

A World-Class Smart Grid Education and Workforce Training Center

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Illinois Institute of Technology (IIT) will lead an extensive and collaborative effort for establishing a World-Class Smart Grid Education and Workforce Training Center. The Center will develop and deploy smart grid technology courses and certificate programs via instructor-led and distance-learning methodologies. The Center will use the IIT's strong and already established smart grid and power engineering infrastructures to engage utilities, corporations, labor unions, Veterans, K-12 students and educators, and universities and community colleges in a collaborative initiative to train the strongest workforce in the world to meet the global challenges in smart grid, energy independence, clean environment, and sustainable energy. The proposed activities will be completed in six phases which include: Phase I – Establishment of the Smart Grid Education and Workforce Training Center; Phase II – Assessment of Training Needs for Smart Grid Workforce; Phase III – Development of Smart Grid Workforce Training Programs; Phase IV – Deployment of Smart Grid Workforce Training Programs; Phase V – Development of Strategies for Sustaining the Center Operation; Phase VI – Final Reporting.

The training programs offered by the Center include: (1) university-level degree programs with a focus on Smart Grid; (2) certificate programs in smart grid; (3) associate degree programs in smart grid offered by community colleges. The proposed Center is expected to train about 49,000 power industry employees, union workers, teachers, and students in a three year period. The Center will be operated as a self-sustained entity beyond the three-year funding period by offering instructor-led and internet-based training courses and a fee-based membership program with multi-grade activities for its members.

The Center will be equipped with the industry-sponsored, state-of-the-art software packages, for power system and smart grid workforce training. As part of the plan for training curricula development, the Center will provide competitive grants to community colleges for developing smart grid courses.

The Center Advisory Board includes six executives from the industry, academia, training organizations, and the government agencies. The proposed Center will consist of 100 participating members, including three domestic and five international universities, 49 community colleges and

high schools, six city and government entities, eight labor unions and councils, one national laboratory, five transmission and distribution systems operators, five professional training organizations, 16 smart grid manufacturers and software companies, and 13 energy consulting companies.

Key differentiators that distinguish the proposed Center include its convenient and central location in the nation, supplemented by the IIT's far-reaching distance learning programs, its existing smart grid facilities and resources funded by the DOE and other federal and private sectors that provide a living laboratory for smart grid education and workforce training, extensive collaborations with the DOE National Labs, and active participation of city and state governments.

IIT has extensive experiences in workforce education and training and has been innovators in distance learning strategies since TV-based education started at IIT in the 1960's. IIT's efforts to attract remote site students through Internet-based courses started more than 10 years ago with students in several states in the U.S. and across the globe. IIT's Center for Professional Development (CPD) has been very instrumental in offering live training courses for several decades. IIT's engineering programs have over 100 years of experience in offering courses in power systems, power electronics, digital controls, communication, cyber security, computer science, industrial and organizational psychology, environmental management, entrepreneurship program, energy laws, and government policy. Such activities will enable IIT and its partners to establish a World-Class Smart Grid Education and Training Center that will facilitate the development of a well-trained and highly skilled electric power workforce which is vital to the implementation of a national smart grid initiative.

The client members who will be targeted to receive training through the proposed Center include, but are not limited to, power industry employees, union workers, individuals seeking new careers in energy and smart grid technologies, college and high school students, high school teachers, government employees, Veterans, lawyers, investors, venture capitalists and employees of financial institutions, entrepreneurs and general public, IT professionals, telecom professionals, and others.