IEEE PES T&D CONFERENCE & EXPOSITION

Poster Session
Wednesday, 6 May, 2026
5:00PM – 7:00PM
S406/Vista Ballroom

AMPS Poster Session

26TD0103 -Targeted Resilient Zoning for High-Impact Events via Multi-Circuit Pole lines

H. G. SHAH, Eversource Energy
G. GIUSTINO , Eversource Energy
E. NTAKOU, Eversource Energy

26TD0115 - Explainability-Guided Feature Engineering for Mid-Term Load Forecasting in ERCOT & South-Central Region

S. B. AHN, ERCOT
A. BHUPATIRAJU, Institute for Research in Computing
S. MOAYEDI, ERCOT

26TD0165 - 3-Dimensional Irradiance Map Reconstruction for Identifying Optimal Areas for PV Systems Installation in Puerto Rico

C. J. DELGADO MUNOZ, LUMA Energy
E. ALFARO-MEJIA, LUMA Energy
O. GARZON, LUMA Energy
M. PATINO, LUMA Energy
A. NASSIF, PNNL
D. HAUGHTON, LUMA Energy

26TD0206 - Deep learning-based U-Net segmentation for PV placement and Capacity estimation on Rooftops

E. ALFARO-MEJIA, LUMA Energy
C. J DELGADO, LUMA Energy
O. GARZON, LUMA Energy
M. PATINO, LUMA Energy
S. BAMATI, LUMA Energy
A. NASSIF, PNNL
D. HAUGHTON, LUMA Energy

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26TD0293 - Enhanced Event Clustering Using Real-World Harmonic Phasors and Intrinsic Mode Features

F. AHMADI GORJAYI, Jacobs Solution Inc
L. LAMPE, University of British Columbia
M. SHEIKHOLESLAMZADEH, Jacobs Solution Inc
H. MOHSENIAN-RAD, University of California Riverside

26TD0434 - Leveraging Synthetic Data for Robust Event Classification in Real PMU Streams

R. HILDEBRANT, University of California, Irvine
K. MAHAPATRA, Pacific Northwest National Laboratory

26TD0118 - CIM Needs a Conformance and Interoperability Program

D. BOGEN, UCAIug CIM User Group

26TD0119 - Primary Frequency Response Performance Analysis of the Puerto Rico Generation Fleet

P. ETINGOV, Pacific Northwest National Laboratory
A. NASSIF, Pacific Northwest National Laboratory
M. ELIZONDO, Pacific Northwest National Laboratory
A. BHARATI, Pacific Northwest National Laboratory
V. CHALISHAZAR, Pacific Northwest National Laboratory
D. HAUGHTON, LUMA Energy
O. GARZON, LUMA Energy
E. ALFARO-MEJIA, LUMA Energy
T. ROSA RAMIREZ, LUMA Energy
A. BARETTY, LUMA Energy

26TD0139 - Understanding Regional Inertia Dynamics in CAISO from Real Grid Disturbances

S. DULAL, The University of Tennessee
M. M. OLAMA, Oak Ridge National Laboratory

A. R. EKTI, Oak Ridge National Laboratory
N. M. STENVIG, Oak Ridge National Laboratory
Y. LIU, The University of Tennessee

26TD0193 -Rethinking High-Impedance Faults: Beyond a Low-Current Footprint

P. PAZ, The University of Texas at Austin
S. STRANK, The University of Texas at Austin
R. HEBNER, The University of Texas at Austin
E. JIMENEZ-ORTEGA, The University of Texas at Austin
S. SANTOSO, The University of Texas at Austin

26TD0252 - Microgrid Resilience Gym: A Benchmark and Training Environment for Reinforcement Learning

S. GHOSH, Tennessee State University
C. MALONE, Tennessee State University

26TD0239 - When AI Data Centers Learn, the Lights Flicker: Modeling and Analysis of Active Power Fluctuations in AI Data Centers

A. DADASHZADE, Zero-Emission Grid, LLC
F. FAZEL, University of Toronto
D. NOVOSAD, Zero-Emission Grid, LLC
M. TABRIZI, Zero-Emission Grid, LLC

26TD0440 - Estimating Inter-Area Modes Under Forced Oscillations: Clustering-Assisted Multi-Order Stochastic Subspace Identification

M. MANSOURLAKOURAJ, Electric Power Group, CA, USA
N. NAYAK, Electric Power Group, CA, USA

26TD0311 - Scaling Distributed Optimal Renewable Energy Coordination in Unbalanced Distribution Systems

Transactions Paper Number: TSTE-00540-2024

R. SADNAN, PNNL

N. GRAY, PNNL
A. BOSE, WSU
A. DUBEY, WSU
K. P. SCHNEIDER, PNNL

26TD0424 - Multi-Scale Characterization of Distributed Applications in Power Distribution Systems
R. SADNAN, PNNL
S. POUDEL, PNNL
A. REIMAN, PNNL

26TD0401 - Non-Intrusive Capacitor Bank Failure Detection Using Synchro-waveforms
Y. GUO, Sentient Energy, Inc
M. MOUSAVI, Sentient Energy, Inc

26TD0174 - Accelerating Chance-constrained SCED via Scenario Compression (Transactions Paper Number: TPWRS.2024.3450369)
Q. ZHANG, Harvard University
L. XIE, Harvard University

26TD0231 - Ignition Risk-Aware Operation of Distributed Energy Resources for Pre-Emptive Wildfire Outage Mitigation
H. BELNAP, University of Utah
S. KHAN, University of Utah
A. TASAVVORI, University of Utah
M. PARVANIA, University of Utah

26TD0248 - Two-Stage Optimization Framework for Dynamic Line Rating Implementation
A. ABDELKADER, Michigan State University
C. CHAUDHARY, Michigan State University
Y. PEI, Michigan State University

M. BEN-IDRIS, Michigan State University
J. MITRA, Michigan State University

26TD0350 - Reliability Assessment of the U.S. Western Interconnection with Compounded Weather Events

S. ACHARYA, PNNL
O. ANDERSON, PNNL
S. DATTA, PNNL
Z. HOU, PNNL
J. WESTMAN, PNNL
X. LIN, PNNL
K. G. ABERNETHY-CANNELLA, PNNL
S. A. R. NAQVI, PNNL
K. OIKONOMOU, PNNL
Y. CHEN, PNNL
J. FULLER, PNNL

26TD0044 - Hybrid Time-Frequency and EfficientNet-B0-Based Fault Classification in Power Distribution Networks

A. AGUILA TÉLLEZ, Universidad Politécnica Salesiana
K. NARAYANAN, SASTRA University SEEE
D. CARRIÓN, Universidad Politécnica Salesiana
M. GARCÍA, Universidad Politécnica Salesiana
M. RUIZ, Universidad Politécnica Salesiana

26TD0134 - An Interpretable Federated Learning Control Framework Design for Smart Grid Resilience

I. SHAHBAZ, TEXAS A&M UNIVERSITY
E. HAMMAD, TEXAS A&M UNIVERSITY
A. FARRAJ, Texas A&M University Texarkana

26TD0246 - Neural Network-Based Aggregated Modeling of Distribution Feeders Supplying Induction Machines with Diverse Ratings and Collector Systems

X. WANG, Zhejiang University
A. SAFAVIZADEH, The University of British Columbia
J. JATSKEVICH, The University of British Columbia
G. GENG, Zhejiang University
Q. JIANG, Zhejiang University

Energy Development and Power Generation Poster Session

26TD0035 - Modeling the Impedance of Grid-Forming SVG Considering Multiple Harmonic Frequencies and Frequency Response Analysis

H. GAO, Northeast Electric Power University
H. LIU, Northeast Electric Power University
Z. WANG, Northeast Electric Power University
Z. XU, Northeast Electric Power University
L. XUE, Northeast Electric Power University

26TD0095 - Evaluating Resilient Renewable Energy Microgrids for Data Centers in the USA

L. F. BUSTOS MARQUEZ, University of Delaware
S. HEGEDUS, University of Delaware

26TD0102 - Reactive Power Compensation for Solar Power Plants

M. SHEIKHOLESLAMZADEH, Jacobs Engineering Group
L. POWERS, DNV
A. LEON, Invenergy
S. DUTTA, EPRI

26TD0183 - Second Harmonic Suppression in Dual Active Bridge Front-Ends for Two-Stage Energy Storage Inverters under Unbalanced Grid Conditions

Z. PAN, Zhejiang University
X. WANG, Zhejiang University
Q. ZHANG, Zhejiang University
J. DONG, Zhejiang University
G. GENG, Zhejiang University
Q. JIANG, Zhejiang University

26TD0330 - Techno-economic Analysis of Hybrid Hydro-solar System

X. GUO, GE Vernova
P. EBERLE, GE Vernova
R. R, GE Vernova
R. HAY, GE Vernova
A. TIWARI, GE Vernova
P. WANG, GE Vernova
J. ZAYAS, American Council on Renewable Energy
N. SIMMONS, Eagle Creek Renewable Energy

26TD0375 - Utility Scale PV Grounding Systems Interaction with Utility Substations

R. KEIL, Commonwealth Associates
D. LEWIS, Bentley Systems

Energy Internet Coordinating Committee Poster Session

26TD0414 - Dynamic Power Flow Management for Efficient Energy Routing in the Energy Internet

S. ABDELKADER, Egypt-Japan University of Science and Technology (E-JUST)
D. EMAD, Egypt-Japan University of Science and Technology (E-JUST)

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Energy Storage & Stationary Battery Poster Session

26TD0176 - Community Solar -vs- Nano-Grid (Ownership or Lease): 10 Years Electricity Costs Savings Analysis For Hawaii Low Income Families

J. BORLAND, JOB Technologies

26TD0419 - Adaptive Energy Storage Coordination for Grid Resilience during Heatwave

C. CHAUDHARY, Michigan State University
A. ABDELKADER, Michigan State University
Y. PEI, Michigan State University
M. BEN-IDRIS, Michigan State University
J. MITRA, Michigan State University

Grid & Emerging Technologies Coordinating Committee

26TD0048 - In Situ Continuous Synchronized Waveform Recording and Sub-Synchronous Probing of Coupled 120 V and 480 V Grid Circuits

T. HUSSAIN, University of California, Riverside
H. MOHSENZADEH YAZDI, University of California, Riverside
A. MCEACHERN, University of California, Riverside
H. MOHSENIAN-RAD, University of California, Riverside

26TD0125 - Data-Driven Modeling of Sub-Cycle Dynamics of Inverter-based Resources Using Real-World Synchro-Waveform Measurements (Transactions Paper Number: TPWRD-01606-2024)

H. MOHSENZADEH YAZDI, University of California Riverside
F. AHMADI GORJAYI, University of California Riverside
H. MOHSENIAN-RAD, University of California Riverside

26TD0199 - IBR Responses During a Real-World System-Wide Disturbance: Synchro-Waveform Data Analysis, Pattern Classification, and Engineering Implications

Transactions Paper Number: PESL-00332-2024

H. MOHSENZADEH YAZDI, University of California Riverside
H. MOHSENIAN-RAD, University of California Riverside
C. LI, Hydro One (Utility)

26TD0160 - Directed Graph Signal Processing Approach for Analyzing Interdependence of Electric Power and Natural Gas Systems

M. MALLADI, University of Kentucky
D. LAU, University of Kentucky
Y. LIAO, University of Kentucky

26TD0236 - Evaluation of Distribution System Operator (DSO) Models for Enabling DER Grid Services

A. MONDAL, EPRI
A. SAAD, EPRI
I. KRAD, EPRI
N. SINGHAL, EPRI
A. H. M. JAKARIA, EPRI

26TD0250 - Evaluating the Risk to Bulk Power System Reliability from Large Load Induced Oscillations

S. BISWAS, Pacific Northwest National Laboratory
A. VARGHESE, Pacific Northwest National Laboratory
K. CHATTERJEE, Pacific Northwest National Laboratory
S. NEKKALAPU, Pacific Northwest National Laboratory
B. ROSS, Pacific Northwest National Laboratory
J. FOLLUM, Pacific Northwest National Laboratory

26TD0263 - Post-Fault Impacts of the IEEE 2800 Standard's LVRT Requirements: Frequency Response

A. AZIZI, RMS Energy
R. SALEHI, RMS Energy
S. MALEKI, RMS Energy
H. BAYAT, RMS Energy

26TD0294 - Networking Customer-Owned Assets to Enhance Distribution System Resilience

M. G. YU, Pacific Northwest National Laboratory
M. MUKHERJEE, Pacific Northwest National Laboratory
M. MAHARJAN, Pacific Northwest National Laboratory

26TD0298 - Managing Risks from Large Digital Loads Using Coordinated Grid-Forming Storage Network

S. KUNDU, Pacific Northwest National Laboratory
K. CHATTERJEE, Pacific Northwest National Laboratory
R. R. HOSSAIN, Pacific Northwest National Laboratory
S. P. NANDANOORI, Pacific Northwest National Laboratory
V. ADETOLA, Pacific Northwest National Laboratory

26TD0382 - Microgrid Controller Implementation Considering DER and Protection

M. STARKE, Oak Ridge National Laboratory
N. KIM, Oak Ridge National Laboratory
M. FERRARI, Oak Ridge National Laboratory
B. DEAN, Oak Ridge National Laboratory
M. CHINTHAVALI, Oak Ridge National Laboratory

26TD0450 - Supercapacitor Assisted Power Conditioning System to Enhance Ride-through Functionality of Datacenter Loads

S. W. SEO, National Renewable Energy Laboratory
S. PANNALA, National Renewable Energy Laboratory
B. POUDEL, National Renewable Energy Laboratory
R. HOVSAPIAN, National Renewable Energy Laboratory

26TD0454 - Demonstrating the Need for Adaptive Droop Control for Grid-Forming Inverters in Islanded and Grid-Connected Modes

J. WANG, NREL
S. GANGULY, NREL
A. HASAN, NREL
S. CHAKRABORTY, NREL
B. KROPOSKI, NREL

Insulated Conductors

26TD0010 - Inferring the Influence of Insulating Material Property Variation with Electrothermal Aging on HVDC Insulation System Reliability

G. C. MONTANARI, Florida State University
S. B. MYNENI, Florida State University

26TD0392 - Underground Transmission Pipe-Type Cable Pressurization Plant Design Considerations

E. C. (. BASCOM III, Electrical Consulting Engineers, P.C.
T. ZHAO, Electric Power Research Institute

26TD0272 - Reduction of Concentric Neutral Voltage Surges in Submarine Cables

E. ENRIQUE, Mott MacDonald
K. JIN, Mott MacDonald

Power & Energy Education

26TD0068 - Grid Forming and Following Background, Future, and Strategies

J. GILBERT, Idaho National Laboratory
J. LUCAS SANCHEZ, Idaho National Laboratory
D. AGBENYA, Idaho National Laboratory

26TD0313 - Scalable and Secure Power Outage Data Reporting: A Hexagonal Geospatial Approach

N. AHMAD, Oak Ridge National Laboratory
S. CHINTHAVALI, Oak Ridge National Laboratory
V. TANSAKUL, Oak Ridge National Laboratory
S. LEE, Oak Ridge National Laboratory
J. MORRIS, Oak Ridge National Laboratory
N. BHUSAL, Oak Ridge National Laboratory

Power System Dynamic Performance

26TD0018 - Dynamics Enhanced Quasi-Steady-State Model of LCC-HVDC Systems Based on Neural Network (Transactions Paper Number: TPWRD3568159)

K. YANG, Zhejiang University
X. WANG, Zhejiang University
Q. ZHANG, Zhejiang University
G. GENG, Zhejiang University
Q. JIANG, Zhejiang University

26TD0274 - Real-Time EMT Domain Transmission & Distribution System Co-simulation

B. MCCORNACK, Pacific Northwest National Laboratory
K. MAHAPATRA, Pacific Northwest National Laboratory
B. HYDER, Pacific Northwest National Laboratory

26TD0173 - Identification of Sub/Super-Synchronous Control Interaction Paths Using Dissipative Energy Flow

K. CHATTERJEE, Pacific Northwest National Laboratory
S. NAKKALAPU, Pacific Northwest National Laboratory
S. MUKHERJEE, Pacific Northwest National Laboratory
R. R. HOSSAIN, Pacific Northwest National Laboratory

M. ELIZONDO, Pacific Northwest National Laboratory

26TD0329 - Analysis of the Behavior of Wind and PV Farms during Short-Circuit and Load Rejection.

Y. GÁLVEZ , Universidad de Concepción
D. MERINO, Universidad de Concepción
J. ARANEDA, Universidad de Concepción
L. MORÁN, Universidad de Concepción

26TD0332 - A Normalized Short-Circuit Ratio for Assessing Impact of Grid-Following Inverters on Grid Stability

S. DONG, NREL
Z. GUO, NREL
J. TAN, NREL
A. HOKE, NREL
B. KROPOSKI, NREL

26TD0337 - Four Singular Cross Power Spectral Density, 4S-CPSD: A PMU-based Oscillation Source Localization Method for Power Systems

H. HOSSEINPOUR, Michigan State University
N. NAYAK, Electric Power Group
M. BEN-IDRIS, Michigan State University

Power System Operation, Planning & Economics

26TD0008 - Towards Improved System Flexibility: Enabling IDSO's Swing Contract Market Participation

S. SHARMA, Indian Institute of Technology Kanpur
S. BATTULA, Indian Institute of Technology Kanpur
S. N. SINGH, Indian Institute of Technology Kanpur

26TD0038 - Charging load prediction based on multi-scale convolutional linear attention mechanism

X. LIU, Northeast Electric Power University
H. LIU, Northeast Electric Power University
Y. GUO, Northeast Electric Power University
F. MENG, Northeast Electric Power University

26TD0037 - Optimization Configuration Strategy for Grid Forming SVG Considering Voltage Stability

Y. ZHANG, Northeast Electric Power University
H. LIU, Northeast Electric Power University
L. XUE, Northeast Electric Power University

26TD0042 - Collaborative Carbon Reduction of Source-Load Entities in Integrated Energy Systems Based on Blockchain Technology

B. LV, Northeast Electric Power University
W. ZHANG, Northeast Electric Power University
J. GU, Northeast Electric Power University

26TD0049 - Representative Operation Pattern Identification Using Hierarchical Clustering in Renewable and Storage-Integrated Power System

Q. ZHANG, College of Electrical Engineering, Zhejiang University
L. ZHANG, College of Electrical Engineering, Zhejiang University
X. LI, State Grid Shandong Electric Power Company
Q. FANG, State Grid Shandong Electric Power Research Institute
G. GENG, College of Electrical Engineering, Zhejiang University
Q. JIANG, College of Electrical Engineering, Zhejiang University

26TD0067 - Determination of Optimal Capacity by Wind Speed for Increased Turbine Capacity in Offshore Wind Farms

D. CHO, Soongsil Univ.
Y. CHO, Soongsil Univ.
J. NAM, Soongsil Univ.

W. MOON, Soongsil Univ.

26TD0326 - Software in the Loop Simulation for Evaluating Distribution Grid Performance Under Advanced Optimal Control Strategies

A. K. KARNGALA, EATON
S. TALUKDER, EATON
H. GUO, EATON
D. ZHAO, EATON

26TD0126 - Online Optimization for Energy Sharing Market in Muti-Energy Systems

Z. YANG, Tongji University
X. WANG, Shanghai Jiao Tong University
X. LE, Shanghai Jiao Tong University
S. CHEN, Shanghai Jiao Tong University

26TD0130 - Frequency Stability Constrained Capacity Expansion Planning through Virtual Inertia and Droop Capacities Allocation of IBRs

P. BASNET, University of South Carolina
X. FANG, University of South Carolina

26TD0135 - FERC Order 1920 and the Data Center Boom: A New Era in Transmission Expansion Planning

A. ABDELKADER, Michigan State University
D. OSORIO-GARCIA, Dominion Energy Virginia
B. LOWE, Dominion Energy Virginia
K. AMARE, Dominion Energy Virginia
M. BEN-IDRIS, Michigan State University

26TD0150 - Operational Strategies for Rural Grid Modernization

A. BAADE, ComEd
L. LACY, ComEd

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26TD0136 - Engineering Durability into Sustainable Construction: Bridging Eco-Leadership with Long-Term Resilience
D. STANSKOVA, IEEE

26TD0144 - From Natural Language to Solver-Ready Power System Optimization: An LLM-Assisted, Validation-in-the-Loop Framework
Y. HU, University of Southern California
T. ZHAO, University of Texas at Arlington
M. YUE, Brookhaven National Laboratory

26TD0152 - Hierarchical Forecasting for Data Center Loads
S. S. GHOSH, Dominion Energy
B. LUTHRA, Dominion Energy
J. DE LA REE, Dominion Energy
K. JONES, Dominion Energy

26TD0177 - Reliability Challenges and Solutions for Large Load Integration in Bulk Power Systems
E. MEIER, ERCOT
S. BASUMALLIK, New York Power Authority

26TD0192 - A Novel Walrus Optimization Algorithm For Mitigating Transmission Line Congestion In Power System Framework
A. KUMAR, National Institute of Technology Jamshedpur
N. KUMAR, National Institute of Technology Jamshedpur
K. PAUL, BIT Sindri, Dhanbad

26TD0208 - A Distance-Based Spatial & Temporal Simulator for Renewable Energy Forecasting Under Extreme Weather
Y. ZHANG, New Mexico State University
F. WANG, New Mexico State University
D. SHI, New Mexico State University
C. FAN, New Mexico State University

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26TD0233 - A Practical Approach to Address Evolving Electrical Grid Challenges: MISO Long Range Transmission Planning Process

I. SINGH, MISO

26TD0235 - A Hybrid CNN-LSTM Short-Term ISO-Level Load Forecasting Model Considering Extreme Weather

W. XIA, Oregon State University
L. CHEN, Oregon State University
A. S. GIBSON, Oregon State University
T. BREKKEN, Oregon State University
Y. CAO, Oregon State University
X. ZHU, Oregon State University

26TD0244 - Control Room Implementation of Oscillation Detection, Location, and Screening Applications at California ISO/RC West

C. QIAN, California ISO

26TD0343 - Hierarchical Energy Management for Renewable and Battery-Integrated Microgrids to enhance Reliability and Cost Efficiency

M. ELSAYED, City University of New York
A. AL-SHARGABI, City University of New York
K. SAYED, Sohag University
A. MOHAMED, City University of New York

26TD0258 - Estimating Flexibility Envelopes for Residential Customers From Utility Smart Meter Data

J. WANG, National Laboratory of the Rockies
F. DING, National Laboratory of the Rockies
X. ZHU, Oregon State University
K. XUAN, National Laboratory of the Rockies
Y. YAO, National Laboratory of the Rockies

26TD0266 - Advanced Conductors: Total Owning
D. BERKOWITZ, Bekeart

26TD0268 - Active-Learning PC-Gaussian Process Model for Efficient Probabilistic Power Flow on Real Distribution Networks
R. SHRESTHA, University of Alabama
C. MATYJASIK, University of Alabama
L. WANG, University of Alabama
Z. ZHOU, Argonne National Laboratory
Y. ZHOU, Argonne National Laboratory

26TD0365 - Real-world Data-Driven Upgrade Cost Prediction for Distribution Grids with Smart EV Charging
R. SHRESTHA, University of Alabama
L. WANG, University of Alabama
Z. ZHOU, Argonne National Laboratory
K. LI, University of Alabama at Birmingham
Y. ZHOU, Argonne National Laboratory

26TD0348 - Network-Constrained Unit Commitment with Flexible Temporal Resolution (Transactions Paper Number: TPWRS-00697-2023)
Z. YU, Tsinghua University
H. ZHONG, Tsinghua University
G. RUAN, Massachusetts Institute of Technology
X. YAN, Tsinghua University

26TD0378 - Energy-Based Modeling of Water Withdrawals in the Snake River Basin Using Refined K-Factors and Power-Consumption Coefficients
S. T. KOTHAPALLI, University of Idaho
B. JOHNSON, University of Idaho
Y. CHAKHCHOUKH, University of Idaho

26TD0415 - Systematic Approach for Timestep Optimization in EMT Simulations of Modern Power Systems

G. MEGHWAR, University of Illinois Chicago
L. HE, University of Illinois Chicago

26TD0420 - Deconfliction of Distribution System Applications With Robustness to Malicious Strategies

T. SLAY, Pacific Northwest National Laboratory
N. GRAY, Pacific Northwest National Laboratory
J. YIP, Pacific Northwest National Laboratory
M. MUKHERJEE, Pacific Northwest National Laboratory
A. REIMAN, Pacific Northwest National Laboratory

26TD0427 - Climate Policy Stringency and Electricity Retail Prices: A Utility-Level Analysis in California

N. FRONDA, Oregon State University
S. ARNOLD, Oregon State University
X. ZHU, Oregon State University

26TD0437 - The Effects of Interruptible Loads on Reliability Metrics

M. EGAN, Michigan State University
M. BEN-IDRIS, Michigan State University

26TD0438 - Network Performance Monitoring for Phasor Measurement Unit based Wide Area Monitoring

A. ST. LEGER, West Point
N. BARRY, West Point

26TD0448 - Hybrid Learning for Grid-Edge Load Forecasting and Anomaly Detection

M. FAKHRY, Oregon State University
A. OSENI, Oregon State University
N. FRONDA, Oregon State University

E. COTILLA-SANCHEZ, Oregon State University
T. BREKKEN, Oregon State University
X. ZHU, Oregon State University
A. OSENI, Oregon State University

26TD0455 - Accelerated Distributed Optimization for Voltage Control in Power Distribution Systems
N. PATARI, West Virginia University
A. SRIVASTAVA, West Virginia University

Power Systems Communications & Cyber Security

26TD0053 - Deploying a Centralized Management System for Enhanced Electrical Distribution Grid Security
K. RESTREPO, SUBNET Solutions Inc.
G. M. MORAN GARCIA, Distribuidora de Electricidad Delsur
C. R. ROMERO MIRANDA, Distribuidora de Electricidad Delsur

26TD0089 - Explainable AI for Transparent ML-driven Cyber-Physical Security in the Power Grid
G. FRAGKOS, Sandia National Laboratories
T. OENTUNG, Sandia National Laboratories
S. WRIGHT, Sandia National Laboratories
N. SHARAN, Sandia National Laboratories

26TD0197 - Coordinated Attack on the Charging-Discharging Cycle of Batteries in the Grid
S. SHRESTHA, New Mexico State University
Z. KHANJARINEZHADJOONEGHANI, New Mexico State University
S. MISRA, New Mexico State University

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26TD0202 - Towards Flexible and Autonomous Cyber-physical Ecosystems for Trusted Security in Critical Infrastructure Systems

S. HOSSAIN-MCKENZIE, Sandia National Laboratories
G. FRAGKOS, Sandia National Laboratories

26TD0242 - Detection of False Data Injection Attack in State Estimation using Low-Rank Optimization and its Limitations with the ISO-NE Case Study

S. BASUMALLIK, New York Power Authority
M. HONG, ISO New England

26TD0315 - Distributed Configuration Management and Resilient Incident Response for Critical Power Systems

S. TALUKDER, Eaton Research Laboratory
J. ZHANG, Eaton Research Laboratory
D. SANCHEZ, Eaton Research Laboratory
N. SAHANI, Eaton Research Laboratory
X. GAO, Eaton Research Laboratory
D. ISHCHENKO, Eaton Research Laboratory
X. FAN, Eaton Research Laboratory
E. BUCK, Eaton Research Laboratory
N. PETERSON, Eaton Research Laboratory

26TD0393 - Latency-Aware Deep Learning Benchmark for Real-Time Cyber-Physical Attack and Fault Classification in Inverter-Dominated Power Grids

E. ABUKHOUSA, Georgia Institute of Technology
S. ZONOUZ, Georgia Institute of Technology
A. S. MELIOPOULOS, Georgia Institute of Technology

26TD0447 - Dynamic State Estimation-Based Protection of Transmission Line Shunt Reactors Against Cyber Attacks

K. PRABAKAR, King Fahd University of Petroleum and Minerals
S. S. F. SYED AFROZ, Georgia Institute of Technology
F. ALSAEED, Georgia Institute of Technology

E. ABUKHOUSA, Georgia Institute of Technology
S. ZONOUZ, Georgia Institute of Technology
A. S. MELIOPOULOS, Georgia Institute of Technology
R. ELMOUDI, New York Power Authority

Power Systems Relaying & Control

26TD0043 - Neutral Point Treatment and Residual Current Compensation for Wildfire Mitigation in Medium-Voltage Networks

A. ALHAFARI, Trench Austria GmbH
A. AICHHORN, Trench Austria GmbH
M. ROBEISCHL, Trench Austria GmbH

26TD0362 - The Key Role of FACTS Control in Enabling Integration of Large Data Centers

M. ILIC, MIT/CMU

26TD0328 - FLISR; When Communications Fail; A Dynamic Approach to Grid Resiliency and Improved Reliability

M. GARVER, Beckwith Electric – A Hubbell Brand
M. PATEL, Dominion Energy
K. SCOTT, Dominion Energy

26TD0085 - Impact of a Grid-Forming Inverter with Stabilizer on the Dual-Quadrilateral Power Swing Blocking

C. PERALTA, Iowa State University
H. VILLEGAS PICO, Iowa State University

26TD0194 - Analysis of DER Interconnection Screening Criteria in Low-Voltage Spot Networks

J. YUSUF, Sandia National Laboratories
J. A. AZZOLINI, Sandia National Laboratories

M. RENO, Sandia National Laboratories

26TD0120 - A Fast and Setting-Less Breaker Failure Backup Protection Scheme for Multi-Terminal HVDC Grids (Transactions Paper Number: TPWRD-00644-2024)

M. RADWAN, University of Waterloo
S. PIROOZ AZAD, University of Waterloo

26TD0249 - Implementation of Custom Automatic Tap Control Logic for Phase-Shifting Transformers Using Conventional IEDs

R. PACHECO, TSEA Energia
R. LORETO, TSEA Energia

26TD0255 - A Novel High-Impedance Fault Detection Technique using Dynamic Mode Decomposition and Shapelets

O. ACOSTA, Sandia National Laboratory
M. JIMENEZ, Sandia National Laboratories
J. HERNANDEZ, Sandia National Laboratories
M. RENO, Sandia National Laboratories

26TD0291 - Adjustment of parameters in relays that implement Current-Based Discrimination Logic Between Phase–Earth and Phase–Phase Faults

S. ECHEVERRI, Ingeniería especializada
C. CAPERA , Ingeniería especializada
S. LÓPEZ, Ingeniería especializada
J. JARAMILLO, Ingeniería especializada

26TD0442 - A Systematic Framework for Tuning Open-Source Multifunctional IBR Models to Emulate OEM Black-Box Fault Dynamics

S. CHAKRABORTY, NREL
P. HENRIQUE PINHEIRO, University of Idaho
R. GONCALVES BAINY, University of Idaho
B. K. JOHNSON, University of Idaho

S. MANSON, SEL
J. WANG, NREL
A. HOKE, NREL
C. J. KRUSE, Kauai Island Utility Cooperative

26TD0453 - A PSCAD Library Component Featuring a Reduced-Order IBR Model for EMT-Based Fault Studies

O. CORNMESSER, NREL
R. MAHMUD, NREL
S. CHAKRABORTY, NREL
J. WANG, NREL
A. HOKE, NREL
P. HENRIQUE PINHEIRO, University of Idaho
B. K. JOHNSON, University of Idaho
R. GONCALVES BAINY, University of Idaho

26TD0431 - Upskilling the Protection Workforce with Functional Digital Twins: From Concept to Training Practice

D. MANI, Megger
A. BONETTI, Megger
A. CARLSSON, STF Ingenjörsutbildning AB
N. WETTERSTRAND, Megger
T. ELIASSON, Kraftic AB

Smart Buildings, Loads & Customer Systems

26TD0276 - Quantifying the Voltage Management Service Potential of Grid Edge Resources

A. K. JAIN, PNNL
S. BISWAS, PNNL
S. A. RAZA NAQVI, PNNL
S. BENDER, PNNL
J. KOLLN, PNNL

IEEE PES T&D CONFERENCE & EXPOSITION

Poster Session
Wednesday, 6 May, 2026
5:00PM – 7:00PM
S406/Vista Ballroom

Switchgear

26TD0254 - Study on Blast Flow after Current Zero in C_4F_7N/CO_2 Gas Mixtures Circuit Breaker under Large Current Interruption Condition

W. GU, Sieyuan Electric Co., LTD
Y. LI, Sieyuan Electric Co., LTD
X. WANG, Sieyuan Electric Co., LTD
W. SANG, Sieyuan Electric Co., LTD
B. ZHANG, Shenyang University of Technology
X. LIN, Shenyang University of Technology
Z. GENG, Shenyang University of Technology

26TD0059 - Next Generation F-Gas free Gas-Insulated Switchgears with Natural-Origin Gases for 38 kV Level <br clear="all">

K. R. VENNA, Siemens AG
O. HARTMANN, Siemens AG
B. SCHUEPFERLING, Siemens AG

26TD0076 - Effective Sulphur Hexafluoride Cycle Management: Climate Protection, Reliability And Cost Reduction Hand In Hand

U. AMMER, DILO Armaturen und Anlagen GmbH
C. ZIELGSCHMID, Aspectus Engineering Serv. Pte. Ltd

26TD0464 - 800 kV Dead Tank Circuit Breaker Free of SF Gas

M. LANE, Hitachi Energy
C. KURINKO, Hitachi Energy
T. SCHULZE-KOENIG, Hitachi Energy
C-c YANG, Hitachi Energy
R. VOSS, Hitachi Energy
S. KOTILAINEN, Hitachi Energy
M. BUJOTZEK, Hitachi Energy

26TD0310 - Low-Cost Autonomous Prognostic Monitoring System for Oil-Insulated Medium Voltage Switchgear

S. DAHALE, Eaton Corporation
S. TALUKDER, Eaton Corporation
Q. LI, Eaton Corporation
S. CHANDRA, Eaton Corporation
D. ISHCHENKO, Eaton Corporation
N. PETERSON, U.S. Army Corps of Engineers

Transformers

26TD0052 - Dielectric Dissipation Factor (Tan delta) of liquids: how to avoid incorrect measurements

F. SCATIGGIO, A&A Fratelli Parodi
G. CAMPI, A&A Fratelli Parodi

26TD0070 - Real Time Bushing Monitoring: The Key to Effective Transformer Surveillance

I. RADECIC, KONCAR Electrical Engineering Institute Ltd.
B. JURISIC, KONCAR - Electrical Engineering Institute Ltd
M. PERKOVIC, KONCAR - Electrical Engineering Institute Ltd
V. JERBIC, KONCAR - Electrical Engineering Institute Ltd
I. IVANOVIC, KONCAR - Electrical Engineering Institute Ltd
D. FILIPOVIC-GRCIC, KONCAR - Electrical Engineering Institute Ltd
M. SCHÖNBERGER, Croatian Transmission System Operator

26TD0099 - Continuous Thermal Monitoring for Transformer Radiator Diagnostics: A Case Study at Ozarks Electric Cooperative

E. SOTTER, Systems with Intelligence Inc.
D. SPURLOCK, Ozarks Electric Coop

26TD0104 - Parameters Impacting magnitude of GIC in Power Transformers

R. GIRGIS, Hitachi
M. BERNESJO, Hitachi

26TD0200 - Verification of Magnetic and Thermal Impact of GIC on Two Large Power Transformers On – Site
R. GIRGIS, Hitachi
M. BERNESJO, Hitachi
D. BONMANN, Hitachi

26TD0106 - Impact of Core Type on Voltage Imbalances in 3- Phase Transformers Operating in a Reverse Power Flow Mode
H. ZHANG, Hitachi Energy

26TD0267 - Mitigating the Impact of Geomagnetically-Induced Currents on Transformer Differential Protection
A. ADEMOLA, Dominion Energy
A. MOHAMMADHASSANI, Dominion Energy
L. CHEBBO, Dominion Energy
I. KOREDE, Dominion Energy

Transmission and Distribution

26TD0157 - Scalable Weighted Consensus Game Design for Cooperation among Distribution Applications
R. SADNAN, Pacific Northwest National Laboratory
M. MUKHERJEE, Pacific Northwest National Laboratory
T. SLAY, Pacific Northwest National Laboratory
A. REIMAN, Pacific Northwest National Laboratory

26TD0113 - An AC Contingency Reliability Based Method for Energy Storage Sizing and Placement
A. NASSIF, Pacific Northwest National Laboratory

K. GUDDANTI, Pacific Northwest National Laboratory
M. A. MAMUN, Pacific Northwest National Laboratory
A. BHARATI, Pacific Northwest National Laboratory
P. MALONEY, Pacific Northwest National Laboratory
M. ELIZONDO, Pacific Northwest National Laboratory
E. ALFARO-MEJIA, LUMA Energy
D. HAUGHTON, LUMA Energy
O. GARZON, LUMA Energy
T. ROSA RAMIREZ, LUMA Energy

26TD0114 - Protection and Performance Grounding Considerations in Networked Microgrids

A. NASSIF, Pacific Northwest National Laboratory
O. ALIZADEH, Quanta Technology
D. HAUGHTON, LUMA Energy

26TD0275 - Responsible Adoption of Artificial Intelligence (AI) in Electric Grid Operations

R. STOLWORTHY, Idaho National Laboratory
E. STEWART, Idaho National Laboratory
M. CULLER, Idaho National Laboratory

26TD0111 - Grid Optimization Gets Real: One Year Inside America's Largest Dynamic Line Rating Deployment

T. CLEAVER, Heimdall Power
L. COLEN, Heimdall Power

26TD0116 - Numerical Electric Field Model Evaluation of In-Service Powerline & Laboratory Test Configurations

S. BELL, K-LINE INSULATORS

26TD0121 - Multi-Stage Fuzzy Logic Algorithm for Optimal Placement of GIC Blocking Devices

A. ABUHUSSEIN, Gannon University
K. HATFIELD, Gannon University
D. HUGHES, Gannon University

26TD0128 - Research on the Impact of STATCOM in Improving Power Quality During Short-Circuit Testing

H. YANG, Sieyuan Qingneng Electrical and Electronic Co., Ltd
L. HUANG, Sieyuan Qingneng Electrical and Electronic Co., Ltd
L. ZHANG, Sieyuan Qingneng Electrical and Electronic Co., Ltd
X. WEI, Siyuan Electric Co., Ltd
L. CHEN, Siyuan Electric Co., Ltd
X. SUN, Siyuan Electric Co., Ltd

26TD0149 - Computational Approach to Optimize Line Hardware Fittings of 765 kV Composite Long Rod Silicone Rubber Single Suspension Insulator String

A. GARODIA, IAC Electricals Pvt Ltd
S. MORE, IAC Electricals Pvt Ltd
C. KEMPARAJU, IAC Electricals Pvt Ltd
P. NIRGUDE, IAC Electricals Pvt Ltd

26TD0161 - Evaluation of solar heating in line rating calculations using spatially distributed solar irradiance measurements

D. SKROVANEK, Skylark Energy Solutions
G. LETSCH, PI-COM Ingenieurbuero
C. GROSSER, PI-COM Ingenieurbuero
U. ZIEBOLD, 50Hertz Transmission

26TD0170 - Real-time Load Current Monitoring of Overhead Lines Using GMR Sensors

M. M. R. CHY, Lamar University
M. R. A. A KHAN, Lamar University
M. S. MAHAMUD, Lamar University

A. I. SIFAT, Lamar University
F. J. S. MCFADDEN, Robinson Research Institute

26TD0175 - Resilient T&D Grid Operation Using DER-Enabled Microgrids and Mode-Adaptive Inverter Control
R. I. SHUPTY, University of North Carolina at Charlotte
B. CHOWDHURY, University of North Carolina at Charlotte

26TD0190 - Latest in 765 kV Transmission Line Electrical Design
R. SCHAERER, POWER Engineers, Member of WSP
M. LEONARD, POWER Engineers, Member of WSP

26TD0443 - Towards Planning and Procurement of Grid Services from Customer Assets for Enhanced Resilience
A. K. JAIN, PNNL
M. MAHARJAN, PNNL
M. MUKHERJEE, PNNL
M. G. YU, PNNL
S. POUDEL, PNNL
T. HARDY, PNNL

26TD0292 - Dynamic Line Rating for Offshore Wind Submarine Cables: Case Studies in Selected U.S. Locations
M. SUN, Idaho National Laboratory
A. W. ABBOUD, Honeywell International Inc.
S. S. M. ALAM, Idaho National Laboratory
J. P. GENTLE, Idaho National Laboratory

26TD0334 - Accurate Representation of Distribution System Dynamics with DERs for Bulk System Studies
Transactions Paper Number: https://doi.org/10.1109/TIA.2025.3531826
K. K. CHALLA, Iowa State University
A. S. R. RAMAPURAM MATAVALAM, Arizona State University

V. AJJARAPU, Iowa State University

26TD0353 - Next-Generation Grid Resilience: Unlocking Black Start Potential through Virtual Power Plants and Vehicle-to-Grid

E. C. NYEMAH, City College of New York
A. MOHAMED, City College of New York
M. K. KAMALUDEEN, Columbia University

26TD0384 - Achieving Organizational Resilience through Human and Organizational Performance

Transactions Paper Number: 1

P. HURYSZ, Davey Resource Group
A. BALKIN, Ohio State University
A. TOLTON, NiSource Inc.
D. KERK, NiSource Inc.
C. COX, Arizona Public Service

26TD0410 - Operational Risks from Wholesale DER Participation amid Regulatory Shifts

J. YIP, Pacific Northwest National Laboratory
S. POUDEL, Pacific Northwest National Laboratory
A. NASSIF, Pacific Northwest National Laboratory
J. KOLLN, Pacific Northwest National Laboratory

Renewables Systems Integration Coordinating

26TD0158 - Decoupling Behind-the-Meter PV Generation to Determine Native Load: A Case Study from O&R

H. LU, Orange and Rockland Utilities
A. ANAYA, Orange and Rockland Utilities
W. WANG, New York University

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Wednesday, 6 May, 2026
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26TD0435 - Real-Time Closed-Loop Cloud Architecture for Operation and Control of Aggregated DERs

S. OZEL, Michigan State University
A. ABDELKADER, Michigan State University
M. BEN-IDRIS, Michigan State University
J. MITRA, Michigan State University

26TD0284 - A Day-Ahead Bidding Framework for Renewable-Fed Distributed Energy Resource Aggregators

N. PUDUKKARAI SRINIVAS, Arizona State University
S. OSTOVAR, Arizona State University
M. KHORSAND, Arizona State University
A. MONDAL, Electric Power Research Institute
N. SINGHAL, Electric Power Research Institute
I. KRAD, Electric Power Research Institute
A. SAAD, Electric Power Research Institute

26TD0302 - A Parametric Reduced-Order Model for Inverter Short-Circuit Response in Protection Studies

R. MAHMUD, National Renewable Energy Laboratory
O. CORNMESSER, National Renewable Energy Laboratory
S. CHAKRABORTY, National Renewable Energy Laboratory
J. WANG, National Renewable Energy Laboratory
A. HOKE, National Renewable Energy Laboratory
J. CALE, Colorado State University
B. K. JOHNSON, University of Idaho
P. PINHEIRO, University of Idaho
R. GONCALVES BAINY, University of Idaho

26TD0381 - Peak Demand Mitigation with Reinforcement Learning-Enabled Battery Energy Storage Systems

Y. PEI, Michigan State University
C. CHAUDHARY, Michigan State University

A. ABDELKADER, Michigan State University
M. BEN-IDRIS, Michigan State University
J. MITRA, Michigan State University

26TD0402 - Intelligent Solar Integrated Three-Phase Grid-Forming Inverter Using Droop Control

S. ALAM, King Fahd University of petroleum and minerals
M. A. ABIDO, King Fahd University of petroleum and minerals
K. PRABAKAR, King Fahd University of petroleum and minerals