



Conference Programme

Monday, 30 May

11:00 – 12:00 **Registration (Congress Hall)**

12:00 – 12:30 **Opening and Welcome**

12:30 – 13:30 **Plenary Session**

**Co-chairmen: Iony Patriota de Siqueira (CIGRE SC B5 / Tecnix Engenharia
Arquitetura e Representação Ltda, Brazil), Andrei V. Zhukov (SO UPS, Russia)**

*Iony Patriota de Siqueira (CIGRE SC B5 / Tecnix Engenharia Arquitetura e Representação Ltda,
Brazil)*

CIGRE Study Committee B5 'Protection and Automation' and its Mission

Goda S. Nudelman (VNIIR, Russia)

Russian Study Committee B5: Current Activities and Future Goals

Victor I. Pulyaev (FGC UES, Russia)

**Technical Requirements for Relay Protection and Automation Systems of the
Unified National Electric Network**

Andrei V. Zhukov (SO UPS, Russia)

**WAM Technology Development for Power System Emergency and Dynamics
Control**

13:30 – 15:00 **Lunch (Atrium Restaurant)**

15:00 – 16:30 **CIGRE Study Committee B5 Workshop:**

Reliability-Centered Maintenance of IEC 61850 Based Systems

**Chairman: Iony Patriota de Siqueira (CIGRE SC B5 / Tecnix Engenharia
Arquitetura e Representação Ltda, Brazil)**

16:30 – 17:00 **Coffee-break**

17:00 – 18:30 **CIGRE Study Committee B5 Workshop:**

Reliability-Centered Maintenance of IEC 61850 Based Systems

**Chairman: Iony Patriota de Siqueira (CIGRE SC B5 / Tecnix Engenharia
Arquitetura e Representação Ltda, Brazil)**

19:00 – 21:00 **Welcome Reception (Atrium Restaurant)**

Tuesday, 31 May

9:00 – 10:30 **Session 1.1: Modern Relay Protection and Automation Systems:
Architecture Ideology and Conceptual Issues of Their Development**

**Co-chairmen: Janez Zakonjsek (Relarte Ltd., Slovenia), Victor I. Pulyaev
(FGC UES, Russia)**

PS1 – S1-01 *Johann Jäger (Friedrich-Alexander University Erlangen-Nuremberg, Germany), Chris O. Heyde, Rainer Krebs (Siemens AG, Germany)*

Protection Security Assessment Using Automated Fingerprint Analysis

PS1 – S1-02 *Alexander Apostolov (OMICRON electronics, USA)*

IEC 61850 Based Bus Protection Applications

PS1 – S1-03 *Oleg I. Bagleybter, Sankara Subramanian (ALSTOM Grid, UK)*

Using Transient Biasing to Reduce CT Requirements of Current Differential Protection

PS1 – S1-04 *Zoran Gajić, Joseph Menezes (ABB SA Products, Sweden), Dušan Trišić, Mijodrag Čitaković (PD Drinsko-Limske HPP, Bajina Bašta, Serbia)*

Integrated Protection Scheme for Pump-Storage Hydroelectric Power Plant

PS1 – S1-05 *Tatiana G. Klimova, (MPEI, Russia), Anton I. Rascheplyayev (SO UPS, Russia)*

Improvement of Transients' Parameters Evaluation Algorithms for Relay Protection and Automation with Use of Modern Methods of Digital Signal Processing

10:30 – 11:00 **Coffee-break**

11:00 – 12:30 **Session 1.2: Modern Relay Protection and Automation Systems: Architecture Ideology and Conceptual Issues of Their Development**
Co-chairmen: Zoran Gajić (ABB SA Products, Sweden), Victor S. Vorobyev (SO UPS, Russia)

PS1 – S1-06 *Alexander L. Kulikov, Alexander N. Klyukin (FGC UES Affiliate – the Nizhny Novgorod PMES, Russia)*

Statistical Effectiveness Increase Methods of Relay Protection Tools

PS1 – S1-07 *Yuri Ya. Ljarmets (Chuvashia State University, Russia), Goda S. Nudelman (VNIIR, Russia), Yury V. Romanov, Mikhail V. Martynov, Pavel I. Voronov (Research Center BRESLER, Russia)*

Multidimensional Relay Protection Architecture

PS1 – S1-08 *Misrikhan Sh. Misrikhanov, Alexander L. Kulikov, Andrei A. Petrukhin, Artem S. Svechnikov (FGC UES, Russia)*

Information Supply for a Monitoring System of the Distributed Parameters of Power Lines on the Basis of Reflectometers

PS1 – S1-09 *Vladimir I. Nagay, Alexander V. Ukrainev, Vladimir V. Nagay, Sergei V. Saray, Gennady N. Chmihalov (South-Russian State Technical University, Russia)*

Appraisal Possibility of the Developing Faults Recognition

PS1 – S1-10 *Andrei N. Podshivalin, Sergei V. Ivanov (Research Center BRESLER, Russia)*

Modern Circuit Breaker Protection and Control

12:30 – 14:00 **Lunch (Atrium Restaurant)**

14:00 – 15:30 **Session 2.1: Current Practices and Development of WAM and WAC Systems**
Co-chairmen: Jorge M. Ordacgi F. (ONS, Brazil), Andrei V. Zhukov (SO UPS, Russia)

PS5 – S2-01 *Jorge M. Ordacgi F. (ONS, Brazil), Iony P. de Siqueira (Companhia Hidroeletrica do Sao Francisco – CHESF, Brazil), Rui M. de Moraes (UFF/ONS, Brazil), Raul B. Sollero (Cepel, Brazil)*

Structure of Data and Information for Protection, Automation, Control and Operation Applications

- PS5 – S2-02 *Alexander Apostolov, Benton Vandiver (OMICRON electronics, USA)*
Functional Testing of System Integrity Protection Schemes
- PS5 – S2-03 *Andrei V. Zhukov, Yury A. Kulikov (SO UPS, Russia), Andrei S. Gerasimov, Arkadiy H. Esipovich (NIIPT, Russia)*
Program of Dynamic Testing of Phasor Measurement Units Using the Physical Model of the Power System
- PS5 – S2-04 *Tadeja Babnik (ELPROS, Slovenia), Kay Görner (TU Dortmund University, Germany), Bojan Mahkovec (ELPROS, Slovenia), Christian Rehtanz (TU Dortmund University, Germany)*
Large Scale Wide Area Measurement System
- 15:30 – 16:00** **Coffee-break**
- 16:00 – 18:00** **Session 2.2: Current Practices and Development of WAM and WAC Systems**
Co-chairmen: Iony Patriota de Siqueira (CIGRE SC B5 / Tecnix Engenharia Arquitetura e Represetação Ltda, Brazil), Yury A. Kulikov (SO UPS, Russia)
- PS5 – S2-05 *Markus Wache (Siemens AG, Germany), Holger Kuehn (Transpower, Germany), Chris O. Heyde, Rainer Krebs (Siemens AG, Germany)*
Synchro-Phasor Measurement – German Experiences
- PS5 – S2-06 *Harmeet Kang, M. Bazargan, C. Mycock (ALSTOM Grid, UK)*
Improving Stability through Wide Area Measurements
- PS5 – S2-07 *Anna M. Glazunova, Irina N. Kolosok, Elena S. Korkina (Melentiev Energy Systems Institute SB RAS, Russia)*
Monitoring of Power System Operating Conditions with the Methods of Distributed and Dynamic State Estimation
- PS5 – S2-08 *Charles H. Wells (OSIsoft, LLC, USA)*
Early Detection of Islanding and Real Time Modal Damping Calculations Using Time Synchronized Data from Highly Reliable PMU Systems
- PS5 – S2-09 *Alexander G. Fishov, Anton I. Dehterev, Darya V. Tutundaeva (Novosibirsk State Technical University, Russia)*
Monitoring Stability Reserve of Power Systems on the Base of the Identifications of the Generator Admittance Matrix for Electro Mutiveforce (EMF)

Wednesday, 1 June

9:00 – 10:30

Congress Hall

Session 3.1: Modern Relay Protection and Automation Systems: Architecture Ideology and Conceptual Issues of Their Development
Co-chairmen: Zoran Gajić (ABB SA Products, Sweden), Vladimir I. Nagay (South-Russian State Technical University, Russia)

- PS1 – S3-01 *Zoran Gajić, Joseph Menezes (ABB SA Products, Sweden), Trond Mjøs (E-CO Vannkraft AS, Norway), Arne Wolden, Lars Elseth, Arne Graftas (ABB AS, Norway)*
Overall Differential Protection for Pump Storage Power Plant with Tapped-Delta Design of the Unit Transformer
- PS1 – S3-02 *Sankara Subramanian, Krishnakumar Venkataraman (ALSTOM Grid, UK)*
Detection of High Impedance Fault in MV Distribution System

- PS1 – S3-03 Stanimir T. Vitchev (Technical University, Bulgaria), Veselin N. Gabrovski (ROCON Research Center, Bulgaria)
Earth Faults in Isolated and Compensated Medium Voltage Networks and Their Identification with Numerical Protection Relays
- PS1 – S3-04 Vladimir A. Shuin, Olga A. Sarbeeva, Elena S. Shagurina (Ivanovo State Power University, Russia)
Information Parameters of Transient Electrical Values to Use for Earth-Fault Protection of Medium-Voltage Electrical Networks
- PS1 – S3-05 Tony H. Yip, Graeme J. Lloyd, Sharaf Hosseini, Mariela Moscoso, Kevin Liu (ALSTOM Grid, UK)
Operation and Design of a Protection Relay for Transformer Condition Monitoring
- PS1 – S3-06 Valery K. Vanin, Maxim G. Popov, Stanislav O. Popov (Saint Petersburg State Polytechnic University, Russia)
Sensitivity and Operation Speed of Protection Equipment and Power Transformers' Emergency Control Increase

9:00 – 10:30

Red Hall BC

Session 4: Modern Trends in Development of Power System Control under Normal and Emergency Operating Conditions

Co-chairmen: Iony Patriota de Siqueira (CIGRE SC B5 / Tecnix Engenharia Arquitetura e Represetação Ltda, Brazil), Lev A. Koshcheev (NIIPT, Russia)

- PS2 – S4-01 Vladilen A. Andreyuk, Tamara A. Guschina (NIIPT, Russia), Anatoly T. Demchuk, Andrei V. Zhukov (SO UPS, Russia)
Management of Operating Conditions and Emergency Control of Power Units
- PS2 – S4-02 Vladimir V. Vasiliev (Power System Automation Institute, Russia)
Adaptive Load Shedding of Energy Unit under Meaning Active and Reactive Power Shortages
- PS2 – S4-03 Nikolay I. Voropai (Melentiev Energy Systems Institute SB RAS, Russia), Christian Rehtanz (Technical University of Dortmund, Germany)
Coordination of Operation and Emergency Control of Joint Power Grids
- PS2 – S4-04 Nina A. Selezneva (ENERGOSETPROJECT Institute, Russia), Pavel V. Ilyushin (MRSK Holding, Russia), Alexei I. Barbetov (Enera Engineering, CG Optima' Russia)
Line Overload Limitation Automation
- PS2 – S4-05 Arkadiy K. Landman, Alexander M. Petrov, Alexei E. Petrov, Oskar O. Sakayev (Power System Automation Institute, Russia), Anatoly F. Zadorozhnyi, Mikhail S. Tarkov (University of Semiconductors Physics SB RAS, Russia)
Use of Fault-Resistant Distributed Computation Systems for Power Systems Control
- PS2 – S4-06 V.G. Kurbatsky, D.V. Sidorov, V.A. Spiryayev, N.V. Tomin (Melentiev Energy Systems Institute SB RAS, Russia)
Short-Term Forecasting Parameters of EPS for Systems of Operating and Emergency Control

10:30 – 11:00

Coffee-break

11:00 – 12:30

Congress Hall

Session 3.2: Modern Relay Protection and Automation Systems: Architecture Ideology and Conceptual Issues of Their Development

Co-chairmen: Zoran Gajić (ABB SA Products, Sweden), Victor I. Pulyaev (FGC UES, Russia)

- PS1 – S3-07 *Alexander V. Bulychev, Alexander A. Navolochny, Goda S. Nudelman (VNIIR, Russia)*
Operational Requirements for Primary Signal Transducers for New Generation of Relay Protection
- PS1 – S3-08 *Ivan V. Nagay (South-Russian State Technical University, Russia)*
Providing Remote Backup Functions of Relay Protection of Transformers in the Direct and Quadrature Axis Dissymmetry
- PS1 – S3-09 *Valery A. Efremov, Sergei V. Ivanov (Research Center BRESLER, Russia), Dmitry V. Shabanov (FGC UES, Russia)*
Design Typifications for Transmission Lines Relay Protection and Automation
- PS1 – S3-10 *Vladimir A. Naumov, Felix L. Kogan, Vladimir S. Petrov, Dmitry S. Shukin (EKRA Ltd., Russia)*
Modelling of Electrical Power System Equipment on Program and Technical Complex RTDS for Testing and Configuration of Relay Protection and Automation Devices
- PS1 – S3-11 *Goda S. Nudelman, Olga A. Onisova, Alexander A. Navolochny (VNIIR, Russia)*
Simulation of Power System Conditions for Relay Protection and Automation Tasks
- PS1 – S3-12 *Konstantin I. Nikitin, Maxim M. Sarychev (Omsk State Technical University, Russia)*
Accident Precaution in Electric Power Systems at the Expense of Forecasting of Damages of Electric Installations

11:00 – 12:30

Red Hall BC

Session 5: Smart Grid Solutions for Control and Protection of HV and EHV Networks

Co-chairmen: Janez Zakonjsek (Relarte Ltd., Slovenia), Anatoly T. Demchuk (SO UPS, Russia)

- PS4 – S5-01 *Jie Ding, Yimin Ni, Haidong Zhang, Xiaobin Hua (State Grid Electric Power Research Institute, China)*
A Study of Key Technology and Implementation Structures for Smart Substation
- PS4 – S5-02 *Tony H. Yip, Chang An, Gordon Millar, Graeme J. Lloyd (ALSTOM Grid, UK)*
Smart Algorithms to Accommodate Distributed Generation in the Grid
- PS4 – S5-03 *Evgeniy N. Kolobrodov (MPEI, Russia), Janez Zakonjsek (Relarte Ltd., Slovenia)*
Traditional Algorithms and New Decisions in Regulation of TCSC
- PS4 – S5-04 *Bapuji S. Palki (ABB Ltd., India), Janez Zakonjsek (Relarte Ltd., Slovenia)*
Worldwide Survey Results of Questionnaire on Practices Pertaining to Protection, Control, and Monitoring of Series Compensated and Adjacent Lines

12:30 – 14:00

Lunch (Atrium Restaurant)

14:00 – 15:30

Congress Hall

Session 6: Current Practices and Development of WAM and WAC Systems

Co-chairmen: Alexander Apostolov (OMICRON electronics, USA), Yury A. Kulikov (SO UPS, Russia)

- PS5 – S6-01 *Jako Kilter (Elering OÜ, Estonia), Alexei N. Goloshchapov (PARMA Ltd., Russia), Bojan Mahkovec (ELPROS, Slovenia)*
Estonian WAMS System – Implementation and Experiences

PS5 – S6-02 Roy Moxley, Greg Rzepka, Eren Ersonmez, Bill Flerchinger (Schweitzer Engineering Laboratories, Inc., USA)

Applying All the Available Synchrophasor Information

PS5 – S6-03 Andrei V. Zhukov (SO UPS, Russia), Alexander M. Gelfand, S.V. Brovko, Valeria V. Kurmak, Vladimir G. Narovljansky (ENERGOSETPROJECT Institute, Russia)

Development of Wide Area Measurement System (WAMS) in the Ural IPS for Mode Stress Estimation. Approaches and Decisions

PS5 – S6-04 Ivan E. Naumkin, Mikhail A. Balabin, Nicolay B. Lavrushenko, Roman I. Naumkin (Siberian Electric Power Research Institute (Branch of R&D Center for Power Engineering), Russia)

Usage of Information Obtained from PMU-Type Synchronized Measurement Devices to Estimate Parameters of Complete Mathematical Model of Power System

PS5 – S6-05 Alexei A. Nebera (RTSoft, Russia)

Applied Problems of Synchrophasor Measurements

PS5 – S6-06 Andrei N. Pokidyshev (PARMA Ltd., Russia), Pavel N. Kazakov (RTSoft, Russia)

Vision of Standard C37.118 by PMU Developers

15:30 – 16:00 **Coffee-break**

16:00 – 18:00

Congress Hall Lobby

Poster Session

PS2 – Poster-01 Jorge Cardenas, Alberto López de Viñaspre, Andrea López, Juan Ruiz (GE Digital Energy Multilin, Spain), Fatih Koksai, Hayrettin Aycin (TEIAS, Turkey), Francesco Iliceto (Rome University "La Sapienza", Italy)

Implementation of a Special Protection System (SPS) in the Interconnection between the Turkish and ENTSO-E Power Systems to Counteract Propagation of Major Disturbances

PS1 – Poster-02 Normann Fischer, Bogdan Kasztenny, Roy Moxley, Greg Rzepka (Schweitzer Engineering Laboratories, Inc., USA)

Protection System Design and Application Considerations for Advanced Line Differential Relaying

PS1 – Poster-03 Rich Hunt, Jorge Cardenas (GE Digital Energy Multilin, USA, Spain)

Impact of CT Errors on Protective Relays – Case Studies and Analysis

PS3 – Poster-04 Alberto López de Viñaspre, Juan Ruiz, Imanol Díaz, Andrea López (GE Digital Energy, Spain), Ziv Nir, Vitali Trakhtenhertz (Israel Electric Corp., Israel)

Advanced Load Shedding, Load Restoration and Substation Control Schemes based on IEC 61850 in Distribution Substations

PS1 – Poster-05 Sankara Subramanian, Oleg I. Bagleybter, P. Horton (ALSTOM Grid, UK)

Delta Directional Comparison Principle Enhances Transmission Line Protection

PS1 – Poster-06 Tony H. Yip, Mariela Moscoso, Graeme J. Lloyd, Kevin Liu, Zheng Wang (Alstom Grid, UK)

Improvements to Transformer Differential Protection – Design and Test Experience

PS5 – Poster-07 Andrei I. Bashlyayev, Alexei N. Goloshchapov, Dmytry V. Sulimov (PARMA Ltd., Russia)

Wide Area Monitoring System in Northwest Power System on the Base of Modernized Digital Disturbance Recorder

PS2 – Poster-08 Vladimir E. Glazirin (Power System Automation Institute, Russia), Gleb V. Glazirin, Oleg V. Tanfiliev (Novosibirsk State Technical University, Russia)

The Distance Principle Implementation in Microprocessor Out-of-Step Protection

- PS3 – Poster-09 *Tatiana G. Gorelik, Oleg V. Kirienco, Igor E. Kumetz (NIIPT, Russia)*
IEC 61850 Intellectual Devices Stand Tests in JSC «NIIPT»
- PS2 – Poster-10 *Andrei V. Zhukov (SO UPS, Russia), Misrikhan Sh. Misrikhanov, Vladimir N. Ryabchenko (FGC UES, Russia)*
New Efficient Recursive Algorithms for Estimating the State, Controllability and Observability of Large Power Systems
- PS5 – Poster-11 *Pavel N. Kazakov (RTSoft, Russia)*
Development of Capabilities of Phasor Measurement Devices and SMART-WAMS Complexes
- PS2 – Poster-12 *Nikolay V. Korovkin, Olga N. Sokolova, Eugeniy V. Sorokin, Oleg V. Frolov (NIIPT, Russia)*
Optimization Principles of the Control Actions of the Emergency Control System
- PS1 – Poster-13 *Nicolay N. Kurguzov, Liudmila I. Kurguzova (Pavlodar State University, Kazakhstan), Marina N. Kurguzova, Eugeniy V. Nikolsky (Electrical Design Institute TELPRO, Kazakhstan)*
Characteristics of Input Signals of Protection of Alternating Current Electric Motor in Transient and Steady States
- PS2 – Poster-14 *Yan L. Artsishevsky, Tatiana G. Klimova, Boris K. Maximov, Anton I. Rascheplyaev (MPEI, Russia), Denis M. Zhuravlev (VNIIR, Russia)*
Application of Hyperphasor Representation of Transients' Parameters during Analysis of UPS Operation Modes
- PS5 – Poster-15 *Alexei V. Mokeev (Saint Petersburg State Polytechnic University, Russia)*
Signal Processing Algorithms for Intelligent Electronic Devices Using Phasor Measurement Technology
- PS1 – Poster-16 *Konstantin I. Nikitin (Omsk State Technical University, Russia)*
Definition of Direction of Capacity Current's Protection with One Entrance Parameter
- PS1 – Poster-17 *Konstantin I. Nikitin (Omsk State Technical University, Russia)*
Definition of the Damaged Feeder and Place of Single Phase to Ground Fault in a Network with the Isolated Neutral
- PS3 – Poster-18 *Ivan N. Nikolaev, Nikolay V. Podshivalin (Research Centre BRESLER, Russia)*
IEC 61850 Implementation Aspects in Research Centre «BRESLER» Devices
- PS5 – Poster-19 *Daniil A. Panasetsky, Alexei B. Osak, Nikolay I. Voropai (Melentiev Energy Systems Institute SB RAS, Russia)*
Distributed Load Shedding Algorithm for the Control of Active Power Flows
- PS2 – Poster-20 *Maxim G. Popov, A.V. Bessolicin (Saint Petersburg State Polytechnic University, Russia), O.A. Novoselova (Vyatka State University, Russia)*
Distance to a Transmission Lines Damage Place Numerical Calculation Field Method
- PS1 – Poster-21 *Vladimir A. Shuin, Olga A. Sarbeeva, Elena S. Shagurina (Ivanovo State Power University, Russia), Alexander L. Kulikov, Andrei A. Petrukhin (FGC UES Affiliate – the Nizhniy Novgorod PMES, Russia)*
Centralized System of Selective Signaling of Earth Fault and Insulation Diagnostics of Medium Voltage Distribution Networks
- PS3 – Poster-22 *Michael Shulim (ReLab Software LLC, USA), Nikolay S. Gribakin (DC BARS Ltd., Russia)*
IEC 61850 Practical Application at Energy Facilities

19:00 – 21:00 Official Dinner (Atrium Restaurant)

Thursday, 2 June

9:00 – 10:30 **Session 7.1: IEC 61850: Up-To-Date Experience and Implementation Issues**

Co-chairmen: Hans-Joachim Herrmann (Siemens AG, Germany), Goda S. Nudelman (VNIIR, Russia)

- PS3 – S7-01 *Jorge Cardenas, Iñaki Ojanguren, Ignacio Garcés (GE Digital Energy, Iberdrola, Spain)*
IEC61850 9-2 Process Bus: Operational Experiences in a Real Environment
- PS3 – S7-02 *Jorge Cardenas, George Mikhael, Juan Moya (GE Digital Energy, Spain)*
Distributed Automatic Transfer Bus and Restoration Using IEC61850
- PS3 – S7-03 *Alexander Apostolov (OMICRON electronics, USA)*
Requirements for Modeling of Advanced Distance Protection IEDs
- PS3 – S7-04 *Henry Dawidczak, Thierry Dufaure, Heiko Englert (Siemens AG, Germany)*
The Way of Migration of IEC61850 Edition 1 and Edition 2 in Projects and Implementations
- PS3 – S7-05 *Henry Dawidczak, Thierry Dufaure, Heiko Englert (Siemens AG, Germany)*
Testing in IEC 61850 Edition 2

10:30 – 11:00 **Coffee-break**

11:00 – 12:30 **Session 7.2: IEC 61850: Up-To-Date Experience and Implementation Issues**

Co-chairmen: Hans-Joachim Herrmann (Siemens AG, Germany). Goda S. Nudelman (VNIIR, Russia)

- PS3 – S7-06 *Hans-Joachim Herrmann, G. Steynberg (Siemens AG, Energy Automation, Germany)*
IEC 61850 Impact on the Configuration of Protection Functions
- PS3 – S7-07 *Alvaro T.A. Pereira, Joenildo C.B. Ferreira (Companhia Hidroeletrica do Sao Francisco – CHESF, Brazil)*
Integration of New IEC 61.850 Based SAS to Legacy Systems
- PS3 – S7-08 *Tatiana G. Gorelik, Oleg V. Kirienko, Gaziz A. Kugushev (NIIPT, Russia)*
All-Digital Substation Design Automation Based on IEC 61850, 61131, 61499 Standards
- PS3 – S7-09 *Alla A. Grigorieva, Alena V. Grigorieva (EKRA Ltd., Russia)*
Experience of Implementation of IEC 61850 Standard in BE2704 Protections by EKRA
- PS3 – S7-10 *Boris S. Zaitsev, Nikolay M. Aleksandrov (NPP Dinamika LLC, Russia)*
Actual Aspects of IEC 61850 Standard Compliant Relay Protection and Automation Devices Complex Testing

12:30 – 14:00 **Lunch (Atrium Restaurant)**

14:00 – 15:30 **Round Table: Power System Control for the Future** **Moderator: Janez Zakonjsek (Relarte Ltd., Slovenia)** **Speakers:**

Goda S. Nudelman (VNIIR, Russia)
Jorge M. Ordacgi F. (ONS, Brazil)
Victor I. Pulyaev (FGC UES, Russia)
Andrei V. Zhukov (SO UPS, Russia)

15:30 – 16:00 **Coffee-break**

16:00 – 18:00 **Session 8: Modern Trends in Development of Power System Control under Normal and Emergency Operating Conditions**
Co-chairmen: Jorge M. Ordacgi F. (ONS, Brazil), Andrei A. Lysitsin (NIIPT, Russia)

PS2 – S8-01 *Chris O. Heyde, Rainer Krebs (Siemens AG, Germany)*

Dynamic Network and Protection Security of Transmission Systems

PS2 – S8-02 *Edwin Lerch, Chris O. Heyde, Rainer Krebs, Olaf Ruhle (Siemens AG, Germany)*

Dynamic Network Security Assessment – Ranking of System Contingencies

PS2 – S8-03 *Chris O. Heyde, Rainer Krebs (Siemens AG, Germany)*

Speed-Up Voltage Stability Assessment Using Cluster Computing

PS2 – S8-04 *Zhiying Zhang, Ilia Voloh (GE Digital Energy Multilin, Canada), Jorge Cardenas, Inigo Antiza (GE Digital Energy Multilin, Spain), Francesco Iliceto (Rome University "La Sapienza", Italy)*

Inter-Area Oscillation Detection by Modern Digital Relay

PS2 – S8-05 *Andrei V. Zhukov, Yury A. Kulikov (SO UPS, Russia), Andrei S. Gerasimov, Arkadiy H. Esipovich, Andrei N. Smirnov (NIIPT, Russia)*

Estimation of Reliability of Dynamic Models of Complex Power Systems with WAMS Data

PS2 – S8-06 *Oleg S. Borodin, Yury V. Ivanov, Konstantin I. Aprosin (Prosoft-Systems Ltd., Russia)*

Progress of Complexes of Local Emergency Control Automation

Closing Statement. Wrap up and Conclusions

Friday, 3 June

10:30 – 13:30 **Technical Visit: High Voltage Direct Current Power Transmission Research Institute (NIIPT)**

13:30 – 15:00 **Intermission (free time)**

15:00 – 18:00 **City Tour**