

TECHNICAL PROGRAMME

I. OPENING SESSION

Wednesday, 28th October
(10.00 - 13.00)

Chairman: R. Li (Mrs)
Rapporteur : J. Kowal

- 001 **Intermittent generation - operationally acceptable levels and the impact on system and market**
Ole Gjerde on behalf of JWG C2/C5-05
- 002 **Interdependencies of electricity markets with gas markets – a case study of transmission system operators**
A. di Caprio, L.A. Barroso on behalf of TF C-5.7.2
- 003 **Benchmarking : a challenge for TSOs and for regulators**
O. Lavoine, A. Taccon, J. Dejaegher
- 004 **The importance of customer satisfaction and good reputation for grid operators**
E. Fosby Livgard (Mrs)

I a. EXAMPLES OF UTILITY STRUCTURES

Wednesday, 28th October
(15.00 - 17.00)

Chairman: X. Lei
Rapporteur : A. Taccon

- 101 **Challenges of the Brazilian electricity sector in search of efficiency – a new vision - and prospective relationships between federal utilities and new companies in the Brazilian transmission system**
A.C.B. Martins, S.J.N. Cisneiros, P. Gomes, S.L.A. Sardinha, A.M.S. Oliveira, C.R. Zani, N. Martins, C. Ribeiro
- 102 **The Australian electricity system – sustaining the future**
D.G. Bowker
- 103 **Long-term grid expansion: Spanish plan 2030**
R. de Dios, J.F. Alonso, F. Soto
- 104 **Quality and reliability of electricity supply – the role of the regulators and the authorities on the liberalized electricity market**
J.Tüma, J. Šeřfránek, I. Chemišinec, J. Nečesany
- 105 **System reliability versus free electricity market**
M. Cernat
- 106 **The energy status and planning in China**
Y. Wu, X. Xu, L. Shao, J. Xiao

I b. SYSTEM DEVELOPMENT 1

Wednesday, 28th October
(15.00 - 17.00)

Chairman: H. Okamoto
Rapporteur : D. Bones

- 111 **Transmission capacity investments: a five-step process for cost-benefit and risk management analysis**
N. Damsgaard, P. Sonnerby, A. Lindholm
- 112 **Transmission planning in the Chilean electricity market**
J.C. Araneda, O. Martinez
- 113 **Expo Milano 2015: Grid planning and synergies for developing metropolitan transmission grid**
E.M. Carlini, C. Vergine, F. Vedovelli
- 114 **Determination and analysis of load cases for transmission systems planning**
G. Rechberger, A. Gaun, H. Renner
- 115 **Different reliability aspects for planning of local 110 kV grid**
A. Lähdetie, A. Reilander, L. Haarla
- 116 **A study on improving power supply capability for 500/220 kV power system in JIANGSU Province**
W. Qi, J. Huang, Z. Wang, H. Wang

II a. MARKET MECHANISMS-CONGESTION, ANCILLARY SERVICES, MERCHANT LINES

Thursday, 29th October
(8.30 - 10.30)

Chairman: C. Ray
Rapporteur : A. Ott

- 121 **Unbundling models for TSO activities –normative principles and practical application**
K. Petrov
- 122 **The role of merchant and regulated interconnectors in the European power market**
P. Giesbertz, S. Bruijns, D. Klaar, J. Van Putten, H. Egeland
- 123 **Development of a congestion management scheme in the Netherlands**
D. Klaar, S. Bruijns, K. Hommes
- 124 **Ancillary Services: Updated Review of International Practices - WG C5-6 report**
O. Lavoine on behalf of WG C5-6
- 125 **Ancillary Services in France**
O. Lavoine, C. Chabanne, P. Bertolini
- 126 **Ancillary services: the Brazilian experience**
D. de Oliveira Camponês do Brasil, R.J. Ribeiro Gomes da Silva, S. Cordeiro Sobral, J.C. Ferreira da Luz, L.R. Monteiro Regino
- 127 **Generation rights trade model and its applications based on energy-saving and emission-reducing**
J. Shang, L. Shi, F. Qu, Y. Ma, J. Li

II b. SYSTEM DEVELOPMENT 2

Thursday, 29th October
(8.30 - 10.30)

Chairman: O. Herz
Rapporteur : S. Lan

- 131 **For a coordination of the power system operation in Europe**
O. Arrivé, F. Boulet, P. de Leener
- 132 **Planning and operation of inter-regional interconnections after the electricity liberalization in Japan**
H. Okamoto, J. Naito
- 133 **Evaluation of transmission congestion cost for multi-area electric power systems**
K. Furusawa, K. Okada
- 134 **Power sector in Africa: situation and prospects**
A.D. Tella
- 135 **Approaches to generation dispatch in transmission planning**
P.J. Palermo
- 136 **Contract optimisation and market operation – A generator's perspective**
P. Tang, A. Callan

III a. MARKET MECHANISMS-GRID CODES, CONNECTION RULES, ADEQUA

Thursday, 29th October
(11.00 - 13.00)

Chairman: Q. Xia
Rapporteur : A. Di Caprio

- 141 **The grid code and the operation costs of connection facilities in Kepco**
J.M. Kim, S.H. Choi, S.K. Kim, S.K. Park
- 142 **Grid code – a way to guarantee system security**
P. Gomes, S.L.A. Sardinha, A.P. Guarini, G. Cardoso Jr
- 143 **Impacts of transmission/grid code on the planning of systems**
P. Wallace, S.B. Yusuf
- 144 **Impact on market designs on generation adequacy**
L. Meeus, P. Buijs, J-M. Coulondre, A. Ott, A. DiCaprio

145 The Japanese electricity market: a generation prospective

Y. Tsukamoto, M. Marmioli

146 Renewable energy - Market integration

J. Arceluz, A. Madurga

III b. SYSTEM ANALYSIS

Thursday, 29th October
(11.00 - 13.00)

Chairman: B. Joo-Cheon
Rapporteur : W. Xiaochen

151 Variation of operational reliability of power transmission system

J. Lamponen, L. Haarla

152 Cancelled - Experience of validating the oscillatory characteristics in northwest grid

W.F. Li, C.H. Liying, Z.H. Liu, F. Zhu, H.G. Zhao

153 Advanced power system models for transient stability analysis

J. Thusty, Z. Muller, V. Valouch, C. Qin

154 Inter-area power exchange coordination in the large- scale power systems

M.K. Kim, J.K. Park, Y.T. Yoon, Y.H. Moon

155 Cancelled -The definition and application of multi-infeed short circuit / ratio for AC/DC power systems

W. Lin, Y. Tang, G. Bu

156 Reliability analysis of bulk power system with an UHVDC connection

Z. Hu, H. Cheng, L. Yao, G. Qu, F. Rong, Z. Ma, Z. Zhu, L. Yang, R. Xu

157 Brazilian power system probabilistic reliability assessment - Planning studies

M. Alzira Noli Silveira, E. Araujo

IV a. ASSET MANAGEMENT

Thursday, 29th October
(15.00 - 17.00)

Chairman: S. Lianjun
Rapporteur : E. Rijks

161 Asset management for electrical systems in the Third World

E.S. Hill

162 The ideas of establishment of transformer replacement plan based on risk management

K. Tsumura, M. Fujioka, M. Yorozuoka

163 Risk assessment based maintenance management for electric equipment

M. Zhao, Z. Lu, S. Yu, W. Hu

164 Risk management in asset management processes

E. Rijks, G Sanchis, G. Ford on behalf of WG C1.16

165 CRADLE – A new asset management technology being developed in China

S. Yu, W. Hu, Z. Lu, S. Gao

166 Maintenance management in an electric power transmission company - Key technical indicators

R.J. Ferrelli

IV b. SYSTEM SECURITY

Thursday, 29th October
(15.00 - 17.00)

Chairman: O. Fosso
Rapporteur : B. Li

171 Cancelled -Research of short-term large-disturbance voltage stability in receiving-end grid

W. Zhong, Y. Tang

172 Security indexes for power system security assessment

E. Lerch

173 Risk assessment of transient voltage instability

S. Zhao, W. Zhong, D. Zhang, Y. Yin, X. Tang

174 Risk assessment for operations in the Portuguese transmission system - The key issues for the probability of contingencies

S. A. B. de Almeida, R. Pestana, F. P. Maciel Barbosa

175 Cancelled - Enterprise risk management - some guidelines for incremental and iterative implementation. Case study: Romanian TSO Transelectrica

C. G. Diaconu, S. L. Voronca

176 Wide area IP-based EMS/SCADA system flexible on grid operational structure reform under deregulation environment

M. Okubo, S. Tamura, S. Fukui

V a. SUSTAINABILITY, ENVIRONMENT, WIND INTEGRATION

Friday, 30th October
(8.30 - 10.30)

Chairman: M. Armstrong
Rapporteur : J.F. Alonso

181 Redefining sustainability in the electric power distribution context

E. Antila

182 Researching on relationship between electrical power market and energy-saving generation dispatch

T. Pen, M. Zhao, T. Lu, N.Yu

183 Cancelled -Reactive power planning in distribution power system with wind generator

C. Cai

184 Quantifying the benefits of distributed generation in the UK including the impact of energy policy

K. Qian, C. Zhou, M. Allan, Y. Yuan

185 Implementation of an eco-design methodology in AREVA T&D

W. Wang, N. Li, A. Beroual, S. Li, J-L. Bessedé

186 Cancelled - Probabilistic transmission expansion planning to better integrate renewables

L. Min, P. Zhang, M. Graham

187 New challenges on wind power operation and control in China

Z. Pei, C. Dong, Y. Xin

V b. SYSTEM CONTROL

Friday, 30th October
(8.30 - 10.30)

Chairman: F. Yongjie
Rapporteur : J. Vanzetta

191 A novel automatic voltage control on large power system

H. Li, S. Ma, J. Luo, Q. Guo, H. Sun, T. Lu

192 Coordinated control of a multi-terminal HVDC transmission system for integrating large offshore wind farms

L. Yao, L. Xu, M. Bazargan, R. Critchley

193 Application of electric power alarming and coordinated control system in Jiangsu power grid

S. Fei, Y. Xue, S. Ma, T. Xu, J. Luo, J. Xu, H. Li, Z. Meng

194 Korean wide-area monitoring system for maintaining real time voltage stability of metropolitan region in Korea using PMU measurements

S.Han, B.Lee, S.Kim, J. Kim, Y.Moon, J.Bae, J.M. Cho

195 Coordinated voltage control between CVC (continuous voltage control) and DVC (discrete voltage control) to enhance voltage stability in Jeju power system

T.K. Kim, J.H. Shin, J.M. Cho, J.C. Bae, S. Seo, Y.H. Choi, B. Lee

196 An improved association rules mining algorithm in fault diagnosis expert system of power system

Z. Li, X. Bai, Z. Zhou, J.Xu, X. Li, W. Zhao

VI. CLOSING SESSION: CONCLUSIONS, LEARNINGS, CLOSING

Friday, 30th October
(11.00 - 13.00)

Chairman: Phil Southwell