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Abstract

Title: Integration of Electric Vehicle Chargers in Smart Grid: Challenges, Impacts, and Prospect

Electric Vehicle Supply Equipment (EVSE) are becoming streamlined are among the fastest growing load sectors in electric grid. According to moderate estimates, EVSEs will account for nearly 23% of all electrical demand in the US by 2050. Special attention and planning are required for facility upgrades, power and energy management, protection, and cyber security and resiliency to integrate EVSEs in smart grid. In this talk, an EVSE infrastructure and its hardware, software, and energy management elements are described. Impacts of EVSE deployment on electrical distribution system is also outlined. The development of a medium voltage EVSE to minimize grid facility upgrades and to reduce installation and commissioning time and cost are also discussed.

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