

TECHNICAL ACTIVITY CARRIED OUT BY CENTRES / OVERSEAS CHAPTERS

Name of Centre / Overseas Chapter:		Andhra Pradesh State Centre of IEI	
Title of Activity:		118 th Birthday of Padmabhushan Dr. KL Rao	
Activity under Divisional Board (delete which are not applicable):		Civil & Electrical Engineering Divisions	
Date:	15.07.2019	Venue:	IEI, ANDHRA PRADESH STATE CENTER, VIJAYAWADA
Organized Jointly by			

The Institution of Engineers (India)

Andhra Pradesh State Centre

Brief Note on 118th Birthday of Dr. KL Rao, Hon. Life FIE



The Institution of Engineers (India), Andhra Pradesh State Center observed the 118th Birthday of Padmabhushan Dr. KL Rao, Hon. Life FIE at our State Center premises on 15th July, 2019 in a grand manner. **Er. Ch Sri Prakash**, FIE, Superintending Engineer, O&M, Stage - II, Dr. Narla Tata Rao Thermal Power Station, Ibrahimpatnam was the Chief Guest while **Dr. Butchiah Gadde**, Ph.D., Project Manager, United Nations Development Program (UNDP) was the Guest of Honour. **Dr. P Kodanda Rama Rao**, FIE Chairman of the Center presided over the meeting. Nearly 250 members (both budding engineering students & Corporate Members) participated in the program.



Before starting the program, the Chief Guest and other dignitaries present garlanded the statues of Dr. KL Rao; Sir M Visveswaraya and Dr. K Sreeramakrishnaiah.



After that, **Er. K Ravindra Rao**, FIE invited the dignitaries on to the dais and welcomed the audience. Lighting the lamp and garlanded the portrait of Dr. KL Rao was done by the Chief Guest and other senior corporate members etc. **Er. M RS Prakasa Rao**, FIE Former Chairman of Vijayawada Center presented the Life & Achievements of Dr. KL Rao. **Dr. P VV Rama Rao**, FIE, Coordinator of the Project Idea Contest briefed to the members and other budding engineering students about the contest. **Dr. Kilaru Ravi**, FIE, State Center Committee Member introduced the Chief Guest.



The Chief Guest while addressing the gathering said that Power Generation depends on Resources like Renewable, Hydro, Solar, Wind, Tidal and Geothermal etc., and non Renewable fossil, Nuclear etc. But these resources are tropically available in India at variant regions in India as below :

North : snow fed run of river Hydro (Highly weather sensitive)

North-East : Very rich Hydro potential (Evacuation Problems through Dokhlam Chicken Neck of India)

East : Rich in Coal Reserves (Low Power Demand)

West : Heavy Industrial Load and Agriculture Load. South Monsoon dependant Hydro (Heavy Agriculture Load)

To balance the load and resources, India is made an United Grid in 2014 that made India Power Surplus with 370 GW of Installed Capacity and 170 GW of Peak Demand. Now it is desirable to make India Water Surplus for all Regions with noble Ideology adaption of joining Rivers of Dr. KL Rao. This works out so many mini Hydels and uplifting by forming water and power equilibrium. The perennial Himalayan Glacier Rivers are to be made United with Monsoon dependant mid and southern Indian Rivers. Hence the Ideology of Dr. KL Rao is to be emphasized to India on his Birthday as Remembrance.

Er. A Rambabuji, FIE introduced Dr. Butchiaiah Gadde, Ph.D., Project Manager, United Nations Development Program.



Dr. Butchaiah, Guest of Honour presented on water - energy nexus, a thought-provoking session. It started with an emphasis of global fresh water availability which is 1% of total water available on the earth. Because of rapid economic development, available ground water in aquifers is being withdrawn at a rapid rate than rate at which aquifers recharge. It is important to optimally use available surface water for various uses including industrial, irrigation, hydro power and others. Quoted an article from Niti Aayog, 21 cities in India will run out of ground water by 2020 affecting 100 million people in India. About 40% of India's population will have no access to drinking water by 2030.

Later part of the presentation dwelled on Sustainable Development Goals (SDGs). Provided an overview on the background of these goals with a sole objective of "Leave No One Behind". Further illustrated two of the 17 goals i.e. SDG 6 and 13 to Indian context. When it comes to SDG 6, overall proportion of Indian households with access to improved water sources increased from 68% in 1992-93 to 89.9% in 2015-16. As part of SDG 7, India has an installed capacity of 358 GW as of 30 June 2019. Renewable energy, include large hydroelectric plants, constitute 35% of India's total installed capacity. India has an ambitious target of additional 5 GW of hydro power installation by 2022. It means, the demand for energy is going to add stress on available surface water. The session ended with the following reflections.

- One can't ignore the close linkage between Food and Water-Energy nexus;
- Meeting the growing water, food and energy demands in a densely populated country like India is a major challenge;
- Population growth and rapid economic development are causing severe stress on limited available freshwater and precious energy resources;
- There are challenges for energy supply because electricity production requires massive amounts of freshwater;
- In order to meet the growing demand for water, energy intensive processes such as seawater desalination is required;
- Innovations are mandatory for optimal use of water and energy and identifying alternatives to meet needs – e.g. water reuse, alternative options and clean energy resources.

In connection with the above, **Creative / Innovative Project Idea Contest on OPTIMAL USE OF WATER & ENERGY RESOURCES IN ANDHRA PRADESH** was conducted among the budding engineering students from different Engineers Colleges across the

states of Andhra Pradesh & Telangana. Dr. P VV Rama Rao, FIE acted as Coordinator of the contest. 93 ideas were presented from 32 different Engineering Colleges by 200 plus students.

The following are the winners of the contest :



First

Mr. GN Satya Sai & Mr. G NV Sai Ganesh - IOT based Smart Forming - Sasi Institute of Technology & Engineering, Tadepalligudem.



Second

Mr. P Taraka Rajesh; Mr. B Tirumala Kumar; Mr. J Hari Krishna; Mr. P Shanukha Eswar; Mr. P Sai Sankar and Mr. P L SS Harsha - Smart Energy Distribution System, VVIT, Nambur, Guntur Dist



Third

Mr. K Gneswara Rao and Ms. U Yamini of Usha Rama College of Engineering, Telaprolu on Hybrid Solar Panel Systems

Dr. Butchiaiah Gadde and Mr. A Jagannadha Sharma, ADE, APGenco were acted as Judges of the contest. **Mr. K Vijaya Rao**, Second Son of Dr. KL Rao participated and addressed the gathering. .At the end participation certificates/prizes were distributed by **Dr. P Kodanda Rama Rao**, FIE Chairman and **Er. M Seshagiri Rao**, MIE, Hon. Secretary of AP State Center respectively.

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