

“IMPLEMENTATION OF THE V2G CONCEPT (BATTERY VEHICLES) INTO THE GRID”



Date & Time:

October 16, 2014
4:30 to 8:30PM

Location:

LCCC Spitzer Center Rm 118
1005 N Abbe Rd,
Elyria, OH 44035

Agenda:

- *Registration Opens @ 4:30 PM
- *Free Light Dinner @ 5:00 PM
- *Panel Discussion @ 6:00 PM
- *Opening Remarks @ 7:00 PM
- *Presentation

Who Is Invited?

Anyone interested in this topic, although priority will be given to pre-registered IEEE Cleveland Section members

CPD

Two (2) CPD Hours Available
Bring your flyer for credit

Space is limited

To reserve your seat please
RSVP by October 12 at:
clevelandieee.org/rsvp-10-16-2014

Abstract:

The major increases in oil prices and the rising environmental concerns are key drivers in the growing interest in electric and plug-in hybrid vehicles. Car manufacturers, throughout the world, understand this trend quite well and are developing new models. For the 90% of Americans who use their cars to get to work every day, the average daily commute distance is 45 km and the cars remain parked, on average, 22 hours each day. A salient feature that these vehicles have in common is the batteries, which provide good storage capability that can be effectively integrated into the grid. We focus on the design of a conceptual framework to integrate the electric vehicles into the grid – the so-called V2G concept. The basic premise we use is to treat the battery vehicles as distributed energy resources that can act both as supply and demand resources. We assess the deployment of an aggregation of battery vehicles for the provision of frequency regulation – requiring very fast response times – and energy supply for peak shaving. We also investigate the impacts of the aggregated battery vehicle-charging load on the low-load generation schedules and on regulation requirements. The assessment of these impacts takes into consideration the explicit representation of uncertainty and the importance of the state of charge, or s.o.c., as a key variable in the use of the batteries for the supply and demand roles. For the framework completeness, we also explore the role of the energy services provider in the V2G integration. We discuss the role of V2G in the context of renewable resource integration and highlight the role of the Smart Grid in the construction of the communications/metering system to enable the integrated battery vehicles to effectively participate in the operation of the grid and electricity markets.

Speaker:

George Gross is Professor of Electrical and Computer Engineering and Professor, Institute of Government and Public Affairs, at the University of Illinois at Urbana-Champaign. His research and teaching activities are in the areas of power system analysis, economics and operations, utility regulatory policy and industry restructuring.

His work on smart grid issues has focused on both the technical and the regulatory aspects. The principal areas of involvement include the design of AMI architectures to ensure cyber security, the deployment of AMR for demand response, the integration of demand-side response, renewable and storage resources into the grid and the economics of smart grid implementation.



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This is to certify that _____ attended this seminar. Certified by _____.
Certificates of attendance and other evidence of CPD activity should be retained by the attendee for auditing purposes.