IIT Kanpur to Lead a Joint Indo-US Program to Advance Smart Grid Technology

Indian Institute of Technology (IIT) Kanpur will lead a pan-India consortia of technical institutes, utilities and industries in a five-year joint Indo-US research project. The consortia from US, being led by Washington State University (WSU), Pullman, WA, had jointly submitted this proposal titled UI-ASSIST (US-India collAborative for smart diStribution System wIth STorage).

Government of India and the United States of America agreed to expand the Indo-U.S. Joint Clean Energy Research and Development Center (JCERDC) by funding a new program, furthering research and development on 'Smart Grids and Energy Storage' critical to improving the reliability, flexibility and efficiency of the electricity delivery system. This program will be administered in India by the bilateral Indo-U.S. Science and Technology Forum (IUSSTF) and in the U.S. by the Department of Energy (DOE). The DOE in US and Ministry of Science and Technology, Government of India announced the selection of the winning Bilateral Consortia project on 22 and 23 June 2017, respectively.

The Government of India, through the Department of Science and Technology (DST), and the US Department of Energy (DOE) each will provide approximately US $7.5 million (approx. Rs 50 crore), which will be equally supplemented by US $7.5 million from each of the consortia from India and US, bringing the total to US $30 million for this joint R&D effort.

This project will bring together multi-disciplinary team to address essential issues related to the adoption and deployment of smart grid concepts along with Distributed Energy Resources (DERs) including storage in the distribution network for its efficient and reliable operation. Analysis and technology tools for smart operations of interconnected microgrids including DER and storage will also be developed. In addition to developing technical solutions, the UI-ASSIST team will also investigate the societal acceptance, impact and value of the integrative solutions of smart meters, renewable energy, storage and microgrid solutions, along with the policy implications.

A key component of the joint program is the demonstration of the technology at several lab level pilots and the field demonstration covering the rural, semi-urban and urban settings involving residential, commercial and industrial consumers. It also aims at the capacity building and workforce training, which will be essential for both the countries in developing the next generation power engineers to work with these smart distribution systems.

Details of the winning consortium:
Title: UI-ASSIST: U.S.-India collAborative for smart diStribution System wIth Storage
Indian Lead: Prof. Suresh C Srivastava, Indian Institute of Technology Kanpur
Indian Co-Lead: Prof. Santanu Mishra, Indian Institute of Technology Kanpur
U.S. Lead: Prof. Noel Schulz, Washington State University, Pullman
U.S. Co- Lead: Dr. Anurag Srivastava, Washington State University, Pullman

Indian Partner Organizations:

1. Indian Institute of Technology, Kanpur (IITK)
2. Indian Institute of Technology Delhi (IITD)
3. Indian Institute of Technology Madras (IITM)
4. Indian Institute of Technology Roorkee (IITR)
5. Indian Institute of Technology Bhubaneswar(IITBBS)
6. The Energy and Resources Institute, New Delhi (TERI)
7. BSES Rajdhani Power Ltd., New Delhi (BRPL)
8. UP Power Corporation Limited, Lucknow (UPPCL)
9. NTPC Energy Technology Research Alliance, Greater NOIDA (NETRA)
10. Power Grid Corporation of India Limited, Gurgaon (PGCIL)
11. Customized Energy Solution, Pune (CES-India)
12. GE Global Research, Bengaluru (GE-India)
13. Synergy Systems and Solutions, Gurgaon (Synergy)
14. Mindteck, Bengaluru (Mindteck)
15. Panasonic India Pvt. Ltd., Gurgaon (Panasonic)

U.S. Partner Organizations:

1. Washington State University, Pullman, WA (WSU)
2. Massachusetts Institute of Technology, Cambridge, MA (MIT)
3. Texas A&M University, College Station, TX (TAMU)
4. Hawaii Natural Energy Institute, Honolulu, HI (HNEI)
5. Snohomish County Public Utility District, Everett, WA (SnoPUD)
6. AVISTA Utilities, Spokane, WA (AVISTA)
7. Burns and McDonnell, Kansas City, MO (B&McD)
8. ETAP, Operation technology, Inc., Irvine, CA (ETAP)
9. National Rural Electric Cooperative Association, Arlington, VA (NRECA)
10. GE Grid Solutions (GE)
11. Clean Energy Storage, Inc., Temecula, CA (CES-USA)
12. ABB Inc, Sugarland, TX (ABB)
13. Philadelphia Navy Yard, Philadelphia, PA (PNY)
14. Idaho National Laboratory, Idaho Falls, ID (INL)
15. Lawrence Berkley National Lab, Berkeley, CA (LBNL)