



Final Program (as Performed)

The 14th IERE General Meeting and The IERE -EPRI North American Forum

18 – 21 November 2014
Charlotte, North Carolina, USA



Organizer

IERE:

Mr. Tetsuo Matsumura, Secretary General
IERE Central Office
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<https://www.iere.jp>

EPRI (Electric Power Research Institute):

Dr. Arshad Mansoor, Senior Vice President R&D (c/o Ms. Lea Ann Lawson)
EPRI Charlotte Office
1300 West W.T. Harris Blvd. Charlotte, North Carolina 28262-8550 USA
<http://www.epri.com>

Conference Venue

IERE Welcome Reception:

Hilton Charlotte University Place
8629 JM Keynes Drive, Charlotte, North Carolina, 28262 USA
<http://www3.hilton.com/en/hotels/north-carolina/hilton-charlotte-university-place-CLTHUHF/index.html>

General Meeting and Forum:

EPRI Charlotte Facilities
1300 West W.T. Harris Blvd., Charlotte, North Carolina 28262-8550 USA
<http://www.epri.com/About-Us/Pages/Charlotte-NC.aspx>
(Directions, Courtesy Brochure, Printable Map)

EPRI Dinner:

**Firewater Restaurant,
University Place, Charlotte**
8708 JW Clay Blvd, Charlotte, North Carolina, 28262 USA

Technical Tour (Optional):

EPRI Knoxville Laboratory
942 Corridor Park Blvd., Knoxville, Tennessee 37932 USA
<http://www.epri.com/About-Us/Pages/Knoxville-TN.aspx>
(Directions, Courtesy Brochure, Printable Map)

Program

The 14th IERE General Meeting

Wednesday, 19 November 2014

IERE General Meeting is a platform for interactions among IERE members, recommended non-member experts and invited guests to discuss global energy issues focusing primarily on electricity. It provides the audience with opportunities not only to express their views on the on-going IERE programs but also to discuss strategic approach to the controversial energy issues of the moment.

The IERE-EPRI North American Forum

Thursday, 20 November 2014

The IERE-EPRI North American Forum is a series of symposia with a specific theme relevant to the region or a range of technology where multilateral discussion on the theme could provide the field with business opportunities for its emerging electricity needs. Since IERE renovated itself in 2001, Forums have been held in Cape Town in South Africa (2001), Jinan in China (2002), San Jose in Costa Rica (2003), Krakow in Poland (2004), Kuala Lumpur in Malaysia (2005), Taipei in Taiwan (2006), Victoria Falls in Zambia (2007), Iguassu Falls in Brazil (2008), Bucharest in Romania (2009), Montreal in Canada (2010), Cancun in Mexico (2011), Seoul in Korea (2012), and Arusha in Tanzania(2013).

Theme

Common Theme (for General Meeting and Forum):

“The Integrated Grid – Realizing the Full Value of Central and Distributed Energy Resources”

The electric power system is changing, rapidly in some areas. Central power plants interconnected via grids of transmission lines and feeding distribution networks are seeing the rise of distributed energy resources (DER) such as small natural gas-fueled generators, combined heat and power plants, electricity storage, and solar photovoltaics connected to the distribution system.

To realize fully the value of distributed resources and to supply all consumers with a quality and reliable supply, the need is growing to integrate DER in the planning and operation of the grid and to expand its scope to include DER operation – what EPRI is calling “The Integrated Grid.” The importance of DER is expected to increase through technological improvements, policy incentives, and consumer choices in technology and service.

Session Theme:

The 14th IERE General Meeting

Session A: Innovations in Wholesale Markets and Rate Design

This session is intended to highlight the opportunities to use market and rate design to incentivise integrated power and energy systems.



- Integrated power and energy systems will not evolve effectively without consistent and fair rules.
- Wholesale markets must provide proper incentives for energy, capacity and ancillary services
- Which wholesale market designs coupled with innovation retail rate design can accomplish society's objective to provide safe, clean, reliable and affordable energy for citizens

Session B: Strategies for Integrating Distributed Energy Resources and their Role in Tomorrow's Energy Landscape with Grid Planning and Operation

This session is intended to identify the likely pathways which innovations in distributed energy resources may take and how they could become part of an overall integrated energy and power system.

- The impact of the increasing consumer adoption of distributed energy resources
- Central station resource remain an essential asset to meet consumer needs
- What strategies can be employed to utilise both central and distributed resources in the most effective manner

The IERE-EPRI North American Forum

Session C: Deployment of Advanced Distribution and Reliability Technologies

This session is intended to highlight the innovation that will be needed in order to assure the power delivery system (transmission and distribution) of the future is able to facilitate the integrated power and energy system including the need for interconnection rules and communications technologies and standards.

- Technology development and deployment needed to enable a truly integrated power system
- Advanced distribution and transmission technologies
- Smart Grids, Smart Substations and changes in the interface between DSOs and TSO's
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Session D: Distributed Resources Technologies

This session is to stimulate discussion regarding what distributed resources technologies exist today and to look at what new technologies are on the horizon and to look at their role in an integrated power system.

- How can distributed and central generation resources coexist
- What and how are distributed technologies being used today and how are Utilities integrating them into the power system

Poster Session:

The Poster Session is organized under the framework of IERE's "Young Academy" activity. Although presentations by any participants (at any age) are expected, IERE and EPRI especially encourage university students, academic researchers etc. to participate in presentations at Poster Session under the common theme of General Meeting and Forum. Presentations at Poster Session are intended to lead more detailed discussions at the time frames set on both days of General Meeting and Forum.

Poster Presentation Titles

- PS -1 Reducing Grid Integration Risks and Demonstrating Smart Inverter Technologies through Advanced, Full-Scale Testing with the Duke Energy EGRID at Clemson University
Dr. J. Curtiss Fox (Director of Operations, Duke Energy eGRID Center, Clemson University Restoration Institute, SC, USA)
- PS -2 Smart Measurement System for Pole Mounted Transformers
Mr. Omar Méndez Zamora (Applied Research Manager, Prolec GE, Mexico)

Schedule

Day 1	IERE Welcome Reception <i>Tuesday, 18 November 2014</i> Hilton Charlotte University Place, Charlotte, North Carolina, USA <i>Please note that there are several Hilton Hotels in Charlotte</i>
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17:30 – Registration

18:30 – 20:30 IERE Welcome Reception
[Lakeview, Hilton Charlotte University Place]

Day 2	The 14th IERE General Meeting <i>Wednesday, 19 November 2014</i> Building 3, EPRI Charlotte Facilities, Charlotte, North Carolina, USA
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8:00 – Registration

Overall Conference Chair: Mr. Clark W. Gellings (Fellow, EPRI, USA)

Plenary Session

Session Chair: Dr. Arshad Mansoor (Senior Vice President R&D, EPRI, USA)

9:00 – 9:10 P-1 Welcome Address
Dr. Arshad Mansoor (Senior Vice President R&D, EPRI, USA)

9:10 – 9:20	P-2	Opening Address <i>Dr. Rolando Nieva (Chair of IERE, Director Electric Systems, IIE, Mexico)</i>
9:20 – 9:50	P-3	Keynote Address The Value of an Integrated Power System <i>Dr. Arshad Mansoor (Senior Vice President R&D, EPRI, USA)</i>
9:50 – 10:20	P-4	Keynote Address <i>Mr. Robin E. Manning (Executive Vice President & Chief External Relations Officer and Senior Vice President, Shared Services, Tennessee Valley Authority, USA)</i>

Technical Session

Session A: Innovations in Wholesale Markets and Rate Design

Session Chair: Mr. Clark W. Gellings (Fellow, EPRI, USA)

10:20 – 10:25	TA-0	Introduction by Session Chair
10:25 – 10:55	TA-1	Improved Wholesale and Retail Market Performance through Efficient Pricing <i>Dr. Bernard Neenan (Technical Executive, EPRI, USA)</i>

Poster Session

10:55 – 13:00	Poster Session [Foyer] Lunch [Canteen]
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Session B: Strategies for Integrating Distributed Energy Resources and their Role in Tomorrow's Energy Landscape with Grid Planning and Operation

Session Chair: Dr. John W.M. Cheng (Senior Manager–Group Sustainability, CLP RI, Hong Kong)

13:00 – 13:05		Introduction by Session Chair
13:05 – 13:35	TB-1	Research on Operation Control Strategies of DC Micro-grid <i>Mr. Zizhong Zhang (Professional-level Senior Engineer, NARI Group (SGEPRI) , China)</i>
13:35 – 14:05	TB-2	SEAS - An Open Source IT Platform to Manage Energy <i>Mr. Philippe Bourguignon (SEAS Project Coordinator, EUREKA ITEA2 program, GDF SUEZ, France)</i>
14:05 – 14:35	TB-3	Essential Reliability Services for the Bulk Electric System <i>Mr. Mark G. Lauby (Senior Vice President and Chief Reliability Officer, NERC, USA)</i>
14:35 – 15:05	TB-4	Planning and Operational Implications of High Levels of Distributed Energy Resources on the Bulk Power System <i>Dr. Aidan Tuohy (Project Manager/Technical Leader, Grid Operations and Planning, EPRI, USA)</i>
15:05 – 15:35		Refreshments [Foyer]

IERE Award 2014 Ceremony

Chair: Dr. Rolando Nieva (Chair of IERE, IIE, Mexico)

Award Winner: CEPRI (China)

15:35 – 15:55 Award Ceremony
Mr. Zizhong Zhang (Professional-level Senior Engineer, NARI Group (SGEPRI) , China)
on behalf of
Mr. Keli Gao (Vice President, CEPRI, China)

Business Session

Chair: Mr. Tetsuo Matsumura (Secretary General, IERE Central Office)

15:55 – 16:15 BS-1 Chair's Report 2012-2013
Dr. Rolando Nieva (Chair of IERE, IIE, Mexico)

16:15 – 16:35 BS-2 Report from Central Office
Mr. Tetsuo Matsumura (Secretary General, IERE Central Office)

Special Session: T&D Asset Management

Session Chair: Dr. Gaétan Lantagne (Acting Senior Director, Research Institute of Hydro-Québec, Canada)

TLM Report

16:35 – 17:05 SS-1 Report on North American TLM (Technology Leader Meeting)
Mr. Robin E. Manning (Executive Vice President & Chief External Relations Officer and Senior Vice President, Shared Services, Tennessee Valley Authority, USA)

["North American TLM" is the second TLM, which is a closed meeting to be held as IERE's new activity on 18 November under the theme "T&D Asset Management"]

Related Presentation

17:05 – 17:35 SS-2 Overview of Hydro-Québec R&D activities in asset management
Dr. Gaétan Lantagne (Acting Senior Director, Research Institute of Hydro-Québec, Canada)

17:35 – 18:05 SS-3 Development of Decision Support Programs for Maintenance Strategy of Electric Power Equipment
Dr. Tsuguhiro Takahashi (Senior Research Scientist, CRIEPI)

19:00 – 21:00 EPRI Dinner [*Firewater Restaurant, University Place, Charlotte*]





(For technical tour participants who have reserved coach to Knoxville:)

14:20 Assemble at Lobby of Building 3, EPRI Charlotte Facilities
– ***Coach departs at 15:00 directly for Knoxville***

17:30 – 20:00 Short Break and Supper at Biltmore Village in Asheville, NC

22:00 Arrival at Hotels in Knoxville

Day 4 Technical Tour (Optional)

Friday, 21 November 2014

EPRI Knoxville Laboratory, Knoxville, Tennessee, USA

(For Technical Tour participants who have reserved coach:

9:00 Assemble at hotel lobbies in Knoxville)

9:15 – 11:45 Technical Tour at EPRI Knoxville Laboratory

11:45 End of Tour – *Coach arranged to hotels or Knoxville airport*

(11:45 – 13:00 Lunch – *Lunch boxes provided by EPRI*)

The Technical Tour is optional and tour fee is free of charge.

EPRI Knoxville Laboratory

942 Corridor Park Blvd. Knoxville, TN 37932 USA

<http://www.epri.com/About-Us/Pages/Knoxville-TN.aspx>

Smart Grid Substation Lab, Electric Vehicle Lab, Lighting Lab, etc.

Reference: (For coach passengers)

Free time is set for short walk and supper at historic village. [17:30 – 20:00 *Thursday, 20 November*]

Biltmore Village, Asheville, North Carolina

<http://www.historicbiltmorevillage.com/>

<http://www.biltmorevillage.com/>

<http://www.biltmorevillage.com/restaura.htm>

IERE is a worldwide, non-profit organization established in 1968 as International Electric Research Exchange. IERE serves executives, senior managers, engineers, and researchers who are responsible for electricity and energy related R&D and solutions, and who represent the electricity & energy supply industry, equipment providers, academic research, and government. Its mission is to evaluate innovative and emerging technologies and their implementation, help establish corporate strategy related to R&D under changing business climate, and facilitate technology transfer from developed economies to developing economies.

IERE has been accredited to NGO in Roster Consultative Status with the Economic and Social Council of the United Nations (UN/ECOSOC) since 2004.

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