



CIRED 2011 : Technical Programme

Monday 6 June :

09.30 hrs- 15 hrs

Tutorial 1: Smart distribution systems for a low carbon energy future
Room : Illusion 3 (level 3)

Tutorial 2 : IEC 61850 for distribution grids
Room : Illusion 2 (level 3)

Tutorial 3 : Regulation models for DNO's in Europe
Room : Illusion 1 (level 3)

Tutorial 4 : Standardization activities regarding Smart Grid, EV and Charging Station
Room : Fantasie 2 (level 3)

Tutorial 5 : MV and LV distribution feeder design using probabilistic approaches to load and DG
Room : Fantasie 1 (level 3)

Tutorial 6 : Trends in Harmonics below and above 2 kHz
Room : Conclusio (level 2)

15 hrs - 18 hrs

Opening forum - Room Harmonie

Chair: Theodor Connor, Chairman of the German CIRED National Committee

15.00 hrs : Welcome by Sven Lindgren, Chairman of CIRED

15.10 hrs : Welcome by Jochen Kreusel, ETG (VDE)

15.20 hrs : Challenges in Power Grid Business in Germany with special Focus on Distribution, Egon Westphal, Eon

15.50 hrs : German Aspects of European Energy Regulation, Matthias Kurth, President of the Federal Network Agency

16.20 hrs : Coffee Break

16.50 hrs : E-Car - Project, Billing, Charging, Integration, Technology, Sandra Krommes, BMW

17.20 hrs : Tomorrow´s energy supply - local, sustainable and intelligent, Andreas Roß, NRM Netzdienste Rhein-Main

17.50 hrs : How CIRED 2011 will work, André Even, Chairman of the CIRED 2011 Organising Committee



[Tuesday 7 June : 9.00 hrs - 17.30 hrs](#)

Main session, Session 3: Operation, Control & Protection

Room : Harmonie A-B (L2)

[Block 1: Operation : 09.00 - 10.30 hrs](#)

0561 Utilities response to extreme condition events - EDP Distribuição Case

Nuno Ferreira, EDP Distribuição, Portugal; Hilário Lopes, EDP Distribuição, Portugal; Carlos Martins, EDP Distribuição, Portugal

0570 Evaluation of Islanded Grid Operation Tests and Dynamic Modelling

Stephan Brandl, KELAG Netz GmbH, Austria; Robert Schmaranz, KELAG Netz GmbH, Austria; Michael Weixelbraun, Graz University of Technology, Austria; Herwig Renner, Graz University of Technology, Austria; Michael Marketz, KELAG, Austria; Ignaz Hübl, KELAG Ne

0373 Verification of LV Underground Cable Insulation by Air Injection

Janislaw Tarnowski, Hydro-Québec, Canada; Jacques Côté, Hydro-Québec, Canada; André Gaudreau, Hydro-Québec, Canada; Pierre Gingras, Hydro-Québec, Canada; Mircea Iordanescu, Hydro-Québec, Canada; Jean Lavallée, Hydro-Québec, Canada

0696 Finding maintenance project to priority

Jan Andor Foosnæs, NTE Nett AS, Norway; Erling Tønne, NTE Nett AS, Norway; Terje Pynten, NTE Nett AS, Norway

0402 Smart and wireless field force management: today and tomorrow

Celine JOANNIC, EDF R&D, France; Frederique LE GUERN, ERDF, France; Christian AUNEAU, ERDF, France

[Block 2: Control Part 1 : 11.00-12.30 hrs](#)

0568 Design and implementation of an innovative telecontrol system in the Vattenfall medium voltage distribution grid

Matthias Wittig, Vattenfall Europe Distribution Berlin GmbH, Germany; Andreas Cerbe, Vattenfall Europe Distribution Berlin GmbH, Germany; Mark Geschwindner, Vattenfall Europe Distribution Hamburg GmbH, Germany; Ulrich Strasse, Vattenfall Europe Netzservic

1153 Communication Network for Swiss Smart Grid Pilot Project

Thomas Gfeller, BKW FMB Energie AG, Switzerland; Ludger Ullrich, BKW FMB Energie AG, Switzerland

0471 Broadband wireless connectivity in automation and remote control of the DSO infrastructure

Tullio Zannoni, CISCO Systems, Italy; Gennaro Fiorenza, ENEL Distribuzione, Italy; Michele Festuccia, CISCO Systems, Italy

0422 Minimum common IEC 61850 specification document published by the Spanish group of electricity companies 'E3 Group on IEC 61850'

JOSÉ GONZALO, IBERDROLA, Spain; HUGO GURÉNDEZ, IBERDROLA, Spain; IGNACIO GARCÉS, IBERDROLA, Spain; JAUME BADÍA, ENDESA, Spain; JULIO DOMÍNGUEZ, GAS NATURAL FENOSA, Spain; PEDRO DEL ROSAL, HIDROCANTÁBRICO, Spain; CARLOS RODRÍGUEZ, RED ELÉCTRICA DE ESPAÑA

0249 EDP Distribution Automation (r)Evolution

João Rosa, EDP Distribuição, Portugal; Joaquim Sousa, EDP Distribuição, Portugal; Luís Abalrado, EDP Distribuição, Portugal; Pedro Marques, EDP Distribuição, Portugal; Fernando Ramalheira, EDP Distribuição, Portugal; Pedro Gama, EDP Distribuição, Portuga



1117 Distribution automation solutions - Impact on system availability in distribution networks
Oliver Schroedel, SIEMENS AG, Germany; Michael Schwan, SIEMENS AG, Germany; Sven Koeppel, SIEMENS AG, Germany; Robert Rosenberger, SIEMENS AG, Germany

Block 2: Control Part 2 : 14.00 - 15.30 hrs

0622 TOWARDS SELF-HEALING POWER DISTRIBUTION BY MEANS OF THE ZONE CONCEPT
Goran Wiklund, ABB Oy, Finland; Antti Kostianen, ABB Oy, Finland; Pekka Manner, Fortum Oyj, Finland; Kari Koivuranta, Fortum Oyj, Finland

0811 Automation in cable distribution network (10 kV)
Louise Jakobsen, Dansk Energi, Denmark

0332 Grid security management - Basis for secure operation of the distribution grid of ENVIAM
Wolfgang Gallas, envia Verteilnetz GmbH, Germany; Adolf Schweer, envia Netzservice GmbH, Germany; Hans Roman, envia Verteilnetz GmbH, Germany; Dirk Hollmach, envia Netzservice GmbH, Germany

0358 Evolutions in the grid operation in Carinthia
Robert Schmaranz, KELAG Netz GmbH, Austria; Reinhard Iskra, KELAG Netz GmbH, Austria; Ignaz Hübl, KELAG Netz GmbH, Austria; Karl Schoaß, KELAG Netz GmbH, Austria

0211 Operator Training Simulator for a Distribution System
Marcus Frischherz, Siemens AG, Austria; Roland Eichler, Siemens AG, Germany

0440 Experimental Evaluation of Cyber Intrusions into Highly Critical Power Control Systems
Giovanna Dondossola, RSE, Italy; Fabrizio Garrone, RSE, Italy; Judit Szanto, RSE, Italy

Block 3: Protection : 16.00 - 17.30 hrs

1059 Advanced Distance Relay Modeling and Testing
Mauro Borrielli, Doble Transinor As, Norway; Jun Verzosa, Doble Transinor As, Norway

0092 Optimal contribution of Distributed Generation in medium voltage grids during a fault, now and in the future
Sebastiaan Van Loon, Alliander, Netherlands; Frans Volberda, Alliander, Netherlands; Frans Provoost, Alliander, Netherlands; Johan Morren, Enexis, Netherlands

0220 Impact of distributed generation on grid protection
Florian Romanens, BKW FMB Energie AG, Switzerland; Gerold Kuonen, BKW FMB Energie AG, Switzerland; Luigi Scoca, BKW FMB Energie AG, Switzerland

0084 Research on single-phase ground fault locating for non-effectively grounded system in Shanghai
Weibin Wang, Shanghai Municipal Electric Power Company, China; Ming Zong, Shanghai Municipal Electric Power Company, China; Xiandong Huang, East China Electric Power Industry Co., Ltd, China

0915 Earth Fault Distance Localization In Inductive Earthed Networks By Means Of Distance Protection Relays
Manfred Wurm, EVN Netz GmbH, Austria

0853 Effects on the Quality of Service of changing the neutral grounding of MV networks
Miguel Louro, EDP Distribuição, Portugal; José Cunha Abreu, EDP Distribuição, Portugal; Filinto Duarte, EDP Distribuição, Portugal; Manuel Martins, EDP Distribuição, Portugal; Rui Fiteiro, EDP Distribuição, Portugal; Filipe Vale, EDP Distribuição, Portugal

Main session, Session 4: Distributed Energy resources & efficient utilisation of electricity.



Room : Harmonie D-E (L2)

Block 1: DG/DER planning and studies : 09.00 – 10.30 hrs

0325 Experience from construction of a Smart Grid Research, Development and Demonstration platform
Nicholas Etherden, STRI AB, Sweden; Michael Gudmundsson, STRI AB, Sweden; Mats Häger, STRI AB, Sweden; Henrik Stomberg, STRI AB, Sweden

0715 The distribution networks and the large diffusion of renewables power plants: the situation of Italian electric system.
Simone Botton, Enel Distribuzione SpA, Italy; Fabio Cazzato, Enel Distribuzione SpA, Italy; Marco Di Clerico, Enel Distribuzione SpA, Italy

0840 Smart grid measures to reduce losses in distribution feeders and increase capacity to integrate local small hydro generation
Astrid Petterteig, SINTEF Energy Research, Norway

0928 A Balanced Scorecard Approach for the Enhancement of Distributed Renewable Penetration Limit in Isolated Networks
Worawit Tayati, Horizon Power, Australia; Gordon Pack, Horizon Power, Australia

1186 Commercial Arrangements to Facilitate Active Network Management
Robert Currie, Smarter Grid Solutions, UK; Alan Gooding, Smarter Grid Solutions, UK; Bryan O'Neill, Smarter Grid Solutions, UK; Colin Foote, Smarter Grid Solutions, UK; Robert Ferris, Central Networks, UK; Jeff Douglas, Central Networks, UK

Block 2: Control of networks with DG/DER : 11.00 – 12.30 hrs

0381 Voltage And Frequency Stability Enhancement Of The Islanded Microgrid Using Battery Energy Storage
Changhee Cho, KERI, Republic of Korea; Jin-Hong Jeon, KERI, Republic of Korea; Soonman Kwon, KERI, Republic of Korea; Kee-Young Nam, Halla E&E, Republic of Korea; Sungshin Kim, Pusan National Univ., Republic of Korea

0530 International Collaboration of Smart Grid Demonstration Projects Integrating Distributed Energy Resources
Matt Wakefield, EPRI, USA; John Simmins, EPRI, USA; Gale Horst, EPRI, USA

0810 Energy Resources Scheduling in Competitive Environment
Zita Vale, Gecad/Politechnic of Porto - School of Engineering, Portugal; Hugo Morais, Gecad/Politechnic of Porto - School of Engineering, Portugal; Narciso Pereira, Gecad/Politechnic of Porto - School of Engineering, Portugal

1187 Operating the Orkney Smart Grid: Practical Experience
Robert Currie, Smarter Grid Solutions, UK; Gareth McLorn, Smarter Grid Solutions, UK; Ryan Sims, Smarter Grid Solutions, UK; David MacLeman, Scottish Hydro Electric Power Distribution, UK

1221 The Cell Controller Pilot Project: From Surviving System Black-out to Market Support
Nis Martensen, Energynautics GmbH, Germany; Per Lund, Energinet.dk, Denmark; Nobin Mathew, Spirae Inc., USA

Block 3: Customer side developments : 14.00 – 15.30 hrs

0125 Electrical load characteristics of domestic heat pumps and scope for demand side management
Peter Boait, De Montfort University, UK; Anne Stafford, Leeds Metropolitan University, UK



0481 Flexible Thermal Load Management for Ancillary Services Market: Experience of Swiss Smart Grid Pilot Project

Elvira Kaegi, BKW FMB Energie AG, Switzerland; Daniel Berner, BKW FMB Energie AG, Switzerland; Adrian Peter, BKW FMB Energie AG, Switzerland

0710 Investigation of the impact of electrifying transport and heat sectors on the UK distribution networks

Chin Kim GAN, Imperial College, UK; Marko AUNEDI, Imperial College, UK; Vladimir STANOJEVIC, Imperial College, UK; Goran STRBAC, Imperial College, UK; Dave OPENSHAW, UK Power Networks, UK

0958 Demand Side Management Potential A case study for Germany

Martin Stötzer, Otto-von-Guericke-University, Germany; Phillip Gronstedt, TU Braunschweig, Germany; Zbigniew Styczynski, Otto-von-Guericke-University, Germany

1080 Field test of grid oriented CHP micro units for the domestic energy supply

Marcus Bunk, TU Braunschweig, Germany; Michael Kurrat, TU Braunschweig, Germany; Mario Korte, University of Oldenburg, Germany; Wolfgang Nebel, University of Oldenburg, Germany; Arne Dammasch, TU Braunschweig

Block 4: DG/DER technology : 16.00 - 17.30 hrs

0184 Operational experience and field tests on islanding events caused by large photovoltaic plants

Francisco José PAZOS, IBERDROLA DISTRIBUCIÓN ELÉCTRICA, Spain

0413 Early findings of an Energy Storage practical demonstration

Peter Lang, UK Power Networks, UK; Neal Wade, Durham University, UK; Phil Taylor, Durham University, UK; Peter Jones, ABB UK, UK; Tomas Larsson, ABB Sweden, Sweden

0955 Inductive Shielded Superconducting Fault Current Limiter - An Enabler of Smarter Grids

Uwe Kaltenborn, Schneider Electric Sachsenwerk GmbH, Germany; Frank Mumford, Alstom Grid, UK; Alexander Usoskin, Bruker EST, Germany; Thomas Janetschek, Stadtwerke Augsburg, Germany; Stefan Schmidt, Bruker Advanced Supercon, Germany

1067 Increasing Grid Transmission Capacity and Power Quality by a new Solar Inverter Concept in Low Voltage Grids with a high Proportion of Distributed Power Plants

Peter Esslinger, Technische Universität München, Germany; Rolf Witzmann, Technische Universität München, Germany

1152 Efficient connection of large-scale DER with intelligent superconducting cables

Irina Melnik, Alliander, Netherlands; Alex Geschiere, Alliander, Netherlands; Dag Willén, Alliander, Netherlands; Oleg Chevtchenko, Alliander, Netherlands; Heidi Lentge, Alliander, Netherlands; Vandana Mehairjan, Alliander, Netherlands

Round tables, Session 2 : Power Quality & Electromagnetic Compatibility

Room : Fantasie (L3)

09.00 - 10.30 hrs : RT.2a : Voltage quality monitoring, dip classification and responsibility sharing

11.00 -12.30 hrs : RT.2b : Economic framework of power quality

14.00 - 15.30 hrs : RT.2c : EMF - Revision of magnetic fields limits

RIF, Session 2: Power Quality & Electromagnetic Compatibility : 16.00 - 17.30 hrs

Room : Fantasie (L3)



Block 1 : Electromagnetic interference, electric and magnetic fields and grounding systems

0085 New optimized analysis method for measuring extended grounding systems
Martin Lindinger, Graz University of Technology, Institute of Electrical Power Systems, Austria; Herwig Renner, Graz University of Technology, Institute of Electrical Power Systems, Austria; Ernst Schmutzger, Graz University of Technology, Institute of Electrical Power Systems, Austria

1270 Electrical Safety in LVDC Distribution System
Pasi Salonen, Lappeenranta University of Technology, Finland; Andrey Lana, Lappeenranta University of Technology, Finland; Tero Kaipia, Lappeenranta University of Technology, Finland; Pasi Nuutinen, Lappeenranta University of Technology, Finland; Jarmo Partanen, Lappeenranta University of Technology, Finland

Block 2 : Steady-state disturbances

0206 A simple model for interaction between equipment at a frequency of some tens of kHz.
Sarah Rönnerberg, Luleå University of Technology, Sweden; Anders Larsson, Luleå University of Technology, Sweden; Math Bollen, Luleå University of Technology, Sweden; Jean-Luc Schaanen, Grenoble Electrical Engineering Lab, France

0513 Perturbation measurements on overhead networks using electric field sensors
Pedro Issouribehere, IITREE - FI - UNLP, Argentina; Daniel Esteban, IITREE - FI - UNLP, Argentina; Fernando Issouribehere, IITREE - FI - UNLP, Argentina

Block 3 : Disturbing events

0587 A New Assessment Method of Voltage Sag Frequency Considering Customer Satisfaction Degree
Ying Wang, Sichuan University, China; XianYong Xiao, Sichuan University, China; Peidong Xu, Sichuan University, China

1139 Decentralised Controller for Flicker Mitigation in Converter-connected DG Networks
PIYADANAI PACHANAPAN, University of Strathclyde, UK; ADAM DYSKO, University of Strathclyde, UK; OLIMPO ANAYA-LARA, University of Strathclyde, UK; GRAEME BURT, University of Strathclyde, UK; KWOK LO, University of Strathclyde, UK

Block 4 : Power Quality in a competitive market

1099 On dimensioning LVDC distribution network capacitances and impacts on power losses
Andrey Lana, Lappeenranta University of Technology, Finland; Tero Kaipia, Lappeenranta University of Technology, Finland; Pasi Nuutinen, Lappeenranta University of Technology, Finland; Tuomo Lindh, Lappeenranta University of Technology, Finland; Jarmo Partanen, Lappeenranta University of Technology, Finland

Round tables, Session 6: Distribution business & impact of regulation

Room : Illusion (L3)

09.00 -10.30 hrs : RT.6a : Role of DSOs in Smart Grid environment
11.00 - 12.30 hrs : RT.6b : Smart grid development programs in different countries
14.00 - 15.30 hrs : RT.6c : AMM and energy services

RIF, Session 6: Demand response as an active resource of Smart Grid: 16.00 - 17.30 hrs

Room : Illusion (L3)

Demand response as an active resource of Smart Grid



0480 Smart Energy Products for Efficient Demand Response: Results of Swiss Smart Grid Pilot Project
Elvira Kaegi, BKW FMB Energie AG, Switzerland; Daniel Berner, BKW FMB Energie AG, Switzerland; Adrian Peter, BKW FMB Energie AG, Switzerland

0697 Assessment of the Possibilities of Demand Response Resources in Energy and Capacity Markets
Antonio Gabaldon, Universidad Politécnica de Cartagena, Spain; Monique Hernandez, Universidad Politécnica de Cartagena, Spain; Maria del Carmen Ruiz, Universidad Politécnica de Cartagena, Spain; Antonio Guillamon, Universidad Politécnica de Cartagena, Spain; Carlos Alvarez, Instituto de Ingeniería Energética IIE-UPV, Spain; Sergio Valero, Universidad Miguel Hernández, Spain; Mario Ortiz, Universidad Miguel Hernández, Spain

0786 The introduction of local system services: the case of storage in the low voltage network
Yoush van Vlimmeren, University of Technology Eindhoven, Netherlands; Greet M.A. Vanalme, University of Technology Eindhoven, Netherlands; Geert P.J. Verbong, University of Technology Eindhoven, Netherlands; Martijn Bongaerts, Alliander, Netherlands; Wil L. Kling, University of Technology Eindhoven, Netherlands

0937 Assessment of Flexible Demand Response Business Cases in the Smart Grid
Gerrit Jötten, Karlsruhe Institute of Technology (KIT), Germany; Anke Weidlich, SAP AG, Germany; Lilia Filipova-Neumann, Karlsruhe Institute of Technology (KIT), Germany; Alexander Schuller, Karlsruhe Institute of Technology (KIT), Germany

1003 Supporting Domestic Energy Reduction Via Persuasive Technology
Cornelia Gerdenitsch, CURE - Center for Usability Research and Engineering, Austria; Johann Schrammel, CURE - Center for Usability Research and Engineering, Austria; Wolfgang Reitberger, ICT&S Center, University of Salzburg, Austria; Manfred Tscheligi, CURE - Center for Usability Research and Engineering, Austria

Poster Session, Session 1¹: Network Components : 09.00 - 17.30 hrs (Exhibition hall)

Interactive Guided Tour

Block 1: Asset management

0024 MAINTENANCE STRATEGIES TO OPTIMIZE THE MANAGEMENT OF POWER TRANSFORMERS
José Martínez, Edenor S.A., Argentina

0166 Modern Methods of After-laying testing of Power Cables
Edward Gulski, onsite.hv.solutions AG, Switzerland; Ed Prent, onsite.hv.solutions Benelux B.V., Netherlands; Laurens Pots, BV Twentsche Kabelfabriek, Netherlands; Johan Smit, Delft University of Technology, Netherlands; Frank de Vries, Liandon B.V., Netherlands; Piotr Cichecki, onsite.hv.solutions Benelux B.V., Netherlands

0231 Equipment for adsorbent regeneration with application of high-power UHF electromagnetic field
Yuriy V. Goncharenko, Institute for radiophysics and electronics, Ukraine; Vladimir Gorobets, Institute for radiophysics and electronics, Ukraine; Felix Kivva, Institute for radiophysics and electronics, Ukraine; Sergey Zotov, Institute for radiophysics and electronics, Ukraine; Michel Golovko, Institute for radiophysics and electronics, Ukraine; Alexander I. Govorishv, Setra LTD, Ukraine

0327 Automatic Partial Discharge Pattern Recognition for Use in On-line Cable Condition Monitoring Systems
Xiaosheng Peng, Glasgow Caledonian University, UK; Chengke Zhou, Glasgow Caledonian University, UK; Donald M. Hepburn, Glasgow Caledonian University, UK

0360 Rethinking helicopter-based inspections

¹ As of 29 April 2011



Antoine Minaud, EDF R&D, France; Bertrand Jarry, EDF R&D, France

0389 Dielectric loss measurement of power cables using Hamon Approximation
Daniel Götz, SebaKMT GmbH, Germany; Huberth Schlapp, SebaKMT GmbH, Germany; Hein Putter, SebaKMT GmbH, Germany

0399 Evaluation of PD Measurements on MV Cable Systems by Means of a WEB Database
Frank Petzold, SEBAKMT GmbH, Germany; Steffen Böttcher, SEBAKMT GmbH, Germany

0479 Improving the management of MV underground cable circuits using automated on-line cable Partial Discharge mapping
Matthieu Michel, UK Power Networks, UK; Carl Eastham, IPEC Ltd, UK

0514 Intelligently managing metering assets in a changing environment
Pedro Felício, EDP Distribuição, Portugal

0668 Online Monitoring and Fault Diagnostics of Mechanical Conditions of High-voltage Disconnectors
Jiayang Lin, State Grid, China; Chaoying Xiong, State Grid, China; Jian Fu, State Grid, China

0703 Polymer End-of-Life Indicator
Danny Geldtmeijer, Enexis, Netherlands; Henryk Herman, GnoSys UK, UK; Albert Pondes, Enexis, Netherlands; Gary Stevens, GnoSys UK, UK; Han Sloodweg, Eindhoven University of Technology, Netherlands

0767 Service experiences in Denmark with mixed medium voltage MV cable system consisting of both XLPE and PILC cable technologies
Jens Zoëga Hansen, Danish Energy Association, Denmark

0769 PAPER-IMPREGNATED MV CABLES AGEING
Yves BRUMENT, EDF R&D, France; Valérie MURIN, EDF R&D, France; Roger TAMBRUN, ERDF - DR - DFI, France

0803 Maintenance Cost Reduction by Improved Methods for Condition Assessment of Wood Poles
Thomas Welte, SINTEF Energy Research, Norway; Steinar Refsnaes, SINTEF Energy Research, Norway

0831 Diagnostic Measurements for the Condition Evaluation of Power Transformers
Christof Sumereder, Graz University of Technology, Austria; Martin Ammer, OMV, Austria; Matthias Boltze, Doble Lemke, Germany; Stefan Kornhuber, Doble Lemke, Germany; Thorsten Friedrich, ENSO, Germany; Gerd Valtin, HTKW Leipzig, Germany; Hermann Filipot, Kelag Netz GmbH, Austria; Michael Marketz, Kelag, Austria; Roland Schmid, VOEST ALPINE, Austria

0862 Location of switchgear partial discharge by panel and techniques to correlate switchgear and cable partial discharge with load and substation environment
Sarah Carter, PPA Energy, UK; Cliff Walton, PPA Energy, UK; Colin Smith, IPEC, UK; Matthieu Michel, UK Power Networks, UK

0994 Improved Algorithm for on-line Partial Discharge Location in Cables
Faisal Peer Mohamed, University of strathclyde, UK; Siew Wa hoon, University of strathclyde, UK; Soraghan John, University of strathclyde, UK; Scott Strachan, University of strathclyde, UK; Neil McDonald, SP power systems, UK; Jamie McWilliam, SP power systems, UK

1005 Multi sensor device for monitoring pre-discharges in medium voltage equipment
Letizia De Maria, Ricerca sul Sistema Energetico RSE Spa, Italy; Giovanni Pirovano, Ricerca sul Sistema Energetico RSE Spa, Italy; GianMario Ogliari, Ricerca sul Sistema Energetico RSE Spa, Italy; Daniele Bartalesi, Ricerca sul Sistema Energetico RSE Spa, Italy

1023 Integral cable condition assessment - combining VLF Testing, Sheath-Testing, Dissipation Factor (tan delta) and Partial Discharge Measurements.



Alexander Gerstner, BAUR, Austria

1030 Non-destructive DP analysis of kraft paper from shell-type power transformers
Henryk Herman, GnoSys UK Ltd, UK; Patrick Baird, GnoSys UK Ltd, UK; Will Mortimore, GnoSys UK Ltd, UK; Annelore Schaut, Laborelec, Belgium; Gary Stevens, GnoSys UK Ltd, UK

1070 Improving TDR measurement in multi-joint cable network
Yuxian Tao, University of Strathclyde, UK; W H Siew, University of Strathclyde, UK; J J Soraghan, University of Strathclyde, UK

1078 Real-time monitoring of overhead transmission line and its risk assessment
Iijia ren, Shibe Power Supply company, Shanghai Municipal Electric Power Company, China; li zhang, Shibe Power Supply company, Shanghai Municipal Electric Power Company, China; hong li, Shibe Power Supply company, Shanghai Municipal Electric Power Company, China

1095 Outcome of SmartLife : a European coordination action in asset management of T&D networks
Christian GUILLAUME, EDF R&D, France; Christophe GAUDIN, ERDF, France; Hallvard FAREMO, SINTEF, Norway; Giovanni PIROVANO, RSE, Italy; Lars LUNDGAARD, SINTEF, Norway; Laura PANELLA, ENEL, Italy; Jos WETZER, KEMA, Netherlands; Guillermo ALLENDE ARANGUIZ, IBERDROLA, Spain

1205 Detection and Location of Partial Discharge in MV cables in electrically noisy industrial environments
Carl Eastham, IPEC Ltd, UK; Colin Smith, IPEC Ltd, UK; Fa-Chung Chen, Wain-Tsiang Enterprise Co., Ltd, Taiwan

1257 On-line continuous PD monitoring for in service distribution class cables and switchgears
Denis Denissov, SebaKMT, Germany; Malcolm Setzer-Grant, HVPD, UK; Hubert Schlapp, SebaKMT, Germany; Frank Petzold, SebaKMT, Germany; Ross Mackinlay, HVPD, UK; Lee Renforth, HVPD, UK

1327 Health Index: a technical indicator of underground network reliability
Benoît Puluhen, EDF R&D, France; Eric Dorison, EDF R&D, France; Valérie Murin, EDF R&D, France; Roger Tambrun, ERDF, France

Block 2: innovative network components and solutions for Smart Grids

0055 Application of Voltage Source Converters to Manage Power Flow and Enhance Operational Performance of a Microgrid
Mojtaba Khederzadeh, Power & Water University of Technology, Iran

0130 Intelligent Transformer Substations in Modern Medium Voltage Networks as Part of "Smart Grid"
Bernd Schüpferling, Siemens AG, Germany; Jürgen Riemenschneider, Siemens AG, Germany; Bruno Opitsch, Siemens AG, Germany

0205 Laboratory and field trial experiences with a smart MV/LV substation
Erik de Jong, KEMA, Netherlands; Irina Melnik, Alliander, Netherlands; Jan Bozelie, Alliander, Netherlands; Dmytro Malyna, Exendis, Netherlands; Ben Wargers, Imtech, Netherlands; Gerard Schoonenberg, Eaton, Netherlands; Josco Kester, ECN, Netherlands

0234 Pressure monitoring techniques of vacuum interrupters
Rama Parashar, Alstom Grid Research & Technology Centre, UK

0278 H-Bridge modular multilevel converter for high-voltage applications
Grain Philip Adam, Strathclyde University, UK; Khaled AHMED, Strathclyde University, UK; Nand SINGH, Strathclyde University, UK; Stephen FINNEY, Strathclyde University, UK; Barry WILLIAMS, Strathclyde University, UK



0352 Nexans' Superconducting Fault Current Limiters for medium voltage applications - status and prospects

Joachim Bock, Nexns SuperConductors, Germany; Achim Hobl, Nexns SuperConductors, Germany; Simon Krämer, Nexns SuperConductors, Germany; Markus Bludau, Nexns SuperConductors, Germany; Judith Schramm, Nexns SuperConductors, Germany; Christian Jänke, Nexns SuperConductors, Germany; Steffen Elschner, University of Applied Science, Germany; Mark Rikel, Nexns SuperConductors, Germany

0386 Performance evaluation of distribution equipment under severe grid conditions

Erik de Jong, KEMA, Netherlands; Peter Vaessen, KEMA, Netherlands; Jan Bozelie, Alliander, Netherlands

0456 Fault Limiting Technologies in Distribution Networks

David Klaus, Applied Superconductor, UK; Darren Jones, ENW, UK; Jamie McWilliam, ScottishPower, UK; Alan Creighton, CE-Electric, UK; Larry Masur, Zenergy Power, USA; Franco Moriconi, Zenergy Power, USA; Joachim Bock, Nexans SuperConductor, Germany; Achim Hobl, Nexans SuperConductor, Germany

0494 Local Intelligent Circuit Breakers - A New Concept for the Refurbishment of Existing Distribution Network

Uwe Kaltenborn, Schneider Electric Sachsenwerk GmbH, Germany; Pavel Novak, Schneider Electric Sachsenwerk GmbH, Germany; Michael Karstens, Schneider Electric Sachsenwerk GmbH, Germany; Raimund Summer, Schneider Electric Sachsenwerk GmbH, Germany

0495 Dynamic Thermal Simulation of Gas Insulated Switchgear

Uwe Kaltenborn, Schneider Electric Sachsenwerk GmbH, Germany; Xiaoting Dong, Schneider Electric Sachsenwerk GmbH, Germany

0501 Smart eVolution, simplicity and reliability in the MV distribution network with IEC 61850

Calogero Saeli, ABB Spa, Italy; Emilia Daneri, ABB Spa, Italy; Callisto Gatti, ABB Spa, Italy; Carlo Gemme, ABB Spa, Italy

0502 Increasing the operation efficiency of EDP Distribuição Overhead Power Lines

Rui Bernardo, EDP Distribuição, Portugal; Alves Coelho, EDP Distribuição, Portugal; Nuno Diogo, EDP Distribuição, Portugal

531 Technical Solutions for Electric Vehicles Integration

Diogo Tavares, EDP Distribuição, Portugal; Pedro Fernandes, EDP Distribuição, Portugal

0680 Saturated-Core Fault Current Limiter Field Experience at a Distribution Substation

Albert Nelson, Zenergy Power Inc., USA; Larry Masur, Zenergy Power Inc., USA; Franco Moriconi, Zenergy Power Inc., USA; Francisco De La Rosa, Zenergy Power Inc., USA; Detlev Kirsten, Zenergy Power GmbH, Germany

0822 Applications of Low Power Current and Voltage Sensors

Rolf Fluri, Trench Switzerland AG, Switzerland; Joachim Schmid, Trench Switzerland AG, Switzerland; Paul Braun, Trench Switzerland AG, Switzerland

0899 An improved power transformer design for dynamic voltage restoration applications

Pablo Arbolea, University of Oviedo, Spain; Manuel Coto, University of Oviedo, Spain; José Coto, University of Oviedo, Spain

0918 Dynamic thermal ratings: The state of the art

Samuel Jupe, Parsons Brinckerhoff, UK; Marc Bartlett, Parsons Brinckerhoff, UK; Katherine Jackson, Parsons Brinckerhoff, UK

1091 ADVANCED SENSORS FOR THE SMARTGRID: HOW TO DEAL WITH EXISTING SWITCHGEAR IN SECONDARY SUBSTATIONS

Aitor Arzuaga, ZIV, Spain; Jose Antonio Moreno, ZIV, Spain; Covadonga Coca, ZIV, Spain



1098 Comparison of Cascaded H-Bridge Converters and Modular Multilevel Converters for the use in Medium Voltage Grid Connected Battery Energy Storage Systems
Lennart Baruschka, Leibniz University of Hannover, Germany; Axel Mertens, Leibniz University of Hannover, Germany

1121 Distribution transformers - ready for SmartGrid
Gyula Hipszki, Siemens Traszformátor Kft., Hungary; Ronald Schmid, Siemens AG, Germany; Reinhard Maier, Siemens AG, Germany; Gerhard Buchgraber, Siemens Transformers Austria GmbH & Co KG, Austria; Karsten Handt, Siemens AG, Germany

1219 Experiences with a Self Learning Expert System (SLES) for dynamic rating of power transformers
Thanh Le, Liandon, Netherlands; Maarten van Bentem, Liandon, Netherlands; Michiel Geurds, Liandon, Netherlands; Teunis Brand, Liandon, Netherlands; Alex Geschiere, Liandon, Netherlands; Erika Piga-Gehrke, Liandon, Netherlands

1256 Breakthrough in development of superconducting cables
Alex Geschiere, Alliander, Netherlands; Irina Melnik, Alliander, Netherlands; Dag Willén, Alliander, Netherlands; Oleg Chevtchenko, Alliander, Netherlands; Heidi Lentge, Alliander, Netherlands

1295 Green e-Motion - Adaption of E-Mobility Infrastructure to Mass Market Requirements
Heike Barlag, Siemens AG, Germany; Christine Schwaegerl, Siemens AG, Germany; Will Crookes, Alstom Grid, UK; Fainan Hassan, Alstom Grid, UK; Sebastian Mathar, Forschungsgesellschaft Kraftfahrwesen mbH, Germany

[Block 3: evolutions of standards and specifications, trends in network components for cable links and overhead lines](#)

0026 State of the art of laws and standards in the field of eco-design of electrical and electronic equipment in Europe
Mehrdad Hassanzadeh, Schneider Electric, France; Renaud Metz, Université UM2/ICGM/C2M, France; Serge Theoleyre, Schneider Electric, France

0037 Investigations towards the upgrading of existing 10 kV cables and accessories to an operating voltage of 20 kV
Willem Boone, KEMA, Netherlands; Ger Sebregts, Alliander, Netherlands; Nico Steentjes, Alliander, Netherlands; Frank de Wild, KEMA, Netherlands; Jos van Rossum, Prysmian, Netherlands; Qikai Zhuang, Technical University D, Netherlands

0040 Novel Nanocomposite Insulation Materials for the Enhancing Performance of Power Cables
Ahmed Mohamed, South Valley University, Egypt; Youssef Mobarak, South Valley University, Egypt

0087 New specifications on MV switchgear for cable test features
Didier FULCHIRON, Schneider-Electric, France; Gilles MOESCH, Schneider-Electric, France

0117 Study and Investigation of Medium Voltage Polluted Insulators In Alexandria Distribution Grid
Ahmed Hossam-Eldin, Faculty of Engineering-Alexandria University, Egypt; Ibrahim Madi, Alexandria Electricity Distribution Company, Egypt; Sami Sharaf, Alexandria Electricity Distribution Company, Egypt

0203 A Life Cycle Analysis Study of Competing MV Cable Materials
Simon Sutton, Dow Chemical Company Ltd, UK

0240 EFFECT OF MISSING 30 kV NEUTRAL WIRE ON NETWORK BEHAVIOR



ABADLIA Abderrazek, STEG : Tunisian electric utilities, Tunisia; TAAMALLAH Abderrahim, STEG : Tunisian electric utilities, Tunisia; AKKARI Salem, STEG : Tunisian electric utilities, Tunisia; AZRI Nawfel, STEG : Tunisian electric utilities, Tunisia

0290 RELIABILITY OF MECHANICAL CONNECTORS FOR MEDIUM VOLTAGE CABLES

Klaus-Dieter Haim, University of Applied Sciences, Germany; Kai-Uwe Bentkowski, University of Applied Sciences, Germany

0392 Spun pre-stressed concrete poles: alternative to wooden and steel poles for low, medium, and high voltage

Frank Dittmar, Eurocoles GmbH & Co. KG, Germany; Habib Bahous, Eurocoles GmbH & Co. KG, Germany

0452 Design and Installation of First 20 kV Spacer Cable in Iran

Mehrdad Tarafdar Hagh, Univ. of Tabriz, Iran; Karim Roushan Milani, East Azarbaijan Elect. Dist. Co., Iran; Mohammad Osouli Tabrizi, East Azarbaijan Elect. Dist. Co., Iran

499 Technical implementation of cross bonding on underground high voltage lines projects

António Sobral, EDP Distribuição, Portugal; Ângela Moura, EDP Distribuição, Portugal; Maria Carvalho, EDP Distribuição, Portugal

0679 New Test Results with 3kHz Accelerated Growth of Water Trees in Medium Voltage XLPE Cables

Blandine Henny, Laborelec, Belgium; Quentin De Clerck, Laborelec, Belgium; Pieter Leemans, Eandis, Belgium; Daniel Tenret, Ores, Belgium; Alain François, Ores, Belgium; Joachim Marginet, Eandis, Belgium

0779 METHODOLOGY FOR EVALUATING THE DURABILITY OF PE OUTER SHEATH OF UNDERGROUND ELECTRIC CABLES

Ines MKACHER, EDF Recherche et Développement, France; Yves BRUMENT, EDF Recherche et Développement, France; Valérie MURIN, EDF Recherche et Développement, France; Ingrid SELLIER, EDF Recherche et Développement, France; Xavier COLIN, PIMM-ARTS et Métiers Paris Tech, France

0842 SYNERDIS GROUP COMMON SPECIFICATION OF MV SWITCHGEAR AND CONTROLGEAR (RMU) FOR MV/LV SUBSTATIONS

GAILLARD Franck, EDF R&D, France; LAUZEVIS Patrick, ERDF, France; Andreas HETTICH, ENBW, Germany; Ferenc FARAGO, DEMASZ, Hungary; Tatiana MALIKOVA, SSE, Slovakia; Peter MICHALOVIC, SSE, Slovakia; Paul DYER, UK POWER NETWORKS, UK; Christian GUILLAUME, EDF R&D, France

0884 The effect of high (cycling) current loads on joints in MV cable systems

Fred Steennis, KEMA, Netherlands; Piet Soepboer, Enexis, Netherlands; Jan Mosterd, Alliander, Netherlands; Peter Buys, Stedin, Netherlands; Piet Oosterlee, Delta Netwerkbedrijf, Netherlands; Leon Bokam, Westland Infra, Netherlands; Ralf Meier, Lovink Enertech, Netherlands

0971 Life time estimation of SF6 MV switchgear according to on-site conditions on DNO's distribution networks

Yvan Tits, Laborelec, Belgium; Giles Delouvroy, Laborelec, Belgium; Joachim Marginet, Eandis, Belgium; Alain François, Ores, Belgium; Marcel van den Berg, Sibelga, Belgium

0982 DOW ECOLIBRIUMTM Bio-based Plasticizers for Flexible PVC

ROBERT EATON, The Dow Chemical Company, USA; ABHIJIT GHOSH-DASTIDAR, The Dow Chemical Company, USA; THEO GEUSSENS, The Dow Chemical Company, USA; BHARAT CHAUDHARY, The Dow Chemical Company, USA

1197 Replacing Steel Towers with Wooden Poles on ESB Networks 110kV Lines

Peter Ennis, ESB Networks, Ireland; Brian Gallagher, ESB Networks, Ireland; Andy Hanson, ESB Networks, Ireland; Enda Feeley, Eirgrid, Ireland; Peadar Dehora, ESB Networks, Ireland; Anthony Walsh, ESB Networks, Ireland

1222 Dielectric Compatibility of Distribution Network Spacer System



Credson de Salles, Federal University of Itajubá, Brazil; Alan Melo Nobrega, Federal University of Itajubá, Brazil; Manuel Martinez, Federal University of Itajubá, Brazil; Edson Luis Batista, AES Sul Utility, Brazil; Juliana Uchoa, AES Sul Utility, Brazil; Hermes Oliveira, AES Sul Utility, Brazil

1259 Portable Voltage Regulator for Low Voltage Networks

Francisco Saraiva, USP, Brazil; Silvio Xavier, USP, Brazil; Ricardo Tufaniuk, AES ELETROPAULO, Brazil; Marcelo Pelegrini, SINAPSIS Inovação em Energia, Brazil; Juan Cebrian, SINAPSIS Inovação em Energia, Brazil

1266 Assessment of in service composite insulators in very harsh coastal environment of Iran:

Laboratory & Field testing

majid rezaei, niroo research institute, Iran; mohammad reza shariati, niroo research institute, Iran; sasan jabbari, niroo research institute, Iran

Block 4: trends in network components for substations

0077 Evolution and development of medium voltage equipment for special wind farm applications.
Jose Maria Torres Novalbos, Ormazabal, Spain; Iñaki Blanco Bartolome, Ormazabal, Spain

0197 The full underground distribution transformer in practice

Frank de Groot, Liandon-part of Alliander, Netherlands; Maarten van Riet, Liandon-part of Alliander, Netherlands; Gerard Buisman, Liandon-part of Alliander, Netherlands

0227 Amorphous Distribution Transformers Trial Test Campaign

Christophe ELLEAU, EDF R&D, France; Malick MOUHAMED, EDF R&D, France; Bertrand JARRY, ERDF, France; Christian SCHWOEHRER, ERDF, France; Andreas HETTICH, ENBW, Germany

0260 Development of Solid Insulated Switchgear for Medium Voltage

Zheng Menglei, LS Industrial System, Republic of Korea; Ma Ji Hoon, LS Industrial System, Republic of Korea; Yu Lyun, LS Industrial System, Republic of Korea; Lee Seog Won, LS Industrial System, Republic of Korea; Kim Young Geun, LS Industrial System, Republic of Korea

0297 Development of pole-mounted distribution transformer with aramid insulation for increased capacity and reliability of power distribution network

Bilal Ahmad, Pak Elektron Limited, Pakistan; Faisal Jawad, Pak Elektron Limited, Pakistan; Irfan Baber, Pak Elektron Limited, Pakistan; Idrees Butt, WAPDA, Pakistan; Radoslaw Szewczyk, DuPont, Poland

0309 The Influence of Direct Insolation on Outdoor Power Transformers Loadability

Slobodan Maksimovich, Electricity Distribution Company „Elektrodistribucija Beograd“, Serbia; Slobodan Radojevich, „ABS Minel trafo“, Serbia; Vladimir Shiljkut, Electricity Distribution Company „Elektrodistribucija Beograd“, Serbia

0333 Compact metering solution withstands harsh environment

Yves CHOLLOT, Schneider-electric, France; Venzio FERRARO, Schneider-electric, France; Sebastien BRUNET, Schneider-electric, France

0385 Solution for internal arc flash hazards in air insulated switchgear

Young-woo Jeong, LS Industrial Systems, Republic of Korea; Hyun-wook Lee, LS Industrial Systems, Republic of Korea; Yang-seop Sin, LS Industrial Systems, Republic of Korea; Young-keun Kim, LS Industrial Systems, Republic of Korea

0439 Performance of Vacuum Circuit-Breakers with Contact Bouncing during Closing

Edgar Dullni, ABB AG, Germany; Philippe Picot, Schneider Electric, France

0453 Innovative Compact 145/12 kV Indoor Air Insulated Substations (AIS)

Hans-Erik Olovsson, ABB Substations, Sweden; Kjell Stålberg, Borlänge Energi, Sweden; Anders Lundvall, ABB Substations, Sweden; Tomas Nilsson, ABB Substations, Sweden



0468 A low-cost high performance MV RMU with circuit breakers for use in remote controlled MV-LV substations

Fabio Giammanco, Enel Distribuzione SpA, Italy; Luca Giansante, Enel Distribuzione SpA, Italy

0477 New underground HV/LV prefabricated substations for better integration in the environment
Thierry CORMENIER, Schneider Electric, France; Patrick BRUN, Schneider Electric, France; Loïc VIEU-VIENNET, Schneider Electric, France

0488 SWITCHING OF SMALL INDUCTIVE CURRENTS USING VACUUM CIRCUITBREAKERS

Pavel Novak, Schneider Electric Sachsenwerk GmbH, Germany; Mario Haim, Schneider Electric Sachsenwerk GmbH, Germany; Peter Beer, Schneider Electric Sachsenwerk GmbH, Germany; Stephane Melquiond, Schneider Electric SA, France; Uwe Kaltenborn, Schneider Electric Sachsenwerk GmbH, Germany

0489 Sustainability in medium voltage switchgear

Bert ter Hedde, Eaton Electric B.V., Netherlands; Alex Pikkert, Eaton Electric B.V., Netherlands; Thomas Neurink, Utrecht University, Netherlands

0492 A NOVEL APPROACH FOR THE THERMAL ANALYSIS OF AIR INSULATEDSWITCHGEAR

Shailendra Singh, Schneider Electric Sachsenwerk GmbH, Germany; Raimund Summer, Schneider Electric Sachsenwerk GmbH, Germany; Uwe Kaltenborn, Schneider Electric Sachsenwerk GmbH, Germany

0775 Accelerated ageing for a MV/LV distribution transformer equipped with optic fibers

Philippe FOLLIOU, AREVA, France; Thierry CORMENIER, AREVA, France; Châu TRAN DUY, EDF R&D, France; Christophe ELLEAU, EDF R&D, France; Bertrand JARRY, ERDF, France; Patrick LAUZEVIS, ERDF, France; Valérie MURIN, EDF R&D, France

0839 A diode based capacitor switch - a novel solution for power quality improvement

Magnus Backman, ABB, Sweden; Stefan Halén, ABB, Sweden; Edgar Dullni, ABB, Germany; Mietek Glinkowski, ABB, USA; Donald Chu, Consolidated Edison Inc., USA; Halim Malaj, Consolidated Edison Inc., USA

0984 Dry-type Transformers for the 72.5 kV Voltage Class

Jens Tepper, ABB AG, Germany; Rafael Murillo, ABB S.A., Spain; Carlos Roy, ABB S.A., Spain; Jasmin Smajic, ABB Schweiz AG, Switzerland; Meike Erichsen, ABB AG, Germany; Mariano Berrogain, ABB Schweiz AG, Switzerland

1075 Integrated Cable Test Facility in Compact Medium Voltage Switchgear

Paul Schoten, Eaton Electric B.V., Netherlands; Bert ter Hedde, Eaton Electric B.V., Netherlands; Mark Strydom, Eaton Electric B.V., Netherlands

1137 Solutions for Internal Arc protection acc. IEC 62271-200 with pressure relief into the switchgear room for Gas and Air insulated medium voltage switchgears.

Harethe El Ouadhane, Schneider Electric, Germany; Helmut Spitzer, Schneider Electric, Germany; Raimund Summer, Schneider Electric, Germany; Mario Haim, Schneider Electric, Germany; Uwe Kaltenborn, Schneider Electric, Germany

1145 Life Cycle Assessment of Dry-type and Oil-immersed Distribution Transformers with Amorphous Metal Core

Martin Carlen, ABB Management Services Inc., Switzerland; Ulrika Överstam, ABB Management Services Inc., Switzerland; VR V Ramanan, ABB Management Services Inc., Switzerland; Jens Tepper, ABB Management Services Inc., Switzerland; Lennart Swanström, ABB Management Services Inc., Switzerland; Pawel Klys, ABB Management Services Inc., Switzerland; Egil Striken, ABB Management Services Inc., Switzerland

1148 Sustainable Electrical Energy using Natural Ester Technology



David Bingenheimer, Cooper Power Systems, USA; Eugene Del Fiacco, Cooper Power Systems, USA; Kevin Rapp, Cooper Power Systems, USA; Luiz Franchini, Cooper Power Systems, USA; José Mak, Cooper Power Systems, USA; Vagner Vasconcellos, Cooper Power Systems, USA

1170 Developments for maximum safety in medium voltage substations regarding internal arcs
Gerard Schoonenberg, Eaton Electric BV, Netherlands; Martin Binnendijk, Eaton Electric BV, Netherlands; Frits Besseling, Eaton Electric BV, Netherlands; Johan Morren, Enexis BV, Netherlands

1248 Benefits of innovative MV interconnectors system Venanzio Ferraro, Schneider Electric, France; Jean-Michel Bonfils, Schneider Electric, France; Sebastien Brunet, Schneider Electric, France

1253 Aging Performance of Natural Ester-Based Dielectric Fluids for Transformer System
Suh Joon Han, The Dow Chemical Company, USA; Tirso Gaglio, The Dow Chemical Company, USA; Xiaodong Zhang, The Dow Chemical Company, USA

1326 Simplified Internal arc-Structural simulation
Shailendra Singh, Schneider Electric, Germany; Raimund Summer, Schneider Electric, Germany

Non Interactive Tour - Session 1

Block 1: Asset management

0185 Use and Problems of On-line PD Measurement Technology on Switchgears in Guang Zhou Distribution System
Xiong Jun, Testing and Researches Institute, China; Wang Yong, Testing and Researches Institute, China; Huang Huihong, Testing and Researches Institute, China

0441 On-Line Condition Monitoring of non-effectively Earthed Distribution Network Using Transient Earth Fault Signals
Tianyou Li, Fujian Electric Power Co., China; Xiantai Zhang, Fuzhou University, China; Yiyun Guo, University College London, UK

0746 Non-Electric Measurements-Based on-line diagnosis method for the fault of transformer windings

Yuying Shao, Institute of Technology and Management of Shanghai Municipal Electric Power Company, China; Hong Guan, Institute of Technology and Management of Shanghai Municipal Electric Power Company, China; Yu Zhang, Institute of Technology and Management of Shanghai Municipal Electric Power Company, China; Zhijian Jin, Shanghai Jiao Tong University, China

0948 Failure Causes of Distribution Network Components
Ying He, Vattenfall R&D AB, Sweden; Anders Nilsson, EnergoRetea, Sweden; Fredrik Carlsson, Vattenfall R&D AB, Sweden

1283 Partial discharges measurements at field, in aged surge arresters
Wilson R. Bacega, Cia de Transmissao de Energia Eletrica Paulista - ISA CTEEP, Brazil; Hedio Tatizawa, Instituto de Eletrotecnica e Energia da USP - IEE/USP, Brazil; Geraldo F. Burani, Instituto de Eletrotecnica e Energia da USP - IEE/USP, Brazil

1286 Design and field test of low-cost online monitoring system in medium voltage underground cables

Jose Coto, University of Oviedo, Spain; Quintin Corrienero, HC Energia, Spain; Luis Santos, HC Energia, Spain; Miguel Arniella, Hc Explotación de Redes, Spain; Cristian Blanco, University of Oviedo, Spain; Manuel Coto, University of Oviedo, Spain; Veronica Mier, University of Oviedo, Spain; Javier Baragaño, HC Energia, Spain

Block 2: innovative network components and solutions for Smart Grids



0051 New and innovative Smart and Green Transformer Technologies

Harald Fink, Alstom Grid, Germany; Francois Devaux, Alstom Grid, France; Bartlomiej Dolata, Alstom Grid, Germany; Christophe Perrier, Alstom Grid, France

0223 Intelligent distribution equipment for fault anticipation of distribution network

Juyong Kim, KEPCO, Republic of Korea; Jintae Cho, KEPCO, Republic of Korea; Byung Sung Lee, KEPCO, Republic of Korea; Ilkeun Song, KEPCO, Republic of Korea

0258 The development of CT integrated Electronic meter

Youngseop Lee, KEPCO, Republic of Korea; Suemuk Yi, KEPCO, Republic of Korea; Youngkag Ban, KEPCO, Republic of Korea; Alex Pyo, KEPCO, Republic of Korea; Youngsik Shin, KEPCO, Republic of Korea

0603 Parameter Coordination of Modular Multilevel Converter for Robust Design during DC Pole-to-pole Fault

Shanshan Wang, China Electric Power Research Institute, China; Xiaoxin Zhou, China Electric Power Research Institute, China; Guangfu Tang, China Electric Power Research Institute, China; Zhiyuan He, China Electric Power Research Institute, China

0693 A universal power electronic interface for distributed generation and electric vehicles

Yi Lu, Zhejiang Electric Power Test and Research Institute, China; Xiao Ming Huang, Zhejiang Electric Power Test and Research Institute, China; Henry Wu, University of Liverpool, UK

0801 The Test and Installation of Medium Class(22.9kV) Hybrid type Fault Current Limiter in KEPCO Grid

Wonjoon Choe, LS Industrial Systems., Republic of Korea; Jungwook Sim, LS Industrial Systems., Republic of Korea; Gyeong-ho Lee, LS Industrial Systems., Republic of Korea; Seung-hyun Bang, LS Industrial Systems., Republic of Korea; Kwon-Bae Park, LS Industrial Systems., Republic of Korea; Young-keun KIM, LS Industrial Systems., Republic of Korea; Ok-Bae Hyun, LS Industrial Systems., Republic of Korea

Block 3: evolutions of standards and specifications, trends in network components for cable links and overhead lines

0100 Long term behaviour of outdoor terminations made of SiR

Roland Bärsch, University of Applied Science Zittau/Görlitz, Germany; Christian Bernauer, Cellpack Ltd, Germany; Jürgen Pilling, Cellpack Ltd, Germany; Volker Berthold, University of Applied Science Zittau/Görlitz, Germany; Jens Lambrecht, Wacker Chemie Ag, Germany

341 Electrical Resistivity and Contact Resistance of Electrically Conductive Silicones

Jens Lambrecht, Wacker Chemie AG, Germany; Martin Grunwald, Wacker Chemie AG, Germany; Roland Bärsch, Hochschule Zittau/Görlitz, Germany

0345 Introducing High-performance Polypropylene Thermoplastic Elastomer (HPTE) insulation for MV cables in the Netherlands

Jos van Rossum, Prysmian Cables and Systems B.V, Netherlands; Hanneke Tammenga, Prysmian Cables and Systems B.V, Netherlands; Lawrence Lamballais, Prysmian Cables and Systems B.V, Netherlands; Ben Aerns, Alliander, Netherlands; Alex Geschiere, Alliander, Netherlands; Ger Sebregts, Alliander, Netherlands; Alberto Bareggi, Prysmian SpA, Italy; Massimo Comina, Prysmian SpA, Italy

0708 Degradation studies of polymeric insulators-Products performance requirements

Fernando H. Molina, CELESC Distribuição S.A., Brazil; Joceli M. G. Angelini, Centro de Pesquisa e Desenvolvimento - CPqD, Brazil; José Eduardo Volponi, Centro de Pesquisa e Desenvolvimento - CPqD, Brazil; Alessandro P. Dadam, CELESC Distribuição S.A., Brazil; Luiz Henrique Meyer, Fundação Universidade Regional de Blumenau - FURB, Brazil

0781 An alternative to the LV network reinforcements

ZONTA Yves, ERDF, France



0950 Incompatibility between MV Switchgear conform the international standards and their use in DNO's substations

Marc Arens, Laborelec, Belgium; yvan Tits, Laborelec, Belgium; Joachim Marginet, Eandis, Belgium; Alain François, Ores, Belgium; Marcel van den Berg, BNO, Belgium

1073 Methodology for the utilization of compact distribution lines in coastal areas.

Arnaldo Kanashiro, University of São Paulo, Brazil; Geraldo Almeida, Matrix Engenharia em Energia, Brazil; Fernando Molina, CELESC Distribuição, Brazil; Gil Vasconcelos, Matrix Engenharia em Energia, Brazil; Sergio Cabral, Matrix Engenharia em Energia, Brazil; Walter Pinheiro, Matrix Engenharia em Energia, Brazil

Block 4: trends in network components for substations

0039 Oxidation stability of non inhibited vegetable transformer liquids

Ernesto Diestre, Repsol, Spain; Jesus Izcara, Ormazabal Corporate Technology, Spain; Francisco Sanz, Fundación Gomez Pardo, Spain

0086 New trends in noise reduction of power transformers

Tobias Stirl, ALSTOM Grid GmbH, Germany; Jörg Harthun, ALSTOM Grid GmbH, Germany; Frank Hofmann, ALSTOM Grid GmbH, Germany

0091 Installation conditions and improved MV air insulated switchgear are key factors for an extended service life

Sandrine MILAN, Schneider Electric, France; Cengiz Kaan ALTINAY, Schneider Electric, France; Jean-Marc BIASSE, Schneider Electric, France

0523 Efficiency and Economical Viability of Countryside Transformers Based on Percent Impedance Optimization and Amorphous Core

Arimatéa Nunes, Federal University of Itajubá, Brazil; Manuel Martinez, Federal University of Itajubá, Brazil; Hermes de Oliveira, AES Sul, Brazil; Rogério Salustiano, Federal University of Itajubá, Brazil; Estácio Wanderley Neto, Federal University of Itajubá, Brazil; Edson Batista, AES Sul, Brazil; Alan Nóbrega, Federal University of Itajubá, Brazil; Aellfclêniton Diniz, Federal University of Itajubá, Brazil

Poster Session, Session 5: Planning & system development 09.00 - 17.30 hrs (Exhibition hall)²

Interactive Guided Tour

Block 1: Asset Management and Maintenance Strategies

Sub-block 1: Theoretical Models

0152 A composite methodology for evaluating network risk

Simon Blake, Durham University, UK; Philip Taylor, Durham University, UK; David Miller, CE Electric UK, UK

0367 Asset Management - Replace or Refurbish Assets

Antonio Baptista, EDP Distribuição, Portugal; Alcides Couto, EDP Distribuição, Portugal; Jose Felicio, EDP Distribuição, Portugal

0443 Optimization of long-term cash flow calculations for high voltage equipment

Leyla Asgarieh, Technische Universität Darmstadt, Germany; Gerd Balzer, Technische Universität Darmstadt, Germany; Armin Precht, EnBW Regional AG, Germany; Christian Schorn, EnBW Regional AG, Germany

² As of 29 April 2011



0756 With transmission grid asset operation and maintenance fixed quota to support Life Cycle Cost absorption and analysis

FANG Xiaodong, Shanghai Municipal Electric Power Company, China; XU Wanrong, Shanghai Municipal Electric Power Company, China; WANG Weimin, Shanghai Municipal Electric Power Company, China

0825 Similarities and differences in the strategic asset simulation for electricity and gas distribution grids

Heiko Spitzer, entellgenio GmbH, Germany; Terence Dürauer, entellgenio GmbH, Germany; Armin Gaul, RWE Rhein-Ruhr Verteilnetz GmbH, Germany; Klaus Peters, RWE Rhein-Ruhr Verteilnetz GmbH, Germany

1002 New Life Cycle Costing and Risk Approaches to Asset Investment and Planning

Gary C Stevens, GnoSys UK Ltd, UK; Amy Mitchell, GnoSys UK Ltd, UK; Paul Scobie, GnoSys UK Ltd, UK; Damien Culley, National Grid PLC, UK; John Fitch, National Grid PLC, UK

1013 Determination of asset criticality: a practical method for use in risk-based investment planning

Paul Pschierer-Barnfather, EA Technology Limited, UK; David Hughes, EA Technology Limited, UK; Stephen Holmes, EA Technology Limited, UK

1307 Economic evaluation of assets profitability

Marcelo Pelegrini, SINAPSIS, Brazil; Ewerton Guarnier, SINAPSIS, Brazil; Sergio Teixeira, AES ELETROPAULO, Brazil; João Carlos Carvalho, SINAPSIS, Brazil; Carlos Tahan, USP, Brazil; Josimar Oliveira Silva, USP, Brazil

Sub Block 2: Reliability assessment

0444 An analytical framework to understand and manage reliability in distribution networks

Rui Gonçalves, EDP Distribuição, Portugal

0714 Daily fluctuations of electric reliability indices

Zdravko Jadrijević, HEP-ODS d.o.o., Croatia; Goran Majstrovic, Energy Institute Hrvoje Pozar, Croatia

970 An authentic example of investment planning of power distribution using quantitative Reliability and cost analyses

Henrik Rinnemo, Fortum Distribution, Sweden; Carl Johan Wallnerström, KTH - Royal Institute of Technology, Sweden; Mustafa Abdul-Rasool, KTH - Royal Institute of Technology, Sweden; Patrik Hilber, KTH - Royal Institute of Technology, Sweden

Sub Block 3: Applications and Experiences

0178 ASSET MANAGEMENT IMPROVEMENT IN DISTRIBUTION SUBSTATION

Dody Benyamin Pangaribuan, PT PLN (PERSERO), Indonesia; Bob Sarih, PT PLN (PERSERO), Indonesia; Ignatius Rendroyoko, PT PLN (PERSERO), Indonesia

0690 Examples of Condition Based Maintenance in Distribution Systems

Mohamed EL-Hadidy, Egyptian Electricity Transmission Company, Egypt; Dalal Helmi, Egyptian Electricity Transmission Company, Egypt

1224: Assessing the Risk of Performance-Based Maintenance of Off-shore Wind Farm Distribution Systems

Jorge Martínez, Siemens AG, Germany; Ramón Nadira, Siemens AG, Germany

Block 2: Network Development

Sub Block 2: Innovative Power Distribution

0094 Investigation of indoor low-voltage cables as Data communication channels

Samah Hashim, North Delta Electricity Distribution Company (NDEDC), Egypt

0126 Impacts of electric mobility on distribution grids and possible solution through load



management

Alexander Probst, University of Stuttgart, Germany; Martin Siegel, University of Stuttgart, Germany; Martin Braun, University of Stuttgart, Germany; Stefan Tenbohlen, University of Stuttgart, Germany

0294 Optimizing the EV electrical demand impact

Ricardo Messias, EDP, Portugal; Francisco Cravo Branco, EDP, Portugal; Carlos Santos, EDP, Portugal; José Ribeiro da Silva, EDP, Portugal

0305 Engineering the Distribution Systems of the Future

Alexander Apostolov, OMICRON electronics, USA

311 Development and operation of Active Distribution Networks. Results of CIGRE C6.11 Working Group.

Christian D'Adamo, Enel, Italy; Chad Abbey, Hydro-Québec Research Institute, Canada; Samuel Jupe, Parsons Brinckerhoff, UK; Fabrizio Pilo, DIEE University of Cagliari, Italy; Mariam Khattabi, MVV, Germany; Britta Buchholz, MVV, Germany

0364 A Structured Approach for Smart Grid Implementation

Wolfram Wellssow, Technical University Kaiserslautern, Germany; Reinhard Brehmer, Wien Energie Stromnetz GmbH, Austria; Thomas Schuster, Wien Energie Stromnetz GmbH, Austria; Christine Schwaegerl, Siemens AG, Germany; Theodor Connor, Siemens AG, Germany

0377 Challenges in smart distribution grids

Omar Mansour, Locamation B.V., Netherlands; Ton Jansen, Locamation B.V., Netherlands; Frank Baldinger, Locamation B.V., Netherlands

0387 A planning approach for Active Distribution Networks

Mingtian Fan, China Electric Power Research Institute, China; Aoxue Su, Beijing Normal University, China; Zuping Zhang, China Electric Power Research Institute, China

0400 Technological Breakthrough for Real Time Smart Metering via Power Line Communication (PLC)

Steven Frère, Eandis, Belgium; Vincent Vancaeyzeele, Eandis, Belgium; Luc Henderieckx, Eandis, Belgium

0404 An approach for reliability assessment of distribution networks with DG

Aoxue Su, Beijing Normal University, China; Mingtian Fan, China Electric Power Research Institute, China; Zhonglai LI, Beijing Normal University, China

0426 ENARD: Results from the First 5 year Term of International Collaboration in Electricity Networks

JOHN BAKER, EA Technology, UK; HELFRIED BRUNNER, AIT, Austria; JOHN SINCLAIR, EA Technology, UK; KJETIL UHLEN, SINTEF Energy Research, Norway; DIEGO CIRIO, RSE SpA, Italy

0498 Distribution network adaptations and recommendations for 2020 EV infrastructure charge development in France

Christophe GAUDIN, ERDF, France; Mariya KROTOVA, ERDF, France; Luc GUERLAIS, ERDF, France

0545 Introducing smart grids - Practical experience of a DSO

Johan Morren, Enexis B.V., Netherlands; Ivan Theunissen, Enexis B.V., Netherlands; Han Slootweg, Enexis B.V., Netherlands

0569 The energy storage application strategy in different voltage levels of distribution system

Zuping Zhang, CEPRI, China; Sige Liu, CEPRI, China; Huishi Liang, CEPRI, China

0578 Migrating Towards a Smart Distribution Grid: State of the Art

Prashanth Duvoor, Siemens Energy, USA; Ulrike Sachs, Siemens AG, Germany; Satish Natti, Siemens Energy, USA



0850 Smart Grid Communications Emulator (100.000 synthetic users).
ROSA MORA, SIEMENS, Spain; MARIO RAMIREZ, CEDETEL, Spain; ISABEL NAVALON, IBERDROLA, Spain;
SUSANA BANARES, REE, Spain; PABLO MARTIN, REE, Spain; EDUARDO GARCIA, REE, Spain

0981 Emergency Planning Method of Urban Distribution Networks Based on Microgrid
Jun Xiao, Education Ministry Key Laboratory of Smart Grid (Tianjin University), China; Huazan Zhong,
Education Ministry Key Laboratory of Smart Grid (Tianjin University), China; Bo Yu, Education Ministry Key
Laboratory of Smart Grid (Tianjin University), China

1129 Storage devices impact on electricity distribution networks
Helder Ferreira, European Commission - JRC, Netherlands; Gianluca Fulli, European Commission - JRC,
Netherlands; Wil Kling, Eindhoven University of Technology, Netherlands; Joao Pecos Lopes, INESC Porto,
Portugal

1329 Design and operation of smart grids - Technical system and market model
Peter Birkner, RWE Rhein-Ruhr Netzservice GmbH, Germany; Yvonne Trauschies, RWE Rhein-Ruhr
Netzservice GmbH, Germany

Sub Block 3: Case Studies

0694 ADRES@World
Sara Ghaemi, Technical University of Vienna, Austria; Dietmar Tiefgraber, Technical University of Vienna,
Austria; Alfred Einfalt, Technical University of Vienna, Austria

0924 Cabling of Rural Networks - from Vision to Practice
Pekka Verho, Tampere University of Technology, Finland; Ossi Bergius, Tampere University of
Technology, Finland; Pertti Pakonen, Tampere University of Technology, Finland; Jukka Hämäläinen,
Tampere University of Technology, Finland; Sauli Antila, Vattenfal Nordic Distribution, Finland; Kimmo
Järvinen, Vattenfal Nordic Distribution, Finland

0977 The Topology of Self-Sustaining Grids regarding Reliability and Cost : From Reserve to Smart Grid
Raffael La Fauci, ewz, Switzerland; Juerg Bader, ewz, Switzerland; Britta Heimbach, ewz, Switzerland

1054 Utilizing a single transitional platform for traditional and Smart meters. Opportunities &
challenges.
Monika Sturm, Siemens AG, Austria; Uwe Worch, Siemens AG, Austria

1071 Distributed Generation and Smart Grid Development: Case Studies in Different European Countries
Pierluigi Mancarella, Imperial College London, UK; Dimitrios Papadaskalopoulos, Imperial College London,
UK; Efthymios Manitsas, Imperial College London, UK; Goran Strbac, Imperial College London, UK

1106 Techno-economical and life expectancy modeling of battery energy storage systems
Frederik Geth, K.U.Leuven, Belgium; Jeroen Tant, K.U.Leuven, Belgium; Daan Six, VITO, Belgium; Peter
Tant, K.U.Leuven, Belgium; Tom De Rybel, K.U.Leuven, Belgium; Johan Driesen, K.U.Leuven, Belgium

Block 3: Distribution Planning

Sub Block 1: General Planning

0028 Optimum Planning of Primary-Secondary Distribution Networks According to Real Municipal Maps

Mojtaba Gilvanejad, Niroo Research Institute, Iran; Hamideh Ghadiri, Niroo Research Institute, Iran;
Mohammad Reza Shariati, Niroo Research Institute, Iran; Sara Khayyamim, Niroo Research Institute, Iran;
Akbar Yavartalab, Tavanir Co., Iran; Babak Nikfam, Behin Raise Co., Iran

0082 End User Load Profile Analysis For Distribution System Planning
Asnawi Mohd. Busrah, TNB Research Sdn. Bhd., Malaysia; Au Mau Teng, Universiti Tenaga Nasional,
Malaysia; Malik Mohamad, TNB Research Sdn. Bhd., Malaysia



0363 Expansion planning of distribution networks using simulated annealing technique
Željko Popovic, Elektrovojvodina, Serbia; Vojin Kerleta, Technical faculty of Zrenjanin, Serbia

0539 Sensitivity Analysis on Total Supply Capability for Distribution Systems
Xiao Jun, Education Ministry Key Laboratory of Smart Grid (Tianjin University), China; Guo Xiaodan, Education Ministry Key Laboratory of Smart Grid (Tianjin University), China; Gu Wenzhuo, Education Ministry Key Laboratory of Smart Grid (Tianjin University), China; Wang Chengshan, Education Ministry Key Laboratory of Smart Grid (Tianjin University), China; Luo Fengzhang, Education Ministry Key Laboratory of Smart Grid (Tianjin University), China

0639 Enhanced Design of Distribution Networks, Using BE & GA Methods
Sara Khayyamim, Niroo Research Institute, Iran; Hamideh Ghadiri, Niroo Research Institute, Iran; Ahad Kazemi, Iran University of Science and Technology, Iran; Mojtaba Gilvanejad, Niroo Research Institute, Iran; Safar Farzalizade, Niroo Research Institute, Iran; Akbar Yavartalab, Tavanir Company, Iran

0723 Status quo and Prospects of Urban MV Distribution Network Structure in China
Limei Zhou, China Electric Power Research Institute, China; Dapu Zhao, China Electric Power Research Institute, China; Wei Liu, China Electric Power Research Institute, China; Jian Su, China Electric Power Research Institute, China

0728 Long Term Planning based on the Prediction and Analysis of Spatial Load
Marcus Carvalho, Daimon Engenharia e Sistemas, Brazil; Bruno Enomoto, Daimon Engenharia e Sistemas, Brazil; Luiz Silva, CPFL, Brazil; Carlos Oliveira, Daimon Engenharia e Sistemas, Brazil; André Méffe, Daimon Engenharia e Sistemas, Brazil; Marcello Di Salvo, Daimon Engenharia e Sistemas, Brazil

0824 Failure Risk Associated with Different Substation and HV Network Configurations
Ricardo Prata, EDP - Distribuição de Energia, S.A., Portugal; Pedro Carvalho, Instituto Superior Técnico, Portugal; Luís Marcelino Ferreira, Instituto Superior Técnico, Portugal; Carlos Alberto Santos, EDP - Distribuição de Energia, S.A., Portugal

0876 Design parameters for LV feeders to meet regulatory limits of voltage magnitude
CT Gaunt, University of Cape Town, South Africa; Ronald Herman, University of Cape Town, South Africa; Holiday Kadada, University of Cape Town, South Africa

883 Optimising MV network development and enhancement using a routing algorithm and cable re-rating
Robert John Millar, Aalto University School of Science and Technology, Finland; Markku Hyvärinen, Helen Electricity Network Ltd., Finland; Matti Lehtonen, Aalto University School of Science and Technology, Finland; Pekka Hämäläinen, Tekla Corporation, Finland

Sub Block 2: Automation and Reactive Compensation Planning

0496 A probabilistic approach for Voltage Regulators and Capacitor Placement in three-phase unbalanced distribution systems
Christian Noce, Enel Distribuzione S.p.A., Italy; Guido Carpinelli, Università degli Studi di Napoli "Federico II", Italy; Pietro Varilone, Università degli Studi di Cassino, Italy

1028 Hybrid Fuzzy Monte Carlo and Logic Programming Model for Distribution Network Reconfiguration in the Presence of Outages
Zita Vale, Gecad/Politechnic of Porto - School of Engineering, Portugal; Bruno Canizes, Gecad/Politechnic of Porto - School of Engineering, Portugal; João Soares, Gecad/Politechnic of Porto - School of Engineering, Portugal; Pedro Oliveira, Gecad/Politechnic of Porto - School of Engineering, Portugal; Tiago Sousa, Gecad/Politechnic of Porto - School of Engineering, Portugal; Marco Silva, Gecad/Politechnic of Porto - School of Engineering, Portugal; Alexandre Soeiro, Gecad/Politechnic of Porto - School of Engineering, Portugal; Hussein Khodr, Gecad/Politechnic of Porto - School of Engineering, Portugal



Sub Block 3: DG/EV Accommodation Planning

- 0093 Maximising Penetration of Active Power by Distributed Generation on Real System.
Clóvis Oliveira, Federal University of the Rio Grande do Norte, Brazil; José Tavares Oliveira, Federal University of the Rio Grande do Norte, Brazil; Manoel Firmino Medeiros Jr., Federal University of the Rio Grande do Norte, Brazil; Bezaluel Pires, Federal University of the Rio Grande do Norte, Brazil
- 0434 Multi-objective network planning tool for the optimal integration of electric vehicles as responsive demand and dispatchable storage
Steven Inglis, University of Strathclyde, UK; Graham Ault, University of Strathclyde, UK; Stuart Galloway, University of Strathclyde, UK
- 0750 Analytical assessment of mutual impacts between PHEVs and power grid
Masoud A.A. Golkar, K. N. Toosi University of Technology, Iran; Ehsan Pashajavid, K. N. Toosi University of Technology, Iran
- 1110 Electric Vehicles' impact on the planning of the Milan distribution network
Giuseppe Mauri, RSE SpA, Italy; Enrico Fasciolo, A2A SpA, Italy; Stefano Fratti, A2A SpA, Italy
- 1158 Stochastic Analysis of the Impact of Electric Vehicles on Distribution Networks
Peter Richardson, University College Dublin, Ireland; Jason Taylor, Electric Power Research Institute, USA; Damian Flynn, University College Dublin, Ireland; Andrew Keane, University College Dublin, Ireland
- 1225 Modelling Electric Vehicles at Residential Low Voltage Grid by Monte Carlo Simulation
Weiyu Du, Delft University of Technology, Netherlands

Sub Block 4: Case Studies

- 0335 Design of an urban 150 kV cable connection with regards to regulatory requirements for magnetic fields
Britta Heimbach, ewz, Switzerland; Hansruedi Luternauer, ewz, Switzerland; David Hearn, ewz, Switzerland; Lukas Küng, ewz, Switzerland
- 0475 Revamping and developing of the Distribution Network in Pointe Noire, Republic of Congo - an Eni Congo and Enel project
Emile Tchakala, Eni Congo, Congo; Francesco Amoretto, Eni Congo, Congo; Mariacristina Dota, Enel Distribuzione, Italy; Roberto Emma, Enel Distribuzione, Italy; Ivano Gentilini, Enel Distribuzione, Italy; Roberto Grimaldi, Enel Distribuzione, Italy
- 0785 Integration of electric vehicles to the distribution grid
Nina Wahl Gunderson, SINTEF Energy Research, Norway; Kjell Sand, SINTEF Energy Research, Norway
- 1309 Economical evaluation of the aesthetic aspect of putting cables underground
Marcelo Pelegrini, SINAPSIS Inovação em Energia, Brazil; Ivo Cyrillo, USP, Brazil; Fernanda Borger, USP, Brazil; Francisco Anuatti, USP, Brazil; Carlos Longue, AES ELETROPAULO, Brazil; Gabriel Cunha, SINAPSIS Inovação em Energia, Brazil

Block 4: Methods and Tools

Sub Block 1: Load Forecast

- 0043 Long Term Load Forecasting for The Egyptian Network Using ANN and Regression models
Ahmed Ghareeb, Shoubra faculty of engineering-Benha university, Egypt; Wagdy Mansour, Shoubra faculty of engineering-Benha university, Egypt; Mohamed Moenes, Shoubra faculty of engineering-Benha university, Egypt; Hassan Mahmoud, Egyptian Electricity Holding Company, Egypt
- 0277 Customer Classification and Load Profiling Based on AMR Measurements



Antti Mutanen, Tampere University of Technology, Finland; Sami Repo, Tampere University of Technology, Finland; Pertti Järventausta, Tampere University of Technology, Finland

0416 A Composite Model for Long-Term Forecasting of Distribution Peak Demands
Victor Levi, Electricity North West, UK; Rita Shaw, Electricity North West, UK; Ian Povey, Electricity North West, UK

0717 BENEFITS OF THE MODERN ENERGY METERING SYSTEMS FOR THE DISTRIBUTION NETWORK PLANNING AND DEVELOPMENT PROCESSES WITH THE DIFFUSION OF DISTRIBUTED GENERATION.
Simone Botton, Enel Distribuzione SpA, Italy; Fabio Cazzato, Enel Distribuzione SpA, Italy; Federico Marmeggi, Enel Distribuzione SpA, Italy

0799 The use of smart meters to improve customer load models
Frans Provoost, Alliander, Netherlands; Michiel van Lümig, Laborelec, Belgium

0808 Large Scale Phase Balancing of LV Networks using the AMM Infrastructure
Guillaume ANTOINE, EDF R&D, France; Leticia DE ALVARO, EDF R&D, France; Guillaume ROUPIOZ, ERDF, France

1016: Mote Carlo Simulation of Load Profiles for Low-Voltage Electricity Distribution Grid Asset Planning
Weiyu Du, Delft University of Technology, Netherlands; Pieter Bots, Delft University of Technology, Netherlands; Johannes Slootweg, Enexis B.V., Netherlands

1330: Bottom-up forecasts for load demand and the grid infeed of renewable energy sources
Marisa Mäder, Last- und Energiemanagement, LEM-Software, Germany; Harald Heinrich, Last- und Energiemanagement, LEM-Software, Germany; Ingrid Heinrich, Last- und Energiemanagement, LEM-Software, Germany; Anja Rödel, Süwag Energie AG, Germany

Sub Block 2: Load Flow Calculations and State Estimation

0224 Design of Application Common Model for Network Analysis in Smart Distribution Management System
Cheol-Min Chu, Korea Electric Power Corporation Research Institution, Republic of Korea; Sang-Yun Yun, Korea Electric Power Corporation Research Institution, Republic of Korea; Seong-Chul Kwon, Korea Electric Power Corporation Research Institution, Republic of Korea; Il-Keun Song, Korea Electric Power Corporation Research Institution, Republic of Korea

0454 Intelligent state estimator system for distribution systems
Leonardo Ferreira Neto, Daimon Engineering & Systems, Brazil; Marcelo Nanni, Daimon Engineering & Systems, Brazil; Alden Antunes, Daimon Engineering & Systems, Brazil; Marcelo Machado, AES Sul, Brazil; Juliana Uchoa, AES Sul, Brazil; Marcos Gouvea, Universidade de Sao Paulo - USP, Brazil

1177 A Gis-based LV network calculation engine supporting the integration of distributed generation: a new statistical algorithm for Enel Distribuzione's Sigraf
Sergio Bianchi, Enel Distribuzione S.p.A., Italy

1191 Probabilistic Total Transfer Capability based on Static Voltage Stability Region Analysis and Uncertainties of Aggregated Feeder-level Load Data
Dan Wang, Institute for Integrated Energy Systems, University of Victoria, Canada; Torsten Broeer, Institute for Integrated Energy Systems, University of Victoria, Canada; Ned Djilali, Institute for Integrated Energy Systems, University of Victoria, Canada; Wei-wei Miao, Key Laboratory of Smart Grid of Ministry of Education, Tianjing University of China, China; Hong-jie Jia, Key Laboratory of Smart Grid of Ministry of Education, Tianjing University of China, China

Sub Block 3: Energy Losses Minimization

0064 Distribution network reconfiguration to improve system performance and reduce power losses



mohammed elkazaz, south delta, Egypt; mohammed algzar, south delta, Egypt; mohammed mehanna, south delta, Egypt

101 Towards Power Losses Minimization and Voltage profile improvement in CCED, Practical Case Study

Tamer Khalil, Canal Company for Electricity Distribution, Egypt; Ghada Elbanna, Canal Company for Electricity Distribution, Egypt

0177 Configuration Management of Electric Distribution Network

MOHAMMED ABD EL-LATIF BADR, Faculty of Eng., Ain Shams University, Egypt; SALWA ALI AHMED, Faculty of Eng., Ain Shams University, Egypt

1313 Energy loss forecasting in active distribution networks

Masoud Aliakbar Golkar, K. N. Toosi University of Technology, Iran; Hamed Valizadeh Haghi, K. N. Toosi University of Technology, Iran; Mohammad Tavakoli Bina, K. N. Toosi University of Technology, Iran

Non Interactive Tour : Session 5

Block 1: Asset Management and Maintenance Strategies

Sub Block 1: Theoretical Models

0010 Annual Replacement Decision-Marking of Electrical Equipments in Distribution Network
Saiyi WANG, City Power Supply Branch, Shanghai Municipal Electric Power Company, China

0429 Investment strategies based upon asset simulation

Manfred Mathis, ABB AG, Germany; Uwe Jordan, Stadtwerke Bochum GmbH, Germany; Holger Rost, Stadtwerke Bochum GmbH, Germany; Gerd Balzer, TU Darmstadt, Germany

0648 Sustainable investment strategies for aging distribution networks

Eric Jennes, 24/7 Netze GmbH (MVV Group), Germany; Andre Osterholt, 24/7 Netze GmbH (MVV Group), Germany; Falk Guenther, 24/7 Netze GmbH (MVV Group), Germany

805 Indicators to monitor and manage electricity distribution system vulnerability

Oddbjørn Gjerde, SINTEF Energy Research, Norway; Gerd Kjølle, SINTEF Energy Research, Norway; Johan G. Hernes, NTE Nett, Norway; Jan A. Foosnæs, NTE Nett, Norway; Birger Hestnes, Directorate for Civil Protection and Emergency Planning, Norway

Sub Block 2: Reliability assessment

837 Distribution of reliability indices in electrical networks

Andreas Nolde, Forschungsgemeinschaft für Elektrische Anlagen und Stromwirtschaft (FGH) e.V., Germany; Hendrik Vennegeerts, Forschungsgemeinschaft für Elektrische Anlagen und Stromwirtschaft (FGH) e.V., Germany; Simon Krahl, Forschungsgemeinschaft für Elektrische Anlagen und Stromwirtschaft (FGH) e.V., Germany; Hans-Jürgen Haubrich, Institut für Elektrische Anlagen und Energiewirtschaft, RWTH Aachen, Germany

Block 2: Network Development

Sub Block 2: Innovative Power Distribution

0447 Innovative Concepts for Efficient Electrical Distribution Grids

Torsten Hammerschmidt, RWE Deutschland AG, Germany; Thorsten Borchard, ABB AG, Germany; Jörg Feldmann, Consentec GmbH, Germany; Astrid Petermann, RWE Rhein-Ruhr Netzservice GmbH, Germany; Christian Rehtanz, TU Dortmund University, Germany

0722 Optimal Planning and Control of Microgrids with Distributed Energy Resources on Smart Grid



Jung-Sung Park, KEPCO Electric Power Research Institute, Republic of Korea; Hak-Ju Lee, KEPCO Electric Power Research Institute, Republic of Korea; Woo-Kyu Chae, KEPCO Electric Power Research Institute, Republic of Korea; Won-Wook Jung, KEPCO Electric Power Research Institute, Republic of Korea

0991 Research and Practice on Technologies of Smart Distribution Networks

Wu Guopei, Guangzhou Power Supply Bureau, Guangdong Power Grid, CSG, China; Gong Jianping, Guangzhou Power Supply Bureau, Guangdong Power Grid, CSG, China; Liu Yuquan, Guangzhou Power Supply Bureau, Guangdong Power Grid, CSG, China

1279 Automated closed loop underground distribution for supplying sensitive loads

Erminio Belvedere, AES Eletropaulo, Brazil; Denilson Varolo, AES Eletropaulo, Brazil; Plácido Brunheroto, Redenel, Brazil; João Oliveira, Redenel, Brazil; Antonio Cunha, Sinapsis Inov. Energia, Brazil; Bruno Lima, Sinapsis Inov. Energia, Brazil

Sub Block 3: Case Studies

1069 From fuel based generation to smart renewable generation: preliminary design for an islanded system. Part I: technical issues and future scenarios

Salvatore Favuzza, DIEET - Università di Palermo, Italy; Giorgio Graditi, ENEA, Italy; Mariano G. Ippolito, DIEET - Università di Palermo, Italy; Fabio Massaro, DIEET - Università di Palermo, Italy; Rossano Musca, DIEET - Università di Palermo, Italy; Eleonora Riva Sanseverino, DIEET - Università di Palermo, Italy; Gaetano Zizzo, DIEET - Università di Palermo, Italy

1076 From fuel based generation to smart renewable generation: preliminary design for an islanded system. Part II: selection of future scenario and economical issues

Valentina Cosentino, DIEET - Università di Palermo, Italy; Salvatore Favuzza, DIEET - Università di Palermo, Italy; Giorgio Graditi, ENEA, Italy; Mariano G. Ippolito, DIEET - Università di Palermo, Italy; Fabio Massaro, DIEET - Università di Palermo, Italy; Eleonora Riva Sanseverino, DIEET - Università di Palermo, Italy; Gaetano Zizzo, DIEET - Università di Palermo, Italy

Block 3: Distribution Planning

Sub Block 1: General Planning

0009 An Effective and Applied Method on Evaluation of Distribution Network Planning

Saiyi WANG, City Power Supply Branch, Shanghai Municipal Electric Power Company, China

0065 Game Analysis of Interest Groups in Policy-processing of Power Grid Construction and Research on Compensation Mechanisms

Liang YAN, Huzhou Electric Power Bureau, China; Xing-hua SHI, Huzhou Electric Power Bureau, China

0112 A Fuzzy Comprehensive Evaluation Method for Connection Modes of Urban HV/MV Distribution Network

Chi Zhang, SHANGHAI MUNICIPAL ELECTRIC POWER COMPANY, China; Jian Zhang, SHANGHAI MUNICIPAL ELECTRIC POWER COMPANY, China

0122 Planning and Optimization Strategies of MV Distribution Network in Shanghai

Feng Pan, Shanghai Shinan Power Supply Co., China; Ming Zong, Shanghai Shinan Power Supply Co., China

0267 The Programming Method of Customer Friendly Distribution Systems Considering the Uncertainty of Short Time Power Quality Disturbances

xuna liu, Sichuan University, China; xianyong xiao, Sichuan University, China; ying wang, Sichuan University, China

0328 A New Distribution Substation Multi-stage Planning Algorithm Based on Dynamic Programming

Ou-sha Jia, Tianjin University, China; Shao-yun Ge, Tianjin University, China; shu Wang, Prudent Energy, China



0606 Distribution System Optimal Planning for Reliability based on Genetic Algorithm
Hong Liu, Key Laboratory of Power System Simulation and Control (Tianjin University), China; Shaoyun GE, Key Laboratory of Power System Simulation and Control (Tianjin University), China; Ning Liu, Tianjin West Power Supply Corporation, China; Jing Xu, Tianjin Electric Power Research Institute, China

0635 Planning and Design of Smart Grids with Virtual Power Plants
Khalil El Bakari, Alliander, Netherlands; Wil Kling, Alliander, Netherlands

0688 Improved Hybrid TS/PSO Algorithm for Multistage Distribution Network Expansion Planning
Masoud Aliakbar-Golkar, K. N. Toosi University of Technology, Iran; Mahdi Sedghi, K. N. Toosi University of Technology, Iran

0954 A novel AHP framework for Decision Making in Power Systems sustainable development
Cosimo Pisani, University of Sannio, Italy; Domenico Villacci, University of Sannio, Italy

1252 Planning of the distribution network Ogulin using optimization tool CADDiN
Matija Zidar, University of Zagreb, Croatia; Tomislav Capuder, University of Zagreb, Croatia; Tomislav Dragicevic, University of Zagreb, Croatia; Davor Škrlec, University of Zagreb, Croatia

Sub Block 3: DG/EV Accomodation Planning

0742 V2G charge-discharge strategy with EV mass application
Chenggang Du, Institute of Technology and Management of Shanghai Municipal Electric Power Company, China; Jinghan He, Beijing Jiaotong University, China

0920 Distributed generation expansion planning in active distribution network
Mohammad Mashhour, K. N. Toosi University of technology, Iran; Masoud Aliakbar Golkar, K. N. Toosi University of technology, Iran; seyed Masoud moghaddas-Tafreshi, K. N. Toosi University of technology, Iran

1247 Technical and ecological impacts of the network integration of electric vehicles in a distribution network of a major city in Germany
Thomas Smolka, STAWAG Netz GmbH, Germany; Thomas Dederichs, RWTH Aachen University, Germany; Simon Prousch, RWTH Aachen University, Germany; Holger Krings, FGH Mannheim e.V., Germany; Albert Moser, RWTH Aachen University, Germany; Armin Schnettler, RWTH Aachen University, Germany

Sub Block 4: Case Studies

0438 Cross-bonding in middle voltage distribution grids, as a method of energy efficiency improvement
Janusz Jakubowski, RWE Stoen Operator, Poland; Marek Kibler, RWE Stoen Operator, Poland; Maciej Pasniewski, RWE Stoen Operator, Poland

474 Research on Automatic Backup Power based on DUT
Junjun Zhang, Shanghai Electric Power Company, China

Block 4: Methods and Tools

Sub Block 1: Load Forecast

306 A Comprehensive System for Short-term Load Forecasting applied in Shanghai
Feng Pan, Shanghai Shinan Power Supply Co., China; Ming Zong, Shanghai Shinan Power Supply Co., China



[Wednesday 8 June : 9.00 hrs - 17.30 hrs](#)

Main session, Session 2: Power Quality & Electromagnetic Compatibility.

Room : Harmonie A-B (L2)

[Block 1 : Electromagnetic interference, electric and magnetic fields and grounding systems : 09.00-10.30 hrs](#)

0013 Impacts of Inductive and Conductive Interference due to High-Voltage Lines on Coating Holidays of Isolated Metallic Pipelines

René Braunstein, Graz University of Technology, Institute of Electrical Power Systems, Austria; Schmutzner Ernst, Graz University of Technology, Institute of Electrical Power Systems, Austria; Mario Oelz, Graz University of Technology, Institute of Electrical Power Systems, Austria

0119 Power Frequency Magnetic Field Management In Power Distribution Substation

Ahmed Hossam-Eldin, Faculty of Engineering- Alexandria University, Egypt; Ahmed Farag, Faculty of Engineering- Alexandria University, Egypt; Ibrahim Madi, Alexandria Electricity Distribution Company, Egypt; Hanaa Karawia, Alexandria Electricity Distribution Company, Egypt

0347 Currents in Power Line Wood Poles

Mats Wahlberg, Luleå University of Technology, Sweden; Sarah Rönnerberg, Luleå University of Technology, Sweden

0376 New design methods to achieve greater safety in low voltage systems during a high voltage earth fault

Mark Davies, Earthing Solutions, UK; Trevor Charlton, Earthing Solutions, UK; Denis Baudin, Earthing Solutions, UK

0760 Integrated grounding, equipotential bonding and lightning protection in smart grids and smart buildings - a multi-faced approach

Ernst Schmutzner, University of Technology, Austria; Stephan Pack, University of Technology, Austria; Maria Aigner, University of Technology, Austria; Christian Raunig, University of Technology, Austria

0818 Exposure of the French population to 50 Hz magnetic fields: general results and impact of electric networks

Isabelle Magne, EDF, France; Martine Souques, EDF, France; Mfoihaya Bedja, EDF, France

[Block 2 : Steady-state disturbances : 11.00 - 12.30 hrs](#)

0031 Minimum short circuit power in the LV distribution network to meet EN 50160 standard requirements

Martin Kaspírek, E.ON Czech Republic, Czech Republic; David Mezera, E.ON Czech Republic, Czech Republic

0173 Total conducted emission from a customer in the frequency range 2 to 150 kHz with different types of lighting

Sarah Rönnerberg, Luleå University of Technology, Sweden; Mats Wahlberg, Luleå University of Technology, Sweden; Math Bollen, Luleå University of Technology, Sweden

0275 Characteristics of the Input Current of Energy Saving Lamps and their Impact on Power Quality

Johannes Ferstl, University of Technology, Austria; Herwig Renner, University of Technology, Austria; Ernst Schmutzner, University of Technology, Austria; Andreas Abart, Energie AG OÖ Netz GmbH, Austria; Christian Elbe, University of Technology, Austria

0580 Analysis of harmonic current interaction in an industrial plant



Vladimir Cuk, Eindhoven University of Technology, Netherlands; Sjeff Cobben, Eindhoven University of Technology, Netherlands; Wil L. Kling, Eindhoven University of Technology, Netherlands; Roelof B. Timens, University of Twente, Netherlands

0755 Harmonic Summation Effects of Modern Lamp Technologies and Small Electronic Household Equipment

Jan Meyer, Technische Universitaet Dresden, Germany; Peter Schegner, Technische Universitaet Dresden, Germany; Kurt Heidenreich, Vattenfall Europe Distribution Hamburg GmbH, Germany

1172 A Power Line Communication measuring toolbox for the distribution grid

Rafael Jahn, Laborelec, Belgium; Dries Lemmens, Laborelec, Belgium; Stijn Uytterhoeven, Laborelec, Belgium

Block 3 : Disturbing events : 14.00 - 15.30 hrs

0417 Systematic power quality monitoring in municipal power grid

Frank Genenger, Stadtwerke Duisburg Netzgesellschaft mbH, Germany; Matthias Auverkamp, Stadtwerke Duisburg Netzgesellschaft mbH, Germany; Petro Lompas, University Duisburg-Essen, Germany; Gerhard Krost, University Duisburg-Essen, Germany; Holger Budde, Stadtwerke Duisburg Netzgesellschaft mbH, Germany

0529 Methodology for Flexible, Cost-Effective Monitoring of Voltage Sags

j.m. avendano-mora, uni of manchester, UK; j.v. milanovic, uni of manchester, UK

0552 Dynamic var compensation of mine hoists for improvement of power quality and increase of productivity at LKAB Sweden

Lennart Mukka, LKAB, Sweden; Natan Gothelf, LKAB, Sweden; Christian Payerl, LKAB, Sweden

0700 Extending Switching Reclosing Time to Reduce Interruptions in Distribution Networks

Emilio Ghiani, University of Cagliari, Italy; Gianni Celli, University of Cagliari, Italy; Fabrizio Pilo, University of Cagliari, Italy; Sergio Tedde, University of Cagliari, Italy

0942 Advanced Power Quality Measurement Campaign - Interesting measurement results

Tarjei Solvang, SINTEF Energy Research, Norway; Helge Seljeseth, SINTEF Energy Research, Norway

0946 Overvoltage immunity of electrical appliances - Laboratory test results from 60 appliances

Helge Seljeseth, SINTEF Energy Research, Norway; Thomas Rump, Rostock University, Germany; Krister Haugen, Norwegian University of Science and Technology, Norway

Block 4 : Power Quality in a competitive market : 16.00 - 17.30 hrs

0045 How the customers perceive the problem of voltage quality

David Mezera, E.ON Czech Republic, Czech Republic; Martin Kaspirek, E.ON Czech Republic, Czech Republic

0168 Voltage quality regulation in Sweden

Lars Ström, Energy Markets Inspectorate, Sweden; Math Bollen, Energy Markets Inspectorate, Sweden; Rémy Kolessar, Energy Markets Inspectorate, Sweden

0273 Power quality aspects of rural grids with high penetration of microgeneration, mainly PV-installations

Matthias Klatt, Technische Universitaet Dresden, Germany; Alicia Dorado, Technische Universitaet Dresden, Germany; Jan Meyer, Technische Universitaet Dresden, Germany; Peter Schegner, Technische Universitaet Dresden, Germany; Juergen Backes, EnBW Regional AG, Germany; Ran Li, EnBW Regional AG, Germany

0509 PQ Monitoring with Smart Meters for Condition Based Maintenance on Distribution Systems.



Mario Tremblay, Hydro-Québec (IREQ), Canada; Denis Valiquette, Hydro-Québec (IREQ), Canada; Steve Czech, Hydro-Québec, Canada

0665 Intelligent Distribution Substation improves Power Quality
Irina Melnik, Alliander, Netherlands; Frans Provoost, Alliander, Netherlands; Wouter Bos, Alliander, Netherlands

993 Optimization of voltage regulators settings and transformer tap zones in distribution systems with great load variation using the smart grids initiatives
Paulo Ricardo Pereira, CEEE-D, Brazil; René Emmel Jr, CEEE-D, Brazil; Luciane Canha, UFSM, Brazil; Alzenira Abaide, UFSM, Brazil; Rafael Milbradt, UFSM, Brazil

[Main Session, Session 6: Distribution business & impact of regulation.](#)

Room : Harmonie D-E

[Block 1: Smart Grid programs, present state and future expectations of regulation of DSOs and electricity markets : 09.00-10.30 hrs](#)

0292 EURELECTRIC Paper on Regulation for Smart Grids
Gunnar Lorenz, EURELECTRIC, Belgium; Manuel Rodrigues da Costa, EURELECTRIC, Belgium; Pierre Schlosser, EURELECTRIC, Belgium

0485 Adopting a general regulatory approach on the European electricity market
Noona Paatero, Vattenfall Nordic Distribution, Sweden

0931 Regulatory requirements to support the deployment of Smart Grid from the perspective of a DSO
Sandra Maeding, Vattenfall Europe Distribution Berlin GmbH, Germany; Claudia Rathfux, Vattenfall Europe Distribution Berlin GmbH, Germany; Jens Oberländer, Vattenfall Europe Distribution Berlin GmbH, Germany; Stefan Schnabel, Vattenfall Europe Distribution Berlin GmbH, Germany; Elmar Metten, Vattenfall Europe Distribution Berlin GmbH, Germany

0978 European Energy Regulators' views on regulating smart distribution networks
Gareth Evans, Ofgem, UK; Riccardo Vailati, Autorità per l'Energia Elettrica e il Gas (AEEG), Italy; Karstein Brekke, Norges vassdrags- og energidirektorat (NVE), Norway; Werner Friedl, Energimarknadsinspektionen (EI), Sweden; Hugo Schotman, Energie-Control GmbH (E-Control), Austria; Matthias Steiner, Energimarknadsinspektionen (EI), Sweden; Math Bollen, Ofgem, UK; Tahir Kapetanovic, Energie-Control GmbH (E-Control), Austria; Ferruccio Villa, Autorità per l'Energia Elettrica e il Gas (AEEG), Italy

1213 Optimized Management of Operational Costs based on regulatory goals (Reference firm)
Simone Cristina Nunes Araujo, Matrix Engenharia em Energia, Brazil; Gil Fortes Vasconcelos, Matrix Engenharia em Energia, Brazil; Sergio Lucio Salomon Cabral, Matrix Engenharia em Energia, Brazil; Josimar Oliveira Silva, Matrix Engenharia em Energia, Brazil; Pedro Luis Domingues, Matrix Engenharia em Energia, Brazil; Vanio Moritz Luz, CELESC, Brazil

1293 Implications of regulatory changes of the market model on the distribution business
Lee Rud, Vattenfall Eldistribution AB, Sweden

[Block 2: Experiences of smart metering and future trends : 11.00-12.30 hrs](#)

0415 Experiences from operations after a full-scale Smart Metering rollout regarding availability and reliability.
Lars Garpetun, Vattenfall Eldistribution AB, Sweden

0478 Improving the data quality of the LV-connectivity
Tom Pycke, Eandis, Belgium; Dirk Costrop, Eandis, Belgium; Luc Henderieckx, Eandis, Belgium



0737 Investigation of Wireless Telecommunication for AMI

Tatsuya Nakamura, Chubu Electric Power Co., Inc., Japan; Yukio Iwashima, ChubuSeiki Co., Ltd., Japan; Hitoshi Kubota, Mitsubishi Electric Corporation, Japan; Shinji Takeuchi, Chubu Electric Power Co., Inc., Japan; Toshihiro Inoue, Mitsubishi Electric Corporation, Japan; Atsushi Otagawa, Chubu Electric Power Co., Inc., Japan; Yasuhisa Matsushita, ChubuSeiki Co., Ltd., Japan

0829 Cervantes project and Meters and More: the state of the art of smart metering implementation in Europe

Marco COTTI, ENEL Distribuzione SpA, Italy

0845 Security Schemes for AMI

Jincheol Kim, KEPCO KDN Co.,Ltd., Republic of Korea; Seongji Ahn, KEPCO KDN Co.,Ltd., Republic of Korea; Youngeok Kim, KEPCO KDN Co.,Ltd., Republic of Korea; Jongman Kim, KEPCO KDN Co.,Ltd., Republic of Korea; Yunsik Jung, KEPCO KDN Co.,Ltd., Republic of Korea; Sangjin Kim, KEPCO KDN Co.,Ltd., Republic of Korea

1230 Meter data management- from the smarter grid to future market platforms in liberalized energy markets

Sebnem Rusitschka, Siemens AG, Germany; Heinrich Kirchauer, Siemens AG Austria, Austria; Monika Sturm, Siemens AG Austria, Austria; Stephan Merk, Siemens AG, Germany

[Block 3: Impact of electrical vehicles on distribution business : 14.00 - 15.30 hrs](#)

0398 Operating the Charging Infrastructure for Electric Vehicles in Distribution Grids

Thomas Werner, Siemens AG, Germany; Franco Corti, Siemens S.p.A, Italy; Leonardo Ambrosi, Siemens S.p.A, Italy

0773 Network Effects of Electric Vehicles - Case from Nordic Country

Jukka Lassila, Lappeenranta University of Technology, Finland; Juha Haakana, Lappeenranta University of Technology, Finland; Jarmo Partanen, Lappeenranta University of Technology, Finland; Kari Koivuranta, Fortum, Finland; Saara Peltonen, Fortum, Finland

0838 The recharging infrastructure to support the mobility development in Italy optimising the impact on the network

Tiziano VALENTINETTI, ENEL Distribuzione SpA, Italy

0889 Charging Electric Vehicles in a Liberalized Electricity Market

Danny Geldtmeijer, Netbeheer Nederland, Netherlands; Klaas Hommes, TenneT, Netherlands; André Postma, Enexis, Netherlands

0967 Economic assessment of electric vehicle fleets providing ancillary services

Eva Szczechowicz, RWTH Aachen University, Germany; Thomas Pollok, RWTH Aachen University, Germany; Armin Schnettler, RWTH Aachen University, Germany

1273 Green eMotion - Integrated European Demonstration on Electro-Mobility

Christine Schwaegerl, Siemens AG, Germany; Claudia Schmitt-Lühmann, IBM Deutschland GmbH, Germany

[Block 4: Information Systems, Pricing & Tariffs, Asset Management, Organisations : 16.00 - 17.30 hrs](#)

0081 Why standards based integration is more important than ever: Everything a non-IT manager should know

John Simmins, EPRI, USA; Robert Sarfi, Boreas Group LLC, USA

0210 IT Compliance in Smart Grids



Martin Schaefer, Vattenfall AB, Sweden; Erik Åberg, KTH Royal Institute of Technology, Sweden; Jens Zerbst, Vattenfall AB, Sweden; Iiro Rinta-Jouppi, Vattenfall AB, Sweden

0393 Communications technical standards infrastructure of the smart grid
Xin Miao, China Electric Power Research Institute, China; Xi Chen, China Electric Power Research Institute, China

0088 Building risk based investment programmes
David Hughes, EA Technology, UK; Paul Barnfather, EA Technology, UK

1092 Feed-in Tariffs and Community Aggregated Trading of Microgeneration Sourced Electricity.
Gordon McKinstry, University of Strathclyde, UK; Stuart Galloway, University of Strathclyde, UK; Bruce Stephen, University of Strathclyde, UK

0291 Management of Partnership Networks in Electricity Distribution Business
Harri Salomäki, Vattenfall Verkkö Oy, Finland

Round tables : Session 1: Network Components

Room : Fantasie (L3)

09.00- 10.30 hrs : RT.1a/5a : Distribution networks for large cities : new components and system development issues

11.00 - 12.30 hrs : RT.1b : Components for smart grids and e-mobility

14.00 - 15.30 hrs : RT.1c : Internal arc classification - How to convert test results into Personal Safety on Site

RIF, Session 1: Network Components : 16.00 - 17.30 hrs

Room : Fantasie (L3)

0456 Fault Limiting Technologies in Distribution Networks

David Klaus, Applied Superconductor, UK; Darren Jones, ENW, UK; Jamie McWilliam, ScottishPower, UK; Alan Creighton, CE-Electric, UK; Larry Masur, Zenergy Power, USA; Franco Moriconi, Zenergy Power, USA; Joachim Bock, Nexans SuperConductor, Germany; Achim Hobl, Nexans SuperConductor, Germany

1162 The ECCOFLOW project: Design and simulations results of a Superconducting Fault Current Limiter for Operation in Electricity Networks

Luciano Martini, Ricerca sul Sistema Energetico - RSE Spa, Italy; Mathias Noe, Karlsruhe Institute of technology - KIT, Germany; Pascal Tixador, Grenoble INP, France; Marco Bocchi, Ricerca sul Sistema Energetico - RSE Spa, Italy; Achim Hobl, Nexans Superconductor, Germany

0339 Development and testing of innovative Fault Current Limiters for Distribution System Applications
Luciano Martini, RSE Spa, Italy; Marco Bocchi, RSE Spa, Italy; Cesare Ravetta, A2A Spa, Italy

0352 Nexans' Superconducting Fault Current Limiters for medium voltage applications - status and prospects

Joachim Bock, Nexns SuperConductors, Germany; Achim Hobl, Nexns SuperConductors, Germany; Simon Krämer, Nexns SuperConductors, Germany; Markus Bludau, Nexns SuperConductors, Germany; Judith Schramm, Nexns SuperConductors, Germany; Christian Jänke, Nexns SuperConductors, Germany; Steffen Elschner, University of Applied Science, Germany; Mark Rikel, Nexns SuperConductors, Germany

0680 Saturated-Core Fault Current Limiter Field Experience at a Distribution Substation



Albert Nelson, Zenergy Power Inc., USA; Larry Masur, Zenergy Power Inc., USA; Franco Moriconi, Zenergy Power Inc., USA; Francisco De La Rosa, Zenergy Power Inc., USA; Detlev Kirsten, Zenergy Power GmbH, Germany

0801 The Test and Installation of Medium Class (22.9kV) Hybrid type Fault Current Limiter in KEPCO Grid

Wonjoon Choe, LS Industrial Systems., Republic of Korea; Jungwook Sim, LS Industrial Systems., Republic of Korea; Gyeong-ho Lee, LS Industrial Systems., Republic of Korea; Seung-hyun Bang, LS Industrial Systems., Republic of Korea; Kwon-Bae Park, LS Industrial Systems., Republic of Korea; Young-keun KIM, LS Industrial Systems., Republic of Korea; Ok-Bae Hyun, LS Industrial Systems., Republic of Korea

Round tables, Session 5: Planning & system development

Room : Illusion (L3)

11.00 -12.30 hrs : RT.5b : Planning the distribution system development with a proper coordination of TSO and DSO

14.00 -15.30 hrs : RT.4a/5c : Integration of Plug-in-Vehicles in Distribution Networks. Contributions from 2 major EU FP7 projects: MERGE and G4V (Grid for Vehicles)

RIF, Session 5: Planning & system development

Room : Illusion (L3)

16.00 - 17.30 hrs

Block 3: Distribution Planning

Sub Block 1: General Planning

0065 Game Analysis of Interest Groups in Policy-processing of Power Grid Construction and Research on Compensation Mechanisms

Liang YAN, Huzhou Electric Power Bureau, China; Xing-hua SHI, Huzhou Electric Power Bureau, China

0728 Long Term Planning based on the Prediction and Analysis of Spatial Load

Marcus Carvalho, Daimon Engenharia e Sistemas, Brazil; Bruno Enomoto, Daimon Engenharia e Sistemas, Brazil; Luiz Silva, CPFL, Brazil; Carlos Oliveira, Daimon Engenharia e Sistemas, Brazil; André Méffe, Daimon Engenharia e Sistemas, Brazil; Marcello Di Salvo, Daimon Engenharia e Sistemas, Brazil

0999 Multi-Objective analysis of Regulatory frameworks for Active Distribution Networks

Fabrizio Pilo, University of Cagliari, Italy; Gianni Celli, University of Cagliari, Italy; Gian Giuseppe Soma, University of Cagliari, Italy; Susanna Mocci, University of Cagliari, Italy

Sub Block 3: DG/EV Accomodation Planning

0434 Multi-objective network planning tool for the optimal integration of electric vehicles as responsive demand and dispatchable storage

Steven Inglis, University of Strathclyde, UK; Graham Ault, University of Strathclyde, UK; Stuart Galloway, University of Strathclyde, UK

0718 Using a multivariate DOE method for congestion study in distribution systems under impacts of plug-in electric vehicles

Masoud Aliakbar Golkar, K. N. Toosi University of Technology, Iran; Hamed Valizadeh Haghi, K. N. Toosi University of Technology, Iran

742 V2G CHARGE-DISCHARGE STRATEGY WITH EV MASS APPLICATION



Chenggang Du, Institute of Technology and Management of Shanghai Municipal Electric Power Company, China; Jinghan He, Beijing Jiaotong University, China

Poster Session, Session 3: Operation, Control & Protection: 09.00 - 17.30 hrs (Exhibition hall)³

Interactive Guided Tour

Block 1: Operation

Block 1-Ca

0230 NEW WOODEN POLES GRADING USING NON-DESTRUCTIVE TECHNOLOGY Yann Benoit, CBT SA, Switzerland; Jean-Luc Sandoz, CBT SA, Switzerland

0373 Verification of LV Underground Cable Insulation by Air Injection
Janislaw Tarnowski, Hydro-Québec, Canada; Jacques Côté, Hydro-Québec, Canada; André Gaudreau, Hydro-Québec, Canada; Pierre Gingras, Hydro-Québec, Canada; Mircea Iordanescu, Hydro-Québec, Canada

0457 On-line condition monitoring and expert system for power transformers - Integration into protection and control system by using of IEC61850
Bartłomiej Dolata, ALSTOM GRID, Germany; Lutz Wagner, ALSTOM GRID, Germany

0572 The Use of Artificial Neural Networks for Identification and Location of Defective Insulators in Power Lines through Current Transformers Manuel Martinez, Universidade Federal de Itajubá, Brazil; José Feliciano Adami, Universidade Estadual Paulista, Brazil; Renato Capelini, Universidade Federal de Itajubá, Brazil; Marcel Parentoni, Universidade Federal de Itajubá, Brazil; Ithamar Sene, Distribuidora Gaúcha de Energia Elétrica S.A. - AES Sul, Brazil

0624 Reducing Operation Costs and Losses Using Thermography
Gholamreza Nemati, Hormozgan Electric Power Distribution Co, Iran; Kamran Salimi Nasr, MIR Co, Iran

0696 Finding maintenance project to priority
Jan Andor Foosnæs, NTE Nett AS, Norway; Erling Tønne, NTE Nett AS, Norway; Terje Pynten, NTE Nett AS, Norway

0903 A Combined Maintenance Method for Complicated Conditions
Yueshen Hua, Shanghai Municipal Electrical Power Company, China

1115 Wood poles non-destructive inspections; the German example
Yann BENOIT, CBT SA, Switzerland; Jean-Luc SANDOZ, CBS, France

1136 Managing Transient Interruptions on Aged 22kV Overhead Lines in TNB Distribution Network Through Engineering Practices Assessment and Insulation Coordination Guidelines
Mohd Faris Ariffin, Tenaga Nasional Berhad (TNB), Malaysia; Wan Nazmy Wan Mahmood, Tenaga Nasional Berhad (TNB), Malaysia; Mohd Hashimi Hashim, Tenaga Nasional Berhad, Malaysia; Lily Suriani Shafiei, Tenaga Nasional Berhad, Malaysia; Azanin Bismi Azraai, Tenaga Nasional Berhad, Malaysia

Block 1-dm

0316 Smart grid technologies feasibility study: increasing decentralized generation power injection using global active network management
Olgan DURIEUX, Ores, Belgium; Vanessa DE WILDE, Elia, Belgium; Jean-Jacques LAMBIN, Elia, Belgium; Stéphane OTJACQUES, Elia, Belgium; Michel LEFORT, Ores, Belgium

³ As of 29 April 2011



0473 WEB access to Metering data for advanced network analysis and fraud detection
Lilia Consiglio, ENEL Distribuzione, Italy; Massimo Briccola, ENEL Distribuzione, Italy; Paola L. Petroni, ENEL Distribuzione, Italy

0525 Alternative Solutions to Mitigate Problems due to Neutral Conductor Theft in MV Power Distribution Systems

Fabio Romero, Daimon Engineering & Systems, Brazil; Alden Antunes, Daimon Engineering & Systems, Brazil; Fernando Lange, Daimon Engineering & Systems, Brazil; Dário Takahata, Daimon Engineering & Systems, Brazil; Hamilton Souza, AES Eletropaulo, Brazil; Antônio Monteiro, AES Eletropaulo, Brazil; Paulo Chiarot, AES Eletropaulo, Brazil; Bernardino Brito, AES Eletropaulo, Brazil

0570 Evaluation of Islanded Grid Operation Tests and Dynamic Modelling

Stephan Brandl, KELAG Netz GmbH, Austria; Robert Schmaranz, KELAG Netz GmbH, Austria; Michael Weixelbraun, Graz University of Technology, Austria; Herwig Renner, Graz University of Technology, Austria; Michael Marketz, KELAG, Austria; Ignaz Hübl, KELAG Netz GmbH, Austria

0575 Towards advanced system operations: searching for solutions in Northern Poland

Magdalena Wasiluk-Hassa, PSE Operator S.A., Poland; Slawomir Noske, PSE Operator S.A., Poland

0792 Transformation of Energy Networks: Initial results from intensified MV and LV monitoring

James Northcote-Green, PowerSense A/S, Denmark; Jesper Klingsten Nielsen, PowerSense A/S, Denmark; Martin Speiermann, PowerSense A/S, Denmark; Shannon Frohlich-Terpstra, EnergyAustralia, Australia; James Tan, EnergyAustralia, Australia

0890 Major Disturbances - Development of Preparedness in Finland during the Last Decade

Janne Strandén, Tampere University of Technology, Finland; Heidi Krohns, Tampere University of Technology, Finland; Pekka Verho, Tampere University of Technology, Finland; Janne Sarsama, VTT Technical Research Centre of Finland, Finland

0892 Start-up of the LVDC Distribution Network

Pasi Nuutinen, Lappeenranta University of Technology, Finland; Tero Kaipia, Lappeenranta University of Technology, Finland; Andrey Lana, Lappeenranta University of Technology, Finland; Pertti Silventoinen, Lappeenranta University of Technology, Finland

1010 Analysis of the offloading capability of a primary substation in an open radial distribution network.

James Dooley, ESB International, Ireland; Neil McDonagh, ESB International, Ireland

1144 Improving State Estimation Accuracy for Active Network Management Using Advanced Modelling Techniques

Weicong Kong, University of Strathclyde, UK; David Wang, Smarter Grid Solutions, UK; Colin Foote, Smarter Grid Solutions, UK; Andrea Michiorri, Smarter Grid Solutions, UK; Martin Lee, Scottish & Southern Energy, UK; David MacLeman, Scottish & Southern Energy, UK

1275 Improved Requirements for the Connection to the Low Voltage Grid

Gunnar Kaestle, TU Clausthal, Germany; Til Kristian Vrana, NTNU Trondheim, Norway

Block 1-wf

0458 Scheduling and Assignment Optimisation

Giorgio Bizzarri, ENEL, Italy

809 Introduction of a fully integrated Workforce Management

Manfred Eberhard, KELAG Netz GmbH, Austria; Josef Polster, KELAG Netz GmbH, Austria; Robert Schmaranz, KELAG Netz GmbH, Austria

[Block 2: Control part 1](#)



Block 2-Com

0012 From Smart Substations to Smart Grid - How IEC 61850 can help making power systems smart
Marco Janssen, UTInnovation, Netherlands; Peter Oomens, Joulz, Netherlands

0138 Toward an Auto-Configuration Process Leveraging The IEC 61850 Standard
Luc Hossenlopp, Schneider Electric, France; Bruno André, Schneider Electric, France; Mario Jardim, Schneider Electric, France

0162 IEC61850 9-2 Process Bus: Operational Experiences in a Real Environment
Jorge Cardenas, General electric, Spain; Iñaki Ojanguren, Iberdrola, Spain; Ignacio Garces, Iberdrola, Spain

0422 Minimum common IEC 61850 specification document published by the Spanish group of electricity companies 'E3 Group on IEC 61850'
JOSÉ GONZALO, IBERDROLA, Spain; HUGO GURÉNDEZ, IBERDROLA, Spain; IGNACIO GARCÉS, IBERDROLA, Spain; JAUME BADÍA, ENDESA, Spain; JULIO DOMÍNGUEZ, GAS NATURAL FENOSA, Spain; PEDRO DEL ROSAL, HIDROCANTÁBRICO, Spain; CARLOS RODRÍGUEZ, RED ELÉCTRICA DE ESPAÑA, Spain; DANIEL PRIETO, RED ELÉCTRICA DE ESPAÑA, Spain; JAVIER CASTELLANOS, IBERDROLA, Spain; JOSÉ ÁNGEL GONZÁLEZ, IBERDROLA, Spain

0472 Benefits of converting conventional instrument transformer data into Smart Grid capable process data utilizing IEC 61850 Merging Units
Stephan Weiss, Interoptix Inc., USA; Peter Graeve, Schniewindt GmbH & Co. KG, Germany; Anders Andersson, Interoptix Inc., USA

0504 Substation Automation Systems Current Challenges and Future Requirements - The InPACT Project Perspective
Mário Lemos, EDP Distribuição, Portugal; José Miguel Santos, EDP Distribuição, Portugal; Gomes Varela, EDP Distribuição, Portugal; Rui Bernardo, EDP Distribuição, Portugal; Rogério Dias Paulo, EFACEC Engenharia, Portugal; António Carrapatoso, EFACEC Engenharia, Portugal

0538 IEC 61968 - MultiSpeak® Harmonization
John Simmins, Electric Power Research Institute, USA; Eric Lambert, Électricité de France, France; Gerald Gray, CIMple Integrations, USA; Allan McMorran, Open Grid Systems, Ltd, UK; Gary McNaughton, Cornice Engineering, USA; Robert Saint, National Rural Electric Cooperative Association, USA; David Haynes, Aclara, USA

0568 Design and implementation of an innovative telecontrol system in the Vattenfall medium-voltage distribution grid
Matthias Wittig, Vattenfall Europe Distribution Berlin GmbH, Germany; Andreas Cerbe, Vattenfall Europe Distribution Berlin GmbH, Germany; Mark Geschwindner, Vattenfall Europe Distribution Hamburg GmbH, Germany; Ulrich Strasse, Vattenfall Europe Netzservice GmbH, Germany; Roland Hayeß, Vattenfall Europe Distribution Berlin GmbH, Germany; Glenn Smith, Vattenfall Europe Netzservice GmbH, Germany

0689 Graphical specification for IEC 61850 based substation automation systems
Frank Visser, Liandon, Netherlands; Edwin Melenhorst, UTInnovation, Netherlands; Eric van Aken, Liandon, Netherlands; Marco Janssen, UTInnovation, Netherlands; Alex Geschiere, Liandon, Netherlands

0790 A Plug & Play concept for IEC 61850 in a Smart Grid
Kolja Eger, Siemens AG, Germany; Sebnem Rusitschka, Siemens AG, Germany; Christoph Gerdes, Siemens AG, Germany

0794 Compatibility of IEC61850 edition 1 and edition 2 implementations
Heiko Englert, Siemens AG, Germany; Henry Dawidczak, Siemens AG, Germany; Thierry Dufaure, Siemens AG, Germany



0834 Integration of MV/LV substation systems and functionalities using unified telecommunication concept

Zvonko Toros, Elektro Primorska, Slovenia; Peter Ceferin, Elektro Primorska, Slovenia; Bojan Likar, Elektro Primorska, Slovenia

0988 Seamless data communication and management over all levels of the power system

André Naumann, Otto-von-Guericke-University, Germany; Przemyslaw Komarnicki, Fraunhofer IFF, Germany; Bernd-Michael Buchholz, NTB Technoservice, Germany; Christoph Brunner, IT4Power, Switzerland

1138 Considerations when Deploying Multiple Distribution Automation Applications on a Single Wireless Infrastructure

Maciej Goraj, RuggedCom, Spain; Tony Burge, RuggedCom, USA

1153 Communication Network for Swiss Smart Grid Pilot Project

Thomas Gfeller, BKW FMB Energie AG, Switzerland; Ludger Ullrich, BKW FMB Energie AG, Switzerland

1169 Hybrid Simulation of Power Distribution and Communications Networks

Roger Dugan, EPRI, USA; Sara Mullen, EPRI, USA; Tim Godfrey, EPRI, USA; Craig Rodine, EPRI, USA

1284 Developing a Distributed Intelligence Architecture for Smart Grids

Maik Seewald, Cisco, USA; Jeffrey Taft, Cisco, USA

Block 2-da

0156 Development and Implementation of MV-circuit Self-healing System Based on Distributed Intelligences

GAO Mengyou, Shandong University, China; XU Bingyin, Shandong University of Technology, China; LI Tianyou, Fujian Electric Power Company, China; LI Weixin, Xiamen Electric Power Company, China

0209 Methodology and Results of a Field Experiment of Distribution State Estimation in the French Network

Olivier CHILARD, EDF R&D, France; Sébastien GRENARD, EDF R&D, France; Olivier DEVAUX, EDF R&D, France

0235 Overhead line reliability indices improvement using Self-feeder automation

Syaiful Hannan, PT PLN(Persero) Kantor Pusat, Indonesia; Iskandar Nungtjik, PT PLN(Persero) Kantor Pusat, Indonesia; Dany Embang, PT PLN(Persero) Kantor Pusat, Indonesia

0245 Auto-adaptive Fault Passage Indicator with remote communication improves network availability

Guillaume VERNEAU, Schneider Electric, France; Yves CHOLLOT, Schneider Electric, France; Pascal CUMUNEL, Schneider Electric, France

0249 EDP Distribution Automation (r)Evolution

João Rosa, EDP Distribuição, Portugal; Joaquim Sousa, EDP Distribuição, Portugal; Luís Abalroado, EDP Distribuição, Portugal; Pedro Marques, EDP Distribuição, Portugal; Fernando Ramalheira, EDP Distribuição, Portugal; Pedro Gama, EDP Distribuição, Portugal; Rui Oliveira, EDP Distribuição, Portugal; Jorge Duarte, EDP Distribuição, Portugal; Miguel Morgado, EDP Distribuição, Portugal

366 Fault Detection Isolation and Restoration on the feeder (FDIR):Pick your technology

Fahrudin Mekic, ABB Inc., USA; Ken Alloway, ABB Inc., USA; Cleber Angelo, ABB Inc., USA; Robert Goodin, ABB Inc., USA

396 Intelligence for Smart Grids last Mile

Manfred Haslinger, Siemens AG, Austria; Bruno Opitsch, Siemens AG, Austria; Markus Spangler, Siemens AG, Austria



Block 2: Control Part 2

Block 2-da

0463 Upgrade of ENEL MV network automation to improve performances in presence of faults and to deal DG

Alberto Cerretti, ENEL Distribuzione, Italy; Giorgio Scrosati, ENEL Distribuzione, Italy; Lilia Consiglio, ENEL Distribuzione, Italy

0508 Preventive assessment for combined control centre and substation-centric self-healing strategies

Alberto Bernardo, EFACEC, Portugal; Nuno Silva, EFACEC, Portugal; António Carrapatoso, EFACEC, Portugal; Gary Ockwell, EFACEC Advanced Control Systems, USA

0622 TOWARDS SELF-HEALING POWER DISTRIBUTION BY MEANS OF THE ZONE CONCEPT

Goran Wiklund, ABB Oy, Finland; Antti Kostiainen, ABB Oy, Finland; Pekka Manner, Fortum Oyj, Finland; Kari Koivuranta, Fortum Oyj, Finland

0941 Secondary Substation Monitoring and Control - Practical Benefits through Intelligent Components and Systems

Lauri Kumpulainen, Vamp Ltd, Finland; Petri Trygg, PowerQ Oy, Finland; Kim Malmberg, Netcontrol Oy, Finland; Markku Hyvärinen, Helen Electricity Network Ltd, Finland; Mika Loukkalahti, Helen Electricity Network Ltd, Finland; Seppo Pettissalo, Vamp Ltd, Finland

1050 Utilizing Smart Meters in LV Network Management

Niklas Löf, Tampere University of Technology, Finland; Marko Pikkarainen, Tampere University of Technology, Finland; Sami Repo, Tampere University of Technology, Finland; Pertti Järventausta, Tampere University of Technology, Finland

1094 Using AMI for Network Monitoring and Control : new equipment as a step towards a Smart Grid implementation

CERQUEIRA Emmanuel, EDF R&D, France; DEVAUX Olivier, EDF R&D, France; BLANDIN Patrick, EDF R&D, France

1107 Software for automatic voltage regulation implemented in remote terminal unit

Zoran Simendic, PDC Elektrovojvodina Novi Sad, Serbia; Goran Švenda, PDC Elektrovojvodina Novi Sad, Serbia; Vladimir Strezoski, PDC Elektrovojvodina Novi Sad, Serbia

1117 Distribution automation solutions - Impact on system availability in distribution networks

Oliver Schroedel, SIEMENS AG, Germany; Michael Schwan, SIEMENS AG, Germany; Sven Koeppel, SIEMENS AG, Germany; Robert Rosenberger, SIEMENS AG, Germany

Block 2-dms

0074 SCADA Enhancement for Effective Rehabilitation Strategy of MV Cables using Artificial Neural Networks

Amira Taha, Alexandria Electricity Distribution Company, Egypt; Ibrahim Madi, Alexandria Electricity Distribution Company, Egypt

0211 Operator Training Simulator for a Distribution System

Marcus Frischherz, Siemens AG, Austria; Roland Eichler, Siemens AG, Germany

0281 Loading Mode Control System in a Distributed Generation

Dmitry Korev, Moscow Power Engineering Institute, Russian Federation; Igor Ozernykh, ASTPribor, Russian Federation; Amirza Abdenov, Novosibirsk Technical University, Russian Federation

0358 Evolutions in the grid operation in Carinthia



Robert Schmaranz, KELAG Netz GmbH, Austria; Reinhard Iskra, KELAG Netz GmbH, Austria; Ignaz Hübl, KELAG Netz GmbH, Austria; Karl Schoaß, KELAG Netz GmbH, Austria

0440 Experimental Evaluation of Cyber Intrusions into Highly Critical Power Control Systems
Giovanna Dondossola, RSE, Italy; Fabrizio Garrone, RSE, Italy; Judit Szanto, RSE, Italy

0466 Bad data detection and identification in distribution power systems by means of principal component analysis

Gerard Vancells, University of Girona, Spain; Joaquim Meléndez, University of Girona, Spain; Sergio Herraiz, University of Girona, Spain; Juan Prieto, INDRA, Spain; Guillermo Bravo, INDRA, Spain

0625 Smart Grid Cyber Security Roadmap

Miguel Areias, EDP Distribuição, Portugal; Paulo Moniz, EDP Distribuição, Portugal; Pedro Rodrigues, EDP Distribuição, Portugal; Bruno Garrancho, LOGICA, Portugal

0685 IT Network Security for Control and Communication Systems in the Power Industry

Torsten Rössel, Innominate Security Technologies AG - a Phoenix Contact Company, Germany

0709 Distribution Control Rooms Preparing for Smart Grid Complexity

Derek Macfarlane, GE Digital Energy, UK

0740 Development of Distribution Automation System that attempts the functional enhancement by the system cooperation

Hideo Nomura, Chubu Electric Power Co., Inc., Japan; Shigeru Kobori, Chubu Electric Power Co., Inc., Japan; Hisashi Tajima, Aichi Electric Co., LTD., Japan; Yasuo Masuda, Aichi Electric Co., LTD., Japan

0741 Intelligent Distribution Automation System Implementation Towards Modern Utility Management

Tjatur Endiek Pramudianto, PLN DCC Semarang, Indonesia; Victor Toga Sitorus, PLN Head Office, Indonesia

0844 Introduction of system service mechanisms for DNOs

Alexander Ebert, Siemens AG, Germany

0956 Multi-Site control centers for more reliable distribution management

Roland Eichler, Siemens AG, Germany; Jan Lohstroh, Siemens AG, Germany

1022 Dynamic SCADA/DMS data model - Plug & Play Smart Grid solutions

Nuno Silva, EFACEC, Portugal; David Marsh, EFACEC, Portugal; Alberto Rodrigues, EFACEC, Portugal; Carlos Mota Pinto, EDP Distribuicao SA, Portugal

1159 Functional specification of the DSO SCADA system to monitor and control active distribution grids

Giovanni Valtorta, Enel Distribuzione, Italy; Eugenio Di Marino, Enel Distribuzione, Italy; Luigi D'Orazio, Enel Distribuzione, Italy; Giancarlo De Bianchi, Enel Distribuzione, Italy; Roberto Corgiolu, Enel Distribuzione, Italy; Igli Misesti, Enel Distribuzione, Italy

1185 Advanced Distribution Management System in BC Hydro's Distribution Network

Al Mithani, BC Hydro Grid Operations, Canada; Dragan Popovic, Telvent DMS, Serbia; Martin Huang, BC Hydro Grid Operations, Canada

Block 3: Protection

Block 3-ap

0034 Protection Configuration Scheme and Application in Digital Substation

Chunhe Zhang, NR Electric Co., Ltd., China; Zhengjun Lu, NR Electric Co., Ltd., China; Jiuhu LI, NR Electric Co., Ltd., China; Wei Yan, NR Electric Co., Ltd., China



0204 Device for MV network inspection via pulse injection

Francesco Ortolani, ENEL Spa, Italy; Roberto Calone, ENEL Distribuzione Spa, Italy; Pietro Paulon, ENEL Distribuzione Spa, Italy; Albert Leikermoser, ARS, Austria

0303 IEC 61850 Based Adaptive Distribution Protection

Alexander Apostolov, OMICRON electronics, USA

0374 Analysis of Protection Malfunctioning in Meshed Distribution Grids

Evita Parabirsing, Delft University of Technology, Netherlands; Edward Coster, Delft University of Technology, Netherlands; Marjan Popov, Delft University of Technology, Netherlands

0450 Introduction of an easy method to analyse the influence of CT saturation on the protection system

Peter Meinhardt, OMICRON electronics GmbH, Austria; Boris Bastigkeit, OMICRON electronics GmbH, Austria

0460 Advancements in Arc Protection

Lauri Kumpulainen, Vamp Ltd, Finland; Heinz Pursch, Eaton Industries GmbH, Germany; Sven Wolfram, TU Ilmenau, Germany; Toni Harju, Vamp Ltd, Finland

0506 Application of a Methodology based on the Evolutionary Particle Swarm Optimization to Protection Coordination

Helder Leite, INESC Porto/FE/UP, Portugal; Jose Barros, INESC Porto/FE/UP, Portugal; Vladimiro Miranda, INESC Porto/FE/UP, Portugal; Rui Fiteiro, EDP Distribuição, SA, Portugal

0517 Integration of Relay Protection Functions

Ljubomir Kojovic, Cooper Power Systems, USA; Timothy Day, Cooper Power Systems, USA; Dharam Sharma, Cooper Power Systems, USA

0749 Intelligent protection system for Smart Grid

Fumio Kawano, Toshiba International (Europe) Limited, UK; Kazuto Fukushima, Toshiba, Japan; Kazuhito Abe, Shikoku Electric Power CO.,INC, Japan

0768 Reduce the number of outage by introducing Circuit Breaker in the distribution network, dream or reality?

Philippe DESCHAMPS, Schneider Electric Industries SAS, France; Philippe ALIBERT, Schneider Electric Industries SAS, France; Jean-Marc BIASSE, Schneider Electric Industries SAS, France

0843 Advances in Pilot-Wire Differential Protection

Gareth Baber, Toshiba International (Europe) Ltd, UK; Itsuo Shuto, Toshiba Corporation, Japan; Hideaki Sugiura, Toshiba Corporation, Japan

0856 IMPLEMENTATION OF A STANDARD INTEGRATED PROTECTIVE RELAYS LIFE TIME MANAGEMENT

STRUCTURE IN A NEWLY ESTABLISHED POWER UTILITY Zeljko Schreiner, IPS - Intelligent Process Solutions GmbH, Germany; Andreas Fräbel, IPS - Intelligent Process Solutions GmbH, Germany

1039 Evaluation and Analysis of Adjustments Alternatives for ENERSUL's Protection System in Low Load Density Regions

Alden Antunes, Daimon Engenharia e Sistemas, Brazil; Fernando Lange, Daimon Engenharia e Sistemas, Brazil; Carlos Oliveira, Daimon Engenharia e Sistemas, Brazil; Ademir Nakazato, ENERSUL, Brazil; Antônio Coura, ENERSUL, Brazil; Eduardo Marques, ENERSUL, Brazil; Renato Guimarães, ENERSUL, Brazil

1164 MV/LV substation circuit breakers: installation criteria, protection system coordination and operation results



Giovanni Valtorta, Enel Distribuzione, Italy; Luigi D'Orazio, Enel Distribuzione, Italy; Angelo Ovarelli, Enel Distribuzione, Italy

1282 IEC61850-Based loss of main protection:the Milano Wi-Power project

Maurizio Delfanti, Politecnico di Milano, Italy; Valeria Olivieri, Politecnico di Milano, Italy; Mauro Pozzi, Politecnico di Milano, Italy; Massimo Ambroggi, Thytronic S.p.A., Italy; Oscar Ornago, Thytronic S.p.A., Italy

1212 Innovative VSC Technology for integration of "green energy" -without impact on system protection and power quality

Stuart McDonald, Transpower New Zealand Ltd, New Zealand; Peter Cahill, Transpower New Zealand Ltd, New Zealand; Matthias Claus, Siemens AG, Germany; Dietmar Retzmann, Siemens AG, Germany; Karl Uecker, Siemens AG, Germany; Marcos Pereira, Siemens AG, Germany

Block 3-dg

0066 Distributed Energy Resources (DER) Impacts on the Performance of Special Protection Schemes (SPSs)

Mojtaba Khederzadeh, Power & Water University of Technology, Iran

0092 Optimal contribution of Distributed Generation in medium voltage grids during a fault, now and in the future

Sebastiaan Van Loon, Alliander, Netherlands; Frans Volberda, Alliander, Netherlands; Frans Provoost, Alliander, Netherlands; Johan Morren, Enexis, Netherlands

0135 Load Type Impacts on Frequency Control of Microgrids in Transition from Grid-Connection to Islanding

Mojtaba Khederzadeh, Power & Water University of Technology, Iran

0334 Risk Analysis for Adaptive Centralized Protection Scheme for Electric Distribution Systems in Presence of DG

Mahmoud-Reza Haghifam, Tarbiat Modares University, Iran; seyed ali Javadian, Islamic Azad University, Iran; Mahammad Esmaeil Honarmand, Gilan Electric Distribution Company, Iran

0383 Intelligent Agent-based Protection for Smart Distribution Systems

Young-Taek Jin, Myongji University, Republic of Korea; Seung-Jae Lee, Myongji University, Republic of Korea; Myeon-Song choi, Myongji University, Republic of Korea; Tae-Wan Kim, Myongji University, Republic of Korea; Il-Hyoung Lim, Myongji University, Republic of Korea; Sung-Jun Park, Myongji University, Republic of Korea

0428 Detailed Analysis of the Impact of Distributed Generation and Active Network Management on Network Protection Systems

Federico Coffele, University of Strathclyde, UK; Campbell Booth, University of Strathclyde, UK; Graeme Burt, University of Strathclyde, UK; Craig McTaggart, ScottishPower, UK; Tim Spearing, ABB, UK

0430 Novel Protection Approach for MV Microgrid

Sampo Voima, University of Vaasa, Finland; Kimmo Kauhaniemi, University of Vaasa, Finland; Hannu Laaksonen, University of Vaasa, Finland

0953 A grid-connection control scheme of PV system with fluctuant reactive load

Bin Li, Tianjin University, China; Xiaohe Tian, Tianjin University, China; Zhiqian Bo, AREVA T&D Automation, UK

1134 Dispersed generation in MV networks: reliability of passive of anti-islanding protection methods



Gabriele Monfredini, Politecnico di Milano, Italy; Marco Merlo, Politecnico di Milano, Italy; Maurizio Delfanti, Politecnico di Milano, Italy; Alberto Cerretti, ENEL DISTRIBUZIONE, Italy; Ettore De Berardinis, CESI, Italy

Block 3-fl

0181 Current characteristics of serial and parallel low current arc faults in distribution networks
Peter Müller, Universität Stuttgart, Germany; Stefan Tenbohlen, Universität Stuttgart, Germany;
Reinhard Maier, Siemens AG, Germany; Michael Anheuser, Siemens AG, Germany

0272 Methodology to Describe High Impedance Faults in Solidly Grounded MV Networks
Alicia Valero Masa, ULB (Free University of Brussels), Belgium; Jean-Claude Maun, ULB (Free University of Brussels), Belgium; Stefan Werben, Siemens AG, Germany

0507 Evolution of the Fault Locator on MV distribution networks: from simple stand alone device, to a sophisticated strategic component of the SMART GRID control system
ROBERTO CALONE, ENEL DISTRIBUZIONE, Italy; ALBERTO CERRETTI, ENEL DISTRIBUZIONE, Italy;
ALESSANDRO FATICA, ENEL DISTRIBUZIONE, Italy

0612 Directional Detection of Restriking Earthfaults in Compensated Networks
Gernot Druml, A.Eberle GmbH&CoKG, Germany; Olaf Seifert, Siemens AG, Germany; Michael Marketz, Kelag AG, Austria

0644 A novel detection system for broken distribution conductor on radial scheme
Weerapun Rungseevijitprapa, Chulalongkorn University, Thailand; Anantachai Pongthavornsawad, Provincial Electricity Authority, Thailand

0793 Practical application and performance of novel admittance based earth-fault protection in compensated MV-networks
Ari Wahlroos, ABB Oy, Finland; Janne Altonen, ABB Oy, Finland; Teemu Kemppainen, Fortum Oyj, Finland

0800 Advancements in earth-fault location in compensated MV-Networks
Janne Altonen, ABB Oy, Finland; Ari Wahlroos, ABB Oy, Finland; Matti Pirskanen, Savon Voima Oyj, Finland

0848 Fault location in Portuguese MV networks
Miguel Louro, EDP Distribuição, Portugal; Mário Lemos, EDP Distribuição, Portugal; Luís Marcelino Ferreira, Instituto Superior Técnico, Portugal; Pedro Carvalho, Instituto Superior Técnico, Portugal; Fernando Carvalho, Instituto de Optimização Aplicada, Portugal

0849 A Fault Diagnosis Approach For Power Grid With Information Fusion
Gao Zhenxing, Zhejiang University, China; Guo Chuangxin, Zhejiang University, China; Zhang Jinjiang, Zhejiang University, China; Yang Jian, Jiulong Electric Power Group, China; Wang Mei, Shanghai Municipal Electric Power Company, China

1320 High Impedance Fault Location - Case Study with Developed Models from Field Experiments
José Antônio Silva, Federal University of Campina Grande (UFCG), Brazil; Flávio Costa, Federal University of Campina Grande (UFCG), Brazil; Wellinsilvio Santos, Federal University of Campina Grande (UFCG), Brazil; George Lyra, Federal University of Campina Grande (UFCG), Brazil; Washington Neves, Federal University of Campina Grande (UFCG), Brazil; Benemar Souza, Federal University of Campina Grande (UFCG), Brazil; Núbia Brito, Federal University of Campina Grande (UFCG), Brazil; Marcelo Júnior, Energisa, Brazil

Block 3-ng

0511 Abnormal ground fault Overvoltages in MV networks: analyses and experimental tests



ALBERTO CERRETTI, ENEL DISTRIBUZIONE, Italy; ROBERTO CALONE, ENEL DISTRIBUZIONE, Italy; FABIO MASSIMO GATTA, UNIVERSITY OF ROME "LA SAPIENZA", Italy; ALBERTO GERI, UNIVERSITY OF ROME "LA SAPIENZA", Italy; STEFANO LAURIA, UNIVERSITY OF ROME "LA SAPIENZA", Italy; MARCO MACCIONI, UNIVERSITY OF ROME "LA SAPIENZA", Italy; GIOVANNI VALTORTA, ENEL DISTRIBUZIONE, Italy

0607 New Hardware in the Loop Tests for Earthfault Control and Protection Systems
Gernot Druml, A.Eberle GmbH&CoKG, Germany; Roberto Calone, ENEL Distribuzione, Italy; Lothar Fickert, Technical University, IEA, Austria

929 Improving the quality of supply in MV distribution network applying modern shunt circuit-breaker
Ari Nikander, Tampere University of Technology, Finland; Pasi Lauri, UTU Elec Oy, Finland; Jarmo Saarinen, Fortum, Electricity Solutions and Distribution Division, Finland; Pertti Järventausta, Tampere University of Technology, Finland

1140 The Influence of the Additional Earthing of the Affected Phase During Earth Fault on Safety of Distribution Networks
Petr TOMAN, Brno University of Technology, Czech Republic; Jaromir DVORAK, E.ON Czech Republic, Czech Republic; Jaroslava ORSAGOVA, Brno University of Technology, Czech Republic; David TOPOLANEK, Brno University of Technology, Czech Republic

Block 3-pmu

0044 Mitigation of Blackouts due to Mal-Operation of Distance Relays by using the Fault Resistance Information
Amr El-Hadidy, TU-Dortmund, Germany; Christian Rehtanz, TU-Dortmund, Germany

0916 Actual line ampacity rating using PMU
Antonin Popelka, AIS sro, Czech Republic; Daniel Jurik, AIS sro, Czech Republic; Petr Marvan, AIS sro, Czech Republic

0919 FIELD MEASUREMENTS ANALYSIS FOR DYNAMIC LINE RATING
Martin Aten, E.ON New Build & Technology, UK; Robert Ferris, Central Networks, UK; Tony Yip, Alstom Grid, UK; Chang An, Alstom Grid, UK; Graeme Lloyd, Alstom Grid, UK

0963 Benefits of synchrophasor solutions for distribution networks
Markus Wache, Siemens AG, Germany

1264 Using Synchrophasor Measurements in Smart Distribution Networks
Luis(Nando) Ochoa, Psymetrix Ltd, UK; Douglas Wilson, Psymetrix Ltd, UK

Non Interactive Tour

Block 1: Operation

Block 1-ca

282 Study on 10kV XLPE Cable with Defects Based on Oscillating Wave Test System
Lu guojun, Testing and Researches Institute, Guangzhou,, China; xiong jun, Testing and Researches Institute, Guangzhou,, China; Huang hongbin, Testing and Researches Institute, Guangzhou,, China; Rao rui, Testing and Researches Institute, Guangzhou,, China

Block 1-dm

0238 Use of Reclosers in Substations 132/33/13,2 kV
Marcelo Moyano, ENERSA, Argentina; Daniel Beber, ENERSA, Argentina; Armando Maxit, ENERSA, Argentina



0666 Environmental Effect on Temperature Rise of Transformer
Arslan Ahmed, Pak Elektron Limited, Pakistan; Adnan Shahid, Pak Elektron Limited, Pakistan

Block 1- wf

0362 Multi-criteria Optimization in Workforce Management
Elmar Jaeker, PSI AG, Germany; Rudolf Felix, F/L/S, Germany; Dieter Seifert, envia NSG, Germany;
Thomas Epler, envia NSG, Germany

0402 Smart and wireless field force management : today and tomorrow
Celine JOANNIC, EDF R&D, France; Frederique LE GUERN, ERDF, France; Christian AUNEAU, ERDF, France

Block 2: Control

Block 2-com

0257 A Study on the Application Method of IEC 61850 for Data Acquisition and Exchange in Smart Distribution Environment
Hee-Taek Lim, KEPCO-KDN, Republic of Korea; Nam-Cheol Yu, KEPCO-KDN, Republic of Korea; Jun-Ho Kim, KEPCO-KDN, Republic of Korea; Young-Kyu Jin, KEPCO-KDN, Republic of Korea; Bo-Gun Jin, KEPCO-KDN, Republic of Korea

0541 A survey on information and communication technology (ICT) applications in distribution systems
Mohammad Shahraeini, Mashhad Electric Energy Distribution Co., Iran; Saeed Alishahi, Mashhad Electric Energy Distribution Co., Iran

0870 Comparison of coupling methods in MV equipment for powerline communications
Patrick Mulroy, Ormazabal Corporate Technology, Spain; Ian Gilbert, Ormazabal Corporate Technology, Spain

0895 Principles of renewing of field communication network of electricity distribution company
Sauli Antila, Vattenfall Distribution Nordic, Finland; Ville Maksimainen, Vattenfall Distribution Nordic, Finland; Hannu Koivuniemi, Vattenfall Distribution Nordic, Finland; Hannu Martikainen, Emtele Ltd, Finland

1323 Communications Requirements for Smart Grids
Inigo Berganza, Iberdrola, Spain; Eric Lambert, EDF Research, France; Andrew Paice, ABB Switzerland, Switzerland; Ramono Napolitano, ENEL Distribution, Italy; Alberto Sendin, Iberdrola, Spain

Block 2-da

0482 Network Automation with reclosers as new components for European distribution systems
Christian Heinrich, Siemens AG, Germany; Martin Eiselt, Siemens AG, Germany; Erik Taylor, Siemens AG, Germany

0524 IMPACT OF TELESUPERVISION IN SUBSTATIONS M.V./L.V.
Miguel Pulice, Edenor, Argentina; Ernesto Vidal, Edenor, Argentina

0573 State estimation and auxiliary fault analysis of distribution network by the load monitor system

Wu Peng, Songjiang Power Supply Company, Shanghai Municipal Electrical Power Company, China; Yu Haobin, Songjiang Power Supply Company, Shanghai Municipal Electrical Power Company, China; Guan Biping, Songjiang Power Supply Company, Shanghai Municipal Electrical Power Company, China; Xiong Wen, Electric department of South China University of Technology, China

0830 Development of Voltage Regulation Method including Power Factor Control by Customers in Autonomous Demand Area Power System



Satoshi Uemura, Central Research Institute of Electric Power Industry, Japan

Block 2-dms

0221 Development of Smart Distribution Management System for Predictive Operation of Power Distribution Systems

YUN SANG-YUN, KEPCO Research Institute, Republic of Korea; CHOO CHUL-MIN, KEPCO Research Institute, Republic of Korea; KWON SEONG-CHUL, KEPCO Research Institute, Republic of Korea; SONG IL-KEUN, KEPCO Research Institute, Republic of Korea

0716 Enhanced Consumer and Grid Management through Integrated Distribution Management Systems (IDMS)

Avnaesh Jayantilal, Alstom Grid, USA; Ethan Boardman, Alstom Grid, USA; Eric Fleuret, Alstom Grid, USA

976 Construction and Operation of Distribution Automation System based on GIS

Wu Guopei, Guangzhou Power Supply Bureau, Guangdong Power Grid, CSG, China; Gong Jianping, Guangzhou Power Supply Bureau, Guangdong Power Grid, CSG, China; Liu Yuquan, Guangzhou Power Supply Bureau, Guangdong Power Grid, CSG, China

Block 3: Protection

Block 3-ap

0106 The Use of Real Time Digital Simulation for Performance Analysis of Busbar Differential Protection
André Luiz Pereira de Oliveira, SIEMENS Ltda., Brazil

804 Renewable Integration Needs Automation of Continuous Protection Grading

Li Shang, Siemens AG, Germany; Norbert Friemelt, Siemens AG, Germany; Rainer Krebs, Siemens AG, Germany

1066 New Protection Configuration for High Quality MV Ring Distribution Systems

Morris Brenna, Politecnico di Milano, Italy; Federica Foadelli, Politecnico di Milano, Italy; Donato Lombardi, EnergyLab Foundation, Italy; Dario Zaninelli, Politecnico di Milano, Italy

Block 3-dg

0431 Protection System for Future LV Microgrids

Hannu Laaksonen, University of Vaasa, Finland; Kimmo Kauhaniemi, University of Vaasa, Finland; Sampo Voima, University of Vaasa, Finland

Block 3-fl

0084 Research on single-phase ground fault locating for non-effectively grounded system in Shanghai
Weibin Wang, Shanghai Municipal Electric Power Company, China; Ming Zong, Shanghai Municipal Electric Power Company, China; Xiandong Huang, East China Electric Power Industry Co., Ltd, China

0765 Design and implementation of a gprs based fault locator system

Mohsen Zabihi, Mashhad Electric Energy Distribution Co., Iran; Mohammad Hossein Yaghmaee Moghaddam, Mashhad Electric Energy Distribution Co., Iran; Saeed Alishahi, Mashhad Electric Energy Distribution Co., Iran; Kaveh Azizi, Mashhad Electric Energy Distribution Co., Iran

Block 3-ng

0283 Tuning of resonance grounded networks and its effects on earth fault detection

Andreas Jönsson, Lund University, Sweden; Christoffer Örndal, Lund University, Sweden; Magnus Akke, Lund University, Sweden

0560 Experimental Validation Results of the Active Grounding System for MV Networks



Aitor Amezua, Ormazabal-Oldar Electronica, Spain; Francisco José Pazos, Iberdrola Distribucion Electrica, Spain; Itziar Gutierrez, Ormazabal-Oldar Electronica, Spain

853 Effects on the Quality of Service of changing the neutral grounding of MV networks
Miguel Louro, EDP Distribuição, Portugal; José Cunha Abreu, EDP Distribuição, Portugal; Filinto Duarte, EDP Distribuição, Portugal; Manuel Martins, EDP Distribuição, Portugal; Rui Fiteiro, EDP Distribuição, Portugal; Filipe Vale, EDP Distribuição, Portugal

1009 Neutral Grounding Resistor failure detection
Zvonko Toroš, Elektro Primorska, d.d., Slovenia; Peter Kastelic, Iskra Sistremi, d.d., Slovenia; Tomaž Kastelic, Elektro Primorska, d.d., Slovenia; Silvano Maljavac, Iskra Sistremi, d.d., Slovenia

Poster Session, Session 4: Distributed Energy resources & efficient utilisation of electricity : 09.00 - 17.30 hrs (Exhibition hall)⁴

Interactive Guided Tour

Block 1: DG/DER planning and studies

0059 Experimental simulation to evaluate the impact of reactive power control on distribution networks voltage and energy
Abla gado, South Delta Company of Electric Distribution, Egypt; Hassan Abo Gad, South Delta Company of Electric Distribution, Egypt; Salah radwan, South Delta Company of Electric Distribution, Egypt; atef el-zeftawy, Faculty of Engineering, Menoufiya University, Egypt

0153 The value of distributed generation for mitigating network risk
Simon Blake, durham university, UK; Philip Taylor, durham university, UK; Alan Creighton, CE Electric UK, UK

0279 Virtual powers plants of micro CHP units combined with active components reducing peak loads and load fluctuations
Phillip Gronstedt, Technische Universität Braunschweig, Institute for high voltage technology and electric power systems, Germany; Arne Dammasch, Technische Universität Braunschweig, Institute for high voltage technology and electric power systems, Germany; Martin Tröschel, OFFIS e. V., Germany; Magnus Pielke, Technische Universität Braunschweig, Institute for high voltage technology and electric power systems, Germany; Michael Kurrat, Technische Universität Braunschweig, Institute for high voltage technology and electric power systems, Germany; Hans-Jürgen Appelrath, OFFIS e. V., Germany

0285 An assessment of the economic impact of active network management alternatives
Andrea Michiorri, Smarter Grid Solutions, UK; Robert Currie, Smarter Grid Solutions, UK; Gareth McLorn, Smarter Grid Solutions, UK; Colin Foote, Smarter Grid Solutions, UK

0325 Experience from construction of a Smart Grid Research, Development and Demonstration platform
Nicholas Etherden, STRI AB, Sweden; Michael Gudmundsson, STRI AB, Sweden; Mats Häger, STRI AB, Sweden; Henrik Stomberg, STRI AB, Sweden

0344 Integrated Operation of an Energy MicroGrid with Islanded Electricity Network
Bieshoj Awad, Cardiff University, UK; Jianzhong Wu, Cardiff University, UK; Janaka Ekanayake, Cardiff University, UK; Nick Jenkins, Cardiff University, UK

370 Study of the Out-of-Phase Connection of Distributed Generators
Sebastian Martín Nesci, Universidad Nacional de Río Cuarto, Argentina; Juan Carlos Gomez, Universidad Nacional de Río Cuarto, Argentina; Medhat M. Morcos, Kansas State University, USA

⁴ As of 29 April 2011



0432 Short Circuit Behavior of Distribution Grids With a Large Share of Distributed Generation Units
E.J. Coster, TU Eindhoven, Netherlands; P. Karaliolios, TU Eindhoven, Netherlands; I Xyngi, TU Delft, Netherlands; J.G. Slootweg, TU Eindhoven, Netherlands; M. Popov, TU Delft, Netherlands; W.L. Kling, TU Eindhoven, Netherlands; L. van der Sluis, TU Delft, Netherlands

0437 Power Hardware in the Loop Simulations for Distributed Generation
Georg Lauss, Austrian Institute of Technology, Austria; Felix Lehfuss, Austrian Institute of Technology, Austria

0567 A platform for case study of active distribution network planning
Yang Fan, China electric power research insititute, China; Fan Ming-tian, China electric power research insititute, China; Zhang Zu-ping, China electric power research insititute, China

0579 The Need for Operational Planning in Smart Distribution Grid Using Near Real-Time Network Simulation
Prashanth Duvoor, Siemens Energy, USA; Ulrike Sachs, Siemens AG, Germany

0610 Towards efficient rules for quantifying the impact of distributed generation on the functionality of traditional distribution protection systems
Tilman Wippenbeck, RWTH Aachen University, Institute for High Voltage Technology, Germany; Christian Hille, RWTH Aachen University, Institute for High Voltage Technology, Germany; Armin Schnettler, RWTH Aachen University, Institute for High Voltage Technology, Germany

0670 DER Integration Under New Grid and Market Paradigms
Elena Boskov Kovacs, Kema Consulting, Germany

0787 Smart Grids Strategy for Salzburg, Austria
Gerhard Zucker, AIT Energy Department, Austria; Friederich Kupzog, TU Vienna, Austria; Daniel Reiter, Salzburg AG, Austria

0928 A Balanced Scorecard Approach for the Enhancement of Distributed Renewable Penetration Limit in Isolated Networks
Worawit Tayati, Horizon Power, Australia; Gordon Pack, Horizon Power, Australia

0930 Hosting Capacity of Italian LV Distribution Networks
Danilo Bertini, RSE, Italy; Diana Moneta, RSE, Italy; Juliano Silva de Assis, Consultant, Italy; Davide Falabretti, Politecnico di Milano, Italy; Marco Merlo, Politecnico di Milano, Italy; Andrea Silvestri, Politecnico di Milano, Italy

0965 Analysis of Network Requirements based on an Estimation of the Future Energy Demand for a German Metropolis
Dennis Unger, Technische Universität Dortmund, Germany; Lukas Spitalny, Technische Universität Dortmund, Germany; Johanna Myrzik, Technische Universität Dortmund, Germany

0989 Voltage profile analysis in 30 kV network after connection of wind power plant
Ranko Goic, University of Split, Croatia; Damir Jakus, University of Split, Croatia; Jakov Krstulovic, University of Split, Croatia; Josip Vasilj, University of Split, Croatia

1100 Probabilistic planning for a higher integration of wind turbines to MV distribution networks.
Walter Niederhuemer, Linz Strom Netz GmbH, Austria; Karl Derler, Linz Strom Netz GmbH, Austria

1143 Maximising Benefits to Customers from Utilites Losses Management - an ESNB Perspective
Kevin Niall, ESB Networks, Ireland; Anthony Walsh, ESB Networks, Ireland

1173 Optimization of revenues from a distributed generation portfolio: a case study
Davy Geysen, VITO, Belgium; Kris Kessels, VITO, Belgium; Maarten Hommelberg, VITO, Belgium; Mattijs Ghijssen, University of Amsterdam, Netherlands; Yves Tielemans, Group Machiels, Belgium; Kurt Vinck, Group Machiels, Belgium



1215 Assessment of the affect of different energy mixes on highly distributed local energy networks
Lucy Anderson, University of Strathclyde, UK; Stuart Galloway, University of Strathclyde, UK; Graham Ault, University of Strathclyde, UK

1226 Analysis and Reduction of Effects of Single-Phase Loads and Generators on Low Voltage Distribution Grids
Constantin Reese, Institute of Electric Power Systems, Division of Power Supply, Leibniz Universität Hannover, Germany; Lutz Hofmann, Institute of Electric Power Systems, Division of Power Supply, Leibniz Universität Hannover, Germany

1277 Determining Practical Planning Limits for DG on Distribution Circuits
Roger Dugan, EPRI, USA; Jeff Smith, EPRI, USA

Block 2: Control of networks with DG/DER

0171 Coordinated voltage control as a part of distribution management system
Anna Kulmala, Tampere University of Technology, Finland; Sami Repo, Tampere University of Technology, Finland; Pertti Järventausta, Tampere University of Technology, Finland

0174 Planning of Distributed Generation Dispatch in Distribution Networks
Priscila Maria Barra Ferreira, PONTIFÍCIA UNIVERSIDADE CATÓLICA DO RIO DE JANEIRO, Brazil; Delberis A. Lima, PONTIFÍCIA UNIVERSIDADE CATÓLICA DO RIO DE JANEIRO, Brazil; Luis F. Ochoa, University of Manchester, UK

0208 Technical and Economic assessment of possible centralised voltage control functions in presence of DG in the French MV network
Sébastien GRECARD, EDF R&D, France; Alexandre QUERIC, EDF R&D, France; Olivier CARRE, ERDF, France

0331 Research on the control of energy storage system parallel connected to the grid
Rong LU, Shanghai Municipal Electric Power Company, China; Junyi HU, Shanghai Municipal Electric Power Company, China

0397 A Decentralized Energy Management System for Efficiency Improvements of Distributed Energy Resources
Thomas Werner, Siemens AG, Germany; Erich Fuchs, Siemens AG, Germany

0465 Advanced management of Distributed Generation on MV network
Giorgio Di Lembo, ENEL Distribuzione, Italy; Alberto Cerretti, ENEL Distribuzione, Italy; Alessandro Fatica, ENEL Distribuzione, Italy; Lilia Consiglio, ENEL Distribuzione, Italy

0497 Connection and Management of Distributed Generation using Synchrophasor Measurements and Advanced Distribution Management Systems (DMS)
Douglas Wilson, Psymetrix Ltd, UK; Eric Goutard, Alstom Grid, France

0510 The Application of Distribution State Estimation to Support a Real-time Voltage Control Algorithm: A path to increase the integration of distributed generation
Clara Gouveia, INESC Porto/FE/UP, Portugal; Alda Sousa, INESC Porto/FE/UP, Portugal; Helder Leite, INESC Porto/FE/UP, Portugal; Antonio Leitao, EDP Distribuição, SA, Portugal; Jose Santos, EDP Distribuição, SA, Portugal; Mario Lemos, EDP Distribuição, SA, Portugal

0518 Volt/Var Control for Smart Grid Solutions
Ljubomir Kojovic, Cooper Power Systems, USA; Craig Colopy, Cooper Power Systems, USA; Daniel Arden, Cooper Power Systems, USA

0535 A Converter Controller of Virtual Synchronous Machine for Stable Operation of Microgrid



Masahide Hojo, The University of Tokushima, Japan; Takeaki Terauchi, The University of Tokushima, Japan; Yoshinobu Ueda, Meidensha Corporation, Japan; Toshihisa Funabashi, Meidensha Corporation, Japan

0770 OpenNode. Open Architecture for Secondary Nodes of the Electricity SmartGrid
Raúl Soriano, ITE, Spain; Friederich Kupzog, Siemens Austria, Austria; Marta Alberto, Atos Origin, Spain; Andreas Lugmaier, Siemens Austria, Austria; Laura Moreno, ITE, Spain; José Lorenzo, Atos Origin, Spain; Javier Collazo, Núcleo C.C., Spain; Ignacio González, Núcleo C.C., Spain

0810 Energy Resources Scheduling in Competitive Environment
Zita Vale, Gecad/Politechnic of Porto - School of Engineering, Portugal; Hugo Morais, Gecad/Politechnic of Porto - School of Engineering, Portugal; Narciso Pereira, Gecad/Politechnic of Porto - School of Engineering, Portugal

0874 Intelligent power system platform for supervision and control of distributed generation and customer demands - SUPERMEN
Tomaz Pfajfar, 2e, Slovenia; Andrej Souvent, Electric Power Research Institute Milan Vidmar, Slovenia; Janez Smid, Iskra MIS, Slovenia; Marko Sepic, Solvera Lynx, Slovenia; Marjan Jerele, Elektro Gorenjska, Slovenia; Franci Katrasnik, University of Ljubljana, Slovenia; Igor Papic, University of Ljubljana, Slovenia

0934 MV networks with Dispersed Generation: voltage regulation based on local controllers
Diana Moneta, RSE, Italy; Paolo Mora, RSE, Italy; Marco Merlo, Politecnico di Milano, Italy; Gabriele Monfredini, Politecnico di Milano, Italy; Massimo Gallanti, RSE, Italy; Valeria Olivieri, Politecnico di Milano, Italy

0969 Analysis of Various Voltage Control Methods for Low Voltage Networks with Distributed Generators
Dennis Unger, Technische Universität Dortmund, Germany; Johanna Myrzik, Technische Universität Dortmund, Germany

0974 Classification and comparison of multi agent based control strategies for electric vehicles in distribution networks
Thomas Pollok, Insitute for High Voltage Technology, Germany; Claas Matrose, Insitute for High Voltage Technology, Germany; Thomas Dederichs, Insitute for High Voltage Technology, Germany; Armin Schnettler, Insitute for High Voltage Technology, Germany; Eva Szczechowicz, Insitute for High Voltage Technology, Germany

1051 Optimised operation strategies for energy storages in low-voltage grids with a high degree of decentralized generation
Martin Lödl, Technische Universität München, Germany; Rolf Witzmann, Technische Universität München, Germany; Michael Metzger, Siemens AG, Germany

1124 The Shetland Islands Smart Grid
Colin Foote, Smarter Grid Solutions, UK; Robert Currie, Smarter Grid Solutions, UK; Frank Clifton, Scottish & Southern Energy, UK; Stewart Reid, Scottish & Southern Energy, UK

1192 London Carbon London - A Learning Journey
Cristiano Marantes, UK Power Networks, UK; Robert Currie, Smarter Grids Solutions, UK; Dave Openshaw, UK Power Networks, UK

1245 Preliminary findings from deployment of a dynamic line rating system on Orkney Islands
Andrea Michiorri, Smarter Grid Solutions, UK; Robert Currie, Smarter Grid Solutions, UK; David MacLeman, Scottish & Southern Energy, UK; Philip Taylor, University of Durham, UK; Frazer Watson, Smarter Grid Solutions, UK

[Block 3: Customer side developments](#)

0125 Electrical load characteristics of domestic heat pumps and scope for demand side management
Peter Boait, De Montfort University, UK; Anne Stafford, Leeds Metropolitan University, UK



- 0131 Efficient utilisation of electrical energy in the data centre of the HS Augsburg by using smart metering
Michael Finkel, University of Applied Sciences, Germany; Fabian Grundl, University of Applied Sciences, Germany
- 0287 Energy Efficiency Analysis of Residential Electric End-Uses: Based on Statistical Survey and Hourly Metered Data
Merkebu Zenebe Degefa, Aalto University, Finland; Anssi Ahola, Aalto University, Finland; Matti Lehtonen, Aalto University, Finland
- 0336 Innovative Heat Storage Management by Object Oriented Control
Urs Wehmhörner, Technische Universität München, Germany; Josef Lipp, Technische Universität München, Germany; Johannes Jungwirth, Technische Universität München, Germany
- 0408 Automated electrical energy analysis for domestic consumers based on smart meters
Christian Elbe, Graz University of Technology, Austria; Ernst Schmutzner, Graz University of Technology, Austria
- 0442 Exploring the flexibility potential of residential heat pumps combined with thermal energy storage for smart grids.
Daan Six, VITO, Belgium; Johan Desmedt, VITO, Belgium; Dirk Vanhoudt, VITO, Belgium; Johan Van Bael, VITO, Belgium
- 0481 Flexible Thermal Load Management for Ancillary Services Market: Experience of Swiss Smart Grid Pilot Project
Elvira Kaegi, BKW FMB Energie AG, Switzerland; Daniel Berner, BKW FMB Energie AG, Switzerland; Adrian Peter, BKW FMB Energie AG, Switzerland
- 0651 Energy Efficiency, Storage and Generation in a Railway Electrical Distribution System Through Hybrid Diesel-Electric Locomotives
Antonio Gabaldon, Universidad Politécnica de Cartagena, Spain; Roque Molina, Universidad Politécnica de Cartagena, Spain; Francisco J. García-Franco, Universidad Politécnica de Cartagena, Spain; Mario Ortiz, Universidad Miguel Hernández, Spain; Elena Agenjos, Repsol-YPF, Spain; Sergio Valero, Universidad Miguel Hernández, Spain
- 0662 Initiative to improve approach to eligible electric energy producers
Marina Cavlovic, HEP-ODS d.o.o., Croatia
- 0671 Energy Optimization Management of Combined Cooling and Power Distributed Energy Supply System with Micro Turbine
Mengxuan Liu, Tianjin University, China; Chengshan Wang, Tianjin University, China; Li Guo, Tianjin University, China
- 0683 Monitoring of Hybrid Power Supply System for Public Lighting
Petr Bilik, VSB-Technical University of Ostrava, Czech Republic; Stanislav Misak, VSB-Technical University of Ostrava, Czech Republic; Jakub Kvapil, VSB-Technical University of Ostrava, Czech Republic
- 0686 Integrated analysis of traffic and power flows
Thomas Helmschrott, RWTH Aachen University, Germany; Martin Scheufen, RWTH Aachen University, Germany; Armin Schnettler, RWTH Aachen University, Germany
- 0701 Demand Side Management for Domestic Plug-in Electric Vehicles in Power Distribution System Operation
SIKAI HUANG, University of Strathclyde, UK; DAVID INFIELD, University of Strathclyde, UK
- 0710 Investigation of the impact of electrifying transport and heat sectors on the UK distribution networks



Chin Kim GAN, Imperial College, UK; Marko AUNEDI, Imperial College, UK; Vladimir STANOJEVIC, Imperial College, UK; Goran STRBAC, Imperial College, UK; Dave OPENSHAW, UK Power Networks, UK

0796 Market price based control of electrical heating loads
Pekka Koponen, VTT Technical Research Centre of Finland, Finland; Joel Seppälä, Helen Electricity Network, Finland

0832 Smart info and energy@home: the solution tool to address and assess customer participation to the energy market
Paolo SCURO, ENEL Distribuzione SpA, Italy

0835 Modelling approach to assess the impact of heat and electricity storage on distribution systems
Stefan Krengel, RWTH Aachen University, Germany; Sepideh Doroudian, RWTH Aachen University, Germany; Armin Schnettler, RWTH Aachen University, Germany

0865 Demand Response in practice: OPTIGES project final results and lessons learned
Inigo Cobelo, Tecnalia, Spain; Mikel Fernandez, Tecnalia, Spain; Jon Anduaga, Tecnalia, Spain; Antonio Castellanos, Endesa, Spain; Aitor Atxurra, Tecnalia, Spain

0898 Demand side management and electric vehicle integration (VERDE)
ROSA MORA, SIEMENS, Spain; MIQUEL CRUZ, IREC, Spain; ALBERT SANTANDREU, IREC, Spain; IGNASI CAIRO, IREC, Spain; ANDREAS SUMPER, IREC, Spain; ANTONI SUDRIA, IREC, Spain

0904 An assessment of demand-response flexibility on household level
Kris Kessels, VITO, Belgium; Reinhilde D'hulst, VITO, Belgium

0958 Demand Side Management Potential A case study for Germany
Martin Stötzer, Otto-von-Guericke-University, Germany; Phillip Gronstedt, TU Braunschweig, Germany; Zbigniew Styczynski, Otto-von-Guericke-University, Germany

1042 Integrated Modelling of Agent-Based Electric Vehicles into Optimal Power Flow Studies
Salvador Acha, Imperial College London, UK; Koen Van Dam, Imperial College London, UK; James Keirstead, Imperial College London, UK; Nilay Shah, Imperial College London, UK

1049 Decentralized, Agent-Based Participation of Load Appliances in Electricity Pool Markets
Dimitrios Papadaskalopoulos, Imperial College London, UK; Goran Strbac, Imperial College London, UK

1080 Field test of grid oriented CHP micro units for the domestic energy supply
Marcus Bunk, TU Braunschweig, Germany; Michael Kurrat, TU Braunschweig, Germany; Mario Korte, University of Oldenburg, Germany; Wolfgang Nebel, University of Oldenburg, Germany; Arne Dammasch, TU Braunschweig

1083 Power SnapShot Analysis: A new method for analyzing low voltage grids using a smart metering system
Andreas Abart, Energie AG Ober-österreich Netz GmbH, Austria; Benoit Bletterie, Austrian Institute of Technology, Austria; Matthias Stifter, Austrian Institute of Technology, Austria; Helfried Brunner, Austrian Institute of Technology, Austria; Daniel Burnier, Austrian Institute of Technology, Austria; Andreas Lugmaier, Siemens AG Österreich, Austria; Alexander Schenk, Siemens AG Österreich, Austria

1104 Scheduling Charging of Electric Vehicles for Optimal Distribution Systems Planning and Operation
David Steen, Chalmers University of Technology, Sweden; Le Tuan, Chalmers University of Technology, Sweden; Miguel Ortega-Vazquez, Chalmers University of Technology, Sweden; Lina Bertling, Chalmers University of Technology, Sweden; Ola Carlson, Chalmers University of Technology, Sweden; Viktoria Neimane, Vattenfall Research and Development AB, Sweden

1166 Thermo-electrical load modelling of buildings for assessment of demand response based on Heating Ventilation and Air Conditioning (HVAC) devices



Jackravut Dejvises, Imperial College London, UK; Pierluigi Mancarella, Imperial College London, UK; Goran Strbac, Imperial College London, UK

1291 Field-testing Smart Houses for a Smart Grid

Koen KOK, ECN, Netherlands; Stamatis KARNOUSKOS, SAP, Germany; Jan RINGELSTEIN, Fraunhofer IWES, Germany; Aris DIMEAS, NTUA ICCS, Greece; Anke WEIDLICH, SAP, Germany; Cor WARMER, ECN, Netherlands; Stefan DRENKARD, MVV, Germany; Nikos HATZIARGYRIOU, PPC, Greece; Valy LIOLIOU, PPC, Greece

Block 4: DG/DER technology

0042 DESIGN AND IMPLEMENTATION OF THE 10 KW WIND CUBE

Amal Abdelgawad, University of Zagazig, Faculty of Engineering, Egypt; Waheed Sabry, Egyptian Armed Forces, Egypt; Abdelfattah Eliwa, Egyptian Armed Forces, Egypt; Usama Rashad, Egyptian Armed Forces, Egypt; Reda Youssef, Egyptian Armed Forces, Egypt

0129 Implementation of Sensor-Less Maximum Power Extraction Scheme for PMSG Small Wind Turbine Systems

Medhat Elfar, faculty of eng. portsaid university, Egypt; Ahmed Kalas, faculty of eng. portsaid university, Egypt; soliman sharaf, faculty of eng. portsaid university, Egypt

0180 Storage optimization in distribution systems

Roger Cremers, KEMA, Netherlands; Gabriel Bloemhof, KEMA, Netherlands

0248 Demand Side Management Using Alkaline Electrolysers within the UKGDS simulation network

Mahdi Kiaee, The University of Strathclyde, UK; Andrew Cruden, The University of Strathclyde, UK; David Infield, The University of Strathclyde, UK

0702 Modelling and Optimisation of Energy Storage Systems in Power Distribution Networks

Calum Jardine, University of Strathclyde, UK; Arturo Alarcón-Rodríguez, University of Strathclyde, UK; Stuart Galloway, University of Strathclyde, UK; Graham Ault, University of Strathclyde, UK; Steven Inglis, University of Strathclyde, UK

0795 SVC Light with energy storage for smart grids Ervin Spahic, ABB, Germany; Günter Stark, ABB, Germany; Thomas Benz, ABB, Germany

0879 PV development in France : impact on Distribution Network and potential of innovative solutions

Emlie LEJAY, ERDF, France; Elenore CHABOD, ERDF, France; Christophe GAUDIN, ERDF, France; Laurent KARSENTI, ERDF, France

0933 Integration of Large Photovoltaic Power Plants to Distribution Networks

Zbynek Brettschneider, Orgrez, a.s., Czech Republic; Ales Krula, Orgrez, a.s., Czech Republic; Frantisek Vybiralik, EEC, Czech Republic; Petr Marecek, Czech Technical University in Prague, Czech Republic

0940 Dynamic stability of an electricity generation system based on renewable energy

Johan Lundin, Division of electricity, Uppsala university, Sweden; Janaína Goncalves, Division of electricity, Uppsala university, Sweden; Cecilia Boström, Division of electricity, Uppsala university, Sweden; Katarina Yuen, Division of electricity, Uppsala university, Sweden; Jon Kjellin, Division of electricity, Uppsala university, Sweden; Magnus Rahm, Division of electricity, Uppsala university, Sweden; Hans Bernhoff, Division of electricity, Uppsala university, Sweden; Mats Leijon, Division of electricity, Uppsala university, Sweden

0955 Inductive Shielded Superconducting Fault Current Limiter - An Enabler of Smarter Grids

Uwe Kaltenborn, Schneider Electric Sachsenwerk GmbH, Germany; Frank Mumford, Alstom Grid, UK; Alexander Usoskin, Bruker EST, Germany; Thomas Janetschek, Stadtwerke Augsburg, Germany; Stefan Schmidt, Bruker Advanced Supercon, Germany

0964 Grid Impedance Determination - Identification of Neutral Line Impedance



Hauke Langkowski, Helmut-Schmidt-University, Germany; Michael Jordan, Helmut-Schmidt-University, Germany; Trung Do Thanh, Helmut-Schmidt-University, Germany; Detlef Schulz, Helmut-Schmidt-University, Germany

1058 Distribution Network Impacts of High Penetration of Distributed Photovoltaic Systems
Johan Enslin, Petra Solar, USA; Hussam Alatrash, Petra Solar, USA

1067 Increasing Grid Transmission Capacity and Power Quality by a new Solar Inverter Concept in Low Voltage Grids with a high Proportion of Distributed Power Plants
Peter Esslinger, Technische Universität München, Germany; Rolf Witzmann, Technische Universität München, Germany

1090 Integrating Intermittent Wind Power on Distribution Networks Using Dynamic Reactive Power and Energy Storage
Johan Enslin, Petra Solar, USA; David Elizondo, Quanta Technology, USA; Sercan Teleke, Quanta Technology, USA

1132 Confirmation of extended electrical properties of PV-inverters according to German MV Grid Code - Experiences in the certification process
Dominik Geibel, Fraunhofer IWES, Germany; Gunter Arnold, Fraunhofer IWES, Germany; David Martini, Power One Italy Spa, Italy

1133 Divergence Operator for a novel Power Systems Regulation
Davide Falabretti, Politecnico di Milano, Italy; Maurizio Delfanti, Politecnico di Milano, Italy; Marco Merlo, Politecnico di Milano, Italy; Fernanda Strozzi, LIUC, Italy; José M. Zaldívar, JRC, Italy

1152 Efficient connection of large-scale DER with intelligent superconducting cables
Irina Melnik, Alliander, Netherlands; Alex Geschiere, Alliander, Netherlands; Dag Willén, Alliander, Netherlands; Oleg Chevtchenko, Alliander, Netherlands; Heidi Lentge, Alliander, Netherlands; Vandana Mehairjan, Alliander, Netherlands

1190 Grid integration of photovoltaic plants - a generic description of PV plants for grid studies
Daniel Premm, SMA Solar Technology AG, Germany; Oliver Glitza, SMA Solar Technology AG, Germany; Tarek Fawzy, SMA Solar Technology AG, Germany; Bernd Engel, SMA Solar Technology AG, Germany; Gerd Bettenwort, SMA Solar Technology AG, Germany

1243 Increasing the Photovoltaic-System Hosting Capacity of Low Voltage Distribution Networks
Thomas Degner, Fraunhofer IWES, Germany; Gunter Arnold, Fraunhofer IWES, Germany; Thorsten Reimann, Fraunhofer IWES, Germany; Bernd Engel, SMA Solar Technology AG, Germany

Non Interactive Tour - Session 4

Block 1: DG/DER planning and studies

0023 Wind Integration Study for a Small Islanded Power System
Paul Tuson, South African Institute of Electrical Engineers (SAIEE), South Africa; Graeme Chown, South African Institute of Electrical Engineers (SAIEE), South Africa; Mike Coker, South African Institute of Electrical Engineers (SAIEE), South Africa

0583 Analysis of the Effect of Shanghai EXPO Electric Vehicle Charging Station on Urban Grid Power Quality
Xingang YANG, East China Electric Power Test & Research Institute, China; Qinchang GUI, East China Electric Power Test & Research Institute, China; Aiqliang PAN, East China Electric Power Test & Research Institute, China; Jian ZHOU, East China Electric Power Test & Research Institute, China; Haiqun WANG, Shanghai Municipal Electric Power Company, China

0827 Improved grid integration of distributed generation in existing network structures



Mark Meuser, Forschungsgemeinschaft für elektrische Anlagen und Stromwirtschaft (FGH) e.V., Germany; Hendrik Vennegeerts, Forschungsgemeinschaft für elektrische Anlagen und Stromwirtschaft (FGH) e.V., Germany; Hans-Jürgen Haubrich, Institut für elektrische Anlagen und Energiewirtschaft (IAEW) RWTH Aachen, Germany

864 Performance Assessment of Distributed Generation units to Enhance Loadability of Distribution Network under Uncertainties

Mansoureh Zangiabadi, INPG- Grenoble Institute of Technology, France; Rene Feuillet, INPG- Grenoble Institute of Technology, France; Hamid Lesani, School of ECE, University of Tehran, Iran

Block 2: Control of networks with DG/DER

0207 Micro Grids in Austria? Results of ADRES Concept

Alfred Einfalt, Vienna University of Technology, Austria; Franz Zeilinger, Vienna University of Technology, Austria; Günther Brauner, Vienna University of Technology, Austria

0246 Developing a Smart Grid Trial Site in the UK

David Roberts, EA Technology, UK; John Sinclair, EA Technology, UK; Geoff Murphy, SP Energy Networks, UK

0247 A Case for Losses Minimisation in Active Network Management Systems

Rachael Storry, University of Strathclyde, UK; Michael Dolan, University of Strathclyde, UK; Euan Davidson, University of Strathclyde, UK; Graham Ault, University of Strathclyde, UK; Ivana Kockar, University of Strathclyde, UK

0521 Smart Power Applications and peak load management in distribution networks with Energy Storage Solutions

Jean-Philippe Macary, Siemens AG - E D MV3, Germany; Andreja Rasic, Siemens AG - E D MV3, Germany; Hubert Rubenbauer, Siemens AG - E D MV3, Germany; Holger Leu, Siemens AG - E D MV3, Germany; Uwe Krebs, Siemens AG - E D MV3, Germany

0655 Modeling and Optimal Control of Reactive Power in a Microgrid Using Doubly Fed Induction Generator

Mohsen Kazemi Alamouti, K.N. Toosi University of Technology, Iran; Masoud Aliakbar Golkar, K.N. Toosi University of Technology, Iran; Shokrollah Shokri Kojoori, K.N. Toosi University of Technology, Iran; Mohammad Amin Salmani, K.N. Toosi University of Technology, Iran

0707 Effect of Energy Harvesting Network Reactive Support on Transmission System Voltage Performance

Paul Cuffe, Electricity Research Centre/UCD, Ireland; Paul Smith, Electricity Research Centre/UCD, Ireland; Andrew Keane, Electricity Research Centre/UCD, Ireland

762 Interconnection Guidelines and Control Coordination of Reactive Power Support Functions of Distributed Energy Resources

Joon-Ho Choi, Chonnam National University, Republic of Korea; Won-Wook Jung, KEPCO Research Institute, Republic of Korea; Il-Keun Song, KEPCO Research Institute, Republic of Korea

Block 3: Customer side developments

0018 Strategic use of smart meters data and AMI capability to develop advanced smart grid applications
Sioe T. Mak, CONSULTANT, USA; Nader Farah, CONSULTANT, USA

0743 Demand Response and Network Reconfiguration on Distribution System Investment Deferment

Guillermo Gutierrez-Alcaraz, Instituto Tecnológico de Morelia, Mexico; Chan-nan Lu, National Sun Yat-sen University, Taiwan

0806 Impact of an increasing penetration of urban photovoltaic systems and electric cars on the low voltage networks



Harald Schwarz, Brandenburg University of Technology Cottbus, Germany; Klaus Pfeiffer, Brandenburg University of Technology Cottbus, Germany; Shaoqing Ying, University of Shanghai for Science and Technology, China

0833 Scenario based electricity load prediction tool for distribution planning and management
Harri Niska, University of Eastern Finland, Finland; Teemu Räsänen, Savonia University of Applied Sciences, Finland; Jarkko Tiirikainen, University of Eastern Finland, Finland; Jukka Saarenpää, University of Eastern Finland, Finland; Mikko Kolehmainen, University of Eastern Finland, Finland

1046 Innovative Strategies to Increase Energy Efficiency and Economic Performance in Supermarkets
Salvador Acha, Imperial College London, UK; Pierluigi Mancarella, Imperial College London, UK; Nilay Shah, Imperial College London, UK; Goran Strbac, Imperial College London, UK; John Ashford, Imperial College London, UK; David Penfold, Imperial College London, UK

Block 4: DG/DER technology

0182 Operational stability of shunt circuit-breaker systems in ungrounded MV networks with distributed generation (DG)
Manuel Gonzalez, Groupe E, Switzerland; Patrick Joye, Groupe E, Switzerland; Pierre-André Chamorel, PAC Ingénieurs-conseil, Switzerland

0269 Impacts of single phase capacitor installation on reducing energy loss
Ali Saeedi, Mashhad Electrical Energy Distribution Co., Iran; Alireza Jalalitalab, Mashhad Electrical Energy Distribution Co., Iran; Saeed Alishahi, Mashhad Electrical Energy Distribution Co., Iran; Hashem Ghorbanpanah, Mashhad Electrical Energy Distribution Co., Iran

0413 Early findings of an Energy Storage practical demonstration
Peter Lang, UK Power Networks, UK; Neal Wade, Durham University, UK; Phil Taylor, Durham University, UK; Peter Jones, ABB UK, UK; Tomas Larsson, ABB Sweden, Sweden

0615 Control of photovoltaic power generation system during unbalanced grid voltage SAG conditions
Amin Hajizadeh, Shahrood University of Technology, Iran; Masoud Aliakbar Golkar, K.N.Toosi University of Technology, Iran

0674 Battery Energy Storage System Testing for Grid Standard Compliance and Application Performance
David Lubkeman, KEMA, USA; Paul Leufkens, KEMA, USA; Alex Feldman, KEMA, USA

0747 Research on the application of multiple energy storage system in Shanghai power grid
Xiaowen DONG, Institute of Technology and Management of Shanghai Municipal Electric Power Company, China; Guoqin YU, Institute of Technology and Management of Shanghai Municipal Electric Power Company, China; Weiguo HE, Institute of Technology and Management of Shanghai Municipal Electric Power Company, China; Yu ZHANG, Institute of Technology and Management of Shanghai Municipal Electric Power Company, China; Xinze JIANG, Institute of Technology and Management of Shanghai Municipal Electric Power Company, China

0761 Cooperative Control of Distribution System with Customer Equipment to utilize Surplus Electric Power of Photovoltaic Systems
Hiroyuki Hatta, Central Research Institute of Electric Power Industry, Japan; Hiromu Kobayashi, Central Research Institute of Electric Power Industry, Japan

0807 Facilitating the integration of wind turbines into power networks while maintaining frequency stability
stewart whyte, national grid, UK; j.v. milanovic, national grid, UK

1064 High-Speed Bus Transfer for distribution networks with DG connected
Min Wang, Tsinghua University, China; Lin Cheng, Tsinghua University, China; Yuanzhang Sun, Wuhan University, China



[Thursday 9 June : 9.00 hrs - 17.30 hrs](#)

Main Session, Session 1: Network Components.

Room : Harmonie A-B (L2)

[Block 1: Asset management : 09.00-10.30 hrs](#)

1095 Outcome of SmartLife : a European coordination action in asset management of T&D networks

Christian GUILLAUME, EDF R&D, France; Christophe GAUDIN, ERDF, France; Hallvard FAREMO, SINTEF, Norway; Giovanni PIROVANO, RSE, Italy; Lars LUNDGAARD, SINTEF, Norway; Laura PANELLA, ENEL, Italy; Jos WETZER, KEMA, Netherlands; Guillermo ALLENDE ARANGUIZ, IBERDROLA, Spain

0980 On-line Condition Monitoring of Distribution Network Assets - Making the Network Smarter
Neil Davies, EA Technology Ltd, UK; Simon Goldthorpe, EA Technology Ltd, UK; Colin Vickers, EA Technology Ltd, UK

0875 The intriguing behaviour over time of PD's from defects in MV cables and accessories; lessons learned with SCG, an on-line monitoring system
Fred Steennis, KEMA, Netherlands; Denny Harmsen, Alliander, Netherlands; Theo van Rijn, Alliander, Netherlands; Jan Mosterd, Alliander, Netherlands; Leon Bokma, Westland Infra, Netherlands; Piet Soepboer, Enexis, Netherlands; Alfred Arts, Enexis, Netherlands; Nico van Donk, Stedin, Netherlands; Branko Carli, Stedin, Netherlands; Vincent Bongers, Stedin, Netherlands; Osrick Anita, Stedin, Netherlands

0862 Location of switchgear partial discharge by panel and techniques to correlate switchgear and cable partial discharge with load and substation environment
Sarah Carter, PPA Energy, UK; Cliff Walton, PPA Energy, UK; Colin Smith, IPEC, UK; Matthieu Michel, UK Power Networks, UK

0176 Partial Discharge (PD) sniffer for workers' safety in underground vaults
François Léonard, IREQ, Hydro-Québec, Canada; Lionel Reynaud, IREQ, Hydro-Québec, Canada; Jacques Bherer, IREQ, Hydro-Québec, Canada; Daniel Pineau, IREQ, Hydro-Québec, Canada; Didier Mussard, IREQ, Hydro-Québec, Canada; Sylvain Poirier, IREQ, Hydro-Québec, Canada; Stéphane Gingras, IREQ, Hydro-Québec, Canada

[Block 2: innovative network components and solutions for Smart Grids : 11.00 - 12.30 hrs](#)

1256 Breakthrough in development of superconducting cables
Alex Geschiere, Alliander, Netherlands; Irina Melnik, Alliander, Netherlands; Dag Willén, Alliander, Netherlands; Oleg Chevtchenko, Alliander, Netherlands; Heidi Lentge, Alliander, Netherlands

0494 Local Intelligent Circuit Breakers - A New Concept for the Refurbishment of Existing Distribution Network
Uwe Kaltenborn, Schneider Electric Sachsenwerk GmbH, Germany; Pavel Novak, Schneider Electric Sachsenwerk GmbH, Germany; Michael Karstens, Schneider Electric Sachsenwerk GmbH, Germany; Raimund Summer, Schneider Electric Sachsenwerk GmbH, Germany

0693 A universal power electronic interface for distributed generation and electric vehicles
Yi Lu, Zhejiang Electric Power Test and Research Institute, China; Xiao Ming Huang, Zhejiang Electric Power Test and Research Institute, China; Henry Wu, University of Liverpool, UK

1295 Green e-Motion - Adaption of E-Mobility Infrastructure to Mass Market Requirements



Heike Barlag, Siemens AG, Germany; Christine Schwaegerl, Siemens AG, Germany; Will Crookes, Alstom Grid, UK; Fainan Hassan, Alstom Grid, UK; Sebastian Mathar, Forschungsgesellschaft Kraftfahrwesen mbH, Germany

1091 Advanced sensors for the smartgrid: how to deal with existing switchgear in secondary substations
Aitor Arzuaga, ZIV, Spain; Jose Antonio Moreno, ZIV, Spain; Covadonga Coca, ZIV, Spain

0405 Compact Secondary Substation in a future Medium Voltage Distribution Network
Ole Granhaug, ABB AS, Norway; Ken Isaksen, ABB AS, Norway; Fahrudin Mekic, ABB Inc., USA; Jarkko Holmlund, ABB Oy, Finland; Martin Stefanka, ABB s.r.o., Czech Republic

[Block 3: evolutions of standards and specifications, trends in network components for cable links and overhead lines : 14.00 -15.30 hrs](#)

0950 Incompatibility between MV Switchgear conform the international standards and their use in DNO's substations

Marc Arens, Laborelec, Belgium; yvan Tits, Laborelec, Belgium; Joachim Marginet, Eandis, Belgium; Alain François, Ores, Belgium; Marcel van den Berg, BNO, Belgium

0781 An alternative to the LV network reinforcements
ZONTA Yves, ERDF, France

1118 Treatment of Quality in Utility Specification and Procurement of Network Equipment
Trevor Lucy, ESB Networks, Ireland; Anthony Walsh, ESB Networks, Ireland; Kevin McDermott, ESB Networks, Ireland

0037 Investigations towards the upgrading of existing 10 kV cables and accessories to an operating voltage of 20 kV
Willem Boone, KEMA, Netherlands; Ger Sebregts, Alliander, Netherlands; Nico Steentjes, Alliander, Netherlands; Frank de Wild, KEMA, Netherlands; Jos van Rossum, Prysmian, Netherlands; Qikai Zhuang, Technical University D, Netherlands

0345 Introducing High-performance Polypropylene Thermoplastic Elastomer (HPTE) insulation for MV cables in the Netherlands
Jos van Rossum, Prysmian Cables and Systems B.V, Netherlands; Hanneke Tammenga, Prysmian Cables and Systems B.V, Netherlands; Lawrence Lamballais, Prysmian Cables and Systems B.V, Netherlands; Ben Aerns, Alliander, Netherlands; Alex Geschiere, Alliander, Netherlands; Ger Sebregts, Alliander, Netherlands; Alberto Bareggi, Prysmian SpA, Italy; Massimo Comina, Prysmian SpA, Italy

[Block 4: trends in network components for substations : 16.00 -17.30 hrs](#)

0453 Innovative Compact 145/12 kV Indoor Air Insulated Substations (AIS)
Hans-Erik Olovsson, ABB Substations, Sweden; Kjell Stålberg, Borlänge Energi, Sweden; Anders Lundvall, ABB Substations, Sweden; Tomas Nilsson, ABB Substations, Sweden

0952 Dry-type Transformer for Pole Mounted Application
Bandeep Singh, ABB Inc., USA; Thomas Hartmann, ABB Inc., USA; Will Pauley, ABB Inc., USA; Stephane Schaal, ABB Ltd., Switzerland; Martin Carlen, ABB Ltd., Switzerland; Andrej Krivda, ABB Ltd., Switzerland

0227 Amorphous Distribution Transformers Trial Test Campaign
Christophe ELLEAU, EDF R&D, France; Malick MOUHAMAD, EDF R&D, France; Bertrand JARRY, ERDF, France; Christian SCHWOEHRER, ERDF, France; Andreas HETTICH, ENBW, Germany

0468 A low-cost high performance MV RMU with circuit breakers for use in remote controlled MV-LV substations
Fabio Giammanco, Enel Distribuzione SpA, Italy; Luca Giansante, Enel Distribuzione SpA, Italy



1096 Integrated Switching Devices
Dukkaiappan Subbiahthever, ABB Limited, India; Ramesh Viswanathan, ABB Limited, India; Maheswaran Chandrasekaran, ABB Limited, India

Main Session, Session 5: Planning & system development.

Room : Harmonie D-E

Block 1: Asset Management and Maintenance Strategies and Block 4 : Methods and Tools 09.00 - 10.30 hrs

0825 Similarities and differences in the strategic asset simulation for electricity and gas distribution grids
Heiko Spitzer, entellgenio GmbH, Germany; Terence Dürauer, entellgenio GmbH, Germany; Armin Gaul, RWE Rhein-Ruhr Verteilnetz GmbH, Germany; Klaus Peters, RWE Rhein-Ruhr Verteilnetz GmbH, Germany

1202 Risk Based Asset Management - Decision Support and Comparison of Solution Alternatives
Thomas Gündel, VE Distribution Hamburg GmbH, Germany; Thomas Nippert, VE Distribution Hamburg GmbH, Germany; Thorsten Schmude, VE Distribution Hamburg GmbH, Germany

0648 Sustainable investment strategies for aging distribution networks
Eric Jennes, 24/7 Netze GmbH (MVV Group), Germany; Andre Osterholt, 24/7 Netze GmbH (MVV Group), Germany; Falk Guenther, 24/7 Netze GmbH (MVV Group), Germany

0314 Medium voltage network reliability evaluation: Simulation of practically applied supply restoration strategies for double-failure events
Gerhard Theil, Vienna Technical University, Austria; Andreas Theil, Vienna Technical University, Austria; Marta Theil, Vienna Technical University, Austria

690 Examples of Condition Based Maintenance in Distribution Systems
Mohamed EL-Hadidy, Egyptian Electricity Transmission Company, Egypt; Dalal Helmi, Egyptian Electricity Transmission Company, Egypt

1112 Voltage Control of Distribution Network Using an Artificial Intelligence Planning Method
Jianing Cao, University of Strathclyde, UK; Keith Bell, University of Strathclyde, UK; Amanda Coles, University of Strathclyde, UK; Adrew Coles, University of Strathclyde, UK; Maria Fox, University of Strathclyde, UK; Derek Long, University of Strathclyde, UK

Block 3: Distribution Planning : 11.00 - 12.30 hrs

412 Investment strategy for low voltage networks regarding new technologies
Rebin Said, Eindhoven University of Technology, Netherlands; Else Veldman, Eindhoven University of Technology, Netherlands; Greet Vanalme, Eindhoven University of Technology, Netherlands; Han Slootweg, Eindhoven University of Technology, Netherlands

858 Customer damage evaluation and network automation strategies for different urban zones
Osmo Siirto, Helen Electricity Network Ltd, Finland; Markku Hyvärinen, Helen Electricity Network Ltd, Finland; Sanna Hakala, Helen Electricity Network Ltd, Finland; Jonna Jääskeläinen, Aalto University, Finland; Matti Lehtonen, Aalto University, Finland

1025 An Optimisation Model to Integrate Active Network Management into the Distribution Network Investment Planning Task
Robert MacDonald, University of Strathclyde, UK; Graham Ault, University of Strathclyde, UK

0093 Maximising Penetration of Active Power by Distributed Generation on Real System.



Clóvis Oliveira, Federal University of the Rio Grande do Norte, Brazil; José Tavares Oliveira, Federal University of the Rio Grande do Norte, Brazil; Manoel Firmino Medeiros Jr., Federal University of the Rio Grande do Norte, Brazil; Bezaliel Pires, Federal University of the Rio Grande do Norte, Brazil

1225 Modelling Electric Vehicles at Residential Low Voltage Grid by Monte Carlo Simulation
Weiyu Du, Delft University of Technology, Netherlands

0785 Integration of electric vehicles to the distribution grid
Nina Wahl Gunderson, SINTEF Energy Research, Norway; Kjell Sand, SINTEF Energy Research, Norway

[Block 2: Network Development : Part 1 : 14.00 - 15.30 hrs](#)

0311 Development and operation of Active Distribution Networks. Results of CIGRE C6.11 Working Group.
Christian D'Adamo, Enel, Italy; Chad Abbey, Hydro-Québec Research Institute, Canada; Samuel Jupe, Parsons Brinckerhoff, UK; Fabrizio Pilo, DIEE University of Cagliari, Italy; Mariam Khattabi, MVV, Germany; Britta Buchholz, MVV, Germany

0364 A Structured Approach for Smart Grid Implementation
Wolfram Wellssow, Technical University Kaiserslautern, Germany; Reinhard Brehmer, Wien Energie Stromnetz GmbH, Austria; Thomas Schuster, Wien Energie Stromnetz GmbH, Austria; Christine Schwaegerl, Siemens AG, Germany; Theodor Connor, Siemens AG, Germany

0447 Innovative Concepts for Efficient Electrical Distribution Grids
Torsten Hammerschmidt, RWE Deutschland AG, Germany; Thorsten Borchard, ABB AG, Germany; Jörg Feldmann, Consentec GmbH, Germany; Astrid Petermann, RWE Rhein-Ruhr Netzservice GmbH, Germany; Christian Rehtanz, TU Dortmund University, Germany

0294 Optimizing the EV electrical demand impact
Ricardo Messias, EDP, Portugal; Francisco Cravo Branco, EDP, Portugal; Carlos Santos, EDP, Portugal; José Ribeiro da Silva, EDP, Portugal

[Block 2: Network Development : Part 2 : 16.00 - 17.30 hrs](#)

1199 Distributed Intelligence Provides Self-Healing for the Grid
Christopher McCarthy, S&C Electric Company, USA; Michael Edmonds, S&C Electric Company, USA

1037 Advanced management of a closed ring operated MV network: ENEL DISTRIBUZIONE'S P4 PROJECT
Simone Botton, Enel Distribuzione SpA, Italy; Roberto Calone, Enel Distribuzione SpA, Italy; Luigi D'Orazio, Enel Distribuzione SpA, Italy; Alessandro Fatica, Enel Distribuzione SpA, Italy; Luca Giansante, Enel Distribuzione SpA, Italy; Riccardo Lama, Enel Distribuzione SpA, Italy; Simonetta Morel, Enel Distribuzione SpA, Italy

0569 The energy storage application strategy in different voltage levels of distribution system
Zuping Zhang, CEPRI, China; Sige Liu, CEPRI, China; Huishi Liang, CEPRI, China

0850 Smart Grid Communications Emulator (100.000 synthetic users).
ROSA MORA, SIEMENS, Spain; MARIO RAMIREZ, CEDETEL, Spain; ISABEL NAVALON, IBERDROLA, Spain; SUSANA BANARES, REE, Spain; PABLO MARTIN, REE, Spain; EDUARDO GARCIA, REE, Spain

1171 Architecture and functional specifications of distribution and transmission control systems to enable and exploit active demand
Giovanni Valtorta, Enel Distribuzione, Italy; Angelo De Simone, Enel Distribuzione, Italy; Lilia Consiglio, Enel Distribuzione, Italy; Maria Sebastian, EDF, France; Thierry Coste, EDF, France; Luc Glorieux, EDF,



France; Yose Miguel Yarza Narro, ZIV, Spain; Ignacio Delgado, Iberdrola, Spain; Mario Russo, Università di Cassino, Italy

Round tables, Session 3: Operation, Control & Protection

Room : Fantasie (L3)

09.00-10.30 hrs : RT.3a : Organisation of grid operation

11.00 - 12.30 hrs : RT.3b : Smart Grid Protection

14.00 - 15.30 hrs : RT. 3c : Communication & data security

RIF, Session 3: Operation, Control & Protection

Room : Fantasie (L3)

16.00-17.30 hrs

0973 Optimization of the Energy-Supply-Structure of modern Aircraft by using Technologies from conventional Energy Supply Systems

Ilir Purellku, Helmut Schmidt University, Germany; Arno Lücken, Helmut Schmidt University, Germany; Johannes Brombach, Helmut Schmidt University, Germany; Brice Nya, Helmut Schmidt University, Germany; Detlef Schulz, Helmut Schmidt University, Germany

0374 Analysis of Protection Malfunctioning in Meshed Distribution Grids

Evita Parabirsing, Delft University of Technology, Netherlands; Edward Coster, Delft University of Technology, Netherlands; Marjan Popov, Delft University of Technology, Netherlands

0066 Distributed Energy Resources (DER) Impacts on the Performance of Special Protection Schemes (SPSs)

Mojtaba Khederzadeh, Power & Water University of Technology, Iran

0428 Detailed Analysis of the Impact of Distributed Generation and Active Network Management on Network Protection Systems

Federico Coffele, University of Strathclyde, UK; Campbell Booth, University of Strathclyde, UK; Graeme Burt, University of Strathclyde, UK; Craig McTaggart, ScottishPower, UK; Tim Spearing, ABB, UK

0431 Protection System for Future LV Microgrids

Hannu Laaksonen, University of Vaasa, Finland; Kimmo Kauhaniemi, University of Vaasa, Finland; Sampo Voima, University of Vaasa, Finland

1275 Improved Requirements for the Connection to the Low Voltage Grid

Gunnar Kaestle, TU Clausthal, Germany; Til Kristian Vrana, NTNU Trondheim, Norway

0572 The Use of Artificial Neural Networks for Identification and Location of Defective Insulators in Power Lines through Current Transformers

Manuel Martinez, Universidade Federal de Itajubá, Brazil; José Feliciano Adami, Universidade Estadual Paulista, Brazil; Renato Capelini, Universidade Federal de Itajubá, Brazil; Marcel Parentoni, Universidade Federal de Itajubá, Brazil; Ithamar Sene, Distribuidora Gaúcha de Energia Elétrica S.A. - AES Sul, Brazil

0282 Study on 10kV XLPE Cable with Defects Based on Oscillating Wave Test System

Guojun, Testing and Researches Institute, Guangzhou,, China; xiong jun, Testing and Researches Institute, Guangzhou,, China; Huang hongbin, Testing and Researches Institute, Guangzhou,, China; Rao rui, Testing and Researches Institute, Guangzhou,, China

Round tables, Session 4: Distributed Energy resources & efficient utilisation of electricity

Room : Illusion (L3)



09.00 - 10.30 hrs : RT.4b : Unlocking Demand Contribution to Distribution Network Management-Energy efficiency, Smart Metering for Smart Grid, Industrial and Commercial demand response
11.00 - 12.30 hrs : RT.4c : Experiences from Major Smart Grid Demonstrators

RIF, Session 4: Distributed Energy resources & efficient utilisation of electricity.

Room : Illusion (L3)

RIF 4A : 14.00 - 15.30 hrs

Block 1: DG/DER planning and studies

0279 Virtual power plants of micro CHP units combined with active components reducing peak loads and load fluctuations
Phillip Gronstedt, Technische Universität Braunschweig, Institute for high voltage technology and electric power systems, Germany; Arne Dammasch, Technische Universität Braunschweig, Institute for high voltage technology and electric power systems, Germany; Martin Tröschel, OFFIS e. V., Germany; Magnus Pielke, Technische Universität Braunschweig, Institute for high voltage technology and electric power systems, Germany; Michael Kurrat, Technische Universität Braunschweig, Institute for high voltage technology and electric power systems, Germany; Hans-Jürgen Appelrath, OFFIS e. V., Germany

0344 Integrated Operation of an Energy MicroGrid with Islanded Electricity Network
Bieshoy Awad, Cardiff University, UK; Jianzhong Wu, Cardiff University, UK; Janaka Ekanayake, Cardiff University, UK; Nick Jenkins, Cardiff University, UK

0664 Considering impacts of plug-in electric vehicles in planning optimal hybrid systems
Hamed Valizadeh Haghi, K. N. Toosi University of Technology, Iran; Seyed Mehdi Hakimi, K. N. Toosi University of Technology, Iran; Masoud Aliakbar Golkar, K. N. Toosi University of Technology, Iran

0713 Strategies and methods for the optimal integration of distributed generation plants into the LV and MV distribution network: ENEL Distribuzione experience and future perspectives.
Simone Botton, Enel Distribuzione SpA, Italy; Fabio Cazzato, Enel Distribuzione SpA, Italy; Marco Di Clerico, Enel Distribuzione SpA, Italy; Domenico Di Martino, Enel Distribuzione SpA, Italy; Federico Marmeggi, Enel Distribuzione SpA, Italy

1100 Probabilistic planning for a higher integration of wind turbines to MV distribution networks.
Walter Niederhuemer, Linz Strom Netz GmbH, Austria; Karl Derler, Linz Strom Netz GmbH, Austria

1215 Assessment of the affect of different energy mixes on highly distributed local energy networks
Lucy Anderson, University of Strathclyde, UK; Stuart Galloway, University of Strathclyde, UK; Graham Ault, University of Strathclyde, UK

Block 2: Control of networks with DG/DER

0324 A control method of distributed generators in smartdistribution system considering system loss and voltage
Pyeong-Ik Hwang, Seoul National University, Republic of Korea; Seon-Ju Ahn, North Carolina State University, USA; Yong-Tae Yoon, Seoul National University, Republic of Korea; Seung-II Moon, Seoul National University, Republic of Korea

0497 Connection and Management of Distributed Generation using Synchrophasor Measurements and Advanced Distribution Management Systems (DMS)
Douglas Wilson, Psymetrix Ltd, UK; Eric Goutard, Alstom Grid, France

0521 Smart Power Applications and peak load management in distribution networks with Energy Storage Solutions



Jean-Philippe Macary, Siemens AG - E D MV3, Germany; Andreja Rasic, Siemens AG - E D MV3, Germany; Hubert Rubenbauer, Siemens AG - E D MV3, Germany; Holger Leu, Siemens AG - E D MV3, Germany; Uwe Krebs, Siemens AG - E D MV3, Germany

0707 Effect of Energy Harvesting Network Reactive Support on Transmission System Voltage Performance

Paul Cuffe, Electricity Research Centre/UCD, Ireland; Paul Smith, Electricity Research Centre/UCD, Ireland; Andrew Keane, Electricity Research Centre/UCD, Ireland

0788 Indirect regulation of many DER units through broadcasted dynamic price signal

Per Norgaard, DTU - Technical University of Denmark, Denmark; Henrik Aalborg Nielsen, DTU - Technical University of Denmark, Denmark; Fabrizio Sossan, DTU - Technical University of Denmark, Denmark

934 MV networks with Dispersed Generation: voltage regulation based on local controllers

Diana Moneta, RSE, Italy; Paolo Mora, RSE, Italy; Marco Merlo, Politecnico di Milano, Italy; Gabriele Monfredini, Politecnico di Milano, Italy; Massimo Gallanti, RSE, Italy; Valeria Olivieri, Politecnico di Milano, Italy

RIF 4 B : 16.00 - 17.30 hrs

Block 3: Customer side development

0241 Potential of Demand Side Management in nonresidential Buildings

Timm Rössel, Technische Universität München, Germany; Johannes Jungwirth, Technische Universität München, Germany; Louis von Mandach, Siemens, Switzerland

0408 Automated electrical energy analysis for domestic consumers based on smart meters

Christian Elbe, Graz University of Technology, Austria; Ernst Schmutzner, Graz University of Technology, Austria

0806 Impact of an increasing penetration of urban photovoltaic systems and electric cars on the low voltage networks

Harald Schwarz, Brandenburg University of Technology Cottbus, Germany; Klaus Pfeiffer, Brandenburg University of Technology Cottbus, Germany; Shaoqing Ying, University of Shanghai for Science and Technology, China

0865 Demand Response in practice: OPTIGES project final results and lessons learned

Inigo Cobelo, Tecnalia, Spain; Mikel Fernandez, Tecnalia, Spain; Jon Anduaga, Tecnalia, Spain; Antonio Castellanos, Endesa, Spain; Aitor Atxurra, Tecnalia, Spain

1104 Scheduling Charging of Electric Vehicles for Optimal Distribution Systems Planning and Operation

David Steen, Chalmers University of Technology, Sweden; Le Tuan, Chalmers University of Technology, Sweden; Miguel Ortega-Vazquez, Chalmers University of Technology, Sweden; Lina Bertling, Chalmers University of Technology, Sweden; Ola Carlson, Chalmers University of Technology, Sweden; Viktoria Neimane, Vattenfall Research and Development AB, Sweden

1166 Thermo-electrical load modelling of buildings for assessment of demand response based on Heating Ventilation and Air Conditioning (HVAC) devices

Jackravut Dejvises, Imperial College London, UK; Pierluigi Mancarella, Imperial College London, UK; Goran Strbac, Imperial College London, UK

Block 4: DG/DER technology

0180 Storage optimization in distribution systems

Roger Cremers, KEMA, Netherlands; Gabriel Bloemhof, KEMA, Netherlands

0182 Operational stability of shunt circuit-breaker systems in ungrounded MV networks with distributed generation (DG)



Manuel Gonzalez, Groupe E, Switzerland; Patrick Joye, Groupe E, Switzerland; Pierre-André Chamorel, PAC Ingénieurs-conseil, Switzerland

0248 Demand Side Management Using Alkaline Electrolysers within the UKGDS simulation network
Mahdi Kiaee, The University of Strathclyde, UK; Andrew Cruden, The University of Strathclyde, UK; David Infield, The University of Strathclyde, UK

0342 Implementation of a Test Microgrid in Barcelona
Anna Elias-Alcega, IREC, Spain; Manuel Roman-Barri, IREC, Spain; Albert Ruiz-Alvarez, IREC, Spain; Ignasi Cairo-Molins, IREC, Spain; Andreas Sumper, IREC, Spain; Oriol Gomis-Bellmunt, IREC, Spain

0528 Probabilistic assessment of wind farm energy yield considering wake turbulence and variable turbine availabilities
M ali, uni of manchester, UK; j.v. milanovic, uni of manchester, UK

1203 Simulation of Solar Generation with Advanced Volt-Var Control
Jeff Smith, EPRI, USA; Brian Seal, EPRI, USA; Wes Sunderman, EPRI, USA; Roger Dugan, EPRI, USA

Poster Session, Session 2: Power Quality & Electromagnetic Compatibility: 09.00 - 17.30 hrs (Exhibition hall)⁵

Interactive Guided Tour

Block 1: Electromagnetic interference, electric and magnetic fields and grounding systems

0013 Impacts of Inductive and Conductive Interference due to High-Voltage Lines on Coating Holidays of Isolated Metallic Pipelines
René Braunstein, Graz University of Technology, Institute of Electrical Power Systems, Austria; Schmutzer Ernst, Graz University of Technology, Institute of Electrical Power Systems, Austria; Mario Oelz, Graz University of Technology, Institute of Electrical Power Systems, Austria

0014 Simulation and Optimised Reduction of Induced Pipe Voltages caused by High-Voltage Lines on Inductively Interfered Pipelines
Ernst Schmutzer, Graz University of Technology, Institute of Electrical Power Systems, Austria; René Braunstein, Graz University of Technology, Institute of Electrical Power Systems, Austria; Mario Oelz, Graz University of Technology, Institute of Electrical Power Systems, Austria

0020 Earth Surface Potentials and GPR of Substation Grounding
Ossama Gouda, Cairo University, Egypt; Ghada Amer, High institute of technology-Benha University, Egypt

0085 New optimized analysis method for measuring extended grounding systems
Martin Lindinger, Graz University of Technology, Institute of Electrical Power Systems, Austria; Herwig Renner, Graz University of Technology, Institute of Electrical Power Systems, Austria; Ernst Schmutzer, Graz University of Technology, Institute of Electrical Power Systems, Austria

0118 Extremely Low Frequency Magnetic Field Measurements Survey in Distribution Substation
Ahmed Hossam-Eldin, Faculty of Engineering- Alexandria University, Egypt; Ahmed Farag, Faculty of Engineering- Alexandria University, Egypt; Ibrahim Madi, Alexandria Electricity Distribution Company, Egypt; Hanaa Karawia, Alexandria Electricity Distribution Company, Egypt

0355 Harmonic Factor Evaluation For Electric and Magnetic Fields Using Symmetrical Components
Katrin Friedl, Graz University of Technology, Austria; Herwig Renner, Graz University of Technology, Austria; Ernst Schmutzer, Graz University of Technology, Austria; Andreas Abart, Energie AG Netz, Austria

⁵ As of 29 April 2011



0388 Investigation of electromagnetic disturbance sources in medium voltage switchgear
Dennis Burger, University of Stuttgart, Germany; Stefan Tenbohlen, University of Stuttgart, Germany;
Wolfgang Köhler, University of Stuttgart, Germany; Werner Ebbinghaus, ABB AG, Germany

0522 Influence parameters of step and touch voltages in the vicinity of HV power line towers under normal and fault operating conditions
Ernst Schmutzner, Graz University of Technology, Austria; Stephan Pack, Graz University of Technology, Austria; Herwig Breitwieser, Graz University of Technology, Austria; Walter Hipp, Energie Steiermark, Austria

0548 Impact of cable sheath sizing, material and connections upon the safety of electrical power installations
Trevor Charlton, Earthing Solutions, UK; Hakan Hocaoglu, Gebze Institute of Technology, Turkey; Aziz Ahmaad-Marican, DCS Engineering Sdn Bhd, Malaysia; Özgür Karacasu, Gebze Institute of Technology, Turkey

0753 Induced disturbance voltages in isolated conductors situated in close vicinity of a inducing high voltage cable line
Ernst Schmutzner, Graz University of Technology, Austria; Christian Raunig, Graz University of Technology, Austria; Lothar Fickert, Graz University of Technology, Austria

0759 Operational behaviour of electrical equipment in islanded low voltage grids concerning safety issues
Maria Aigner, University of Technology, Austria; Christian Raunig, University of Technology, Austria; Ernst Schmutzner, University of Technology, Austria; Lothar Fickert, University of Technology, Austria

815 Magnetic Fields Management For Underground Cables Structures
Ahmed Farag, faculty of Engineering, Alexandria University, Egypt; Ahmed Hossam El-din, faculty of Engineering, Alexandria University, Egypt; Hanaa Karawia, Alexandria Electricity Distribution Company, Egypt

760 Integrated grounding, equipotential bonding and lightning protection in smart grids and smart buildings - a multi-faced approach
Ernst Schmutzner, University of Technology, Austria; Stephan Pack, University of Technology, Austria; Maria Aigner, University of Technology, Austria; Christian Raunig, University of Technology, Austria

1141 EM measurements and mitigation techniques on MV installations
Jacco smit, Alliander, Netherlands; haniyeh ahmadian, Alliander, Netherlands; rene korver, Alliander, Netherlands; alex geschiere, Alliander, Netherlands

Block 2: Steady-state disturbances

0061 Effect of single-phase, non-linear loads, as sources of harmonic currents in low voltage electrical distribution systems
abla gado, South Delta Company of Electric Distribution, Egypt

0090 Damping Techniques of Harmonic Resonances in Power Distribution Systems
M. R Ghallab, Upper Egypt Electricity Distribution Company, Egypt

0143 Application of Continuous & Discrete Wavelet Transform for Study of Voltage Flicker-Generated Signal
Dalia Hussam El.Din, CADCAMCIM FZC, United Arab Emirates; Amal F. Abd El-Gawad, Zagazig University, Egypt; Rania El-Sharkawy, Arab Academy for Science, Technology & Maritime Transport, Egypt

0150 Effect of types of loads in rating of transformer supplying harmonic-rich loads
ABLA GADO, South Delta Company of Electric Distribution, Egypt; HASSAN ABO-GAD, South Delta Company of Electric Distribution, Egypt; SALAH RADWAN, South Delta Company of Electric Distribution, Egypt



0167 Power quality analysis of distribution systems incorporating high penetration level of EV battery chargers

Haroon Farooq, Glasgow Caledonian University, UK; Kejun Qian, Glasgow Caledonian University, UK; Mohamed Emad Farrag, Glasgow Caledonian University, UK; Malcolm Allan, Glasgow Caledonian University, UK; Chengke Zhou, Glasgow Caledonian University, UK

0172 Laboratory and field measurements of harmonic emission from energy-efficient lamps

Sarah Rönnerberg, Luleå University of Technology, Sweden; Mats Wahlberg, Luleå University of Technology, Sweden; Math Bollen, Luleå University of Technology, Sweden

0250 Emission (2 to 150 kHz) from a light installation

Anders Larsson, Luleå University of Technology, Sweden; Math Bollen, Luleå University of Technology, Sweden

0251 Characteristic and non-characteristic harmonics from windparks

Kai Yang, Luleå University of Technology, Sweden; Math Bollen, Luleå University of Technology, Sweden; Mats Wahlberg, Luleå University of Technology, Sweden

0275 Characteristics of the Input Current of Energy Saving Lamps and their Impact on Power Quality

Johannes Ferstl, University of Technology, Austria; Herwig Renner, University of Technology, Austria; Ernst Schmutzner, University of Technology, Austria; Andreas Abart, Energie AG OÖ Netz GmbH, Austria; Christian Elbe, University of Technology, Austria

0556 Determination of Harmonic Emission of an Industrial Installation

Matevž Bokal, University of Ljubljana, Slovenia; Herwig Renner, Graz University of Technology, Austria; Tomaž Pfajfar, University of Ljubljana, Slovenia; Igor Papić, University of Ljubljana, Slovenia

0576 Harmonic Disturbances Survey in Distribution Networks

Luján Ruiz Díaz, Edenor S.A., Argentina

0682 Results of Several Flickermeters Comparison

Petr Bilik, VSB-Technical University of Ostrava, Czech Republic; Martin Kaspírek, E.ON Ceska republika, s.r.o., Czech Republic

0695 Harmonic Analysis of Actual Power Quality Problems: Wavelet Transform Vs. Fourier Transform

Dalal HELMI, Egyptian Electricity Transmission Company, Egypt; Mohamed EL-HADIDY, Egyptian Electricity Transmission Company, Egypt; Ahmed ALOKABI, Cairo Electricity Production Company (CEPC), Egypt

0745 Analysis of Harmonic Distortion in Distribution Networks Injected by Nonlinear Loads

Morteza Hossein Pourarab, Mashhad Electric Energy Distribution Company, Iran; Saeed Alishahi, Mashhad Electric Energy Distribution Company, Iran; Mohsen Hakkak Sadeghi, Mashhad Electric Energy Distribution Company, Iran

0755 Harmonic Summation Effects of Modern Lamp Technologies and Small Electronic Household Equipment

Jan Meyer, Technische Universitaet Dresden, Germany; Peter Schegner, Technische Universitaet Dresden, Germany; Kurt Heidenreich, Vattenfall Europe Distribution Hamburg GmbH, Germany

0878 Development of DSP Based Instrument for Monitoring PLC and Other High Frequency Signals in Distribution Networks

Bashir Ahmed Siddiqui, Tampere University of Technology, Finland; Marko Pikkarainen, Tampere University of Technology, Finland; Pertti Pakonen, Tampere University of Technology, Finland; Pekka Verho, Tampere University of Technology, Finland; Seppo Vehviläinen, MX Electrix Oy, Finland

0917 Accuracy of Harmonic Voltage Measurements in the Frequency Range up to 5kHz Using Conventional Instrument Transformers



Jan Meyer, Technische Universitaet Dresden, Germany; Matthias Klatt, Technische Universitaet Dresden, Germany; Robert Stiegler, Technische Universitaet Dresden, Germany; Michael Elst, RITZ Instrument Transformers GmbH, Germany; Erik Sperling, PFIFFNER Instrument Transformer Ltd., Switzerland

1130 Harmonic behaviour of two commercial PV converters under distorted voltages
Michèle De Witte, Laborelec, Belgium; Yann Pankow, Laborelec, Belgium; Frédéric Colas, L2EP, France

1172 A Power Line Communication measuring toolbox for the distribution grid
Rafael Jahn, Laborelec, Belgium; Dries Lemmens, Laborelec, Belgium; Stijn Uytterhoeven, Laborelec, Belgium

1208 An Evolutionary Algorithm Based Technique to Determine Rational Approximation of Frequency Domain Responses
Carlos F. M. Almeida, University of S. Paulo, Brazil; Nelson Kagan, University of S. Paulo, Brazil

1217 A Novel Technique for Modeling Aggregated Harmonic-Producing Loads
Carlos F. M. Almeida, University of S. Paulo, Brazil; Nelson Kagan, University of S. Paulo, Brazil

1220 Harmonic State Estimation through Optimal Power Quality Monitoring
Carlos F. M. Almeida, University of S. Paulo, Brazil; Nelson Kagan, University of S. Paulo, Brazil

1312 Load Models for Voltage Optimization Robert Uluski, EPRI, USA; Tom Short, EPRI, USA; Roger Dugan, EPRI, USA

Block 3 : Disturbing events

0109 An Effective Time Frequency Method for Voltage Sag-Source Detection
Mohamed Fuad Faisal, Tenaga Nasional Berhad, Malaysia; Azah Mohamed, Universiti Kebangsaan Malaysia, Malaysia; Hussain Shareef, Universiti Kebangsaan Malaysia, Malaysia

0191 Elementary Evaluation of Reliability Indices for Power System in Egypt(EgyptEra)
Shereen Abdulla, Egyptian Electric Utility and Consumer Protection Regulatory Agency (EgyptEra), Egypt; Hafez El-Salmawy, Egyptian Electric Utility and Consumer Protection Regulatory Agency (EgyptEra), Egypt; Kamellia Youssef, Egyptian Electric Utility and Consumer Protection Regulatory Agency (EgyptEra), Egypt; Salma Hussien, Egyptian Electric Utility and Consumer Protection Regulatory Agency (EgyptEra), Egypt

0200 Power Quality Aspects of Different Control Schemes of Back-to-Back Converters Interfacing Utility-Grid to Microgrid
Mojtaba Khederzadeh, Power & Water University of Technology, Iran

0213 Application of hybrid var compensator for flicker control in mesh welding applications
Raed Odeh Abdelqader, Schneider Electric, Australia

0264 A Fast Detection of Harmonic Compensation Current for Active Power Filters using Adaptive RBF Neural Network and Hysteresis Current Controller
Saeideh masjedi, Great Tehran Electric Distribution Company, Iran; alireza alizadeh, Great Tehran Electric Distribution Company, Iran

0337 STATCOM for mitigation of flicker emanating from a large EAF
Rolf Grünbaum, ABB AB, Sweden; Jon Rasmussen, ABB, Canada; Jean-Philippe Hasler, ABB AB, Sweden

0421 A Practical Method of Power Quality Monitoring and Management
Shu qing Li, Shanghai Jiaotong University, China; Ming Zong, Electric Power Company, China

0500 Development and implementation of a methodology for the study of voltage dips in Bogota D.C.
JHON JAIRO PEREZ GELVES, UNIVERSIDAD DE LA SALLE, Colombia; LUIS HERNANDO CORREA SALAZAR, UNIVERSIDAD DE LA SALLE, Colombia; FRANCISCO DAVID MOYA CHAVES, UNIVERSIDAD DE LA SALLE,



Colombia; JOSE ANTONIO TUMIALAN BORJA, UNIVERSIDAD DE LA SALLE, Colombia; RAUL MORENO, UNIVERSIDAD DE LA SALLE, Colombia

0529 Methodology for Flexible, Cost-Effective Monitoring of Voltage Sags
J.m. avendano-mora, uni of manchester, UK; j.v. milanovic, uni of manchester, UK

0552 Dynamic var compensation of mine hoists for improvement of power quality and increase of productivity at LKAB Sweden
Lennart Mukka, LKAB, Sweden; Natan Gothelf, LKAB, Sweden; Christian Payerl, LKAB, Sweden

0657 Evaluation of Transformer Inrush-induced Voltage
Dips Jinsheng Peng, University of Manchester, UK; Haiyu Li, University of Manchester, UK; Zhongdong Wang, University of Manchester, UK; Paul Jarman, National Grid, UK

0676 Improving Power Quality using VSC-based Distributed Generation Units
Jose Maza-Ortega, University of Sevilla, Spain; Manuel Nieves-Portana, University of Sevilla, Spain; Juan Mauricio-Ferramola, University of Sevilla, Spain; Jesús Martín-Giraldo, Unión Fenosa Distribución, Spain

0748 EN 50160 Ed.3 and Voltage Quality in the Czech Republic
Karel Prochazka, EGC-EnerGoConsult, Czech Republic; Frantisek Kysnar, EGC-EnerGoConsult, Czech Republic; Pavel Santarius, VSB TU Ostrava, Czech Republic; Petr Krejci, VSB TU Ostrava, Czech Republic; Ladislav Pospichal, MEGa, Czech Republic; David Mezera, E.ON CR, Czech Republic

0882 Data Modeling for Reduction of Volume in Large Archives of Power Quality Data
Jan Kraus, KMB systems, Czech Republic; Leoš Kuka, Technical university in liberec, Czech Republic; Viktor Bubla, Technical university in liberec, Czech Republic

0886 The voltage dip performance assessment of the Italian MV network through global indices
Liliana Tenti, RSE Spa Ricerca sul Sistema Energetico, Italy; Riccardo Chiumeo, RSE Spa Ricerca sul Sistema Energetico, Italy; Michele de Nigris, RSE Spa Ricerca sul Sistema Energetico, Italy; Chiara Gandolfi, RSE Spa Ricerca sul Sistema Energetico, Italy; Luciano Garbero, RSE Spa Ricerca sul Sistema Energetico, Italy

0942 Advanced Power Quality Measurement Campaign - Interesting measurement results
Tarjei Solvang, SINTEF Energy Research, Norway; Helge Seljeseth, SINTEF Energy Research, Norway

0946 Overvoltage immunity of electrical appliances - Laboratory test results from 60 appliances
Helge Seljeseth, SINTEF Energy Research, Norway; Thomas Rump, Rostock University, Germany; Krister Haugen, Norwegian University of Science and Technology, Norway

1021 Power Quality in the Portuguese Distribution Network
António Lebre, EDP Distribuição - Energia, S.A., Portugal; Fernando Bastião, EDP Distribuição - Energia, S.A., Portugal; Pedro Veloso, EDP Distribuição - Energia, S.A., Portugal; António Blanco, EDP Distribuição - Energia, S.A., Portugal; Nuno Melo, EDP Distribuição - Energia, S.A., Portugal; Luísa Jorge, EDP Distribuição - Energia, S.A., Portugal

1139 Decentralised Controller for Flicker Mitigation in Converter-connected DG Networks
PIYADANAI PACHANAPAN, University of Strathclyde, UK; ADAM DYSKO, University of Strathclyde, UK; OLIMPO ANAYA-LARA, University of Strathclyde, UK; GRAEME BURT, University of Strathclyde, UK; KWOK LO, University of Strathclyde, UK

1151 Feature analysis for voltage disturbances resulting from external causes
Victor Augusto Barrera Núñez, University of Girona, Spain; Joaquim Meléndez Frigola, University of Girona, Spain; sergio Herraiz Jaramillo, University of Girona, Spain

1216 Optimal Voltage Sag and Swell Monitoring through Genetic Algorithms, Fuzzy Mathematical Programming and Stochastic Simulation of Short-Circuits



Carlos F. M. Almeida, University of S. Paulo, Brazil; Juan Carlos Cebrian, Sinapsis - Energy Innovation, Brazil; Nelson Kagan, University of S. Paulo, Brazil

1294 Power quality monitoring system smart grids component
Carmen Stanescu, Transelectrica, Romania; Stelian Gal, Transelectrica, Romania; Sorin Pispiris, Transelectrica, Romania; Dorel Stanescu, Electrica, Romania

1314 Transient Disturbance Recognition for Power Quality Analysis
Valdomiro Vega-García, University of Sao Paulo, Brazil; Nelson Kagan, University of Sao Paulo, Brazil

Block 4 : Power Quality in a competitive market

0253 Individual interruption costs of industrial customers as basis for a classification.
Mikael Wämundson, STRI AB, Sweden; Johan Höglund, STRI AB, Sweden; Math Bollen, STRI AB, Sweden; Anders Holm, Vattenfall Research and Development, Sweden; Eva Pending - Wiberg, Vattenfall Eldistribution, Sweden

0273 Power quality aspects of rural grids with high penetration of microgeneration, mainly PV-installations
Matthias Klatt, Technische Universitaet Dresden, Germany; Alicia Dorado, Technische Universitaet Dresden, Germany; Jan Meyer, Technische Universitaet Dresden, Germany; Peter Schegner, Technische Universitaet Dresden, Germany; Juergen Backes, EnBW Regional AG, Germany; Ran Li, EnBW Regional AG, Germany

0425 Vision of power quality monitoring and management in future distribution networks
Marko Pikkarainen, Tampere University of Technology, Finland; Bashir Siddiqui, Tampere University of Technology, Finland; Pertti Pakonen, Tampere University of Technology, Finland; Pekka Verho, Tampere University of Technology, Finland; Seppo Vehviläinen, MX Electrix, Finland

0509 PQ Monitoring with Smart Meters for Condition Based Maintenance on Distribution Systems.
Mario Tremblay, Hydro-Québec (IREQ), Canada; Denis Valiquette, Hydro-Québec (IREQ), Canada; Steve Czech, Hydro-Québec, Canada

0665 Intelligent Distribution Substation improves Power Quality
Irina Melnik, Alliander, Netherlands; Frans Provoost, Alliander, Netherlands; Wouter Bos, Alliander, Netherlands

0935 Power Quality Losses in Distribution Transformers originated from Electronic Loads - A review
Fredrik Carlsson, Vattenfall, Sweden

1209 Reactive Power Control in a Microgrid in Both Grid-Connected and Islanding Modes
Alireza Salehinia, Islamic Azad University - South Tehran Branch, Iran; Mahmoud-Reza Haghifam, Tarbit Modares University, Iran; Majid Shahabi, Babol University of technology, Iran

1240 Monitoring and Reporting of Voltage Disturbances - Regulatory and Technical Challenges and Solutions
Karstein Brekke, Norwegian Water Resources and Energy Directorate (NVE), Norway; Helge Seljeseth, SINTEF Energy Research, Norway; Hege Sveaas Fadum, Norwegian Water Resources and Energy Directorate (NVE), Norway

1242 CEER Recommendations on Estimation of Costs due to Electricity Interruptions and Voltage Disturbances
Karstein Brekke, Norges vassdrags- og energidirektorat (NVE), Norway; Riccardo Vailati, Autorità per l'Energia Elettrica e il Gas (AEEG), Italy; Daniel Torstensson, Energimarknadsinspektionen (EI), Sweden; Matthias Steiner, Energie-Control GmbH (E-Control), Austria; Amanda Falcão, Entidade Reguladora dos Serviços Energéticos (ERSE), Portugal

1285 Present and future functionalities of the Enel Distribuzione power quality data warehouse



Christian Noce, Enel Distribuzione S.p.A., Italy; Sergio Sartore, Enel Distribuzione S.p.A., Italy

1305 Interruption Costs in Large Customers: Survey and Applications
Marcelo Pelegrini, SINAPSIS, Brazil; Cecília Magalhães, CH Consulting, Brazil; Silvio Baldan, AES ELETROPAULO, Brazil; Ivo Cyrilo, USP, Brazil; Fabiana Toledo Silva, CH Consulting, Brazil

Non Interactive Tour - Session 2

Block 1: Electromagnetic interference, electric and magnetic fields and grounding systems

0681 Characterization of the electromagnetic environment at the vicinity of power lines
Wafa Tourab, University of Annaba, Algeria; Abdesselam Babouri, LGEG Laboratory university of Guelma, Algeria; Mohamed Nemamcha, LGEG Laboratory university of Guelma, Algeria

0823 Analysis of distribution, high voltage and train networks in the EXPERS study
Isabelle Magne, EDF, France; François Deschamps, RTE, France; Gilbert Belardi, ERDF, France; Martine Souques, EDF, France

Block 2 : Steady-state disturbances

0031 Minimum short circuit power in the LV distribution network to meet EN 50160 standard requirements
Martin Kaspirek, E.ON Czech Republic, Czech Republic; David Mezera, E.ON Czech Republic, Czech Republic

0069 Allocation of Harmonic distortion margins at Point of Common Coupling
Vukan Polimac, Polimac Ltd, UK; Jelica Polimac, Polimac Ltd, UK

0513 Perturbation measurements on overhead networks using electric field sensors
Pedro Issouribehere, IITREE - FI - UNLP, Argentina; Daniel Esteban, IITREE - FI - UNLP, Argentina; Fernando Issouribehere, IITREE - FI - UNLP, Argentina

0851 Problems of SVR Operation in Large Penetration of Photovoltaic Power Generation and Proposal of Improved Operation
Shinichirou Taniguchi, Central Research Institute of Electric Power Industry, Japan; Satoshi Uemura, Central Research Institute of Electric Power Industry, Japan

0911 Power factor and harmonic distortion correction of consumers by combination of detuned filters
Miloje Kostic, Electrical Engineering Institute Nikola Tesla, Serbia; Branka Kostic, Electrical Engineering Institute Nikola Tesla, Serbia; Sasa Minic, Electrical Engineering Institute Nikola Tesla, Serbia; Milan Ivanovic, Electrical Engineering Institute Nikola Tesla, Serbia

1194 Power quality degradation due to low power electronic loads
Amir Tokic, University of Tuzla, Bosnia and Herzegovina; Admir Jukan, Ministry of Interior, Bosnia and Herzegovina; Ivo Uglesic, University of Zagreb, Croatia

Block 3 : Disturbing events

0587 A New Assessment Method of Voltage Sag Frequency Considering Customer Satisfaction Degree
Ying Wang, Sichuan University, China; XianYong Xiao, Sichuan University, China; Peidong Xu, Sichuan University, China

0868 Integration of Power Quality Monitoring System in Croatian Distribution System
Tomislav Capuder, University of Zagreb, Croatia; Ivan Periša, HEP-ODS d.o.o., Croatia; Tomislav Tomiša, University of Zagreb, Croatia; Davor Škrlec, University of Zagreb, Croatia; Matija Zidar, University of Zagreb, Croatia; Dinko Hrkec, HEP-ODS d.o.o., Croatia

Block 4 : Power Quality in a competitive market



- 0045 How the customers perceive the problem of voltage quality
David Mezera, E.ON Czech Republic, Czech Republic; Martin Kaspirek, E.ON Czech Republic, Czech Republic
- 0083 Investigation into the Power Quality and Reliability of Supply in the Industrial Networks with Distributed Generation
Rade Ciric, Secretariat for Science and Technological Development, Serbia; Nikola Rajakovic, Secretariat for Science and Technological Development, Serbia
- 0301 Harmonic Impact of DG Configuration in Distribution System
Feng Pan, Shinan Power Supply Co., China; Ming Zong, Shinan Power Supply Co., China
- 0582 Evaluation on the Effect of the Integration of Offshore Wind Farms on Power Quality
Xingang YANG, East China Electric Power Test & Research Institute, China; Qinchang GUI, East China Electric Power Test & Research Institute, China; Aiqiang PAN, East China Electric Power Test & Research Institute, China; Yingjie TIAN, East China Electric Power Test & Research Institute, China; Daren HUO, Shanghai Donghai Wind Power Co., Ltd., China; Songqiang LI, Sinovel Wind Group Co., Ltd., China
- 0596 Study on the economic loss and ITS evaluation methods of short interruption
Tianyou Li, North China Electric Power University, China; Huiru Zhao, North China Electric Power University, China; Chunjie Li, North China Electric Power University, China; Dachang Ou, North China Electric Power University, China; Liwen Fu, North China Electric Power University, China
- 0993 Optimization of voltage regulators settings and transformer tap zones in distribution systems with great load variation using the smart grids initiatives
Paulo Ricardo Pereira, CEEE-D, Brazil; Renê Emmel Jr, CEEE-D, Brazil; Luciane Canha, UFSM, Brazil; Alzenira Abaide, UFSM, Brazil; Rafael Milbradt, UFSM, Brazil
- 1160 Criteria to select appropriate power definitions employed in active power distribution networks
Masoud AliAkbar Golkar, K. N. Toosi University of Technology, Iran; Ehsan Pashajavid, K. N. Toosi University of Technology, Iran

Poster Session 6: Distribution business & impact of regulation: 09.00 - 17.30 hrs (Exhibition hall)⁶

Interactive Guided Tour (S6 interactive guided tour will only last from 09.00 hrs until 12.30 hrs)

Block 1: Smart Grid programs, present state and future expectations of regulation of DSOs and electricity markets

- 0072 Does the power industry need satisfied customers and a good reputation?
Eva Fosby Livgard, TNS Gallup, Norway
- 0160 The Swedish Government Inquiry on Smart Meters and Intelligent Networks
Math Bollen, Energy Markets Inspectorate, Sweden; Rémy Kolessar, Energy Markets Inspectorate, Sweden; Daniel Torstensson, Energy Markets Inspectorate, Sweden; Peter Albertsson, Energy Markets Inspectorate, Sweden; Bengt Gustavsson, Energy Markets Inspectorate, Sweden; Thomas Westergaard, Energy Markets Inspectorate, Sweden
- 0233 The Swedish benchmarking report on continuity of supply
Daniel Torstensson, Energy Markets Inspectorate, Sweden; Math Bollen, Energy Markets Inspectorate, Sweden; Rémy Kolessar, Energy Markets Inspectorate, Sweden

⁶ As of 29 April 2011



- 0244 Community Energy from Policy to Practice
Mary Gillie, EA Technology Limited, UK; Roy Alexander, University of Chester, UK; David Roberts, EA Technology Limited, UK
- 0427 Capital costs in new Swedish revenue regulation
Leif Boström, Fortum Distribution AB, Sweden; Anders Pettersson, Svensk Energi, Sweden
- 0455 Inovcity - Building Smart Grids in Portugal
Paulo Lúcio, EDP Distribuição, Energia S.A., Portugal; Pedro Paulo, EDP Distribuição, Energia S.A., Portugal; Hugo Craveiro, EDP Distribuição, Energia S.A., Portugal
- 0485 Adopting a general regulatory approach on the European electricity market
Noona Paatero, Vattenfall Nordic Distribution, Sweden
- 0646 The potential of using equivalent comparison standards to judge effectible costs in electrical distribution tariff regulation
Carl Johan Wallnerström, KTH - Royal Institute of Technology, Sweden; Anna Isenberg, KTH - Royal Institute of Technology, Sweden; Johan Setréus, KTH - Royal Institute of Technology, Sweden; Patrik Hilber, KTH - Royal Institute of Technology, Sweden
- 0684 Optimizing the contradiction between enhanced energy security, environmental protection and minimizing the costs
Laurentia PREDESCU, Romanian Energy Regulatory Authority, Romania; Adrian PREDESCU, University Politehnica Bucharest, Romania
- 0828 Smart Grids in Distribution Networks until 2030 - Technologies, Potentials, Market Developments
Marek Plazura, trend: research GmbH, Germany; Ines Hanske, trend: research GmbH, Germany; Melisa Ademi, trend: research GmbH, Germany
- 0909 Introducing customer promises in Sweden and Finland
Carl Lagerstedt, Vattenfall Distribution AB, Sweden; Lars Edström, Vattenfall Distribution AB, Sweden
- 1000 Finnish Smart Grids - A migration from version one to the next generation
Pertti Järventausta, Tampere University of Technology, Finland; Pekka Verho, Tampere University of Technology, Finland; Jarmo Partanen, Lappeenranta University of Technology, Finland; Dick Kronman, ABB Oy, Finland
- 1079 Determination of Descriptive Attributes used to Calculate Technical Losses of Medium and Low Voltage Networks According to the Brazilian Regulatory Model
Carlos Barioni, Daimon Engineering & Systems, Brazil; Denis Antonelli, Daimon Engineering & Systems, Brazil; André Meffe, Daimon Engineering & Systems, Brazil; Ricardo Wada, Daimon Engineering & Systems, Brazil; Danilo Freitas, AES Eletropaulo - Metropolitana Eletricidade de São Paulo S.A., Brazil
- 1293 Implications of regulatory changes of the market model on the distribution business
Lee Rud, Vattenfall Eldistribution AB, Sweden

[Block 2: Experiences of smart metering and future trends](#)

- 0016 Implementation of AMR/AMM system: results and plants- Elektroprivreda BiH
Elvisa Becirovic, Elektroprivreda BiH, Bosnia and Herzegovina; Mustafa Music, Elektroprivreda BiH, Bosnia and Herzegovina; Suada Penava, Elektroprivreda BiH, Bosnia and Herzegovina
- 0296 Real time purchase and settlement of distribution losses
Anssi Seppälä, Enease Oy, Finland; Sirpa Forssman, Fortum Distribution Oy, Finland; Juha-Heikki Etula, Fortum Distribution Oy, Finland; Joachim Högberg, Fortum Distribution Oy, Finland
- 0313 Electrica's AMI Strategy updates



Dan Apetrei, SC Electrica SA, Romania; Mihaela Albu, Universitatea Politehnica Bucuresti, Romania; Ioan Silvas, SC Electrica SA, Romania; Dumitru Federenciu, SC Electrica SA, Romania; Marian Vanatoru, SC Electrica SA, Romania

0415 Experiences from operations after a full-scale Smart Metering rollout regarding availability and reliability.

Lars Garpetun, Vattenfall Eldistribution AB, Sweden

0754 Making the electricity consumption visible

Monica Löf, Vattenfall Research and Development AB, Sweden; Kristinn Sigmundsson, Vattenfall Research and Development AB, Sweden; Daniel Zajd, Vattenfall Research and Development AB, Sweden

0887 Smart Metering and Customer Consumption Behaviour Profiling -- Exploring Potential Business Opportunities for DSOs and Electricity Retailers

Hongyan Liu, Turku Centre for Computer Science, Finland; Tomas Eklund, Turku Centre for Computer Science, Finland; Barbro Back, Turku Centre for Computer Science, Finland

1019 Data supply for the Portuguese branch of Iberian electricity market

Miriam Boucinha, EDP Distribuição, Portugal; Paulo Pereira, EDP Distribuição, Portugal; Tiago Simão, EDP Distribuição, Portugal

1249 Green E-value: Smart Metering for energy efficiency

Bernard Cottier, Services Industriels de Lausanne, Switzerland; Bruno Barbarin, Services Industriels de Lausanne, Switzerland

[Block 3: Impact of electrical vehicles and demand response on distribution business](#)

0480 Smart Energy Products for Efficient Demand Response: Results of Swiss Smart Grid Pilot Project

Elvira Kaegi, BKW FMB Energie AG, Switzerland; Daniel Berner, BKW FMB Energie AG, Switzerland; Adrian Peter, BKW FMB Energie AG, Switzerland

0773 Network Effects of Electric Vehicles - Case from Nordic Country

Jukka Lassila, Lappeenranta University of Technology, Finland; Juha Haakana, Lappeenranta University of Technology, Finland; Jarmo Partanen, Lappeenranta University of Technology, Finland; Kari Koivuranta, Fortum, Finland; Saara Peltonen, Fortum, Finland

1003 Supporting Domestic Energy Reduction Via Persuasive Technology

Cornelia Gerdenitsch, CURE - Center for Usability Research and Engineering, Austria; Johann Schrammel, CURE - Center for Usability Research and Engineering, Austria; Wolfgang Reitberger, ICT&S Center, University of Salzburg, Austria; Manfred Tscheligi, CURE - Center for Usability Research and Engineering, Austria

1061 Charging for charging - business aspects

Roland Brill, Siemens AG, Germany; Philip Skipper, Siemens plc, UK; Lars Neubauer, Siemens AG, Germany

1085 Demand Response: Conflict between Distribution System Operator and Retailer

Nadezda Belonogova, Lappeenranta University of Technology, Finland; Tero Kaipia, Lappeenranta University of Technology, Finland; Jukka Lassila, Lappeenranta University of Technology, Finland; Jarmo Partanen, Lappeenranta University of Technology, Finland

1261 A practical approach to accommodating low carbon consumers in existing distribution networks

Stewart Reid, Scottish and Southern Energy, UK; Brian Shewan, Scottish and Southern Energy, UK; Peter Grindrod, University of Reading, UK; John Scott, KEMA, UK; David Hawkins, GE Energy, UK; Mark Stannard, Scottish and Southern Energy, UK

1271 Economics Behind Dynamic Pricing Benefits in Smart Grids



Armando Ferreira, Siemens Energy, Inc., USA; Carlos Dortolina, Siemens Energy, Inc., USA

1273 Green eMotion - Integrated European Demonstration on Electro-Mobility
Christine Schwaegerl, Siemens AG, Germany; Claudia Schmitt-Lühmann, IBM Deutschland GmbH, Germany

[Block 4: Information Systems, Pricing & Tariffs, Asset Management, Organisations](#)

0088 Building risk based investment programmes
David Hughes, EA Technology, UK; Paul Barnfather, EA Technology, UK

0286 Transformer Condition Assessment Integrated with Reliability Analysis
Jouni Pylvänäinen, Vattenfall Verkko, Finland

0372 Multi utility grid operation: An organisation study
Markus Zdrallek, Wuppertal University, Germany; Marcus Stötzel, Wuppertal University, Germany; Volker Staufert, RheinEnergie AG, Germany; Michael Angenend, RheinEnergie AG, Germany

0420 Marginal Pricing of Distribution Networks Using AC Power Flow
Victor Levi, Electricity North West, UK; Mike Attree, Electricity North West, UK; Tony McEntee, Electricity North West, UK

0448 Development of target grid strategies supported by the asset simulation optimization core having regard to target costing
Lars Jendernalik, RWE Westfalen-Weser-Ems Verteilnetz GmbH, Germany; Dirk Schlüter, RWE Westfalen-Weser-Ems Verteilnetz GmbH, Germany; Herbert Wohlfarth, RWE Westfalen-Weser-Ems Verteilnetz GmbH, Germany

0469 Peak load pricing applied to deverticalized distribution network usage tariffs
Fabio S. El Hage, Daimon Engenharia e Sistemas, Brazil; Nelson Kagan, Universidade de Sao Paulo, Brazil; Carlos C. B. de Oliveira, Daimon Engenharia e Sistemas, Brazil

0487 Automatic Asset Optimization to confirm the chosen asset strategy for an electricity grid
Heiko Spitzer, entelligenio GmbH, Germany; Heinrich Josef Verweyen, Süwag Netz GmbH, Germany

0493 Common and accepted electronic data interchange interface between Finnish electricity supplier companies and their service providers
Heikki Laaksamo, TIEKE Finnish Information Society Development Centre, Finland

0589 Risk-based asset maintenance management in distribution systems
leila jalili, Great Tehran Electrical Distribution, Iran; Masoud Sadeghi Khomami, Iran Power Gen. Trans. & Dist. Management Co. (TAVANIR), Iran; Mahmud Fotuhi-Firozabadi, Department of Electrical Engineering, Iran

0594 Building System Resilience through Multi-Disciplinary and Cross-Divisional Regional Resilience Teams
Malcolm Van Harte, Eskom Holdings Limited, South Africa; Robert Koch, Eskom Holdings Limited, South Africa; Gunter Rohde, Eskom Holdings Limited, South Africa; Jose Correia, Eskom Holdings Limited, South Africa

0757 Improve the life cycle asset management performance based on the systemic KPI application
SHEN LI, State Grid Cooperation of China, China; TANG JUN, Shanghai Municipal Electric Power Company, China; XU WANRONG, Shanghai Municipal Electric Power Company, China

1157 An Approach for Critical Component Identification in Reliability-Centered Maintenance of Power Distribution Systems Based on Analytical Hierarchical Process
Payman Dehghanian, Center of Excellence in Power system control and management, Department of electrical engineering, sharif university of technology, Iran; Mahmoud Fotuhi-Fruzabad, Center of



Excellence in Power system control and management, Department of electrical engineering, Sharif University of Technology, Iran; Ali Razi Kazemi, Center of Excellence in Power system control and management, Department of electrical engineering, Sharif University of Technology, Iran

1223 GinisED Enterprise GIS - framework for the utility of the future
Leonid Stoimenov, Faculty of Electronic Engineering, University of Niš, Serbia; Aleksandar Stanimirović, Faculty of Electronic Engineering, University of Niš, Serbia; Aleksandar Krstić, ED Jugoistok Niš, Serbia; Nikola Davidović, Faculty of Electronic Engineering, University of Niš, Serbia; Miloš Bogdanović, Faculty of Electronic Engineering, University of Niš, Serbia; Dalibor Nikolić, ED Jugoistok Niš, Serbia

1328 Age Profile Analysis for HV Assets
Jelica Polimac, Polimac Ltd, UK

Non Interactive Tour - Session 6

[Block 1: Smart Grid programs, present state and future expectations of regulation of DSOs and electricity markets](#)

0340 What are the Current Regulatory Barriers in Brazil for Small Renewable Power Plants?
MARC CASTRO, ANEEL, Brazil

0836 EEGI and EDSO: the initiative to develop European Smart Grids
Jon STROMSATHER, ENEL DISTRIBUZIONE SpA, Italy

1207 Principal requirements of designing the reward-penalty schemes for reliability improvement in distribution systems
Hosein Mohammadnezhad Shourkaei, Sharif University of Technology, Iran; Mahmud Fotuhi Firuzabad, Sharif University of Technology, Iran

1213 Optimized Management of Operational Costs based on regulatory goals (Reference firm)
Simone Cristina Nunes Araujo, Matrix Engenharia em Energia, Brazil; Gil Fortes Vasconcelos, Matrix Engenharia em Energia, Brazil; Sergio Lucio Salomon Cabral, Matrix Engenharia em Energia, Brazil; Josimar Oliveira Silva, Matrix Engenharia em Energia, Brazil; Pedro Luis Domingues, Matrix Engenharia em Energia, Brazil; Vanio Moritz Luz, CELESC, Brazil

1237 Tactical and Strategic SmartGrid Implementation in ESB Networks
Teresa Fallon, ESB Networks, Ireland; Anthony Walsh, ESB Networks, Ireland

[Block 2: Experiences of smart metering and future trends](#)

0169 Research on Smart Meter Management System for Low-voltage Customers
Jiayan Ni, Shanghai Municipal Electric Power Company, China

0478 Improving the data quality of the LV-connectivity
Tom Pycke, Eandis, Belgium; Dirk Costrop, Eandis, Belgium; Luc Henderieckx, Eandis, Belgium

0845 Security Schemes for AMI
Jincheol Kim, KEPCO KDN Co., Ltd., Republic of Korea; Seongji Ahn, KEPCO KDN Co., Ltd., Republic of Korea; Youngeok Kim, KEPCO KDN Co., Ltd., Republic of Korea; Jongman Kim, KEPCO KDN Co., Ltd., Republic of Korea; Yunsik Jung, KEPCO KDN Co., Ltd., Republic of Korea; Sangjin Kim, KEPCO KDN Co., Ltd., Republic of Korea

1230 Meter data management- from the smarter grid to future market platforms in liberalized energy markets
Sebnem Rusitschka, Siemens AG, Germany; Heinrich Kirchauer, Siemens AG Austria, Austria; Monika Sturm, Siemens AG Austria, Austria; Stephan Merk, Siemens AG, Germany



[Block 3: Impact of electrical vehicles and demand response on distribution business](#)

0789 Study of optimal dispatching strategy of Demand Side Bidding considering the network constraints
Chen Xingying, Hohai University, China; Chen Lu, Hohai University, China; LIAO Yingchen, Hohai University, China

0939 Impacts of Smart Grids on electricity retail Business
Petri Valtonen, Lappeenranta University of Technology, Finland; Samuli Honkapuro, Lappeenranta University of Technology, Finland; Jarmo Partanen, Lappeenranta University of Technology, Finland

[Block 4: Information Systems, Pricing & Tariffs, Asset Management, Organisations](#)

0210 IT Compliance in Smart Grids
Martin Schaefer, Vattenfall AB, Sweden; Erik Åberg, KTH Royal Institute of Technology, Sweden; Jens Zerst, Vattenfall AB, Sweden; Iiro Rinta-Jouppi, Vattenfall AB, Sweden

0291 Management of Partnership Networks in Electricity Distribution Business
Harri Salomäki, Vattenfall Verkkö Oy, Finland

0356 A method to allocate distributor and other agent payments for transmission expansion
Fernando NICCHI, UBA, Argentina; Carlos Salzman, UBA, Argentina

0368 load factor based tariff
Hossein Arghavani, tehran great electricity power distribution co.(EPDC), Iran; Mitra Peyravi Sereshkeh, tehran university, Iran

0782 The distribution electric pricing considering interruptible load in the electricity market
Liao Yingchen, Hohai University, China; Chen Lu, Hohai University, China; Chen Xingying, Hohai University, China

1092 Feed-in Tariffs and Community Aggregated Trading of Microgeneration Sourced Electricity.
Gordon McKinstry, University of Strathclyde, UK; Stuart Galloway, University of Strathclyde, UK; Bruce Stephen, University of Strathclyde, UK

1231 Communityware smartgrid
Stamatis Karnouskos, SAP, Germany