



SPE NEWS LETTER
OCT, 2020 | Issue No. 4/2020



The Society of Power Engineers (India)
Vadodara Chapter (Estd. 1996)
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ॐ सर्वे भवन्तु सुखिनः सर्वे सन्तु निरामयाः ।
सर्वे भद्राणि पश्यन्तु मा कश्चिद्दुःखभाग्भवेत् ।

Om, May All become Happy, May All be Healthy
May All See what is Auspicious, May no one Suffer in any way.

HAPPY NEW YEAR

NOTICE FOR 24TH AGM of SPE (I) VADODARA CHAPTER INSIDE

OFFICE BEARERS & EXECUTIVE COMMITTEE MEMBERS FOR 2020-21

| | | | |
|--------------------------------|----------------------------------|-------------------------------|--------------------------------|
| Er. GV Akre Chairman | Er. SM Takalkar Vice-Chairman | Er. SM Godkhindi Secretary | Er. GP Shukla Jt. Secretary |
| Er. YK Sharma Jt. Secretary | Er. NG Yadav Treasurer | Er. AN Makwana Member | Er. RS Shah Member |
| Er. VJ Desai Member | Er. NC Solanki Member | Er. KN Velani Member | Er. SP Trivedi Member |

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| | | | |
|----------------|------------------|---------------|---------------------|
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| Er. RN Purohit | Er. Nihar Raj | Er. DV Patel | Er. Hetal Prajapati |
| Er. VB Harani | Er. DH Chaudhari | Er. YV Joshi | Er. HM Solanki |
| Er. PA Shah | Er. JK Surti | Er. PM Mohite | Er. NV Lathia |

EDITORIAL BOARD

| | | | |
|----------------|---------------|--------------|----------------|
| Prof. AK Singh | Er. KN Velani | Er. DC Mehta | Er. AN Makwana |
|----------------|---------------|--------------|----------------|

SPECIAL INVITEE TO THE COMMITTEE

Er. N Dinker

OFFICE ADMINISTRATION COMMITTEE

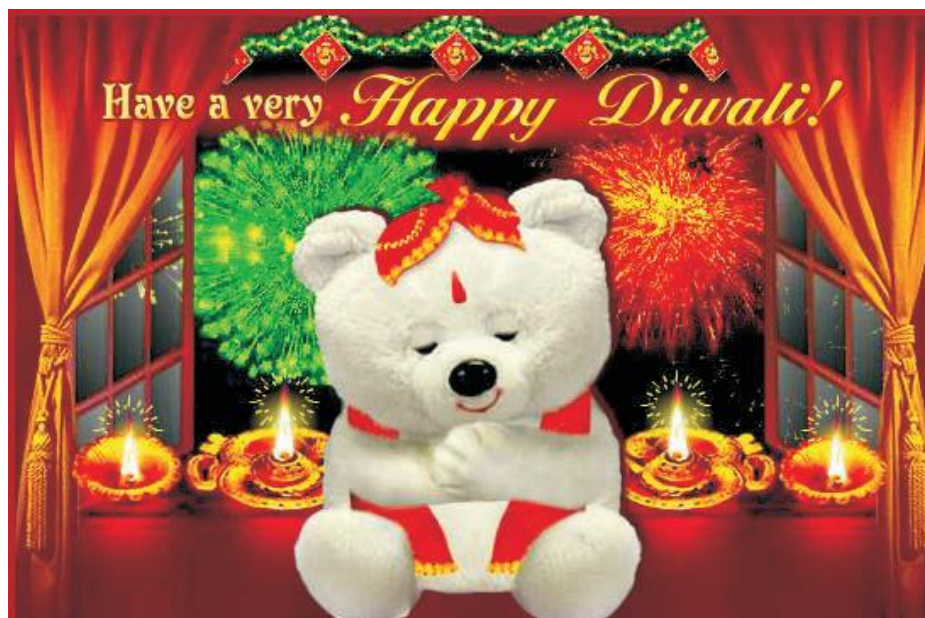
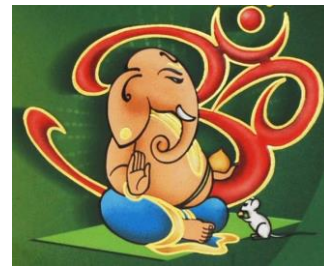
| | | | |
|------------------|---------------|--------------|----------------|
| Er. SM Godkhindi | Er. GP Shukla | Er. NG Yadav | Er. NC Solanki |
|------------------|---------------|--------------|----------------|

DIWALI GREETINGS



The Executive Committee, the Advisory Committee and Editorial Board (SPE NEWS LETTER) wish all the Members, Readers, Patrons and Well Wishers a very Happy DIWALI and Prosperous NEW YEAR following Diwali

May God shower thousands of Blessings on You and your Family Members in the New Year



FROM THE CHAIRMAN'S DESK



During last few years, many Governments worldwide have given large support for green hydrogen development and set plans for its R&D and deployment in their countries. Some of their plans are, manufa-

cturing fuel cells, supplying to fuel cell-based transport including aviation. Apart from governments, several companies worldwide have set up organizations and business alliances and have substantially invested in hydrogen projects. Supporting this alliance, many R&D centers, NGOs and local authorities have been setup. Germany has already started 1st fuel cell powered train successfully and several countries are planning to start such trains. Many projects are lined up for manufacturing of electrolyzers required for production of green hydrogen. Thus, it is now evident that green hydrogen will be a major part of world's energy future.

Very recently G20 nations met in Japan to discuss development and policies to scale up Hydrogen as fuel. International Energy Agency (IEA) has prepared the report on the discussions and decisions made among the G20 countries. The report is indicative that the initiatives taken will drive international collaboration on policies and programs that will accelerate the commercial deployment of hydrogen and fuel cell technologies across all the sectors of the economy.

It is important to know about hydrogen as fuel and understanding its advantages over other fuels. Hydrogen is lightest element and hence has a low energy density per unit of volume but by compressing it to liquified state its energy density can be increased by more than 800 times. Its energy density per kg is nearly three times that of gasoline or natural gas. Thus, it is the most ideal fuel for transport and EV sector in the form of Fuel-cell, making it possible to obtain more mileage from lighter weight fuel.

Hydrogen produced from renewable electricity using electrolysis process produces no CO₂ and is called Green Hydrogen. In the world including India, it is mainly produced using natural gas which emits large amount of CO₂. The cost of green hydrogen today is very high but in near future as the costs of the renewable electricity continue to fall drastically along with cost of electrolysis systems, green hydrogen will be very economical. It is expected that green hydrogen will practically

out-match the hydrogen produced by fossil fuel within a decade.

In 2007, India had undertaken the plan for development and deployment of Hydrogen Energy as future fuel in its roadmap published by National Hydrogen Energy Board (NHEB). In the foreword of report Mr. Ratan Tata has written that "Hydrogen is emerging as a leading contender for the ideal energy option of the future." The goal was to generate 1,000MW of electricity using fuel cells and ten lac vehicles running on hydrogen based IC engines by 2020. Not much progress has been made so far for the reasons that it was too costly technology and was in early stage at that time.

Today the scenario is changed completely as the initiative taken by the government is sincerely followed providing necessary infrastructure and policy. India has set ambitious target to build renewable energy capacity of 175 GW by 2022 and 450 GW by 2030 and significant amount of this energy can be used to produce hydrogen without causing CO₂ emission unlike conventionally produced hydrogen. Green hydrogen can be used in transportation and other industries causing substantial fall in imports of petroleum products, natural gas and coal and limiting greenhouse effect that will help government to meet the commitment to reduce CO₂ emission. Hence it is expected that production of Green Hydrogen will take place more speedily in India now to gain these double benefits. It will also help in massive energy storage facility along with other existing storage system and balance the grid which is prime requirement while generating renewable energy of intermittent nature like solar and wind.

This drive in India is already taking place as NTPC, Indian Oil, NISE, IITs and others are engaged in R&D and establishing major green hydrogen plants. MNRE is supporting the companies by providing R&D support for Hydrogen technologies to produce green hydrogen from biomass, electrolysis, photosynthesis etc. and its storage and transportation facilities and development of fuel cells. Hydrogen is also intended to be used directly in modified IC engines in place of gasoline for light vehicles like two-three wheelers and minibuses.

CBIP had organized two days seminar on Hydrogen last year to spread the awareness in India, let us also take the initiative at SPE Vadodara Chapter to hold seminars/webinars on hydrogen which will be future powerful fuel.

GV Akre

FROM EDITOR'S DESK



Dear Reader,

With a population of 1.4 Billion and one of the World's fastest growing major economies, India will be vital for the future of the Global energy markets. The Govt. of India has made impressive progress in the recent years in increasing citizens' access to electricity. It has also successfully implemented a range of energy market reforms and carried out a huge amount of renewable electricity deployment, notably in solar energy.

Looking ahead, the Govt. has laid out an ambitious vision to bring secure, affordable and sustainable energy to all its citizens. Ensuring that Indian citizens have access to electricity which has been at the top of the country's political agenda.

Around 700 Million people in India gained access to electricity between 2000 and 2018, reflecting strong and effective policy implementation. The government of India has also made significant progress in reducing the use of traditional biomass in cooking, the chief cause of indoor air pollution that particularly affects women and children. The government has encouraged clean cooking with liquefied petroleum gas. India continues to promote cleaner cooking and off-grid electrification solutions, including a shift toward using solar photovoltaics (PV) for cooking and charging batteries.

India now has the institutional framework it needs to attract more investment for its growing energy needs. We must welcome the government's decisions to allow private-sector investment in coal mining, and to open the country's oil and gas retail markets.

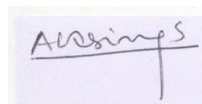
The creation of functioning energy markets will ensure economic efficiency in the management of the coal, gas and power sectors, which is critical to achieving energy security and supporting the country's economic growth.

Reform of India's electricity sector will need to be comprehensive to achieve these goals. One must welcome the reforms proposed by the Central Energy Regulatory Commission (CERC) and progress made towards improved real-time markets. A country-wide wholesale market is very much needed as a backbone for the national grid. Key to this success will be building a joint vision and a common reform roadmap among a broad range of central government agencies, state authorities, system operators and utilities.

India also faces the challenge of ensuring the financial health of its power sector which is dealing with surplus capacity, lower utilization of coal and natural gas plants and increasing shares of variable renewable energy. The government is working to improve the financial viability of the power sector. Faced with the challenge of some "stressed assets" in coal and gas-fired generation, it has been implementing a package of measures to enhance the economic efficiency of coal and gas supply for power generation and the availability of finance. The creation of a competitive wholesale power market will be vital for improving the utilization of India's generation capacity.

We will be extremely happy to receive your views, opinions and suggestions. Please feel free to reach out to us.

Happy Readings!!

A handwritten signature in black ink on a light-colored background, reading "Awadhesh Kumar Singh".

(AWADHESH KUMAR SINGH)



CHAPTER'S ACTIVITIES



On **31 Aug 2020**, Chapter organised online Webinar on “**Polymeric Insulators and its Application**” in association with **Raychem RPG**. Expert **Er. Maroof Siddiqui**, Dy. Manager,

Product Management, Raychem RPG was the speaker.

On **14 Sep 2020**, Chapter organised online Webinar on “**Myths & Facts of Earthing as per IS:3043**” in association with **L&T Electrical & Automation**. **Er. Divyesh Dhokiya**, Sr. Engr., Switchgear Training Centre, was the speaker. Opening address was delivered by **Er. Dharmesh Patel**, Head, L & T Switchgear Training Centre.

In his address, **Er. GV Akre**, Chairman SPE(I) Vadodara Welcomed all the participants who joined the Webinar. **52** participants joined the Webinar. Considering SPE(I) Vadodara’s limited experience to utilize this digital media, it was reasonably good success.

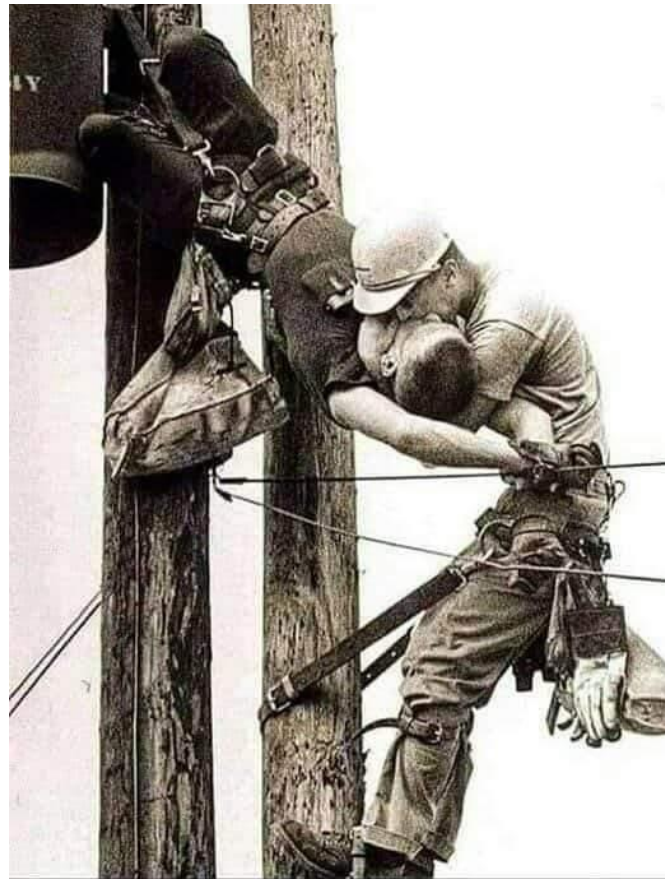
On **03 Oct 2020**, on the occasion of **Foundation Day** of the **Vadodara Chapter**, **Shri Satya Narayan Puja** was performed at Chapter’s office. Owing to Covid-19 restrictions, only Er. SM Takalkar, Er. NG Yadav, Er. JK Surti and Er. NC Solanki were present in the Pooja. **Er. NG Yadav** performed Puja

Er. SM Godkhindi,
Secretary

THE KISS OF LIFE

This award-winning 1967 photo, taken by Rocco Morabito, was titled “**The Kiss of Life**.” It shows two electrical operators, Champion Randall and JD Thompson, on top of an electricity pole.

They had been performing routine maintenance when Champion brushed one of the low voltage lines at the top of the power pole. More than 4,000 Volts entered Champion's body and his heart was instantly stopped (an electric chair uses about 2,000 Volts). His safety harness prevented a fall, and Thompson, who had been ascending below him, quickly reached him and took a mouth-to-mouth breath. He was not able to perform cardio-pulmonary resuscitation, given the circumstances, but continued mouth-to-mouth breathing, keeping Champion's Lungs active until he felt a slight pulse, then unfastened the harness and descended



with it on his shoulder.

Thompson and other workers performed CPR on the floor at Champion, whose breathing and heart rate were gradually restored. Then the paramedics arrived, and Champion's recovery was complete. His partner had saved his life with what the picture looks like a kiss. Champion survived and lived until 2002, when he died of heart failure at the age of 64. Thompson is still living. The photograph was published in newspapers around the World and won the Pulitzer Prize in 1968.

There are friends who are not friends and there are friends

who are more than friends...

BENEFITS OF FLOATING SOLAR POWER PLANT

The total installed capacity of Power Generation of India, as on 30 Sep 2020, is 3,730,29.35MW which includes 89,229.42MW Renewable Energy as detailed below:

| Sr. No. | Type of Power Station | Installed Capacity MW |
|---------|-----------------------|-----------------------|
| 1 | Thermal | 231320.72 |
| 2 | Nuclear | 6780.00 |
| 3 | Hydro (>25MW) | 45699.22 |
| 4 | Renewable | 89229.42 |
| | Total | 373029.35 |

The detailed break up of Installed Capacity of Power Generation as on 30 Sep 2020 is tabulated below as per CEA web site:

| Sr. No. | Type of Power Station | Installed Capacity MW |
|---------|-----------------------|-----------------------|
| 1 | Coal | 199594.50 |
| 2 | Lignite | 6260.00 |
| 3 | Gas | 24956.51 |
| 4 | Diesel | 590.71 |
| 5 | Nuclear | 6780.00 |
| 6 | Hydro (>25MW) | 45699.22 |
| 7 | Small Hydro | 4739.97 |
| 8 | Wind | 38124.15 |
| 9 | Biomass | 10145.92 |
| 10 | Waste to Energy | 168.84 |
| 11 | Solar | 36050.74 |
| | Total | 373029.35 |

The Renewable Energy like Hydro, Solar, Wind, Biogas, Biomass, etc. is the vast source of potential for energy generation and has no negative impact on the environment. Solar Energy is one of the vital sources of renewable energy, which is mainly utilized by photovoltaic effect, deliberated as an eco-friendly energy source because of its enormous potential and sustainability. Moreover, it reduces the dependency on conventional fuels. The India has nearly 300 sunny days in a year. India, with huge energy demand and scarcity of land for solar photovoltaic plant, can harness solar energy through floating PV plant technology for sustainable energy production. **Floating Solar PV Plants** are an emerging form of PV systems that float on the surface of Irrigation Canals, Water Reservoirs, Quarry Lakes, and Tailing Ponds. The benefits of Floating Solar Power Plant are listed

below:

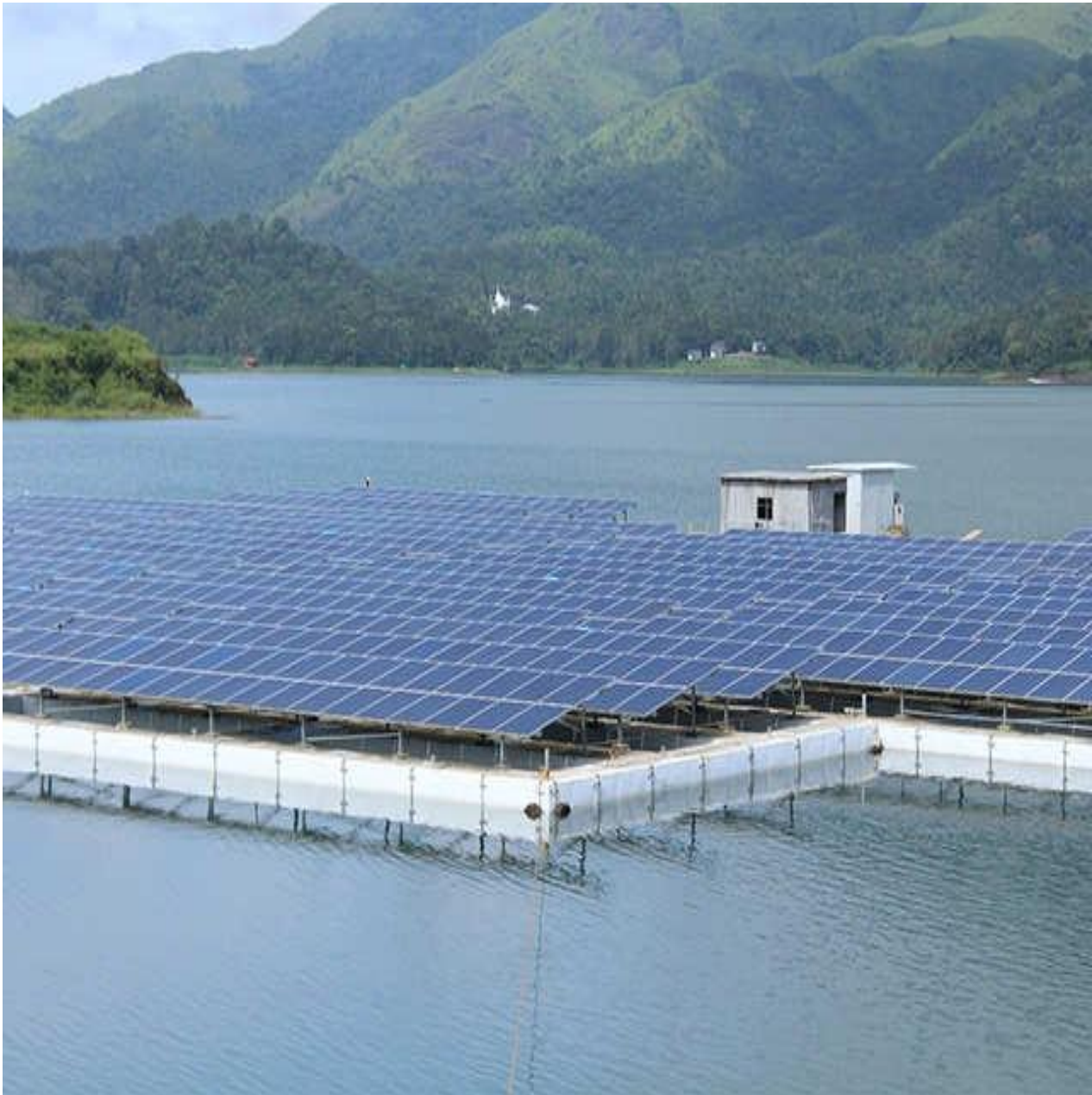
- 1. LAND:** These systems reduce the need of valuable land area. Floating solar power plant is an innovative approach of using photovoltaic modules on water infrastructures to conserve the land along with increase in efficiency of the module. To utilize the solar energy, typically require huge land for establishing the solar PV plant which is almost inaccessible for an overpopulated country like India. But there is a huge coastal area as well as many major rivers which will be available for establishing floating solar PV plant. Besides, the enhancement in generation, there is no cost of acquiring water for module cleaning. The floating solar power plant does not utilize the agriculture land, which is a huge benefit. An attractive alternative to the land based solar generation is to utilize the surface of water bodies like lakes, ponds, reservoirs, dams which come at no cost.
- 2. SAVING IN WATER:** It saves drinking water that would otherwise be lost through evaporation. The water is also conserved due to reduction in evaporation of water from the water body.
- 3. EFFICIENCY:** The Floating Solar Power Plant show a higher efficiency of solar energy conversion, as the panels are kept at a cooler temperature than they would be on land. Secondly, the modules in floating systems operate under much cooler environment and this would reduce thermal losses and, also the long-term heat induced degradation. Solar radiation incident on the surface of earth is rather weak. Commercially available solar cells convert typically between 16 and 20% of this incident energy, under Standard Condition into electrical energy.
- 4. CLEANING OF PANELS:** The dust collection issues would be minimum least as the Solar Panels are installed on water body. This will enhance power generation. This will also reduce cleaning frequency of panel and ultimately maintenance cost.
- 5. EASE OF CONSTRUCTION:** Module racking system are to be designed for fixing on to pontoons / HDPE plastic floats. All metallic components have to be kept above water level

with floats alone in contact with water to prevent corrosion. The float material should not inject any toxic material in the water they float. The floats are to be anchored properly to withstand high velocity winds and rapid flow of water during floods. Floating PV systems that can withstand wind speeds up to 190km/H and waves of 2M height are now commercially available.

6. WAY FORWARD: This will open new possibilities for source of energy generation. Floating PV System is also named as **FLOATVOLTAICS**.



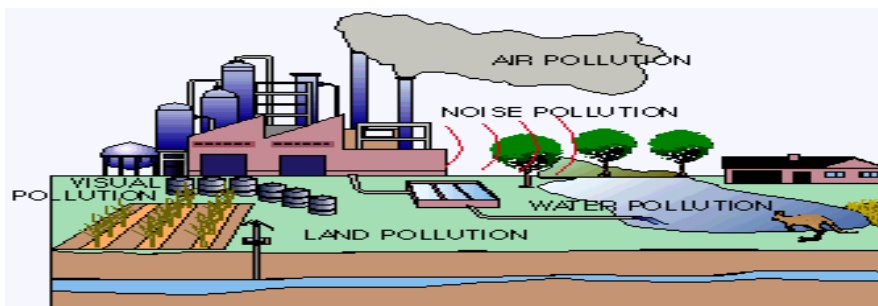
Prof. BINAL MODI
Assistant Professor
Electrical Department
PIET, Parul University
Vadodara and **LM** of
SPE(I) Vadodara



ENVIRONMENT ISSUES AND CONTROL BY RENEWABLE ENERGY

Most Critical Issues of our Nation are:

1. Air Pollution Presence of Chemicals or Compounds)
2. Water Pollution (Contamination of Water Bodies)
3. Noise Pollution (Sound Pollution)
4. Visual Pollution (Impact of Pollution)
5. Land Pollution



Air pollution occurs when harmful or excessive quantities of substances including gases, particles, and biological molecules are introduced into Earth's atmosphere. It may cause diseases, allergies and even death of human. It may also cause harm to other living organisms such as animals and food crops, and may damage the natural or built environment.

Water Pollution: Water pollution is the contamination of water bodies usually as a result of human activities. Plastic is found floating in the ocean waters especially in Indian Ocean water bodies are also polluted due to city effluents and drainage.

Noise Pollution: Noise Pollution also known as environmental noise or sound pollution, is the propagation of noise with ranging impacts on the activity of human or animal life. Noise pollution is caused due to honking of vehicles, loudspeakers, train running etc. It causes deafness and mental fatigue and disturbance.

Visual Pollution: Visual pollution is an aesthetic issue and refers to the impact of pollution that impair one's ability to enjoy a pleasant view. Visual Pollution disturbs the visual areas of people by creating harmful changes in the natural environment. High rise buildings and Industries is an example.

Land Pollution: Soil Contamination or soil pollution as part of land degradation is caused by the presence of xenobiotics chemicals or other alteration in the natural soil environment. Over irrigation also causes salination of soil. Use of Chemical fertilizers and Pesticides also cause land pollution

Renewable energy is the energy that is collected from renewable sources, which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves and geothermal heat.

Non-renewable energy comes from sources that will run out or will not be replenished in our lifetimes or even in many million years. Most non-

renewable energy sources are fossil fuels: Coal, Petroleum and Natural Gas. Carbon is the main element in fossil fuels.

Now we would concentrate on Solar Energy as Govt of India has set a target of installing 175 GW of renewable energy capacity by the year 2022, of which 100GW from solar, 60GW from wind,

10GW from bio-power and 5GW from small hydropower. Even 1kW renewable energy may reduce Co₂ from the atmosphere considerably.

Solar energy is radiant light and heat from the Sun that is harnessed using a range of ever-evolving technologies such as solar heating, photovoltaics solar thermal energy, solar architecture, molten salt power plants and artificial photosynthesis.

It is an important source of renewable energy and its technologies are broadly characterized as either passive solar or active solar depending on how they capture and distribute solar energy or convert it into solar power. Active solar techniques include the use of photovoltaic systems, solar Cooker, solar thermal power and solar water heating to harness the energy. Passive solar techniques include orienting a building to the Sun, selecting materials with favourable thermal mass or light-dispersing properties and designing spaces that naturally circulate air and light. Green building design afford maximum use of day light and air.

MAIN OBJECTIVES OF SOLAR ENERGY

- To promote green and clear power and to reduce the state's carbon emission.
- To reduce dependency on fossil fuels for energy security and sustainability.
- To reduce cost of renewable energy generation
- To promote investment, employment, generation and skill enhancement in the renewable energy sector.
- To promote production, use of barren and un-cultivable *lands*.

- To encourage growth of local manufacturing facilities in time with the “Make in India Programme”.
- To promote research, development and innovation in renewable energy.

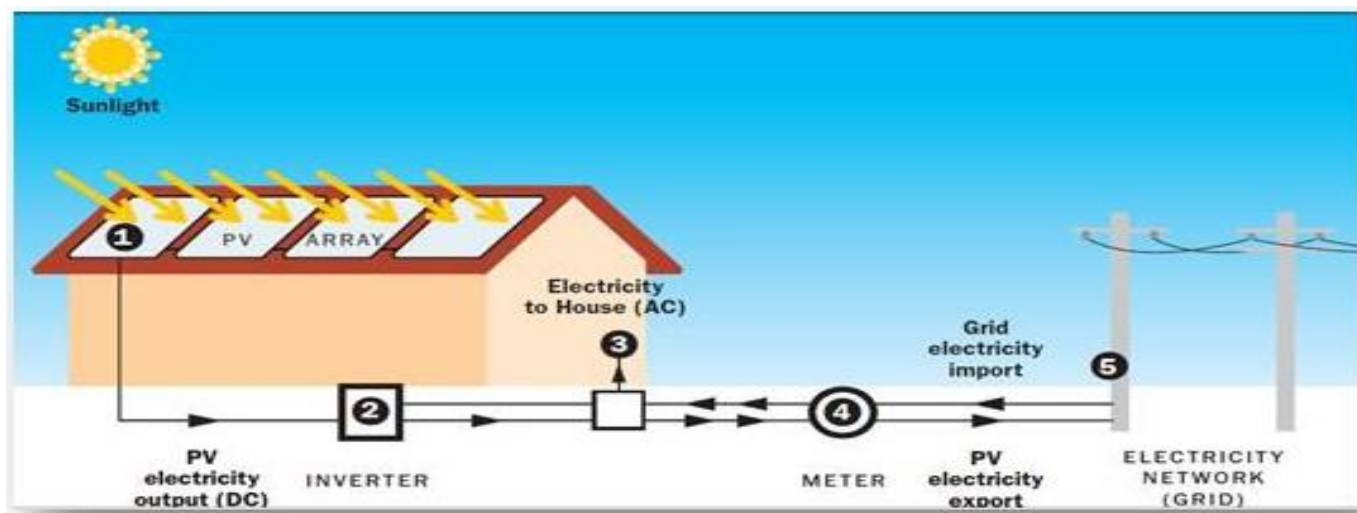
MAIN BENEFITS OF SOLAR ROOF TOP

- Accelerated depreciation.
- 10 years Income Holiday.
- Energy and predictive costs for 2 decades.
- Pay Back period for 6 to 8 years.
- Revenue generator for human being.
- Manifolds appreciation in the value of land at the end of 25 years.
- Contribution significantly towards making your building a green building.
- Constant savings in electricity bills.
- Average 120Units Electricity generation by 1kW Solar Roof Top per month.
- The Energy diverted in Grid rather using by self is credited into Energy Bill as per prevailing Rate of Tariff.

- Use of renewable energy will reduce carbon foot- prints. Also use of solar power will reduce air pollution. E-vehicle will also reduce air pollution
- Water pollution can be controlled only by statute (state & international).
- Noise pollution can be reduced by statute and awareness. Social reforms can also help in reducing the noise pollution.
- Visual pollution can be minimized by proper Urban & Rural planning.
- Land pollution needs reform and awareness in Farming sector. We can follow other countries which have achieved this. In India, Sikkim is the State which has adopted natural farming without use of Chemical Fertilizers. Let us all join together to make this Earth pollution free.



Er. YOGENDRA K SHARMA
Jt. Secretary
 SPE(I)-Vadodara Chapter





THE SOCIETY OF POWER ENGINEERS (INDIA)

Vadodara Chapter (Estd. 1996)

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Notice for 24th Annual General Meeting

02 Dec 2020

The Society of Power Engineers (India), Vadodara Chapter has completed 24 years of existence. **The 24th Annual General Meeting (AGM) is scheduled to be held on 27 Dec 2020 (Sunday) at 09.30 hours at Velchand Banker Chhatralaya, Opp: Lohana Seva Mandal, Aryakanya Vidyalaya Road, Karelibaug, Vadodara-390 018.**

Following business will be transacted during the AGM.

1. To confirm the minutes of the last AGM held on **25 August 2019**.
2. To present Secretary's report.
3. To approve audited financial account of the chapter for the **FY 2019-20**.
4. To approve the budget for the **FY 2020-21**.
5. To appoint Auditor for the **FY 2020-21**
6. To elect four (4) members of Executive Committee against vacancy due to retirement of $\frac{1}{3}$ members (Er. GV Akre, Er. RS Shah, Er. VJ Desai & Er. AN Makwana) out of 12 EC members as per provision of constitution /bylaws.
7. Any other business with the permission of the Chair

EXPLANATORY NOTES:

- A.** The Secretary's Report including the activities carried out during the year **2019-20** (Annexure 1), the copy of the audited Income & Expenditure Statement for the year 2019-20 (Annexure-2) and audited Balance Sheet as on 31.03.2020 (Annexure-3) are attached here with. The Budget for the FY 2020-21 is as given here under. The members may kindly go through above and send their written comments (if any) to the Secretary latest by **19 Dec 2020**.

SPE (I), Vadodara Chapter BUDGET for-2020-21

INCOME

| A/c Head | Description | Budget Amount Rs. |
|-----------------|---|--------------------------|
| R 1.0 | Subscription & Fees | 30,000 |
| R 2.0 | Seminar / WS, Delegate Fees & Sponsorship | 2,00,000 |
| R 3.0 | Monthly Lecture Sponsorship | 10,000 |
| R 4.0 | FD & S/B A/c Interest | 1,65,000 |
| R 5.0 | Member / Individual Donation | 50,000 |
| R 6.0 | Advertisement other than Seminar | 5,000 |
| R 7.0 | Misc. other than above | 5,000 |
| | Grand Total | 4,65,000 |

EXPENDITURE

| A/c Head | Description | Budget Amount Rs. |
|----------|--------------------------------|----------------------|
| E 1.0 | Central Share | 44,000 |
| E 2.0 | Seminar / Workshop Expenditure | 1,00,000 |
| E 3.0 | Monthly Lecture Expenditure | 60,000 |
| E 4.0 | Office Expenditure | 1,65,000 |
| E 5.0 | AGM Expenditure | 30,000 |
| E 6.0 | Technical Study Tour | 0 |
| E 7.0 | Printing & Courier Expenditure | 5,000 |
| E 8.0 | Accounting & CA Fees | 25,000 |
| E 9.0 | Misc. other than above | 6,000 |
| | Surplus | 60,000 |
| | Grand Total | 4,65,000 |

- B. Er. GV Akre, Er. RS Shah, Er. VJ Desai and Er. AN Makwana** are retiring on completion of their 3 years' term. There are 4 (four) clear vacancies. Nominations are invited from eligible candidates for these 4 (four) vacancies. The retiring members are also eligible to contest for the election for the post of Executive Committee Member.
- C. Er. PN Shah** will be the polling and returning officer. The Election Notification is kept below. Nominations in sealed envelope should reach the polling and returning officer or member of his team or SPE(I) Vadodara Chapter's Vadodara office on or before scheduled date and time. The contact numbers of polling and returning officer and his team members are as under:
Polling and Returning Officer is **Er. PN Shah, (M): 99252 08108; e-mail id: god_pns@yahoo.com** **Mr. PN Thanawala (M) 99252 08146, Er. PA Shah (M) 99252 33958** will assist Er. PN Shah for election activities.
- D.** Life Members and yearly members (who have paid all dues of society on or before 30-06-2020) are only eligible to cast the vote. Proxy voting is not permitted. Student members are not eligible for voting.
- E. GENERAL:**
- a) The AGM will be followed by simple Lunch.
 - b) Counter will remain open near registration desk for accepting annual subscription, new membership forms, donations, request for change in address, e-mail ID and mobile number of existing members and issuance of I-cards to Life Fellows/ Members.
 - c) Annual members who have yet not paid their subscription for the year 2020-21 are requested to pay the same in cash or by cheque at this counter without fail. The subscription for the year 2020-21 shall also be accepted at the counter. The outstation members can pay by net banking or by cheque/demand draft in favor of "Society of Power Engineers(I)" payable at Vadodara. The member in arrears may contact SPE (I)-Vadodara office at above address or ring up during office hours (16.30 to 19.00 hrs. except Sunday and Public Holiday) to know the details about their dues.
 - d) Annual members are advised to become Life Member, if they are meeting with the admission criteria.
 - e) The AGM Programme schedule is as under:
 - a. **09.30 Hrs. - Assembly and Refreshment**
 - b. **10.00 Hrs. - AGM Business**
 - c. **11.30 Hrs. - Election**
 - d. **12.30 Hrs. – Lunch**

- F. The AGM is scheduled at 10.00 hours. In case of lack of quorum, it will be re-scheduled, and the house will assemble after 30 minutes and take up the business in the presence of the members present considering it as a quorum. The decision taken by the members present, will be binding to all.
- G. The Members who wish to make any suggestions can inform the same to the undersigned in writing at least 7 days prior to AGM, for proper allocation of the time slot for discussion.
- H. Members are advised to update their contact details e.g. mobile number, e-mail Id and postal address. They are also requested to please propagate this message to other members particularly to those who are out station and/or not frequent participants in our programme. This is to have perfect contact list for assured communication.

YK Sharma
Jt. Secretary
I/C Secretary

Notification for SPE (I) Vadodara Chapter Election 2020-21

I, **Er. PN Shah**, am appointed as an Election Officer by the Executive Committee of The Society of Power Engineers (I), Vadodara Chapter for holding Election of following new committee members for the period of 3 (three) years (2020-2023) during Annual General Body Meeting to be held on **27 Dec 2020 (Sunday) at 10.00 hrs. & onwards at Baroda High School, Alkapuri, Opposite: Express Hotel Petrol Pump's Lane, Vadodara-390 007.**

Vacancies for New Committee Members are 4 (four) for which election will be conducted.

Vacancies are by virtue of the retirement in rotation of **Er. GV Akre, Er. RS Shah, Er. VJ Desai** and **Er. AN Makwana**. The Nominations are invited for Regular retiring members' vacancies i.e. against 4 (four) retiring members, for tenure of 3 (three) years.

The scheduled programme of Election is as under:

- | | |
|--|---|
| 1) Date of Issuance of Nomination Form: | Open till 19 Dec 2020. |
| 2) Final Date of Receipt of Nomination Form: | 22 Dec 2020 till 17.00 Hrs. |
| 3) Date for withdrawal of Nomination: | Up to 25 Dec 2020 till 19.00 Hrs. |
| 4) Date & Time of Election: | 27 Dec 2020 from 11.30 Hrs onwards. |

Members desirous of filling nomination form, and or vote, shall be Life Members and Yearly Members of SPE (I), Vadodara Chapter, who are member of the Society atleast as on **60 days** prior to date of election. Nomination forms shall be sent to the Election Officer in person or by post to the address given below so as to reach in time date prescribed above.

Er. PN Shah
B/204, Param Paradise,
Behind Rameshwar School,
Behind GEB, Gotri Road, Vadodara, Pin: 390 007.
Mob - 99252 08108 e-mail: god_pns@yahoo.com.

Alternatively, nomination forms can be sent to members of election team or SPE(I) office on or before scheduled time.

A sample election nomination form is attached here with.

The decision of Election Officer shall be final and binding to all the members.

Place: Vadodara
Date: **02 Dec 2020**

Sd-
(PN Shah)

SAMPLE NOMINATION FORM

Name:

Membership Grade:

GR No.

Date:

To
The Election Officer
SPE(I) Vadodara Chapter Election 2020,
The Society of Power Engineers(I),
FF-48, Avishkar Complex, Old Padra Road, Vadodara-390 007.

Sub: Nomination for Post of Executive Committee Member (2020-23)

Dear Sir,

I, the undersigned, Er., am willing to contest for the Executive Committee member post and hence nominate myself for this post. My supporting members are as under:

| Sr. No. | Name | Grade of Membership | GR No. | Signature |
|----------------|-------------|----------------------------|---------------|------------------|
| 1 | | | | |
| 2 | | | | |

I hereby declare that I will abide by the rules and regulations of the SPE(I)-Vadodara Chapter, if declared as elected.

Thanking you,

Yours sincerely,

(.....)

SECRETARY'S REPORT – 2019-2020

Dear Members,

It gives me great pleasure to welcome you to the **24th AGM** of **Vadodara Chapter**. During this period, the Chapter has made a reasonable progress. During the period from last AGM to this AGM, total **12** new members are registered which includes **01 Annual Member, 01 Associate Member** and **10 Life Members**.

Thus, total registered members of SPE (I) Vadodara Chapter as on 27th December 2020 are **2348** out of which there are **568 Life Members**.

It is my privilege to present before you that our Chapter has organized Four monthly lectures and One Full Day Seminar on **Energy Conservation** at Vasvik Auditorium Vadodara. In addition to this, our Chapter has organized webinar on Internet due to COVID-19. In all six webinars were organized. This activity was appreciated and welcomed by many members.

Program wise details are discussed below:

- On **25 Aug 2019, 23rd AGM** of the Chapter was held at Baroda High School, Alkapuri, Auditorium.
- On **27 Sep 2019** a Lecture Programme was organized “**On Secrets of Happiness**” at Vasvik Auditorium Racecourse, Vadodara. The lecture was delivered by **Er. Dhaval Dave** a Motivational Speaker.
- On **03 Oct 2019**, on the occasion of **Foundation Day** of Vadodara Chapter, **Shri Satya Narayan Puja** was performed at Chapter's office. **Shri & Smt. SP Trivedi** performed the puja. More than 75 members were present during the puja.
- On **10 Nov 2019**, the Chapter celebrated **National Power Day**. On this day 1st Hydro Power Station of 2 x 65kW was commissioned at Arya Tea Estate at Sidrapong near Darjeeling. This marked the beginning of Power System in India. On this occasion, the Chapter organised a joint lecture programme with IE (I) Vadodara at the Vasvik Auditorium of IE(I), Vadodara Local Centre. The topic was “**Evolving Power Grid – Futuristic Aspects**”. Speaker was **Dr. Shivani Sharma**, Principal Technical Consultant of ABB, Vadodara.
- The **Ahmedabad Chapter of SPE(I)** came into existence with a **Grand Inaugural Ceremony** on **17 Nov 2019** in the Bhaikaka Bhavan hall of the Institution of Engineers (India), Ahmedabad. **Er. Nikhil Shah, Er. Deepak Bhargava** and **Er. DR Shah**

- respectively Secretary, Chairman and Vice-Chairman of Ahmedabad Chapter, were on dais along with **Shri Saurabhhai Dalal** (Patel), Hon'ble Power Minister, GoG., **Er. IM Bhavsar**, Chairman, GEDA and **Er. VK Kanjlia**, Secretary, CBIP.
- On **01 Dec 2019**, the Chapter organized a **Cultural Programme** (Musical Evening) for members with spouse at the Auditorium of Baroda High School, Alkapuri. The Samvadini Group headed by **Ms. Amruta Deota** presented yester years' memorable film songs. The members **Er. MG Mehta, Er. NC Solanki** and **Er. RS Shah** presented old film songs. **Ms. Shreya**, granddaughter of Er. GV Akre (Chairman) operated a keyboard and presented a rhythmic old song. Mrs. Seema Agrawal spouse of **Er. Manoj Kumar** Agrawal, Life Member, presented good old songs
- On **14 Dec 2019**, as a part of Celebration of “**Energy Conservation Day**” the Chapter organized **1-Day Seminar** on “**Energy Conservation & Management in Industries & Utility – Case Studies**” at the Vasvik Auditorium of IE(I), Vadodara Local Centre. The Seminar included important events such as Keynote Lecture by **Ms. Amita Pandya** of GEDA Gandhinagar and a Book on Energy Conservation Authored by Dr. BG Desai, was also released.
- On **10 Jan 2020**, the Chapter joined hands with the Institution of Engineers(I), Vadodara Local Centre. Er. Narendra Singh, National President of IE(I) was facilitated by Er. N P Singh Brar, President of Vadodara local centre. He went on to give account of his career in Hydro-Electric Projects. He had spent most of his time in the Tehari Dam project including rehabilitation. **Dr. PS Modi**, Associate Professor, MS University of Baroda made a technical presentation on the topic of “**Constant VAR System Operation using Multi-Pulse Converter**”.
- On **04 Mar 2020**, SPE (I) Vadodara Chapter & IE (I), Vadodara Local Centre jointly organised a lecture to celebrate “**The World Engineering Day**”. The Speaker **Dr. Vijay Shah** of ABB-Vadodara spoke on the topic of “**Sustainable Development**”.
- On **31 Aug 2020**, Chapter organized a **Webinar** on “**Polymeric Insulators and its**

- **Application**” in association with Raychem RPG. Expert **Er. Maroof Siddiqui**, Dy. Manager, Product Management, Raychem RPG was the speaker.
- On **14 Sep 2020**, Chapter organised a **Webinar** on **“Myths & Facts of Earthing as per IS: 3043”** in association with L&T Electrical & Automation. **Er. Divyesh Dhokiya**, Sr. Engr., Switchgear Training Centre, was the speaker. Opening address was delivered by **Er. Dharmesh Patel**, Head, L & T Switchgear Training Centre. In his address, **Er. GV Akre**, Chairman SPE (I) Vadodara Welcomed all the participants who joined the Webinar. 52 participants joined the Webinar. Considering SPE (I) Vadodara’s limited experience to utilize this digital media, it was reasonably good success.
- On **03 Oct 2020**, on the occasion of **Foundation Day** of the **Vadodara Chapter**, **Shri Satya Narayan Puja** was performed at our office. On account of COVID-19, only **Er. SM Takalkar**, **Er. NG Yadav**, **Er. JK Surti** and **Er. NC Solanki** were present in the puja.
- On **24 Oct 2020**, Chapter organized a **Webinar** on **“Grid Integration aspects of E-mobility”**. Presenter **Dr. Shivani Sharma**, Principal Technical Consultant, ABB Power Products & Systems (I) Ltd. Vadodara and LM-SPE(I) Vadodara gave excellent presentation through Power Point with detailed data.
- On **31 Oct 2020**, Chapter organized a **Webinar** on **“Selection of CT (Current Transformer)”**. Expert speaker **Prof. Bhuvanesh Oza**, Retd. Professor, BVM Engineering College, Vallabh Vidyanagar, Anand presented in detail fundamentals of current transformer and basic magnetizing properties of different Silicon CRGO, Nickel Iron etc. and parameters and applications of Metering, 5P protection and PS-special protection. He explained Accuracy classes, ISF, Burden, ALF, Vk for Bus-differential protection, Over current protection, Relay burden. He covered all possible details of selection of CT.
- On **07 Nov 2020**, Chapter organized an evening **Webinar** on **“Protection Co-ordination”**. **Er. (Ms.) Manisha Shukla**, Customer Support & Training Manager, Hitachi ABB Power Grid, Vadodara delivered a talk. Her presentation revolved round the important features of relay include Sensitivity, Speed, Simplicity and Economy. Settings and configuration for Zonal protection. Protection co-ordination for Over current which includes phase over current IDMT characteristic and dependence on source impedance and line impedance. The modern generation of Numerical relays have large number of features like mobile phone, but the protection engineers prefer to use selected features only.
- On **11 Nov 2020**, Chapter organized a **Webinar** on **“The Resistive Reach Setting Criteria for Line Distance Protection”**. Expert speaker **Er. Sanjay Bhatt**, GM (Diagnostic), Adani Transmission Ltd., Ahmedabad gave excellent presentation during the session. He deliberated core technical aspects on a topic which is very less explored in Power System Engineering. The Webinar was part of the celebration of Power Day. On 10 Nov 1897, the first Power Station of India was established near Darjeeling

SAD DEMISE OF OUR LIFE FELLOWS / MEMBERS:

During this period, our SPE (I), Vadodara Chapter has lost members who departed for their heavenly abode. They are:

1. Er. HD Tilwani, Retd. DE, GEB
2. Er. SC Buch Retd. ACE, GEB
3. Er. RN Shah Retd. SE GEB
4. Er. NB Mehta Retd. SE GSECL
5. Er. KV Sheth Retd. SE GSECL
6. Er. NM Shah Retd. CE GSECL

Er. Narendra Pal Singh Brar, President, The Institution of Engineers (I), Vadodara Local Centre and a Well Wisher of SPE (I) Vadodara Chapter passed away on 31 Aug 2020.

We pray the Almighty for peace to the departed souls and give strength to their family members to bear the impact.

With this information I hereby conclude my report.

AUDITOR'S REPORT

NIRAJ MAJMUNDAR & ASSOCIATES
Chartered Accountants

127, First Floor, Panaroma Complex, Racecourse, Vadodara-390 007

Tel: 2331036, e-mail: nipramaj@rediffmail.com

We have audited the attached Balance Sheet of the **SOCIETY OF POWER ENGINEERS (INDIA), VADODARA CHAPTER** as on **31 Mar 2020** and the Income and Expenditure for the period ended on that date annexed thereto. Preparation of these financial statements is the responsibility of the association. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the firm, as well as evaluating the overall financial statement preparation. We believe that our audit provides a reasonable basis for our opinion.

Further, we report that:

1. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit.
2. In our opinion, proper books of accounts as required by the law have been kept by the association so far as it appears from our examination of the books of the association.
3. Subject to the observations given below, the Balance Sheet and Income and Expenditure account dealt with by the report are in agreement with the books of accounts of the association:

- a. During the year, the Chapter has provided depreciation on its assets as per the rates prescribed under the Income Tax Act.
 - b. The investment by the Chapter in the form of Fixed Deposits with various Banks has been reflected in the books of accounts at the value by considering interest component as derived from the certificates issued by such Banks, net of Tax Deduction at source Amount of earning in the form of 'interest on fixed deposits', either standing at the close of the year or matured and realized during the year, has been accounted for at actual on the basis of entries recorded by the respective banks in the pass book or bank statement.
 - c. At the close of the year, the Chapter has outstanding liability of Rs. **1,19,193** towards Head Office, New Delhi against the opening outstanding liability of Rs. **1,00,893**, after giving effect to the adjustment on account of taxation as conveyed by the Head Office.
2. In our opinion, and to the best of our information and according to the explanations given to us, the said accounts read together with the notes thereon give the information so as to present a true and fair view in conformity with the accounting principles generally accepted in India:
 - (a) in case of the Balance Sheet, the state of affairs of the Chapter as at 31 Mar 2020 and
 - (b) in case of Income and Expenditure account, of the excess of Income over Expenditure for the period ended on that date.

For Niraj Majmundar & Associates
Chartered Accountants
S/d-

(Niraj Majmundar)
M. No. 041120

Place: Vadodara
Date: Oct 31, 2020

The Society of Power Engineers (India) Vadodara Chapter

48-FF, Avishkar Complex, Near Vidyut Nagar,
Old Padra Road, Vadodara-390 007

Balance Sheet

1 Apr 2019 to 31 Mar 2020

| Liabilities | as at 31 Mar 2020 | Assets | as at 31 Mar 2020 |
|--------------------------------|---------------------|--|---------------------|
| Capital Account | 22,30,848.66 | Fixed Assets | 1,71,970.00 |
| Reserve & Surplus | 1,20,439.14 | Computer | 704.00 |
| General Fund | 21,10,410.52 | Office Equipment | 1,935.00 |
| Loans (Liability) | | Office Furniture | 704.00 |
| Current Liabilities | 2,63,413.00 | Office Premises | 704.00 |
| Sundry Creditors | 1,46,833.00 | Avishkar Complex | 704.00 |
| Donation for Silver Jubilee | 1,16,580.00 | Printer & Scanner | 704.00 |
| | | Refrigerator | 704.00 |
| | | Investments | 19,21,982.00 |
| | | FD BoI 000359 | 2,00,000.0 |
| | | FD BoI No-1 | 1,00,000.0 |
| | | FD BoI No-2 | 1,00,000.0 |
| | | FD BoI No-3 | 1,00,000.0 |
| | | FD BoI No-4 | 1,00,000.0 |
| | | FD BoI No. 250145110015744 | 3,21,982.0 |
| | | FD BoI No. 250153710000564 | 1,00,000.0 |
| | | FD PNB No. 000015 | 3,00,000.0 |
| | | FD PNB No. 000024 | 1,00,000.0 |
| | | FD PNB No. 000489 | 5,00,000.0 |
| | | Current Assets | 3,49,885.03 |
| | | Deposits (Assets) | 13,940.00 |
| | | Loans & Advances (Assets) | 3,944.34 |
| | | Sundry Debtors | 18,000.00 |
| | | Cash-in-hand | 10,935.00 |
| | | Bank Accounts | 2,51,549.69 |
| | | TDS by Client | 51,516.00 |
| | | Excess of expenditure over income | 50,425.63 |
| | | Opening balance | 50,425.63 |
| | | Current period | |
| Total | 24,94,262.66 | Total | 24,94,262.66 |

The Society of Power Engineers (India) Vadodara Chapter

48-FF, Avishkar Complex, Near Vidyut Nagar,
Old Padra Road, Vadodara-390 007

Income and Expenditure Statement

1 Apr 2019 to 31 Mar 2020

| Particulars | 1 Apr 2019 to 31 Mar 2020 | Particulars | 1 Apr 2019 to 31 Mar 2020 |
|-------------------------------|---------------------------|-----------------------------------|---------------------------|
| Direct Expenses | 6,13,640.58 | Direct Incomes | 5,63,214.95 |
| Accounting charges | 17,700.00 | Annual subscription | 1,400.00 |
| AGM expense | 37,362.00 | Donation | 16,800.00 |
| Allowance to Staff | 6,950.00 | Interest on FD | 1,33,284.00 |
| Bank charges | 845.60 | Interest on MGVCL advance | 138.95 |
| Bonus to employee | 4,000.00 | Interest on Savings A/c | 3,642.00 |
| Computer expense | 3,950.00 | Life Membership fee | 15,000.00 |
| Conveyance expense | 13,630.00 | Local charges | 8,400.00 |
| Courier charges | 1,400.00 | Sale of books | 550.00 |
| Cultural programme expense | 64,810.00 | Seminar Fee received | 53,900.00 |
| Depreciation | 19,854.00 | Seminar income-E Cons. | 1,47,000.00 |
| Electricity charges | 5,372.48 | Seminar income-NN Nagar | 1,83,100.00 |
| Lecture expense | 75,465.00 | | |
| Maintenance Charges | 500.00 | Indirect Income | |
| Meeting & Seminar expense | 19,245.00 | Excess of expenditure over income | 50,425.63 |
| Office expense | 18,638.00 | | |
| Postage & Telegram charge | 1,521.00 | | |
| Printing & Stationery expense | 53,521.00 | | |
| Professional Tax | 2,000.00 | | |
| Property Tax | 12,415.00 | | |
| Salary expense | 52,000.00 | | |
| Seminar expense-E Conser. | 51,844.00 | | |
| Seminar expense-VV Nagar | 1,35,322.50 | | |
| Telephone expense | 12,515.00 | | |
| Travelling expense | 2,780.00 | | |
| Total | 6,13,640.58 | Total | 6,13,640.58 |

MEMBERS' ACHIEVEMENT

Prof. AK Singh, LF and former Vice-Chairman of SPE(I) Vadodara Chapter and Chief Editor of SPE NEWS Letter, elected as a Member of ERDA Managing Committee.

Congratulations to Prof. Singh on his achievement.

He conducted the following webinars during the pandemic Covid-19:

- Webinar on “**Entrepreneurship Opportunities for Engineers Post Covid-19**” on **07 Jun 2020** organized by Madan Mohan Malaviya University of Technology, Gorakhpur.
- Keynote Address at the Webinar on “**Dry Transformers, Compact Substations and their benefits**” on **20 Jul 2020** organized by M/s UniTrans Power LLP, Vadodara.
- LIVE Interview on “**The Art of Living by**

rising above the ever-encompassing competition and depression in the lives of corporate personnel” on **25 Jul 2020** telecast by National News Portal TEN NEWS.in

- Webinar on “**XXI century Engineers**” on **08 Aug 2020** organized by Indus University, Ahmedabad.
- Webinar on “**Stress Management in COVID-19**” on **21 Aug 2020** organized by Chandigarh University, Chandigarh.

All these events were widely applauded and appreciated by the viewers.

Er. BN Raval, LM and former EC member of SPE(I) Vadodara, successfully conducted Webinar on “**Electricity Act and Electrical Safety in the Industrial Units**” on **21 Jul 2020**.

Congratulations to Er. Raval on his achievement



OBITUARY



Er. Narendra Pal Singh Brar, Chairman, The Institution of Engineers (I), Vadodara Local Centre passed away on **30 Aug 2020**.

A graduate in Electronics and Computer Engineering from MSU-Vadodara, he was a

Certified Professional Engineer in Computer Engineering branch.

During the tenure as Hon. Secretary and subsequently Chairman of the IE(I), Vadodara, his overwhelming support to SPE(I) Vadodara was an essence of organizing joint events by SPE(I) & IE(I). He has given a face lift to the establishment of IE(I) Vadodara Local Centre through his untiring efforts.

SPE(I) Vadodara lost an active friend and Well-Wisher in the death of Er. NPS Brar. He will be remembered by the members of SPE(I) Vadodara for his good will gestures to the Power Engineering fraternity.

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



Er. Kiritkumar V Sheth, Retd. Superintending Engineer, GSECL passed away on **24 Sep 2020**. He was **Life Member** of SPE(I) Vadodara Chapter.

A graduate in Electrical Engineering from MSU-Vadodara, he joined erstwhile GEB as Technical Assistant (TA) and retired as Superintending Engineer.

Er. Sheth used to attend all events organized by SPE(I) Vadodara Chapter.

SPE(I) Vadodara lost an active member in the death of Er. KV Sheth

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



Er. Navinchandra M Shah

Retd. Chief Engineer, GEB, passed away on **20 Sep 2020**. He was **Life Fellow** of SPE(I) Vadodara Chapter.

A graduate in Mechanical Engineering from MSU-Vadodara,

he joined erstwhile GEB at Utran TPS in 1962. During his tenure in GEB, he worked at Sikka, Ukai and Dhuvaran Power Stations and retired as Chief Engineer (Gen) from Dhuvaran Power Station in 1998.

SPE(I) Vadodara lost a Well-Wisher in the death of Er. NM Shah

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

THE END