

8th International Conference on Deregulated Electricity Market Issues in South-Eastern Europe



24 – 25 September, 2013
Hotel Croatia, Cavtat
CROATIA

DEMSEE 2013

CONFERENCE PROGRAMME

Organized by



With the Support of



<http://demsee2013.org>

History of DEMSEE Conference

The annual **International Conference on Deregulated Electricity Market Issues in South-Eastern Europe**, known as DEMSEE, was established back in 2005 in Iraklio-Crete when the first Call for Papers was circulated. The purpose of this annual Event, as it was initially stated, is to highlight the importance of Research and Development for the future of the Electricity Sector in South-Eastern Europe, in the context of the ongoing Electricity Deregulation, and to present the efforts undertaken by the various academic and research establishments as well as the industry and the Regulators in this field.



The first Event was the DEMSEE 2006 organized in Iraklio, Crete-Greece, 22 and 23 March 2006, under the Chairmanship of Professor Thales M. Papazoglou. It was followed by DEMSEE 2007 organized in Istanbul, 19-20 September 2007, under Co-Chairs: Professor Levent Sevgi, and Professor Thales M. Papazoglou. The third year DEMSEE went to Cyprus. DEMSEE 2008 was organized in Nicosia, 22-23 September 2008, under the Co-Chairs: Dr Venizelos Efthymiou, Professor Marios Polycarpou, and Professor Thales M. Papazoglou. The 4th DEMSEE was hosted in Serbia. DEMSEE 2009 was organized in Belgrade, 17-18 September 2009, under the Co-Chairs: Dr Ninel Cukalevski, and Professor Thales M. Papazoglou. The 5th DEMSEE went back to Crete. DEMSEE 2010 was organized in Sitia, 23-24 September 2010, under the Co-Chairs: Nikos Petrakis, and Professor Thales M. Papazoglou. The 6th DEMSEE visited Slovenia. DEMSEE 2011 was organized by Faculty of Electrical engineering, University of Ljubljana, Slovenia under the Chairmanship of Professor Rafael Mihalic. In 2012, the DEMSEE conference was organized in Bucharest, Romania, under the Chairmanship of Professor Constantin Bulac.

DEMSEE is expertly guided through the years by a Steering Committee of experts in the Electricity Sector. It aims to facilitate Networking and the Dissemination of Knowledge and Experience in the present practice.

CONFERENCE COMMITTEES

Conference Chair

Mladen Zeljko, *Croatia*

Conference Co-Chair

Ivona Štritof, *Croatia*

Conference Steering Committee

Convener

Thales M. Papazoglou, *Greece*

Members

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Mladen Zeljko, *Croatia*

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Olav Fosso, *Norway*
Ole Gjerde, *Norway*
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Aikaterini Iliadou, *Greece*
Istok Jerman, *Slovenia*
George Kallos, *Greece*
Vladimir Katić, *Serbia*
Tatjana Konjić, *Bosnia and Herzegovina*
Jože Koprivnikar, *Slovenia*
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Emmanouel Kymakis, *Greece*
Rafael Lopez, *France*
Bill Meehan, *USA*
Rafael Mihalič, *Slovenia*
Thales M. Papazoglou, *Greece*
Igor Papić, *Slovenia*
Jože Pihler, *Slovenia*
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Herwig Renner, *Austria*
Dietmar Retzmann, *Germany*
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Emmanuel Thalassinakis, *Greece*
Dragan Vlasisavljević, *Serbia*
Josip Voršić, *Slovenia*
Mladen Zeljko, *Croatia*

Local Organizing Committee

Mladen Zeljko, *Croatia*
Ivona Štritof, *Croatia*
Božidar Filipović-Grčić, *Croatia*
Irena Tomiša, *Croatia*
Snježana Blagajac, *Croatia*
Branko Kaurić, *Croatia*
Ivana Milinković, *Croatia*

DEMSEE 2013 - CONFERENCE PROGRAMME

Monday, 23rd September 2013

Steering Committee Meeting

Time: 18:15 – 19:30

Location: Room V

Welcome Reception

Location: In front of Bobara Hall

Time: 20:00

Tuesday, 24th September 2013

Hour	Event	
09:00 – 09:15	DEMSEE 2013 Opening Session <i>Location: Bobara Hall</i>	
09:15 – 11:15	Keynote Speakers <i>Location: Bobara Hall</i> <i>(Including Sponsors Presentations)</i>	
11:15 – 11:45	COFFEE BREAK	
11:45 – 13:00	Plenary Session I <i>Location: Bobara Hall</i>	
13:00 – 14:30	LUNCH	
14:30 – 16:00	Energy Markets, Deregulation, Legislation <i>Location: Bobara Hall</i>	Power System Operation and Control I <i>Location: Šipun Hall</i>
16:00 – 16:30	COFFEE BREAK	
16:30 – 18:00	Power System Planning and Analysis I <i>Location: Bobara Hall</i>	Renewable Energy Sources I <i>Location: Šipun Hall</i>
18:00 – 19:00	Getting ready for the Dinner on the Boat	
19:00 – ...	Dinner - Boarding on the Boat – <i>sponsored by HEP</i>	

Wednesday, 25th September 2013

Hour	Event	
09:00 – 10:30	Keynote Speakers <i>Location: Bobara Hall</i> <i>(Including Sponsors Presentations)</i>	
10:30 – 11:00	Special Presentation: “100 Years of HPP Kraljevac” <i>Location: Bobara Hall</i>	
11:00 – 11:30	COFFEE BREAK	
11:30 – 13:00	Plenary Session II <i>Location: Bobara Hall</i>	
13:00 – 14:30	LUNCH	
14:30 – 16:00	Power System Planning and Analysis II <i>Location: Bobara Hall</i>	Algorithms and Optimization <i>Location: Šipun Hall</i>
16:00 – 16:30	COFFEE BREAK	
16:30 – 18:00	Power System Operation and Control II <i>Location: Bobara Hall</i>	Renewable Energy Sources II <i>Location: Šipun Hall</i>
18:00 – 18:30	DEMSEE 2013 Closing Ceremony <i>Location: Bobara Hall</i>	

REGISTRATION

Registration will be possible in Hotel Croatia in front of the Bobara Hall:

- On Monday, 23rd September, from 16:00 till 18:00,
- On Tuesday, 24th September, from 08:00 till 18:00,
- On Wednesday, 25th September, from 08:00 till 12:30.

PROGRAMME DETAILS

TUESDAY, 24th September 2013

DEMSEE 2013 Opening Session

Tuesday, 24th September, 09:00- 09:15, Bobara Hall

Welcome Note

Mladen Zeljko (Conference Chair)

Thales M. Papazoglou (Conference Convener)

*Representatives of HEP Group, HERA (Croatian Energy Regulatory Agency)
and HROTE (Croatian Energy Market Operator)*

Keynote Speakers

Tuesday, 24th September, 09:15 – 11:15, Bobara Hall

Antonio Lopez-Nicolas *(ENTSO-e)*

"The Network Codes as the Way Forward for the Implementation of the Internal Energy Market Target Model"

Prof. Vladimiro Miranda *(INESC Porto, Portugal)*

„Building Smarter Systems from Information Theory“

William Polen *(United States Energy Association, USA) and*

Goran Majstrovic *(Energy Institute Hrvoje Požar, Croatia)*

"Regional Approach to the Large Scale Wind Integration"

Sponsors Presentations

KONČAR - Power Plant and Electric Traction Engineering Inc.
(KONČAR - KET), Croatia



KONČAR

Končar - Inženjering za energetiku
i transport d.d.

Plenary Session I

Tuesday, 24th September, 11:45 – 13:00, Bobara Hall

Chair: **Ben Li**, (Ben Li Associates, Markham, Ontario, Canada)

4 People's Attitudes to DSOs and New Transmission Lines. Experiences from the Norwegian Market

Eva Fosby Livgard (TNS Gallup, Norway)

40 Trends in the Energy Community SEE 2008-2011

*David Žarković (Electric Power Industry of Serbia, Belgrade, Serbia),
Mihailo Mihailović (Electric Power Industry of Serbia, Belgrade, Serbia)
and Miroslav Marković (Electric Power Industry of Serbia, Belgrade, Serbia)*

3 Power System Infrastructure Planning in Energy Community

Mladen Zeljko (Energy Institute Hrvoje Požar, Zagreb, Croatia)

14 Supplier and PPA Arrangements in Competitive Market Environment (Kosovo Case)

*Faruk Serdarevic (Energy Expert, Bosnia and Herzegovina), John Williams
(Energy Expert, UK/Canada) and Celia Whitaker (Energy Expert, UK/France)*

Energy Markets, Deregulation, Legislation

Tuesday, 24th September, 14:30 – 16:00, Bobara Hall

Chair: **Antonio Lopez-Nicolas**, (ENTSO-E)

5 Regulatory Benchmarking in Case Of a Single National Distribution System Operator

*Ivona Štritof (Croatian Energy Regulatory Agency - HERA, Zagreb, Croatia),
Karina Knaus (Austrian Energy Regulatory Authority - E-Control, Vienna, Austria)
and Srđan Žutobradić (Croatian Energy Regulatory Agency - HERA, Zagreb,
Croatia)*

45 Challenges of Implementation of New Package of Regulations on the Croatian Electricity Market

*Marko Ćosić (Korlea d.o.o., Zagreb, Croatia) and Mladen Žunec (Profectio
energija d.o.o., Zagreb, Croatia)*

- 46 Modeling Long-term Investment Decisions in Electricity Markets**
Kristóf Hackel (Budapest University of Technology and Economics, Department of Electric Power Engineering, Budapest, Hungary) and Dániel Divényi (Budapest University of Technology and Economics, Department of Electric Power Engineering, Budapest, Hungary)
- 37 Development of Legal, Organizational and Regulatory Framework for the System Operators in Croatia**
Mičo Klepo (Croatian Energy Regulatory Agency - HERA, Zagreb, Croatia) and Ana Ćurković Ćurić (Ćurković Ćurić Janušić Banić Law Firm, Zagreb, Croatia)
- 32 Load Forecasting in a Deregulated Nigerian Electricity Market**
Eli J. Bala (Energy Commission of Nigeria, Abuja, Nigeria) and Joseph S. Olayande (Energy Commission of Nigeria, Abuja, Nigeria)
- 53 Settlement of Balancing Energy on Croatian Electricity Market**
Minea Skok (Energy Institute Hrvoje Požar, Zagreb, Croatia) and Tomislav Baričević (Energy Institute Hrvoje Požar, Zagreb, Croatia)

Power System Operation and Control I

Tuesday, 24th September, 14:30 – 16:00, Šipun Hall

Chair: **Ninel Ćukalevski**, (Institute Mihajlo Pupin, Belgrade, Serbia)

- 11 Analysis of Methods for Limiting Fault Currents in High-Voltage Electric-Power Networks**
Valentin Ažbe (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia) and Rafael Mihalič (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia)
- 8 Independent Development and Implementation of Information System for Monitoring Power Plant Production Indicators at HEP PROIZVODNJA d.o.o.**
Ivica Vukelić (HEP Proizvodnja d.o.o., TPP Plomin, Croatia)
- 60 Newest ELKO Environmentally Safe Machines for Transformer Oil Regeneration**
Zoran Mitrovic (University of Novi Sad, Faculty of Technical Science, Serbia), Jovan Kotlica (ELKO, Canada/Montenegro) and Miomir Kotlica (KES International Ltd., Canada)

20 Monitoring of Production Units Participation in Primary Frequency Control

Ognjen Kuljača (Brodarski Institute, Zagreb, Croatia), Krunoslav Horvat (Brodarski Institute, Zagreb, Croatia), Tomislav Plavšić (TSO of Croatia, Zagreb, Croatia), Darko Nemec (IEEE, Zagreb, Croatia) and Milan Stojasavljević (IEEE, Zagreb, Croatia)

57 An Integrated Solution for the High Side Voltage and Reactive Power Regulation: Concept and Features of the new SART System at the Thisvi Power Plant (Greece)

Claudio Cattaneo (CESI, Milan, Italy), Giuliano Matli (CESI, Milan, Italy), Marcello Testori (CESI, Milan, Italy), Gianni Ravazzoli (Edison, Milan, Italy), Paolo Mandrino (Edison, Milan, Italy) and Alessandro Crippa (Edison, Milan, Italy)

31 Information System for Ancillary Services Management

Boris Golub (Končar - Power Plant and Electric Traction Engineering Inc., Zagreb, Croatia), Aldis Černicki Mijić (Končar - Power Plant and Electric Traction Engineering Inc., Croatia) and Ivan Fuček (Končar - Power Plant and Electric Traction Engineering Inc., Zagreb, Croatia)

Power System Planning and Analysis I

Tuesday, 24th September, 16:30 – 18:00, Bobara Hall

*Chair: **Mičo Klepo**, (Croatian Energy Regulatory Agency - HERA, Zagreb, Croatia)*

7 Assessment of Investment in Hydropower Plants on the River Sava

Perica Ilak (University of Zagreb, Faculty of Electrical Engineering and Computing, Zagreb, Croatia) and Slavko Krajcar (University of Zagreb, Faculty of Electrical Engineering and Computing, Zagreb, Croatia)

41 Energy Systems in the Western Balkans: A Bottom-Up Investigation and Modeling

Wouter Nijs (Institute for Energy and Transport of the Joint Research Centre of the European Commission, Petten, Netherlands), Sofia Simoes (Institute for Energy and Transport of the Joint Research Centre of the European Commission, Petten, Netherlands), Pablo Ruiz (Institute for Energy and Transport of the Joint Research Centre of the European Commission, Petten, Netherlands), Christian Thiel (Institute for Energy and Transport of the Joint Research Centre of the European Commission, Petten, Netherlands), Rocco De Miglio (E4SMA srl, Turin, Italy) and Maurizio Gargiulo (E4SMA srl, Turin, Italy)

- 42 Impact of Various Hydro Power Generation Scenarios on Energy Balance and Power Markets in SEE Region**
Josip Kajić (HEP Trade Ltd., Zagreb, Croatia), Hrvoje Pirić (HEP Trade Ltd., Zagreb, Croatia), Filip Rendulić (HEP Trade Ltd., Zagreb, Croatia), Marin Cerjan (HEP Trade Ltd., Zagreb, Croatia) and Marko Delimar (University of Zagreb, Faculty of Electrical Engineering and Computing, Zagreb, Croatia)
- 19 Multivariate Methods in the Synthesis of the Elements of Virtual Power Plants**
Ivan Vrca (HEP Proizvodnja d.o.o., Đale Hydro Power Plant, Croatia)
- 6 Lessons Learnt From the Pre-feasibility Study for Kenya's Nuclear Power Programme**
Humphrey Lumadede Mudoga (Kenya Industrial Research & Development Institute, Nairobi, Kenya)

Renewable Energy Sources I

Tuesday, 24th September, 16:30 – 18:00, Šipun Hall

Chair: **Hubert Bašić**, (HEP Renewable Energy Sources Ltd., Zagreb, Croatia)

- 36 Selected Problems of RES development in Poland**
Waldemar Dolega (Institute of Electrical Power Engineering, Wrocław University of Technology, Wrocław, Poland)
- 56 Coupling Meso-to-Micro Model data for the Wind Energy Resource Mapping**
Hrvoje Keko (Energy Institute Hrvoje Požar, Zagreb, Croatia), Nikola Karadža (Energy Institute Hrvoje Požar, Zagreb, Croatia), László Horváth (Energy Institute Hrvoje Požar, Zagreb, Croatia) and Siniša Knežević (Energy Institute Hrvoje Požar, Zagreb, Croatia)
- 2 Wind Power Prediction and Coordination on Spatial and Temporal Scales**
Pan Yanhong (College of Electrical Engineering, Guangxi University, Nanning, China)
- 61 Renewable Energy Solutions Using Solar Energy**
Jovan Kotlica (ELKO, Canada/Montenegro), Zoran Mitrovic (University of Novi Sad, Faculty of Technical Science, Serbia) and Miomir Kotlica (KES International Ltd, Canada)

51 Renewable Energy Systems in the year 2050: the Case of South East Europe Region

Boris Ćosić (University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Zagreb, Croatia), Goran Krajačić (University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Zagreb, Croatia) and Neven Duić (University of Zagreb, Faculty of mechanical Engineering and Naval Architecture, Zagreb, Croatia)

WEDNESDAY, 25th September 2013

Keynote Speakers

Wednesday, 25th September, 09:00 – 10:30, Bobara Hall

Saulo Jose Nascimento Cisneiros (*Operador Nacional do Sistema Eletrico, Brazil*)

"Brazilian Experience in Large Wind Penetration in the Bulk Power System"

Ana Stanič (*E&A Law, Slovenia*)

"The EU Law Framework for Constructing New Gas Infrastructure in South East Europe"

Sponsors Presentations

Maschinenfabrik Reinhausen GmbH (MR), Germany



Special Presentation: "100 Years of HPP Kraljevac"

Igor Šodan, HEP Proizvodnja d.o.o., Croatia

Wednesday, 25th September, 10:30 – 11:00, Bobara Hall

Plenary Session II

Wednesday, 25th September, 11:30 – 13:00, Bobara Hall

Chair: **Thales M. Papazoglou**

49 Some Risks in Generation Expansion Planning on Electricity Market

Goran Slipac (HEP Renewables Company, Zagreb, Croatia), Damir Šljivac (J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Osijek, Croatia) and Srete Nikolovski (J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Osijek, Croatia)

47 Procurement and Settlement of Ancillary Services in Europe

Dániel Divényi (Budapest University of Technology and Economics, Department of Electric Power Engineering, Budapest, Hungary), Beáta Polgári (Budapest University of Technology and Economics, Department of Electric Power Engineering, Budapest, Hungary), Péter Sőrés (Budapest University of Technology and Economics, Department of Electric Power Engineering, Budapest, Hungary), Ákos Németh (Budapest University of Technology and Economics, Budapest, Hungary), Péter Rénes (Budapest University of Technology and Economics, Budapest, Hungary) and Péter Seres (Budapest University of Technology and Economics, Budapest, Hungary)

18 Regional Balancing Energy and Control Reserves Exchange as a Path to a Large-Scale Integration of Renewable Energy Sources in South East Europe

Tomislav Plavšić (TSO of Croatia, Zagreb, Croatia), Antun Andrić (TSO of Croatia, Zagreb, Croatia) and Ana Horvat (TSO of Croatia, Zagreb, Croatia)

25 Overview on Demand Side Management

Beáta Polgári (Budapest University of Technology and Economics, Department of Electric Power Engineering, Budapest, Hungary), Dávid Raisz (Budapest University of Technology and Economics, Department of Electric Power Engineering, Budapest, Hungary) and Bálint Hartmann (Budapest University of Technology and Economics, Department of Electric Power Engineering, Budapest, Hungary)

9 GIS and the Tough, Smart Grid

Bill Meehan (Utility Solutions at ESRI, USA)

Power System Planning and Analysis II

Wednesday, 25th September, 14:30 – 16:00, Bobara Hall

Chair: **Slavko Krajcar**, (University of Zagreb, Faculty of Electrical Engineering and Computing, Zagreb, Croatia)

15 Available Technologies and Measures for Providing Energy Supply Reliability

Dražena Kreković (INA Industrija nafte d.d, Zagreb, Croatia)

38 Liquefied Natural Gas Prospects in Cyprus

Antonis P. Papadakis (Frederick University, Department of Electrical Engineering, Nicosia, Cyprus) and Richard J. Barnes (Energoil Consulting Ltd, United Kingdom)

52 Role of Interconnection in Integrating Great Britain into Future European Low-Carbon System

Marko Aunedi (Department of Electrical and Electronic Engineering, Imperial College London, United Kingdom), Goran Strbac (Department of Electrical and Electronic Engineering, Imperial College London, United Kingdom), Danny Pudjianto (Department of Electrical and Electronic Engineering, Imperial College London, United Kingdom) and Predrag Djapic (Department of Electrical and Electronic Engineering, Imperial College London, United Kingdom)

43 EU Emissions Trading System Overview with Price Analysis of EUA

Filip Rendulić (HEP Trade Ltd., Zagreb, Croatia), Hrvoje Pirić (HEP Trade Ltd., Zagreb, Croatia), Josip Kajić (HEP Trade Ltd., Zagreb, Croatia), Marin Cerjan (HEP Trade Ltd., Zagreb, Croatia) and Marko Delimar (University of Zagreb, Faculty of Electrical Engineering and Computing, Zagreb, Croatia)

27 Available Transfer Capability Determination for Cross Border Energy Trading in Croatian Electric Power System

Krešimir Fekete (J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Osijek, Croatia), Goran Knežević (J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Osijek, Croatia) and Srete Nikolovski (J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Osijek, Croatia)

Algorithms and Optimization

Wednesday, 25th September, 14:30 – 16:00, Šipun Hall

Chair: **Bill Meehan**, (Utility Solutions at ESRI, USA)

17 **A Current Model of an SSSC for the Calculation of Power Flow in a Distribution Network**

Jerneja Bogovič (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia) **and** *Rafael Mihalič* (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia)

21 **Parametric Linear Programming Approach for Security-Economy Coordination Assessment of Power System Operation**

Xiaowen Lai (State Key Lab of Power Systems, Tsinghua University, Beijing, China), *Qixin Chen* (State Key Lab of Power Systems, Tsinghua University, Beijing, China), *Qing Xia* (State Key Lab of Power Systems, Tsinghua University, Beijing, China), *Zhantao Fan* (China Southern Power Grid, Guangdong Province, China), *Shizhi He* (China Southern Power Grid, Guangdong Province, China) **and** *Xiongwei He* (QCTC Technology Limited Company, Beijing, China)

28 **A Method for Optimizing LOLP Using WASP Planning Package**

Goran Slipac (HEP Renewables Company, Zagreb, Croatia), *Srete Nikolovski* (J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Osijek, Croatia) **and** *Damir Šljivac* (J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Osijek, Croatia)

10 **Two-Stage Model Transforming Technique for Security Constrained Unit Commitment towards Monthly Power Market Operation**

Zhaowei Geng (State Key Lab of Power Systems; Dept. of Electrical Engineering, Tsinghua University, Beijing, China), *Qixin Chen* (State Key Lab of Power Systems; Dept. of Electrical Engineering, Tsinghua University, Beijing, China), *Lei Shi* (North China Grid Company Limited, Beijing, China), *Jing Zhang* (North China Grid Company Limited, Beijing, China), *Jianxun Son* (North China Grid Company Limited, Beijing, China) **and** *Qing Xia* (State Key Lab of Power Systems; Dept. of Electrical Engineering, Tsinghua University, Beijing, China)

16 **Probabilistic Load Flow Method and Linearization of Power System**

Jerneja Bogovič (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia), *Gorazd Bone* (University of Ljubljana, Faculty of Electrical

Engineering, Ljubljana, Slovenia) and Rafael Mihalič (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia)

13 Long-term Energy Contract Decomposition Model and Multi-objective Coordination Method

Yufeng Cao (State Key Lab of Power System, Tsinghua University, Beijing, China), Qixin Chen (State Key Lab of Power Systems, Tsinghua University, Beijing, China), Lei Shi (North China Grid Company Limited, Beijing, China), Jing Zhang (North China Grid Company Limited, Beijing, China), Jianxun Song (North China Grid Company Limited, Beijing, China) and Qing Xia (State Key Lab of Power Systems, Tsinghua University, Beijing, China)

Power System Operation and Control II

Wednesday, 25th September, 16:30 – 18:00, Bobara Hall

*Chair: **Rafael Mihalič**, (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia)*

58 Analysis of Voltage Stability with Serial Controllable FACTS Devices

Samo Gašperič (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia) and Rafael Mihalič (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia)

24 Dynamic Rating of Overhead Lines for Real-Time Network Control and Market Support

Sovjetka Krstonjević (Institute Mihajlo Pupin, Belgrade, Serbia), Ninel Čukalevski (Institute Mihajlo Pupin, Belgrade, Serbia), Goran Jakupović (Institute Mihajlo Pupin, Belgrade, Serbia) and Suzana Cvetičanin (Institute Mihajlo Pupin, Belgrade, Serbia)

59 Partial Discharge Measurement in Generators and Motors

Miomir Kotlica (KES International Ltd, Canada) and Zoran Mitrovic (University of Novi Sad, Faculty of Technical Science, Serbia)

1 Using the Real Time Digital Simulator (RTDS) Hardware for Protection Relay Testing

Urban Rudež (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia) and Rafael Mihalič (University of Ljubljana, Faculty of Electrical Engineering, Ljubljana, Slovenia)

- 62 Simulator Based Operator Training For Restoring the Croatian Power System under Regard of HEP-OPS**
Ivan Mandić (DUtrain GmbH, Duisburg, Germany), Marinko Rogić (TSO of Croatia, Zagreb, Croatia), Udo Spanel (DUtrain GmbH, Duisburg, Germany) and Luka Špoljar (TSO of Croatia, Zagreb, Croatia)

Renewable Energy Sources II

Wednesday, 25th September, 16:30 – 18:00, Šipun Hall

Chair: **Mladen Zeljko**, (Energy Institute Hrvoje Požar, Zagreb, Croatia)

- 39 Cyprus Seasonal Temperature Effects on Thin Film Solar Cells Performance**
Charalambos P. Nicolaou (Frederick University, Department of Electrical Engineering, Nicosia, Cyprus) and Antonis P. Papadakis (Frederick University, Department of Electrical Engineering, Nicosia, Cyprus)
- 34 Promotion of Solar Energy in Mediterranean Basin. SHAAMS and DIDSOLIT - PB Projects**
Ioannis Vourdoubas (Technological Educational Institute of Crete, Greece)
- 48 Impact of Wind Generation on Hydro and Thermal Power Plants Production**
Dražen Jakšić (Energy Institute Hrvoje Požar, Zagreb, Croatia) and Hrvoje Keko (Energy Institute Hrvoje Požar, Zagreb, Croatia)
- 35 Utilisation of Energy Efficiency and Renewable Energy Sources in Urban Areas – Case Study City of Ljubljana, Trends up to 2050**
Boris Sučić (Jozef Stefan Institute, Ljubljana, Slovenia), Matevz Pusnik (Jozef Stefan Institute, Ljubljana, Slovenia), Matjaz Cesen (Jozef Stefan Institute, Ljubljana, Slovenia) and Stane Merse (Jozef Stefan Institute, Ljubljana, Slovenia)
- 44 Energy Management System in Hybrid Power Supply Systems**
Ivan Cvrk (Končar Electrical Engineering Institute, Zagreb, Croatia), Zvonimir Meštrović (Končar Electrical Engineering Institute, Zagreb, Croatia), Branislav Radanović (Končar Electrical Engineering Institute, Zagreb, Croatia) and Alan Šegota (VIPnet d.o.o., Zagreb, Croatia)

Conference Venue

Cavtat is the largest and the only urban centre in Konavle that has been built up deliberately. It is located on the peninsula of Rat, which surrounds the well protected and accessible bay together with the peninsula of Sustjepan. In its harmonious architecture, the centuries-old natural, spiritual and material affiliation to the Dubrovnik Republic can be observed.



Cavtat, the antique Epidaurus, was an important Roman colony in southeast Adriatic, which expires after the breakthrough of the Slavs and the Avarians into this area after the decline of the Western Roman Empire. In historical sources, Cavtat is also mentioned with the name Ragusa Vecchia, what clearly testifies to the connection to Dubrovnik. In the times of the Dubrovnik Republic, Cavtat was the second most important seaport, place of trade and of administration in the Republic after Dubrovnik.



Places like Cavtat offering so much to the visitors are quite rare. Its scenery, the rich cultural and historical heritage along with the range of services offered to tourists meet the demands of the present day tourists, thus making it one of the most attractive destinations on the Adriatic coast. Cavtat is located between the magic city of Dubrovnik on one side and beautiful Konavle on the other. There one can still feel the spirit of the past

time and experience the centuries old tradition of our ancestors. It is an ideal holiday resort. Each visitor can discover his own wishes, enjoy the hidden coves at peace, long walks at the seaside or spend active holidays going in for recreational sports and entertaining cultural programmes.

Conference Special Events

Exhibition dedicated to 100th Anniversary of Kraljevac Hydro Power Plant:

“Cetina River – From Source to Mouth” by Ivo Pervan

Boat Trip Cavtat – Dubrovnik –Cavtat – 24th September 2013

In collaboration with tourist agency Adria Congress, DEMSEE local organizing committee is organizing dinner sponsored by HEP during boat trip on 24th September. The boat trip will begin in Cavtat and continue towards Dubrovnik with a tour of bay of Župa Dubrovačka and its known places Plat, Srebreno, Mlini and Kupari. While approaching to Dubrovnik port, guests will enjoy in beautiful view on Lokrum island, Betina cave and numerous beaches. Lokrum is a special reserve of forest vegetation under the protection of UNESCO and Betina cave offers natural beauty, shade and a gorgeous beach and it is a perfect getaway from the crowds in the summer months.



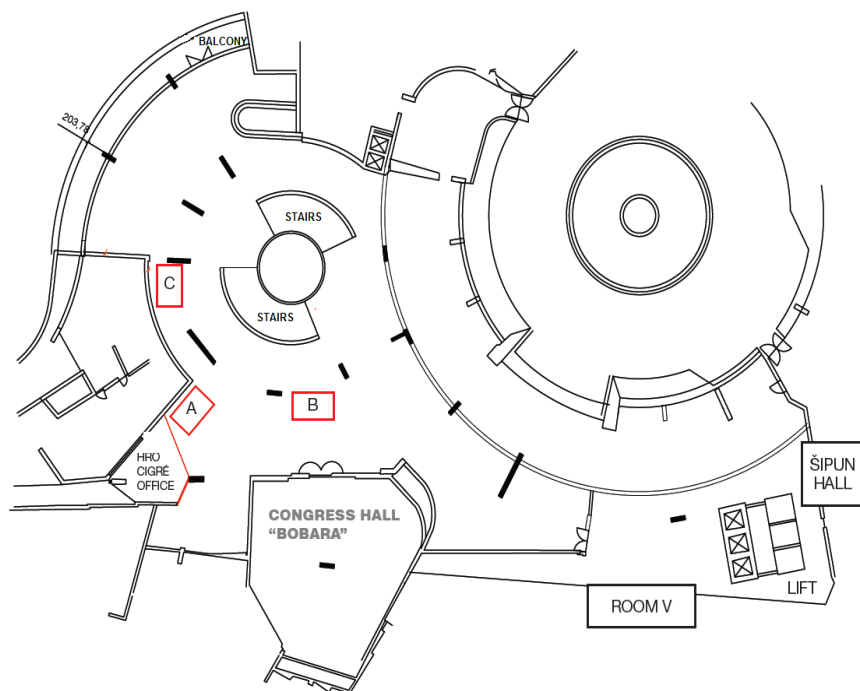
The trip will continue towards Dubrovnik port. By sailing along the medieval city walls the trip will end with beautiful view on Lovrijenac, fortress well-known by the play Hamlet which is played during the Dubrovnik Summer Festival and many other exclusive happenings. The same route is planned for return to Cavtat.

During this beautiful and worthwhile tour, guests will enjoy in traditional Dalmatian food and beverages accompanied with the sounds of Croatian traditional harmony singing group.



Map of Hotel Croatia – First Floor

Conference presentations will be held in **Bobara Hall** and **Šipun Hall**. Technical exhibitions and registration desk will be located in front of Bobara Hall.



A – Registration and Information Desk

B – KONČAR – Power Plant and Electric Traction Engineering Inc.

C – Maschinenfabrik Reinhausen GmbH

Useful Information

Local transport

Cavtat is connected with Dubrovnik by a local bus line which is scheduled every thirty minutes. Taxi service is also at your disposal. There are taxi stops in the Cavtat bus station and the airport in Čilipi.

For more on local lines please visit: www.libertasdubrovnik.com.

Currency and payments

Croatian currency is kuna (HRK/kn). 1 kuna = 100 lipas.

Payments: You can use only kunas as means of payment, and money can be exchanged in numerous banks, exchange offices, post offices and hotels.

Banks: Banks are open in Cavtat from Monday till Friday whole day and on Saturday mornings. There are also many cash machines in Cavtat, Dubrovnik Airport, Čilipi and Gruda.

Working hours

The majority of shops and supermarkets are open from 8 AM till 8 PM and on Saturday mornings. During the summer season, most shops have extended working hours, including Sundays.

Important Phone Numbers

Country code for Croatia is +385.

Area code for Cavtat, all settlements in Konavle and the Dubrovnik-Neretva County is 020. In case you are calling from abroad, you must leave out 0 from the area code, so just dial +385 20.

- Dubrovnik Airport: +385 20 773 100,
- General Information: 18981,
- General emergency services number: 112

Standard voltage and frequency

220 V, 50 Hz.

For more detailed information please visit <http://visit.cavtat-konavle.com>.

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