൽ ഈ ശരാശരി താരിഫ് അനുവർത്തിക്കണം. ഇത് എല്ലാ മാസവും തുടരാവുന്നതാണ്. മുൻ മാസത്തെ കണക്കനുസരിച്ച് തൻമാസം എന്തായിരിക്കും താരിഫ് എന്ന് ഓരോ മാസമാദ്യം പ്രഖ്യാപിക്കാവുന്നതാണ്. ഈ താരിഫ് ഈടാക്കുമ്പോൾ എത്ര തുക വരുന്നുവെന്നും ഗവൺമെന്റ് സബ്സിഡി ഉണ്ടെങ്കിൽ എത്ര തുകയെന്നും ബില്ലിൽ തന്നെ കാണിച്ച് ഉപഭോക്താവ് അടയ്ക്കേണ്ട തുകയെന്തെന്ന് എത്തിച്ചേരാവുന്നതാണ്.

ഇങ്ങനെ ചെയ്താൽ തന്റെ വൈദ്യുതി ഉപയോഗം എങ്ങനെ ക്രമീകരിച്ചാൽ ഗുണകരമാകും എന്ന് ഉപഭോക്താക്കൾ ബോധവാൻമാരാകും. വൈദ്യുതി ബിൽ സുതാര്യമാകുകയും ചെയ്യും. മാത്രമല്ല ഭാവിയിൽ മീറ്റർറീഡർമാർക്ക് PDA സംവിധനം ഏർപ്പെടുത്തുമ്പോഴും ഒരു വിധ സംശയങ്ങളും ഉണ്ടാകുകയില്ല. അല്ലാതെ പല സ്ലാബുകളുള്ള പല തരം താരിഫുകളും വൈദ്യുതി ബില്ലിലെ ബഹുവിധ ഘടകങ്ങളും ഉപഭോക്താവിന് താൻ ചൂഷണം ചെയ്യപ്പെടുകയാണോ എന്ന സംശയം നിലനിർത്താനെ ഉപകരിക്കൂ. വൻ കുടിശ്ശികക്കാർ (സർക്കാർ-സ്വകാര്യ മേഖലകളിൽ) കുടിശ്ശിക അടക്കാൻ ചെറുവിരലനക്കാതെ; എന്നാൽ വൈദ്യുതി പാഴാക്കിയിട്ടു സസുഖം കഴിയുന്നുവെന്നതും സാധാരണ ഉപഭോക്താവിനെ അലട്ടുന്ന വിഷയമാണ്. ഇതിനും ഉടനടി നടപടി എടുത്തേ തീരൂ!

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മിനിക്കഥ

ധർമ്മപത്നി

ഇ. എം. നസീർ, ചിറയിൻകീഴ്

ഒരു കുടുംബത്തിൽ ഭാര്യയും ഭർത്താവും നിരന്തരം വഴക്കായിരുന്നു. ഒരു ദിവസം ഭാര്യയുടെ ശകാരം സഹിക്കാനാവാതെ ഭർത്താവ് ആത്മഹത്യക്ക് ശ്രമിച്ചു. ഫാനിൽ കെട്ടിത്തൂങ്ങി അയാൾ പിടഞ്ഞു കൊണ്ടിരുന്നപ്പോൾ കുട്ടികളതു കണ്ട് നിലവിളിച്ചു. അയൽക്കാരോടിയെത്തി. തൂങ്ങിനിന്നയാളെ ഉയർത്തിപ്പിടിച്ച് കഴുത്തിലെ കുരുക്ക് മുറുകാതിരിക്കാൻ ശ്രദ്ധിച്ചു. ഈ സമയം മറ്റുചിലർ കെട്ടിത്തൂങ്ങാനുപയോഗിച്ച കയർ മുറിച്ചുമാറ്റി രക്ഷപ്പെടുത്തി. ദമ്പതികളെ എല്ലാവരും കൂടി നന്നായി സാന്ത്വനപ്പെടുത്തി ഉപദേശിച്ച് ഒത്തുതീർപ്പാക്കി മടങ്ങി.

അധികം വൈകാതെ പിണക്കവും വഴക്കും പുനരാരംഭിച്ചു. നിത്യ സംഭവമായതിനാൽ അയൽക്കാരും കൈയൊഴിഞ്ഞു. ഒരു ദിവസം ദർത്താവ് വീണ്ടും കെട്ടിത്തൂങ്ങി. മരണവെപ്രാളത്തിൽ ഇയാൾ പിടയുന്നത് ഇത്തവണയും കുട്ടികളുടെ ശ്രദ്ധയിൽപ്പെട്ടു. അവർ നിലവിളിച്ചു. അയൽക്കാർ അവിടേക്കോടാൻ തുടങ്ങി. അവർ വീടിന്റെ പടികടക്കും മുമ്പ് ഭാര്യ നിലവിളിച്ചു കരഞ്ഞുകൊണ്ട് ഭർത്താവിന്റെ തൂങ്ങിനിന്നു പിടയുകയായിരുന്ന ശരീരത്തിൽ കെട്ടിപ്പിടിച്ച് താഴോട്ട് ഒരു വലി! **ഢീം**!!!

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ഞാൻ

പി. രാമചന്ദ്രൻ
Rtd. Assistant Engineer

അറിയാമെനിക്ക്
ഞാനെന്ന ഭാവവും
എന്റേതെന്ന ഭാവവും
വേണ്ടതില്ലൊട്ടുമേതും.

ഞാനെന്നുംഎന്റേതെന്നു
മീയൊരുചിന്ത
ശൂന്യമായെങ്കിലീയെന്റെ-
യൊരസ്തിത്വമെവിടെ?

ഞാനെന്ന ഔദ്ധത്യം വേണ്ട
എന്റേതെന്ന ധാർഷ്ട്യവും വേണ്ട
വേണ്ടത്
നോവുമാത്മാവിനേകാനൊരു
കരുണ മാത്രം !
കരുത്തേകാനൊരു
മനം മാത്രം !

മാനവസേവയും
മാധവസേവയും
സഹവർത്തിത്വത്തിന്റെ
സ്നേഹ ഭാവം !

അറിയില്ലിതൊട്ടുമേ-
യെനിക്കെത്രചികഞ്ഞിട്ടും
ഞാനാരെന്നുള്ളയാ
പരമാർത്ഥ തത്വം !

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THE GREAT CHOREOGRAPHER

Jins K.D., *Assistant Executive Engineer, KDPP.*

When we look up, we see the Sun during the day and the Moon and Stars during the night. Stars are like jewels and the Moon is a diamond. We see beauty everywhere. We look for patterns even in grave messes. Whatever be their mental picture, everybody these days tell that our earth is shaped sphere. Everybody say that the earth is spinning around the Sun; moon is spinning around the earth and more. Our knowledge horizon has expanded a lot. Nobody these days asks or wonders upon what is the earth suspended on. Everybody say its space. We speak about universe, galaxies; inter galactic travels, about black holes, event horizons and more. We are really an advanced race. When we see a picture of a distant nebula, we think that as the most modern and beautiful picture of our time, and wonder who creates such an electrifying color combination. When we say that earth is rotating around the Sun and the Sun in turn is rotating about the centre of the Milky Way galaxy, we seldom wonder who actually is choreographing this carefully designed super dance. But we now have the answer. Our story started 14 billion years back. There happened the Big Bang. From this most ferocious fire ball and the sea of energy took birth the basic particles of matter. The experiments going on at the Large Hadron Collider will answer how actually energy got converted into matter. The expanding and the cooling universe with the working of the basic forces started the great dance happening on this most beautiful and vast open stage. In the past few decades a remarkable and strange picture has emerged in black hole science. It extends far beyond the fantastic studies of the extremes of space and time that have been a hallmark of black holes. Astronomy in the early twenty first century has revealed that the black holes are both varied and common. While we think that most originate as comparatively small objects, with the mass of just a few Suns, some have managed to grow far beyond. The biggest are now known to be tens of billions of times the mass of our Sun. They stagger the imagination and challenge our core ideas about how all objects and structures that we see in the universe have come to be. At the same time they do not hide away as inert bodies, invisible and alone. The science of black holes is very real now. Their presence is acutely felt across the cosmos. Black holes play a critical role in making the universe appear the way it does. The broad picture of our universe is like this. At the centre of each galaxy there lies a black hole. The space time curvature caused by this giant is causing the stars, planets, dust everything

to fall towards it and we see them rotating around it. Inside this broad picture comes a multitude of short stories. Some are simple and very direct.

Some are like James Bond movies and some are like Sherlock Holmes stories. Things are happening around and we only have some clues. We have to pursue these to fill the blanks up and to make the story complete. Some people are always busy at work for this. Although matter can fall straight down on to objects like planets, stars, white dwarfs, neutron stars, or black holes in general it doesn't. What it does tend to do is enter in orbits. All matter tries to follow the shortest path through the space time, but if that underlying fabric is warped then so too will be the path Atoms and molecules even dust and bigger chunks of material will settle into orbiting a massive body in a flattened disk shaped structure. And we see the same every where in this Universe. The arrangement of planets in our own solar system is a good example for this. The flatness of their orbits reflects the disk of gas and musk that they formed out of, some 4.6 billion years ago. Matter captured by the influence of a dense and massive body ends up swirling into an orbiting disk. It certainly seems that the same thing must happen around a black hole.

Black holes are now rated as the most efficient energy producers of the Universe. We know them as great eaters of things. If they just swallow matter up, light and all then how does it produce energy?

The trick is that when matter forms a disk around the hole, the material in the disk rub against itself as it swirls around. It's like spinning a stick against another to start a fire. The pieces of wood are never perfectly smooth and friction between them results in the energy of the spinning motion being converted into thermal energy, and the wood gets hot. In an orbiting disk the outer parts move much slowly than the inner parts. This means that as the disk goes around and around, the friction between the bands of moving material transfers the energy of motion into heating the matter. So the heated material loses orbital energy and spirals inward. Eventually it gets to the event horizon and is accreted into the black hole, and it vanishes. Sight unseen. But on the way toward the point friction converts some of the tremendous energy of motion into photons and particles. Exactly what causes this friction is still a significant mystery. The forces of atoms bumping are not enough. It is assumed that the magnetic forces produced by the electrical charges and currents of material in the disk act like a great source of stickiness to produce the necessary friction. Whatever the precise cause there is absolutely no doubt about what happens when matter is ensnared this way. As it spirals inward through the disk, the friction generates huge amounts of thermal energy. Toward the inner region an accretion disk around

a super massive black hole can reach fearsome temperature of hundreds of thousands of degrees. Powered by the huge reservoirs of gravitational energy from the curved spacetime around a super massive black hole, the matter in a single disk can pump out enough radiation to outshine a hundred normal galaxies. Black holes are gravity's engines pumping energy in the most efficient way.

Black holes really are like something out of a fairy tale. The great American physicist Kip Thorne who has played a central role in the development of black hole theory puts it nicely: "Of all the conceptions of human mind, from unicorns to gargoyles to the hydrogen bomb, the most fantastic, perhaps, is the black hole". Black holes profoundly influence the environments and circumstances in which planets and planetary systems are formed, and the elemental and chemical mixes that go into them.

Life, the phenomenon of which we are a part, is fundamentally connected to all these chains of events. Saying that black holes have implications for life in the Universe may sound outrageous and far fetched but it appears to be the simple truth. So, right now, they are the great choreographers.

Sitting, as always, behind the stage.

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MARVELLOUS

KSEBEA congratulates each and every employee of the Generation-Electrical wing for achieving record daily energy generation of 43.98 mu from KSEB owned hydel power stations by utilising 95% of installed capacity of 2010.05 MW during September 2013. The hard work and commitment shown by one and all is commendable.

KSEBEA sincerely wishes and expects similar dedication and commitment in future.

WELL DONE & KEEP IT UP !!!!!!!!!

WASTE MANAGEMENT- waste to energy

Er. Damodaran K.V.
KASARAGOD UNIT

A general problem confronting the State today is no doubt the disposal of residential waste.When all the developed nations have found out a solution to dispose off all types of waste effectively, it is painful to know that why our State and the country as a whole have not evolved a strategy to solve this problem.It is a fact that at the onset of monsoon,all types of diseases like chikunguniya, dengue, h1n1 ,rat fever etc spread through out the State in the absense of proper waste disposal arranagements.The editorial of "Deepika" daily newspaper dated 4th july 2013 has given an in depth details of present day scenario in the State regarding the spreading of all types of diseases at the onset of monsoon due to careless handling of waste disposal .All the developed countries ,because of stringent waste management measures , are able to contain air pollution and disease spreading viruses.So an earnest attempt is made in this aricle to bring to light various waste management measures adopted around the world -

It is a fact that one cannot stop producing wastes. Millions of tons of waste are produced every day , round the globe.A recent survey in United States shows that the American's total yearly waste would fill a convoy of garbage trucks ,long enough to wrap round the earth 6 times and reach half way to moon.

In 2010 alone ,250 million tons of waste were generated by the U S. According to the Environmental protection agency ,the average American produces 2 kg of garbage per day ie 730 kg per year.This shows the gravity of measures needed to adopt waste management in such a manner that that they are collected and disposed off effectively which is why the USA is free from several disease spreading viruses.According to the data provided by the World health organization ,the air pollution in India is 6 times that of United States-

What is waste management : It is the collection, trananspportation, processing ie recycling or disposal and monitoring of waste materials.All waste materials including solid ,liquid,gaseous or radioactive fall within the limit of waste management.Wastes produced from different sources can be classified into mainly 3 categories.

They are 1-Residential waste 2-Hospital waste and 3-industrial waste including radio active waste.

1 **-domestic waste** mainly can be classified into 3 categories-they are

A- All kitchen waste ie bio-degradable waste

B-Plastic,paper,cardboard etc-ie recyclable waste

C-Garden waste-ie tree branches,lawn cuttings etc

2-**Hospital wastes** are medical waste or clinical waste which cannot be considered as general waste.These wastes generally come from hospitals ,labs and vet dispensaries and are mostly classified as bio-hazardous and infectious, since these wastes are mainly blood,body parts,needles,syringes etc:

3-**industrial wastes** : Waste produced from factories ,mills and mines are classified as industrial waste.These are mainly non- hazardous waste such as iron &steel scraps,concrete wastes,stone, clay etc

There is also another important group of waste viz: Electronic waste which mainly are discarded computers and parts,mobilephones,television,refrigerators etc: which are also known as E-waste.

Since the intention of this article is to show how effectively domestic waste management is done in developed countries,I am mainly focussing on that subject-.

Domestic waste management: solid wastes of garbage &rubbish such as food-waste,bottles,cans,clothing ,plastic bags,compost,food packaging, news papers, magazines ,yard- trimming etc that originate from home and apartments are called domestic or residential waste.

As mentioned earlier ,the process of waste management first starts with collection , secondly transportation and thirdly disposal by way of recycling or other methods and monitoring the same.Waste management practice can differ for developed and developing nations-I would like to highlight the practice followed in USA, as I had the occasion to watch it during my 2 year stay here. In order to implement this, a stable govt: with a will power and consciousness of the public health is needed .Either the govt can execute it directly or can get it done through private agencies.

1-Collection of waste : Since there are 3 types of wastes ie1- Kitchen waste ie biodegradable ,2-Plastic ,bottles,paper etc which are recycleable and3- Garden or green waste ,3 separate bins are kept in each house/apartment for collecting the waste.These bins are made of moulded plastic with wheels for moving them easily out of the house .Each bin will be of separate colours ,usually blue ,grey and green for identifying them.Blue is for kitchen waste,Grey for plastic/papers and Green for garden wastes.These bins will be usually around 3'6'' height and 1'6'' square with a lid – Once in a week all the bins are kept outside for emptying the waste.A truck will come early in the next morning and will empty them with the automatic hands attached to the vehicle.

2-Transportation: As mentioned above, separate trucks will come to take each type of waste.The kitchen waste and garden waste will be transported to an already identified location and the recycleable to another location.The trucks will be weighed each time when it enters

the site,to know the exact quantity of deposited waste.

3-Methods of disposal -Organic wastes are disposed off mainly in 3 ways. 1-land fill method 2-incineration method and 3-recycling.

A- **land fills:** Since kitchen waste and agriculture waste are organic in nature they are used for filling unused land ,abandoned quarries and mines and other isolated places where human dwelling is rare.A properly designed and well managed land fill can be hygienic and free from worms and smells.The deposited waste is normally compacted to increase its density and stability and covered with some lining material either with plastic or sand .A common product of land fills is methane gas which is produced as organic wastes break-down.Many land fills also have land fill gas extraction system installed to extract land fill gas.This gas is pumped out of the land fills using perforated pipes and is then burnt in a Gas engine to generate Electricity-(waste to energy)

B- **Incineration**: Incineration is a process in which solid organic wastes are subjected to combustion so as to convert them into residue and gaseous product. This process reduces the volume of waste to 20 to 30 percent of the original volume.Incineration converts the waste materials into heat,gas, steam and ash. The by-products can be used as inputs for producing Electric power (waste to energy) .Countries where land area is very scarce just like Japan ,incineration method is adopted to dispose off waste-

C-recycling : Recycling is a method in which some of the waste materials are re-used or re- processed into new products.The most common consumer products for recycling are aluminum such as beverage cans,copper and iron scraps, polyethylene,glass ,bottles and jars, news papers, magazines, paper board cartons and so on. Since these are collected in separate bins, it is easy to sort them for recycling.The recycling centers will be located not far from the waste collection centers where as land fills will be in remote areas to be free from pollution.

Prevention is Better than Cure

To conclude ,the most important method of waste management is prevention of waste being created or better known as Waste Reduction method.Using paper or cloth bag instead of plastic, is a big leap towards this direction-Repairing broken items instead of buying new one is another way.

You don't wonder if a foreign tourist come over here , watch the heaps of garbage thrown on either side of the public roads , railway tracks and Rly: stations and ,if such sites are reflected on the web-sites of "waste management in India'.Since littering is heavily fined in Western countries , the roads and premises are perfectly clean.Let me say a clean atmosphere makes a clean & rich Nation.

❖

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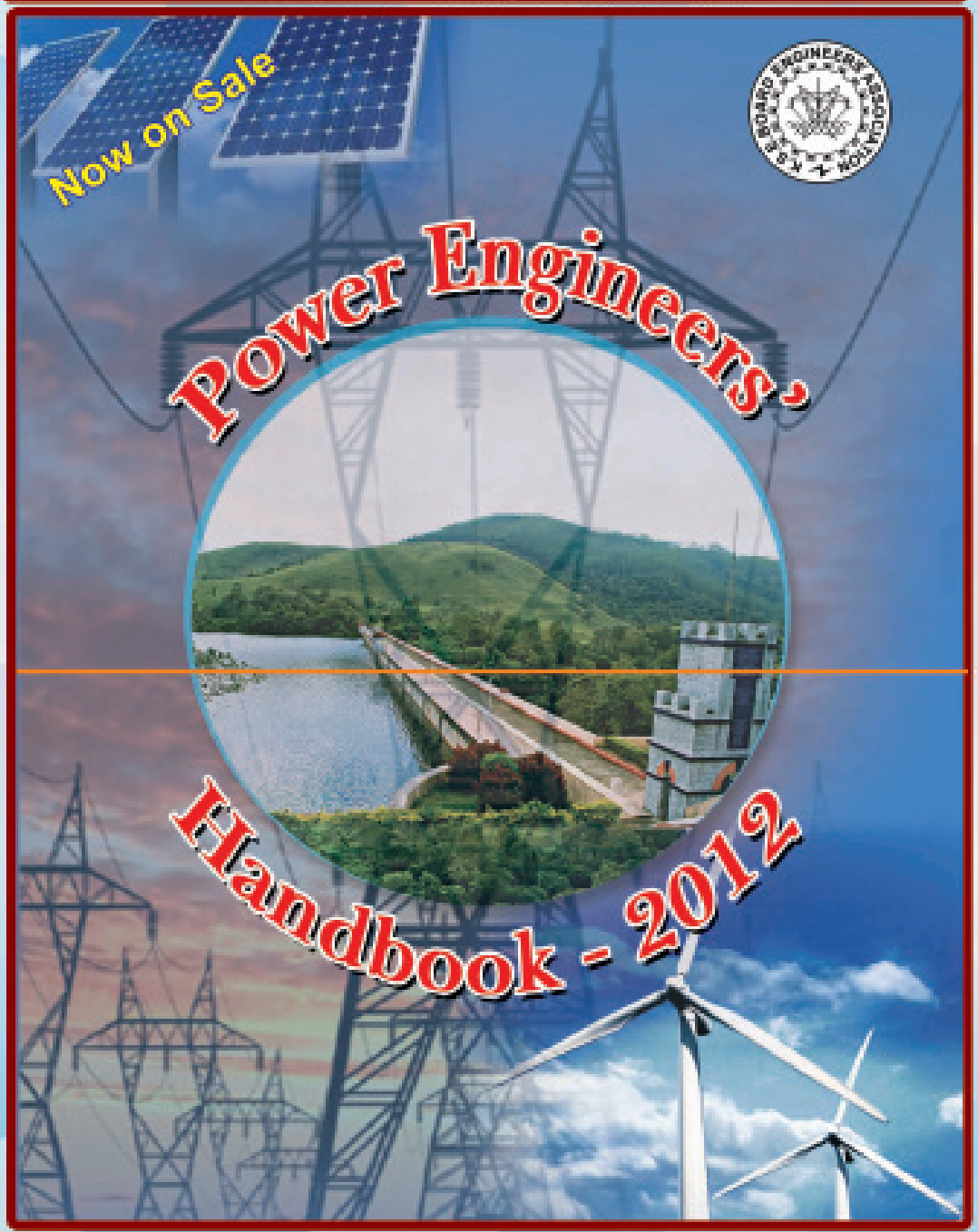
ENGINEERS HOUSE, T.C. 26/1300, PANAVILA, TRIVANDRUM - 695 001
PHONE : 0471 - 2330696, FAX : 0471 - 2330853



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