International Conference on Power & Energy

Day 1: March 19, 2014

PE-SS1: Advanced Control and Operation in Smart Grid			
Chair: Komsan Hongesombut, Kasetsart University, Thailand			
Room: Cattleya 1-2, 15.20 – 17.20			
Time	**Paper ID**	**Title**	**Authors**
15:20-15:40	0063	Robust Stabilization of Multimachine Power System by DFIG Wind Turbine Equipped with Power Oscillation Damper	Tossaporn Surinkaew and Issarachai Ngamroo, King Mongkut's Institute of Technology Ladkrabang, Thailand
15:40-16:00	0168	Control Strategy of PEVs Charging for Reducing the Impact of Power Fluctuations in Micro Grid	Montree Sengnongban and Sanchai Dechanupaprittha, Kasetsart University, Thailand
16:00-16:20	0087	Wide-Area Power System Control Using Thyristor Controlled Series Capacitor Based Fuzzy Logic Controller Designed by Observed Signals	Sarawut Wivutbudsiri, Komsan Hongesombut, and Jantanee Rungrangpitayagon, Kasetsart University, Thailand
16:20-16:40	0015	A Decentralized Distribution Power System Restoration by using Multi-agent Approach	Takeshi Nagata and Kazuya Okamoto, Hiroshima Institute of Technology, Japan
16:40-17:00	0082	Robust Control of Combined Optimized Resistive FCL and ECS for Power System Transient Stability Improvement	Naowarat Tephiruk[1], Komsan Hongesombut[1] and Thongchart Kerdphol[2], [1]Kasetsart University, Thailand, [2]Kyushu Institute of Technology, Japan
17:00-17:20	0106	Transient Stabilization of Power Swing by Controllable PV Farm equipped with Optimal Fuzzy Gain Scheduling of PID Controller	Tanapon Karaipoom, Issarachai Ngamroo and Theerawut Chaiyatham, King Mongkut's Institute of Technology Ladkrabang, Thailand

PE-SS2: Power Electronics and Electric Vehicle Technology			
Chair: Werachet Khan-ngern, King Mongkut's Institute of Technology Ladkrabang, Thailand			
Room: Cattleya 3, 15.20 – 17.40			
Time	**Paper ID**	**Title**	**Authors**
15:20-15:40	0137	Dual Low Pass Filter-Based Voltage Sag Detection for Voltage Sag Compensator under Distorted Grid Voltages	Yutthachai Sillapawicharn[1] and Yuttana Kumsuwan[2] [1]Rajamangala University of Technology Thanyaburi, Thailand, [2]Chiang Mai University, Thailand
15:40-16:00	0072	Design of Approximate 2DOF Digital Controller for Interleaved PFC Boost Converter	Yuto Adachi[1], Yohei Mochizuki[1], Kohji Higuchi[1], Kamon Jirasereeamornkul[2] and Kosin Chamnongthai[2], [1]The University of Electro-Communications, Japan, [2]King Mongkut's University of Technology Thonburi, Thailand
16:00-16:20	0118	Power Balancing in Multilevel Inverter using Space Vector Modulation	Vivek Sharma, Mukesh Kumar, Ankit Gupta and Krishna Gupta, Maulana Azad National Institute of Technology, India
16:20-16:40	0162	Capacitor Voltage Balancing in Modular Multilevel Inverters	Vivek Sharma[1], Mukesh Kumar[1], Ankit Gupta[1] and Gaurav Gupta[2], [1]Maulana Azad National Institute of Technology, India, [2]Indian Institute of Technology, Varanasi India
16:40-17:00	0035	*Harmonic Effect on BLDC Motor Temperature Caused by Driving System*	Taywin Nilsakorn, Kaweepoj Woranetsuttikul, Kittapas Pinsuntia, Nattawat Jumpasri and Werachet Khan-ngern, King Mongkut's Institute of Technology Ladkrabang, Thailand
17:00-17:20	0038	Comparison on Performance between Synchronous Single-ended Primary-inductor Converter (SEPIC) and Synchronous ZETA Converter	Kaweepoj Woranetsuttikul, Kittapas Pinsuntia , Nattawat Jumpasri, Taywin Nilsakorn and Werachet Khan-ngern, King Mongkut's Institute of Technology Ladkrabang, Thailand
17:20-17:40	0070	*Design of Heat Management Model of 6,000 Lumen LED Worklamp using Integrated SEPIC Drivers*	Chaiyant Thungod*, Apicha Tuptimkaew*, Manrat Rattanachan*, Sucheep Buaban*, Darinee Loakhen*, Phatsaphon Wansungnoen*, Pramote Pattanapongthong* and Werachet Khan-ngern**, *Wichien Dynamic Industrial Co., Ltd., Thailand, **King Mongkut's Institute of Technology Ladkrabang, Thailand.

Day 2: March 20, 2014

PE1: Intelligence Computation in Power Systems			
Chair: Takeshi Nagata, Hiroshima Institute of Technology, Japan			
Room: Cattleya 1-2, 8.40 – 10.40			
Time	**Paper ID**	**Title**	**Authors**
8:40-9:00	PE-INV007	Power flow computation considering nonlinear characteristic of composite load model	Pichai Aree, Thammasat University, Thailand
9:00-9:20	PE-INV008	Probabilistic optimal power flow: an alternative solution for emerging high uncertain power systems	Keerati Chayakulkheeree, Sripatum University, Thailand
9:20-9:40	PE-INV009	On Robust State Estimation for Power System with Uncertain Network Parameters	Sermsak Uatrongjit, Chiang Mai University, Thailand
9:40-10:00	PE-INV010	Asset Management of Power Transformer: Optimization of Operation and Maintenance Costs	Thanapong Suwanasri, King Mongkut's University of Technology North Bangkok, Thailand
10:00-10:20	PE-INV011	WLAV Based State Estimation of Power System Using Pseudo-Voltage Measurements	Chawasak Rakpenthai[1] and Sermsak Uatrongjit[2], [1]The University of Phayao, Thailand, [2]Chiang Mai University, Thailand
10:20-10:40	PE-INV012	Predictive Voltage Control for a Distribution Network with Renewable Energy Sources	Worawat Nakawiro, King Mongkut's Institute of Technology Ladkrabang, Thailand

PE2: Thailand Smart Grid			
Chair: Issarachai Ngamroo, King Mongkut's Institute of Technology Ladkrabang, Thailand			
Room: Cattleya 1-2, 13.30 – 14.50			
Time	**Paper ID**	**Title**	**Authors**
13:30-13:50	PE-INV003	Smart Grid Roadmap Development for Electricity Generating Authority of Thailand	Naebboon Hoonchareon, Chulalongkorn University, Thailand
13:50-14:10	PE-INV004	Anticipated Plug-in Electric Vehicle Future Aspects – Risks and Rewards for Thailand Smart Grid	Sanchai Dechanupaprittha, Kasetsart University, Thailand
14:10-14:30	PE-INV005	Key Issues for Integration of Renewable Energy and Distributed Generation into Thailand Power Grid	Surachai Chaitusaney, Chulalongkorn University, Thailand
14:30-14:50	PE-INV006	Energy-efficient Coordinated Multipoint Reception for Thailand Smart Grid	Kampol Woradit, Srinakharinwirot University, Thailand

PE3: Modern High Voltage Engineering			
Chair: Thanapong Suwanasri, King Mongkut's University of Technology North Bangkok, Thailand			
Room : Cattleya 3, 13.30 – 15.30			
Time	**Paper ID**	**Title**	**Authors**
13:30-13:50	0028	Economic Assessment of Lightning Performance Improvement of 69 kV Subtransmission Line in MEA's Power Distribution System	Att Phayomhom[1], Somporn Sirisumrannukul[2], Tirapong Kasirawat[3] and Arwut Puttarach[4], [1]Metropolitan Electricity Authority, Thailand, [2]King Mongkut's University of Technology North Bangkok, Thailand, [3]Provincial Electricity Authority, Thailand, [4]Rajamangala University of Technology Lanna, Thailand
13:50-14:10	0029	Safety Analysis for Grounding System of Two Neighbouring Substations in MEA's Power Distribution System	Att Phayomhom[1] and Somporn Sirisumrannukul[2], [1]Metropolitan Electricity Authority, [2]King Mongkut's University of Technology North Bangkok, Thailand
14:10-14:30	0067	Analysis of Failure Data to Determine the Failure Pattern of HV Circuit Breaker Components	Cattareeya Suwanasri, Thanapong Suwanasri and Warunee Srisongkram, King Mongkut's University of Technology North Bangkok, Thailand
14:30-14:50	PE-INV013	Electromechanics of Particle in Dielectric Systems	Boonchai Techaumnat, Chulalongkorn University, Thailand
14:50-15:10	PE-INV014	Transient Characteristics of Grounding Systems	Peerawut Yutthagowith, King Mongkut's Institute of Technology Ladkrabang, Thailand
15:10-15:30	PE-INV020	Grounding Resistance Remote Measurement & Monitoring with Ground Loop Concept	Kobkit Saduakkarn, Kittipong Chusuwan and Panuphat Chucherd, KML Technology Co.,Ltd. , Bangkok, Thailand

PE4: Advanced Power Electronics and Drives			
Chair: Kohji Higuchi, The University of Electro-Communications, Japan			
Room: Cattleya 1-2, 15.50 – 17.30			
Time	**Paper ID**	**Title**	**Authors**
15:50-16:10	PE-INV001	Active Power-factor Correction: a Role in Electrical Energy Efficiency and Power Quality	Viboon Chunkag, King Mongkut's University of Technology North Bangkok, Thailand
16:10-16:30	PE-INV002	Wireless Power Charging on Electric Vehicles	Werachet Khan-ngern, King Mongkut's Institute of Technology Ladkrabang, Thailand
16:30-16:50	PE-INV017	Power Electronics Roles in Thailand Smart grid	Surin Khomfoi, King Mongkut's Institute of Technology Ladkrabang, Thailand
16:50-17:10	PE-INV018	Power Electronics-based Energy Storages : A Key Component for Smart Grid Technology	Siriroj Sirisukprasert, Kasetsart University, Thailand
17:10-17:30	PE-INV019	A Position-Sensorless Vector Control of Doubly-Fed Induction Machines using Adaptive Reduced-Order Observers	Somrat Smiththisomboon and Surapong Suwankawin, Chulalongkorn University, Thailand

PE5: Power System Analysis			
Chair: Naebboon Hoonchareon, Chulalongkorn University, Thailand			
Room: Cattleya 3, 15.50 – 17.30			
Time	**Paper ID**	**Title**	**Authors**
15:50-16:10	0037	Impacts of Small and Large Induction Motors on Active and Reactive Power Requirement and System Loadability	Pichai Aree, Thammasat University, Thailand
16:10-16:30	0025	Optimum Compression Ratio on Ground Grid Design in MEA's Power Distribution Substation	Att Phayomhom[1], Somporn Sirisumrannukul[2], Tirapong Kasirawat[3] and Arwut Puttarach[4], [1]Metropolitan Electricity Authority, Thailand, [2]King Mongkut's University of Technology North Bangkok, Thailand, [3]Provincial Electricity Authority, Thailand, [4]Rajamangala University of Technology Lanna, Thailand
16:30-16:50	0119	Load Factor Improvement in Industrial Sector Using Load Duration Curves	Jutatip Surai and Vichai Surapatana, Kasetsart University, Thailand
16:50-17:10	0040	Optimal Maintenance of Substation Equipment by Considering Equipment Deterioration	Navapol Sudket and Surachi Chaitusaney, Chulalongkorn University, Thailand
17:10-17:30	0042	Peak Load Forecasting of Electricity Generating Authority of Thailand by Gaussian Process	Tuchsanai Ploysuwan[1], Pramukpong Atsawathawichok[2] and Prasit Teekaput[2] [1]Siam University, Thailand, [2]Chulalongkorn University, Thailand

Day 3: March 21, 2014

PE6: Voltage Control and Analysis in Smart Grid			
Chair: Surin Khomfoi, King Mongkut's Institute of Technology Ladkrabang, Thailand			
Room: Cattleya 1, 8.40 – 10.40			
Time	**Paper ID**	**Title**	**Authors**
8:40-9:00	0097	Coordinated Voltage Control between Wind Power Plant and Shunt Capacitors in Weak Distribution Networks	Piyadanai Pachanapan and Suttichai Premrudeepreechacharn, Chiang Mai University, Thailand
9:00-9:20	0167	Behavior of Unbalance Electric Vehicle Home Charging in Distribution System	Pichai Kongthong and Sanchai Dechanupaprittha, Kasetsart University, Thailand
9:20-9:40	0121	Development of Optimization Parameter System for AVC in Tianjin Low Voltage Grid	Zhiyong Gan and Peiyu Chen, Tianjin Electric Power Research Institute, China
9:40-10:00	0088	Analysis of Voltage Unbalance Due to Rooftop PV in Low Voltage Residential Distribution System	Churit Pansakul, Kasetsart University, Thailand
10:00-10:20	0171	Impact of Fast Charging Station to Voltage Profile in Distribution System	Bundit Pea-da and Sanchai Dechanupaprittha, Kasetsart University, Thailand
10:20-10:40	0110	Voltage Unbalance Impact Analysis of EVs Charging on a LV Distribution System	Thongchai Klayklueng and Sanchai Dechanupaprittha, Kasetsart University, Thailand

PE-SS3: Power Converter in Photovoltaic Systems			
Chair: Yuttana Kumsuwan, Chiang Mai University, Thailand			
Room: Cattleya 2, 8.20 – 10.40			
Time	**Paper ID**	**Title**	**Authors**
8:20-8:40	0005	Comparison of Using Carrier-Based Pulse Width Modulation Techniques for Cascaded H-Bridge Inverters Application in PV Energy Systems	Chaiyant Boonmee and Napat Watjanatepin, Rajamangala University of Technology Suvarnabhumi, Thailand
8:40-9:00	0006	Improve the Transient Response of DC/DC Converter	Yutthana Kanthaphayao[1] and Viboon Chunkang[2], [1]Chiang Mai University, Thailand, [2]King Mongkut's University of Technology North Bangkok, Thailand.
9:00-9:20	0010	Analysis of a Wide Load Variation of ZVZCS Phase-Shifted PWM Full-Bridge DC-DC Converter	Anuwat Jangwanitlert, King Mongkut's Institute of Technology Ladkrabang, Thailand
9:20-9:40	0039	Improved Particle Swarm Optimization Algorithm using Average Model on MPPT for Partial Shading in PV Array	Nattawat Jumpasri, Kittapas Pinsuntia, Kaweepoj Woranetsuttikul, Taywin Nilsakorn and Werachet Khan-ngern, King Mongkut's University of Technology Ladkrabang, Thailand
9:40-10:00	0048	MATLAB/Simulink Modeling of Stator Current Control of PMSG for Grid-Connected Systems	Yuttana Kumsuwan and Kitsanu Bunjongjit, Chiang Mai University, Thailand
10:00-10:20	0156	Comparison of Distributed and Centralized control for Partial Shading in PV Parallel Based on Particle Swarm Optimization Algorithm	Nattawat Jumpasri, Kittapas Pinsuntia, Kaweepoj Woranetsuttikul, Taywin Nilsakorn and Werachet Khan-ngern, King Mongkut's University of Technology Ladkrabang, Thailand
10:20-10:40	0158	Transformerless Dynamic Voltage Restorer using Diode-Clamped Three-level Converter	Wuthikrai Chankhamrian[1], Krischonme Bhumkittipich[2] and Nathabhat Phankong[2], [1]Rajamangala University of Technology Tawan-ok, Thailand [2]Rajamangala University of Technology Thanyaburi, Thailand

PE7: Renewable Energy Technologies and Its Impact			
Chair: Chawasak Rakpenthai, The University of Phayao, Thailand			
Room: Cattleya 3, 8.40 – 10.20			
Time	**Paper ID**	**Title**	**Authors**
8:40-9:00	0104	Design of Real Time Management Unit for Power Battery in PV-Hybrid Power Supply by Application of Coulomb Counting Method	Apiwat Aussawamaykin[1] and Boonyang Plangklang[2], [1]Rajamangala University of Technology Isan Khonkaen Campus, Thailand, [2]Rajamangala University of Technology Thanyaburi, Thailand
9:00-9:20	0089	Sugeno Fuzzy Logic Control-based Smart PV Generators for Frequency Control in Loop Interconnected Power Systems	Nattapol Sa-ngawong and Issarachai Ngamroo, King Mongkut's Institute of Technology Ladkrabang, Thailand
9:20-9:40	0051	Model Predictive Control-based Wind Turbine Blade Pitch Angle Control for Alleviation of Frequency Fluctuation in a Smart Grid	Jonglak Pahasa[1] and Issarachai Ngamroo[2], [1]The University of Phayao, Thailand, [2]King Mongkut's Institute of Technology Ladkrabang, Thailand
9:40-10:00	PE-INV015	Control of a Fresnel collector field-type solar cooling system	K. Witheephanich[1], J.M. Escano[2], and C. Bordons[3],[1]Srinakharinwirot University, Thailand, [2] Cork Institute of Technology, Ireland, [3]Universidad de Sevilla, Ireland.
10:00-10:20	PE-INV016	Reliability Impact of Intermittent Renewable Energy Source Integration into Power System	Wijarn Wangdee, King Mongkut's University of Technology North Bangkok, Thailand

PE8: Power Quality			
Chair: Viboon Chunkag, King Mongkut's University of Technology North Bangkok, Thailand			
Room: Cattleya 1, 11.00 – 12.20			
Time	**Paper ID**	**Title**	**Authors**
11:00-11:20	0092	Investigation of Active Power Measurements in Harmonic Conditions	Tanya Kochawat and Voraphol Phapukdee, National Institute of Metrology, Thailand
11:20-11:40	0138	Hybrid Reactive Power Compensations for Power Factor Correction in Distribution Networks with DG	Piyadanai Pachanapan, Naresuan University, Thailand
11:40-12:00	0066	Voltage Sag Signal Generator Program for Testing Electrical Equipment	Wichan Jantee[1], Suttichai Premrudeepreechacharn[1], Kosol Oranpirojv[2] and Worrajak Muangjai[2], [1]Chiang Mai University, Thailand, [2]Rajamangala University of Technology Lanna, Thailand

PE9: Smart Grid Stability and Control			
Chair: Sanchai Dechanupaprittha, Kasetsart University, Thailand			
Room: Cattleya 2, 11.00 – 12.20			
Time	**Paper ID**	**Title**	**Authors**
11:00-11:20	0080	A Combined Operation of Superconducting Fault Current Limiter and Static Var Compensator for Power System Transient Stability Improvement	Komsan Hongesombut and Siwapon Srisonphan, Kasetsart University, Thailand
11:20-11:40	0081	Improved H2/H∞ Control-based Robust PI Controller Design of SMES for Suppression of Power Fluctuation in Microgrid	Sitthidet Vachirasricirikul[1] and Issarachai Ngamroo[2], [1]The University of Phayao, Thailand, [2]King Mongkut's Institute of Technology Ladkrabang, Thailand
11:40-12:00	0083	Wide-Area Power System Control Using Fuzzy Logic Based Static Synchronous Series Compensator	Chatchai Laopromsukon, Komsan Hongesombut and Jantanee Rungrangpitayagon, Kasetsart University, Thailand
12:00-12:20	0140	Research on the Effect of Induced Voltages in Transient Stability for Multi Circuit Modeling on 500 kV EHV Parallel Transmission Lines Using a Modified Genetic Algorithm	Artiwat Naksuriyavong and Chamni Jaipradidtham, Kasem Bundit University, Thailand

PE10: Smart Protection in Distribution System			
Chair: Kritchai Witheephanich, Srinakharinwirot University, Thailand			
Room: Cattleya 3, 11.00 – 12.20			
Time	**Paper ID**	**Title**	**Authors**
11:00-11:20	0153	Review on Protection Issues with Penetration of Distributed Generation in Distribution System	Ashutosh Kumar Tiwari, Soumya Ranjan Mohanty and Ravindra Kumar Singh, MNNIT Allahabad, India
11:20-11:40	0027	Effect of Dimension on Ground Grid Design in MEA's Power Distribution Substation	Att Phayomhom[1], Somporn Sirisumrannukul[2], Tirapong Kasirawat[3] and Arwut Puttarach[4], [1]Metropolitan Electricity Authority, Thailand, [2]King Mongkut's University of Technology North Bangkok, Thailand, [3]Provincial Electricity Authority, Thailand, [4]Rajamangala University of Technology Lanna, Thailand
11:40-12:00	0155	*Solid State Circuit Breaker Using Insulated Gate Bipolar Transistor for Distribution System Protection*	Wanida Pusorn[1], Warunee Srisongkram[1] Kittiwat Chiangchin[1] and Krischonme Bhumkittipic2 , [1]Rajamangala University of Technology Suvarnabhumi, Thailand, [2]Rajamangala University of Technology Thanyaburi, Thailand.
12:00-12:20	0154	A Review on Microgrid Protection	Niraj Kumar Choudhary, Soumya Ranjan Mohanty and Ravindra Kumar Singh, MNNIT Allahabad, India