

A Report on 17th Thomas Alva Edison Memorial Lecture delivered by **Prof. Saifur Rahman**, Director, ARI, Virginia Tech, National Capital Region, Arlington, VA, USA.



For the year 2013, Delhi's 17th **Thomas Alva Edison Memorial Seminar** was delivered by **Prof. Saifur Rahman**, Director, Advanced Research Institute at Virginia Tech, Joseph R. Loring professor of Electrical and Computer Engineering, ARI, Virginia Tech, National Capital Region, Arlington, VA, USA, Fellow IEEE, on the topic **New Direction in Energy & Power Research**.

The lecture was held in Committee Room (Blok II-241, 1st Floor), in the premises of the Department of Electrical Engineering, IIT Delhi, **New Delhi** on **August 19, 2013** (Monday). It started at 05.30 P.M. and continued for one and half hours.

Prof. Saifur Rahman discussed about new directions for research in Power and Energy. He explained the smart grid and associated components such as microgrid and reliability analysis, renewable energy integration and storage, demand response, energy efficiency and electric vehicle.

He explained in details the role of smart grid in alleviating electrical power stressed conditions through demand response. The demand response based load control at customer level can provide the significant short term load reduction. Hardware and software which allow scheduling the operation of the household appliances using high power may reduce the burden on the power system. This is provided with a customer interface unit which includes embedded algorithms for managing power-intensive appliances based on their priority and customer needs.

He discussed about the project where the design and development of bi-level and demand sensitivities of LED street lighting system was demonstrated. Existing HPS Lamps were replaced with New LED lamps. The system was programmed to provide variable intensity of LED lamps depending upon the requirement. An average electricity savings of 75% was experienced after this installation. He also discussed about other projects related to optimization of distribution network (with renewable integration, energy storage) operation to mitigate the impact of growing electric vehicles.

On the whole lecture was very informative and enlightened the PhD and Masters students for new challenges and needs in Research in Energy and Power sector. Total 60 members were present in the lecture.