Happy Diwali

SPE NEWS LETTER

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THE SOCIETY OF POWER ENGINEERS (INDIA)
VADODARA CHAPTER (ESTD. 1996)

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Vice-Chairman

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Member

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3. Er. MG Mehta
4. Er. VB Kamad
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9. Er. KN Parikh
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12. Er. Ms. Urmila Shah

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SPECIAL INVITEE TO THE EXECUTIVE COMMITTEE

Er. N. Dinker

OFFICE ADMINISTRATION COMMITTEE

1.Er. SM Godknidi 2. Er. DC Mehta 3. Er. NC Solanki

From the Chairman's Desk

The Vadodara Chapter of SPE (I) will be completing 21 years on 3rd October 2017. This journey has been very smooth due to selfless dedicated & responsible Executive Committee Members and Advisory Committee Members. Each one of them has contributed their might in the development of the Chapter. Even when there were elections for the vacant posts of Executive Committee Members, there was cohesion and true spirit of democracy has always prevailed. During the AGM in August 2017, there was no Election as there were only four candidates against four vacant posts.

The selection of office bearers for the year 2017-18 was also a very smooth affair with the concurrence of every one. There is an induction of new members in the Advisory committee. The small changes made in both the committees, is aimed at increasing the level of activities. I am pleased to note that the sub-committees formed have started working in the direction of achieving higher goals.

As the Chapter marches towards the celebration of 25 years of its inception, we have lot of work to be done. The Chapter must become a brand name in Industry and Academy. Once this is achieved large number of Engineers from Vadodara and Gujarat will come in the fold of SPE (I) Vadodara Chapter. This will be a win-win situation for all the engineers connected with the power sector. I am confident that the members, who are not directly connected with the management of the Chapter, will also contribute their might in coming years and help the Chapter in achieving higher targets. I also note with satisfaction that Er. AK Singh, who has been a Vice-Chairman of the Chapter for many years in the early stage of inception, has accepted our invitation to be a member of Advisory committee and has also assumed the responsibility of being an Editor of our quarterly publication "SPE NEWS Letter". I am sure; this will be one more feather in the cap of Editorial Board.

The festival of light "DIWALI" is round the corner. Let me wish all the members of the Chapter and their family, "Happy Diwali and Prosperous New Year".

Er. G V AKRE

Editorial

Dear Reader,

This is my first Article after taking over as an Editor of SPE NEWS Letter

We know that nothing but change is constant. Innovation is the new *lingua franca* for the businesses to survive amid volatile growth scenarios and changing norms. Changing circumstances call for dynamism and activeness in business thinking and is the genesis to new business models.

Indian power sector is on cross-roads today. Thermal generation is the new vulnerable in prevailing power sector scenario. PLF of either public or private generating stations has dropped to record low in the past decade. States are surrendering their allocation of central generating stations based on fossil fuels. Renewable too have added to the woes of thermal generation. Businesses, which adopt and align, those which can anticipate the changing paradigm of global business perspectives and policies, can survive, and those which prefer stagnancy would be exposed either to consolidation or will become a financial burden to banks and financial institutions as well as promoters. The later scenario will dampen the economic profile of the country for sure.

In India, thermal generation enjoyed a pretty long period of monopolistic reign. It is irrefutable that they have been insulated from changing norms. The thermal generation has constantly experienced squeezing profit and windfall gains eroding the effective return on equity, arising out of changing norms and policies.

Status-quo is always a risk and businesses must innovate and constantly adapt to new practices for sustainable standing. However, no matter what the status-quo is, the policies and regulations also need to be introduced smoothly to avoid any business shocks, specifically in volatile economic scenarios.

In this issue, we present an article on performance enhancement of existing coal-based generating units of 1970s-80s vintage.

Newsletter provides a platform to the entire fraternity of SPE(I), Vadodara Chapter to facilitate coming together and interacting with each other. We will be extremely happy to receive your views, opinions and suggestions. Please feel free to reach out to us.

The Editorial team conveys its greetings to all members and their families for the forthcoming festivals - "THE FESTIVAL OF LIGHTS DEEPAVALI" and Gujarati New Year. We wish you all "HAPPY FESTIVITIES".

Happy Reading!

AWADHESH KUMAR SINGH

Chapter's Activities

- On **17 Jul 2017**, the Chapter organized an evening lecture on the topic of **"Can Solar Batteries and EVs (Electric Vehicles) disrupt energy Industry?**

  The speaker was **Dr. Kailash Srivastava,** visiting Professor IIT, Mandi(HP). The lecture was organized at Baroda High School, Alkapuri, Vadodara.

  The lecturer gave detailed account of the role of solar energy in the World's Power sector. The storage batteries with high capacity are being developed for domestic use and for electric vehicles.

  He gave various examples of disruptive technologies and correlated it to solar power and electric vehicle. He went on to add that dependence on fossil fuel will reduce to a great extent. This will disrupt Automobile industry and Oil industry. There is a large reserve of Lithium to make batteries to cater the need of the World, he added.

  The lecture was very interesting and the members were spell bound during his presentation.

- On **20 Aug 2017**, **21st AGM** of the Chapter was organized at Baroda High School, Alkapuri, Vadodara. Report of the AGM is brought out in this issue.

- On **27 Sep 2017**, the Chapter organized an evening lecture on the topic of **Project Management of Power Stations.**

  The lecture was delivered by **Er. RP Sharma** a Freelance Consultant Electrical & Project Management and the Advisory Committee Member of SPE(I) Vadodara. The lecture was organized at Baroda High School, Alkapuri, Vadodara

  He stated That the project management concept was introduced in Submarine Technology in USA in 50's. The project management includes PERT, CPM, Bar Chart followed by BOT, BOOT, PPP Mode EPC, EPCC, EPCM, etc.

  He initiated his talk with the need of project management. Further, he talked about project management required for expansion of project or diversification of project and new project. The important points in project management cycle are feasibility report, detailed project report, financial analysis, project implementation, follow up, project control on each activity and periodical evaluation including modification, if required.

  The financial evaluation includes payback period, Internal Rate of Return, Return on Equity, Net Present Value, BCR, DCF, Debt/ Equity ratio, etc. The cost overrun and time over run also plays important role in project management he stated.

  The project review was explained by him indicating the circumstances which leads to decide whether project is to be continued or divest or terminated.

  The speaker was honored by presenting a bouquet by Er. DC Mehta (Treasurer) and by presenting a memento by Er. RS Shah (Jt. Secretary). Vote of thanks was extended by Er. VB Harani (Executive Member). The program was anchored by Er. PA Shah.

ACKNOWLEDGEMENT

Er. CM Shah, Retd. Chief Engineer, GEB has donated 26 Technical Books to SPE(I) Vadodara.

SPE(I) Vadodara Chapter thanks to above donor. SPE(I) further expects similar gesture from other members as well as from the Well Wishers.

Performance Enhancement of Coal-based Thermal Power Plants

By
Prof. AK Singh
FIE, FSPE, MISNT, MIIW, MIIM
President (Power Plant & Turbine)
TCR Advanced Engineering Pvt. Ltd.
Vadodara (Gujarat), India

"The operational efficiency of TPPs in India is the lowest in any country analysed,largely due to an ageing power plant fleet. India would benefit from establishing amandatory national energy savings goal and increasing its level of government andutility investments in energy efficiency."

- The American Council for an Energy-Efficient Economy's Report

A significant percentage of India's existing coal-fired power plants are ageing and operate atmuch higher heat rate than designed, especially those operated by state utilities. Accordingto a recent study conducted by the American Council for an Energy-Efficient Economy(ACEEE), India ranks 11thin the International Energy Efficiency Scorecard 2014 that analysed the world's 16 largest economies, covering more than 81% of the global GDP and about 71% of the global electricity consumption.

In recent years, India power generators have focused on increasing plant load factors (PLF,or Capacity Factor) to increase electricity output, often at the expense of plant efficiency. While the national average PLF for stations in central sector (*i.e.*, NTPC) has approached 90%, which is world class, the average PLF of state-operated plants is about 70%, and of private utility plants is 85%. However, many individual plants, especially those operated by state utilities, are operating at PLF below 55% and even below 30% in some cases.

A large potential exists to increase generation and improve efficiency through Energy Efficient R&M. On an average, most Indian coal-fired power plants operate at heat rates higher than their designed rate. A recent Central Electricity Authority (CEA) study of 53 power plants, constituting a total capacity of 37,830 MW shows that their heat rates are about 13.7% higher than their design values. The weighted average design heat rate is 2,377kcal/kWh (about 36%), whereas their weighted actual heat rate is 2,703 kcal/kWh (31.8%).This clearly indicates that an average performance improvement of the order of 300kcal/kWh is achievable. Higher operating heat rate leads to increased power generation costs, faster depletion of natural resources (coal), higher emissions of conventional pollutants, such as SO_2, NO_X, and particulates, and increased CO_2 emissions. Also, CEA, in consultation with the state utilities, had prepared a National Perspective Plan for R&M and LE, which spans up to 2017, for existing 200-210 MW and some 500 MW coal-firedplants that are more than 15 years old. In the plan, 53 units (7,318 MW) for LE and 76 units(18,965 MW) for R&M were identified in the 11thFive Year Plan and an additional 72 units(16,532 MW) for LE and 23 units (4,971 MW) for R&M in the 12thFive Year Plan. If successful, coal consumption in these units could be reduced by up to 15 million tonnes annually, which is equivalent to reducing almost 20 million tonnes of CO2 emissions annually. The technology-intensive R&M for efficiency improvement needed in these projects is beyond restoration of original generation capacity, life extension, and improved availability. It would enable these units to operate at higher outputs with lower required fuel input and less GHG emissions.

Efficiency improvement in existing power plants represents the greatest near-termopportunity in the Indian power sector to conserve fuel and achieve significant reductions of CO_2 emissions.

Station Heat Rate (SHR) is an important index for assessing generation costs and plant efficiency and hence, the economics of power generation. The SHR of a power plant is defined as the amount of heat energy used to generate a unit of electrical energy. A more efficient power plant uses less coal, has lower emissions and lower variable costs, thereby reducing generation costs and contributing to the nation's energy efficiency.

The prevailing Operating Norms for Unit Heat Rate of Coal-based Thermal Power Plants specified by Central Electricity Regulatory Commission for the various ratings of Generating Units are given below:

Prevailing Norms by CERC	
Parameter and Unit Size	**Normative Value**
Coal-fired Units	
Unit Heat Rate	
200/210/250 MW Units	2500 kcal/kWh
500 MW and above Unit	2425 kcal/kWh
New Thermal Generation Station	
Achieving COD on or after 1.4.2009	1.065X Design Heat Rate (kcal/ kWh)
Secondary Fuel Consumption *	1.0 ml/kWh

Unit Heat Rate Calculation for a sub critical unit using the Direct or Input / Output Method is shown below:

- Average MW Generation: 200 MWh
- Coal Consumption: 135 tonnes per hour (tph)
- Gross Calorific Value of Coal: 3,500 kcal/kg
- The Unit Heat Rate = (135 x 1,000 x 3,5000) / (200 x 1,000)

= 2,363 kcal / kWh

- Plant Cycle Efficiency = (860/2,363)

= 36.4 %

The Heat Rate Loss / Deterioration and its annual cost implications in coal-based thermal power plants are tabulated in the following table:

HEAT RATE LOSS AND ITS COST IMPACT PER YEAR (MINR)

Heat Rate Loss (kcal/kWh)	Subcritical Units			Supercritical Units		
	210 MW	**300 MW**	**500 MW**	**600 MW**	**660 MW**	**800 MW**
5	5.9	8.4	14.0	16.8	18.4	22.3
10	11.7	16.4	27.9	33.5	36.9	44.7
15	17.6	25.1	41.9	50.3	55.3	67.0
20	23.5	33.5	55.8	67.0	73.7	89.4
Key Assumptions :- 3,500 kcal /kg of coal with Rs. 3,000/ mt for 210-500 MW and 85% PLF.						

The key parameters impacting the SHR are unit loads or MW output, coal moisture, boiler efficiency and controllable parameters. The main controllable parameters having severe cost implications and the impact of their deviation from the design values is given below:

KEY PARAMETERS IMPACTING SHR

Parameter	Unit	Deviation from Design Value	Hear rate Deterioration (kcal / kWh)	Annual Cost Impact (MINR)
Main / Live Steam Pressure	MPa	1	10.0	42
Main / Live Steam Temperature	°C	5	3.0	13
Reheat Steam Temperature	°C	5	2.5	11
Boiler Efficiency	%	0.5	12.0	50
Condenser Vacuum	kPa	0.5	9.0	38
Moisture	%	5	30.0	126
Superheater Spray	tph	25	9.0	38
Reheater Spray	tph	25	10.5	44
Final Feedwater Temerature	°C	2	1.6	7
Total Losses				~370MINR
Note : Plant Generation is considered at 80% PLF for a 600 MW unit, the Average Coal Cost is considered at Rs. 4,000 per metric tonne, and the GCV of Coal as 4,200 kcal per kg.				

The plant performance team should continuously monitor controllable parameters, identifygaps and address them on regular basis. The plant performance team should continuously monitor controllable parameters, identifygaps and address them on regular basis.

Heat Rate Improvement: The Low Hanging Fruits:

Improvement of SHR for a 500 MW unit by 10 kcal/kWh translates to 11 kilo tonnes of coal per year that leads to a reduction of approximately 25 kilo tonnes per hour of CO_2. SHR reductions will also result in deceases in other emissions such as NO_X, SO_2 and particulate matter.

A small reduction of 25 kcal/kWh in heat rate (*i.e.*, approximately, 0.3% absolute, or 1%relative) in a large utility with a total capacity of 25,000 MW, burning a typical Indian high ash(>40%) coal with a calorific value of 3,500 kcal/kg in a plant with a typical PLF of 83% will reduce the utility's coal consumption by approximately 1.3 million tons and CO_2 emissions by 1.6 million tons annually. Achieving a 25 kcal/kWh improvement, which is possible through simple changes in operational set points determined after combustion optimization testing, requires little or no capital investment. Once the set points are determined, performance improvements achieved can be sustained through periodic testing, which can be done either by trained plant staff or qualified combustion optimization service providers.

While many of NTPC's plants are less than 20 years old, many state utility/SEB plants average more than 30 years in age with limited maintenance and upkeep due to lack of resources. Consequently, many of these plants are no longer in a good shape. Some are now being restored under GOI (Government of India) and other internationally financed R&Mprograms. A decision has also been made by the GOI to retire around 3,000 MW of existing old generating capacity supplied by 110 MW units and below, primarily due to their poor operating efficiency (less than 20%). The lost capacity will be restored by building larger 210 and 500 MW units, which have become the standard capacity of most coal-fired units being built in India today. State utility/SEB plants in the country have the greatest potential for efficiency improvement. For them, heat rate improvement activity happens to be the low hanging fruits.

On average, these plants operate at 3 to 6% below their design efficiency, owing largely to constraints in critical equipment, want of proper instrumentation, poor quality coal, and limited availability of poorly trained manpower. The goal of GoI and a number of other bilateral and multilateral programs is to turn around the performance of state utility/SEBpower plants.

The first demonstration of heat rate monitoring and improvement was conducted during1996-98 at NTPC's Dadri plant under the USAID-GEP Project. Through an inter agency agreement with NETL (**N**ational **E**nergy **T**echnology **L**aboratory), USA, the Tennessee Valley Authority (TVA) conducted the efficiency tests and helped train the NTPC-CenPEEP (**Cen**tre for **P**ower **E**fficiency &**E**nvironmental **P**rotection) and NTPC Dadri plant personnel. USAID supplied a complete set of diagnostic test equipment as per TVA specifications.

Subsequently, two additional NTPC plants (Singrauli and Rihand) and two State Electricity Board (SEB) plants (Gujarat State Electricity Board's Wanakbori plant and Maharashtra State Electricity Board's Koradi plant) were also included for efficiency improvement. In all, the demonstration of efficiency improvement and transfer of best practices were completed in five Indian power plants by 2000. TVA and CenPEEP prepared comprehensive Heat Rate Improvement Guidelines document complete with test procedures and calculations for Indian coal-fired power plants. The guidelines were distributed by CenPEEP to all stateutilities. CenPEEP and NTPC plant engineers were also trained in TVA plants and workshops on best practices were also provided to CenPEEP and NTPC plant personnel.

Subsequently two regional CenPEEPs, one in the Eastern Region at NTPC's headquarters in Patna, and one in the Northern Region at Lucknow, were established to meet the needs of NTPC stations in these regions. USAID assistance was limited to providing the test equipment for these centres and technical assistance during the initial operation of the centres. Building on the successes garnered through its network of CenPEEPs, NTPC established an Efficiency Monitoring System throughout its power plant fleet, which has led to some of the NTPC plants being are among the top performing coal-fired power plants in the world.

Power plant efficiency improvement activities are

also being supported under the AsiaPacific Partnership on Clean Development and Climate (APP), funded by DOE and USAID/India. Under this program, two state utility power plants, Punjab State Electricity Board's (PSEB) Ropar plant and West Bengal Power Development Corporation Limited's(WBPDCL) Kolaghat plant were selected. One 200-MW coal-fired unit was identified in each of the two stations for performance improvement. These efforts led to a 2-3 % boiler efficiency improvement in both power plants and a set of recommendations for further improvement and maintenance of the gains achieved in the units was developed. Both plants have six nearly identical units, which the utilities are now improving on their own based on the knowledge and instrumentation/equipment provided through the APP program. Another 200-MW unit at Tamil Nadu Electricity Board's (TNEB) Tuticorin Thermal Power Station (TTPS) is also being provided similar performance improvement assistance.

Steam Turbine Retrofit Application :

One example of a technology demonstration that had been being fervently promoted by the author for the past two decades and is now getting acceptance in India is turbine upgrades through Retrofit applications. This happens to be a well proven concept having been successfully applied to a large number of machines in Eastern Europe. The benefits of such steam turbine retrofits are immense.

There are 53 LMW (Russian) 210-MW units in India that have the old Bowman design stagein the Low Pressure (LP) Turbine. The later LMZ turbines came to India at some NTPC Plants with a modified LP turbine without the Bowman stage, and these machines generate an additional 6-8 MW from the same turbo-generator for the same steam flow and thus the same coal combusted. Other advances in tip seals, blade design, etc., have also contributed to better performance (2-3 % decrease in heat rate).

It is heartening to note that Steam Turbine Retrofits on 210 MW LMW machines are presently being carried out at Koradi STPS of Mahagenco and Wanakbori & Ukai TPSs of GSECL. Such upgrades have already been successfully carried out in India earlier at some110 MW Steam Turbines of Skoda design. The ageing 210 MW Steam Turbines of KWU design installed in Indian Power Plants also offer themselves as potential candidates for retrofit applications with attractive returns. Retrofit solutions for these units of KWU vintage will essentially involve replacement of existing T_2 Profile turbine blading with next generation T_4 profile or similar blading. The author has good experience of having developed such solutions for many plants operating in the country for more than past two decades or so.

In summary, concerted efforts are being made for the efficiency and performance enhancement of the existing power plants in India. Not only will these efforts save costs, but they will also help solve the power crisis that the country is presently facing. It is here that we must acknowledge that the implementation of O&M measures can play a crucial role in ensuring increased and economically viable generation from existing thermal power plants. Plant operators can benefit from adopting energy efficient O&M measures through fuel costsavings and lower emissions.

21st AGM Report

The 21st Annual General Meeting (AGM) of the Society of Power Engineers (I) Vadodara Chapter was organized on 20 Aug 2017in the Auditorium of Baroda High School, Alkpuri, Vadodara.

The proceedings are as under:

1. Due to lack of quorum at 16:00 hrs, the assembly of members present was dissolved. The members reassembled at the venue at 16:30 hrs and business of AGM was taken up.
2. Two minutes silence was observed to pay respect and pray for peace of departed souls of following Life Members who passed away during the year.

   Er. MM Naik, Er. GM Bahudhanye,

   Er. CD Kanitkar, Er. LH Buch,

   Er. MNJadia Er.UM Pradhan and Er. KS Dave
3. Er. GV Akre, Chairman of the Chapter welcomed all the members. In his welcome speech, Shri GV Akre, expressed his satisfaction on increase in membership, good programme throughout the year with active participation of all member; dynamic contribution of all Executive Committee

Members & Advisory Committee Members. He also pointed out that the chapter is managing finance well & as such there is no major problem regarding funds.

Er. GV Akre recalled the advice and observations made by All India President Er. SK Negi during the National AGM held at Vadodara on 18 Dec 2016 i.e. SPE(I) Vadodara Chapter should come forward to formulate planned programme as regards Standardisation, Safety, Earthing, Energy Conservation, Non-Conventional Energy resources, Automation and Digitalisation etc. We may also launch "Utility Forum" involving, IEEMA, FGI, VCCI, CEA, Utilities& Academia with a view to exchange ideas, address the problems faced by Utility, Manufactures and arrive at suitable solutions. Er. GV Akre specifically referred to necessity of evolving State of Art know-how to encourage use of Polymer insulators, alternative for Transformer oil, SF_6 etc. He also mentioned need to evolve Standard Maintenance Code for various equipment. He sincerely acknowledged the participation of all the members and sought similar support in all future activities of Chapter.

4. Er. DC Mehta, Jt.-Secretary donated a beautiful, "Welcome Standie Plaque" to the Chapter which was received & inaugurated by Chairman Er. GV Akre with loud applause by the Audience. Special thanks to Er. DC Mehta for his kind gesture.

5. Er. SM Takalkar, Vice-Chairman gave a detailed account of various activities taken up by Vadodara Chapter, especially the successful programmes of training final year students of Parul College & LE College, Morbi. He also brought to the notice of audience the successful seminar on Motors, Participation in SWITCH Expo & 1-Day Technical meet cum seminar for Industry & Academia jointly with FOKIA at Bhuj. He also mentioned that our Chapter will complete 25 years in 2021 & a grand scale celebration is on the cards and requested all members to come forward and help to make the programme a success.

6. Er. SM Godkhindi, Secretary of the Chapter, then, with the permission of the Chair, took up agenda points for discussion.

7. Er. SM Godkhindi read out the minutes of last AGM held on 18 Sep 2016. The same was passed unanimously.

8. Secretary Er. SM Godkhindi then, presented his Annual Report giving various activities of the chapter during the year & acknowledged the support of all the members during the year. There was no discussion on this item.

9. Secretary Er. SM Godkhindi read out proposed amendment in Age limit criteria in case of student members & associate members for their enrollment which is reproduced here under :

Change in age Criteria for Associate/ Student members

It is observed that minimum age limit criteria in case of membership in Grades "Student Member" and "Associate Member" restricts those persons to become SPE (I) Member, who are still studying or have just cleared Diploma in Engineering.

In view of this, age limit criteria is proposed to be amended as under:

EXISTING CRITERIA			
Grade	Mini. Quali. in Engg.	Mini. Years of Experience	Mini. Age in Years
Associate Member	Degree	Less than 5 / 10	22
	Diploma		
Student Member	Degree	–	18
	Diploma	–	

PROPOSED CRITERIA			
Grade	Mini. Quali. in Engg.	Mini. Years of Experience	Mini. Age in Years
Associate Member	Degree	Less than 5	20
Associate Member	Diploma	Less than 10	17
Student Member	Degree	--	15
Student Member	Diploma	--	15

The above amendment was approved by AGM unanimously

10. Audited Financial Account of the Chapter for FY 2016-17 was presented by Treasurer Er. AN Makwana, the same was passed unanimously.
11. Er. AN Makwana also presented the Budget for 2017-18 which was passed unanimously.
12. Treasurer Er. AN Makwana also proposed to nominate M/s. Niraj Majmundar & Associates as Auditors for FY 2017-18. The proposal was accepted unanimously.
13. Following Life Members who have completed 65 years of Age as on 31 Aug 2017, were honored by presenting flowers & Shawl.
    - S/Shri MR Joshi, AJ Shah, AK Singh, JR Patel, VU Shah, PP Trivedi, VRKaria, RH Vasavda, GR Patel, PK Gandhi and DC Mehta.
    - Shri KD Kavaiya received shawl on behalf of Shri TR Patel.

    The office bearers presented shawl to the above members in rotation.

    Following members however were not present.

    S/Shri HM Shukla, Kunvar Barrister, DS Shah and NC Makadiya.
14. Er. PN Shah, DE, MGVCL, who was Polling & Returning Officer, conducted the Election. Er.PN Shah could not remain present due to personal reasons. Er. Thanawala and Er. JD Tamhane, who assisted in the Election work, declared following members as Elected uncontested to the 4 posts of Executive Committee for the year 2017-18

    1. Er. GV Akre 2. Er. AN Makwana

    3. Er. RS Shah 4. Er. VJ Desai.

    The house congratulated the newly elected members!

    Election officer Er. PN Shah & Er. Thanawala were felicitated with a memento by Chairman Er. GV Akre
15. A spiritual talk was given by BK Taralika Didi of Prajapiti Brahma Kumaris Ishwariya Vishva Vidyalaya, Chandranagar Branch, Waghodia Road, Vadodara on "Positivity & Spirituality". The same was attentively listened by all members & their spouse. About Soul & Ishwar lecture and Global meditation was carried out by BK Varsha Didi of Chandrangar Branch. The house participated with whole heart.
16. Er. NG Yadav, Executive Member extended vote of thanks.

The AGM came to end after delicious dinner.

Felicitation of Senior Members of SPE(I) during AGM of August, 2017

This year felicitation program was arranged in AGM, 2017 for total 16 SPE(I) members. Out of 16 members, 11 members remained present whereas Er. Thakorbhai R Patel, being at Canada, the shawl was handed over to his friend Er. KD Kavaiya. Balance 4 members could not remain present due to their own circumstances. Their names are as under:

Sr No.	Surname	Address	GR No & Member ship	Date of Birth	Mobile No. & Mail ID
1	**Shukla Harshadrai M**	11, Shri Urmi Colony, Shubhanpura, Vadodara .	245 LM	1951-10-27	9925040788 prosperhms@ gmail.com
2	**Baristar Kunvar**	109, Rukshmani Nagar Society, New Sama Road, Vadodara-390 009.	477 LM	1951-12-02	9879686947 allkunwar@ gmail.com
3	**Shah Dilip S**	508, Woodland Apartment, Race Course, Vadodara - 390 007.	79 LM	1952-02-10	9825244253 spaceage001@ gmail.com
4	**Makadiya Narendra C**	403, Radheshyam 51/4, Arunodya Society, Alkapuri, Vadodara.	1668 LM	1952-03-30	9925255550 n.makadiya@ yahoo.com

They are requested to contact office bearers for Felicitation at SPE(I) office. (As intimated to inform us suitability).

NO CONTACT Details of SPE(I) Members

SPE(I) Administration Working Committee is very much thankful to all members who provided their latest contact details during updating our office records. Still few member details are required to be updated, but we are not able to contact them. They are as under:

SN	Gr. No.	Surname	First Name	Second Name	Address	Type of Membership
1	113	Sharma	KB Anenth Krishna		B-4, Industrial Housing Society, New Sama Road, Vadodara - 390 008	LM
2	290	Joshi	Dipak	P.	16/A, Maruti Dham Society, Behind Jai Jalaram Nagar, Gotri, Vadodara - 390 021	LF
3	309	Sharma	Kailash	C.	303, Anandghar Aptt., Near Pranav Society, Manjalpur, Vadodara - 390 011	LM
4	316	Vyas	Ilesh	G.	36/39, RBG Commercial Complex, Bahucharaji Road, Karelibaug Vadodara-390 018	LM
5	332	Sharma	Mukeshkumar	K.	ERDA, Makarpura, Vadodara - 390 010	LM
6	333	Agrawal	Shrinivas	N.	209 Anandmangal-1, C.G Road, Ahmedabad - 380 009.	LM
7	648	Baid	Surendra	S.	Aditya Birla Insulators, Meghsar, Kalol - 389 330, Dist. Panchmahal	LF
8	658	Vasudev	Usha		3/79, Refinery Township, PO : JawaharNagar, Dist : Vadodara	LF
9	659	Vasudev	Mooga		3/79, Refinery Township, PO : JawaharNagar, Dist : Vadodara	LF
10	800	Chakravarthy	Arka		A-4, Central Govt. Society, Near MGM School, New Sama Road, Vadodara - 390 008	LF
11	886	Parikh	Kantilal	B	101B, Sukrut Enclave, Near Super Society, Ramdevnagar, Near Kapadia School, Satelite Road, Ahmedabad	LM
12	908	Dave	Vinayak	B.	A/85, Shrilal Duplex, Opp. Tribhuvan Park, Iskon Temple Road, Vadodara - 390 007	LM
13	1008	Patel	Arun	M.	Gokuldham Society, Opp: Police Line, Kolki Road, Upleta, Dist. Rajkot	LM
14	1141	Oza	Manoj	Kumar	D-504, Kalpvrux, Gotri Road, Vadodara - 390 021.	LM
15	1146	Patalia	Bhavesh	V.	A/9/2, Adani Shantivan Colony, Nana Kapaya, Mundra (Kuchchh) - 370 421	LM
16	1152	Trivedi	Mayur	V.	MS Electricals, Prasanna House-1, Associated Society, Opp: Radhakrishna Park, Akota, Vadodara - 390 020.	LM
17	1166	Sethi	Amit	D	Ashirvad, I-2 Akash Complex, Near Akasvani, Vadodara - 390 009	LM

SN	Gr. No.	Surname	First Name	Second Name	Address	Type of Membership
18	1620	Iyer	Subbarayan		Block-A, G-1, Rajdhani Palace Apartments, Near. St. Xavier School, Navarangpura, Ahemdabad - 380 009	LM
19	2004	Patel	Pallavi	P.	310/4, Kadam Nagar, Near Dr. Tiwari Lab, Nizampura, Vadodara - 390 002	LM
20	1117	Chudasama	(Dr,) Ajitsinh	R.	26-Mai Krupa Society, Karelibaug, Vadodara - 390 018	LM
21	633	Patel	Haribhai	B.	146, Matrimandir Society, Gotri Road, Vadodara - 390 021	LM
22	538	Shah	Tusharkumar	C.	C-6/22, Vidyutnagar Colony, Old Padra Road, Vadodara-390 007	LM
23	827	Patel	Shashikant	B.	102, Ghanshyam Society, Anandnagar, Chharwada Road, VAPI - 396 191	LM
24	411	Bhavsar	Yashwant	B.	19, Chitrakut Society, Bapunagar, Ahemdabad	LM

If any member from above list is known to you and you have his / her latest contact details, please send the details to SPE(I) office / mail ID spevadodara01@rediffmail.com or to Er DC Mehta (Mob 99798 81384 Mail ID dcmu@rediffmail.com) so that we can update his / her record.

New Members during Jul, Aug, Sep -2017

GR. No.	Name	Membership
2302	Jani Kirit R	Life Member
2303	Agashe Shweta S	Member
2304	Govardhan Manisha D	Life Member
2305	Valand Krupesh A	Associate Member
2306	Sheth Harishkumar S	Associate Member
2307	Dr. Srivastava Kailash N	Life Fellow
2308	Babaria Institute of Technology	Institutional Member
2309	The Motwane Manufacturing Co. Pvt. Ltd.,	Institutional Member
2310	Joshi Prof. Namra R	Life Member
2311	Chaudhari Devidas H	Life Member

OBITUARY

Er. Kiritkumar S Dave (KS Dave), Chief Engineer(Retd.) GETCO left for his heavenly abode on 29 Jul 2017. Er. Dave had served in Transmission department for almost 32 years.

His contribution to the Chapter's activities during first 10 years of inception, has been significant. He always stood by the office bearers of the Chapter in organizing events.

In his death, the Chapter has lost a Well Wisher and active member.

May God give peace to the departed soul and give strength to his family members to bear the impact.

Er. Himmatbhai K Shah (HK Shah), Executive Engineer(Retd.), MGVCL left for his heavenly abode on 10 Oct 2017. Er. Shah had served in Distribution department for almost 30 years. His contribution to the Chapter's activities as a Treasurer in Executive Committee has been significant. He always stood by the office bearers of the Chapter in organizing events. In his death, the Chapter has lost a Well Wisher and active member. May God give peace to the departed soul and give strength to his family members to bear the impact.

Felicitation to Senior Members During AGM 2017

21st A.G.M. On 20 August, 2017

Spiritual Talk by

Brahma Kumaris Ishwariya Vishva Vidyalaya

B. K. Taralika Didi

Group Photo with B Ks

B. K. Varsha Didi

The Audiance Listening to Brahma Kumaris & in Meditation

Gift from Er D C Mehta

Audiance in AGM

MEMBER IN NEWS

Dr. Kailash Srivastava, Life Fellow of SPE(I)-Vadodara Chapter, has taken over as **Vice-Chancellor** of Symbiosis University of Applied Sciences (SUAS) in Indore. Congratulations to Dr. Srivastava.

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FOR FURTHER INFORMATION, CONTACT :
Roushan Kumar, HOD-Training
Email :- +917574801050
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Registration of Members and Hi-Tea

Er P A Shah

Condolences to Deceased Members



Chairman, Vice-Chairman & Secretary addressing the Audiance

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Vadodara Chapter
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Old Padra Road, Vadodara - 390 007.

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