2021 CIGRE Canada Conference – Toronto, Ontario

Table of Contents - Papers

382 – EV Vehicle the challenges, the future existence to Gasoline Vehicle. How the Petroleum Industry transforms with the Emerging EV vehicle Industry

384 - SF6 Gas, A Greenhouse Gas - Possible Replacements

386 - EV Fast Charging Stations and Power Quality

390 - Cooperative Grid-Forming Control Strategy for PV and Battery Energy Storage System in an Isolated Microgrid

391 - Real-time Implementation and Performance Analysis of a Machine Learning Based Voltage Stability Monitoring System

392 - Steady State and Dynamic Performance Assessment of a Conceptual McMaster Campus Microgrid

397 - Cybersecurity risk reduction leveraging cyber range solutions

399 - An Optimization Method on System Model Verification

400 - Asset management practices and strategy – A discussion on the new outlook

401 - Distribution Neutral Point Treatment in North America and Europe and Grounding System in Distribution Stations

402 - Fault Analysis of a Conceptual McMaster University Microgrid Design

405 - Innovative Resilient Transformers for Maximum Operating Flexibility

407 - Ferroresonance Studies for Protection Relay Replacement on Generator Relays. Lesson Learned and Straightforward Approach for Mitigation Solutions

408 - Forecasting Near-Term Failure of Transformers Using Reliability Statistics on Dissolved Gas Analysis

409 - 3D Virtual Sub-Station Walkthrough

411 - Chasing the Peak – Potential Reduction in Global Adjustment Charge For McMaster University

413 - First CO2-neutral 145 kV Dead Tank Circuit Breaker and 145 kV / 50 kA GIS with Vacuum Switching and Clean Air Insulation Technology

414 - Transformer Dynamic Overload Guide

415 - Design of FRP Pole Structures for Transmission Lines in British Columbia

418 - Fiber-Optic Distributed Strain and Temperature Sensor for Enhancing Power Grid Reliability and Utilization

421 - Using Waveform Analytics for Asset Management Operational Case Studies

422 - Ontario Electricity Sector Scenario, Technological Advancements and Challenges – a Discussion

423 - End-to-End Dynamic Testing Methodology for Validation of Line Differential Protection - Test Considerations and Challenges

424 - Advanced Maintenance Through Digital Twins

425 - Securing a substation LAN with a Software Defined Network and a Functional Security Monitoring Intrusion Detection system

427 – Energy Autonomy and Microgrids in Remote Communities

430 - Combining Controlled Switching and Flux Conditioning to Eliminate the Voltage Dips When Energizing the Step-Up Transformer of Renewables and Distributed Energy Resources

431 - EPZ: A giant 315 kV double-circuit interconnection tower

432 - Realizing benefits from securing access and remotely managing devices across the Duke Energy enterprise

433 - Monitoring & Condition Assessment of large Rotating Machines using latest Partial Discharge Detection and Analysis Techniques

434 - Development of SF6 free Clean Air Instrument Transformers and Power VTs

435 - Innovative Applications of High Voltage Instrument Transformers for Monitoring Power System Transients and Harmonics

436 - Reporting on the Last 6 years of Field Inspections Using Line Core for the Non-Destructive Evaluation of Overhead Conductors

437 - Power flow control of carbon-neutral energy to industrialized urban areas

438 - Experiences with NERC TPL-007-4 Geomagnetic Disturbances (GMD) Vulnerability Assessments in Ontario

441 - On-site Partial Discharge Testing of Transformers

442 - Our Transportation and Energy Future – Industries Collide

443 - Rapid urbanization is on the rise. How does this impact civil project design in dense urban settings?

444 - Infrared & AI Focused Asset Performance Management (APM)

445 - Offshore substation platform expandability

446 - A vibration-sag-tension-based icing monitoring of overhead lines

447 - Lifetime Impact of SF6-Free Medium Voltage Switchgear Solutions

448 - Exploration of Modular Power Flow Control Technology on the Manitoba Power System

449 - Methodologies and Tools for Full-Cycle Automation of Transmission Line Protection Settings Evaluation

451 - Methodologies and Processes to Enhance the Accuracy, Technical Quality, and Efficacy of Protective Relay Testing using COMTRADE Files

452 - Hydro One Hybrid Thermal Model for Ampacity Calculations of Bare Overhead Conductors in Steady State

453 - Online Neutral Line Fault Locator (nLFL) for HVdc Applications

454 - Inrush Current Analysis for Transformers in Isolated Microgrids

455 - Dynamic System Equivalents using Integrated PSS/E and Python for Transient Stability Studies

456 - Advanced Diagnostic Testing of Medium Voltage Utility Cable Systems

460 - Comparative Assessment of Hosting Capacity Analysis Methods: Industry Best Practices and Standardization Framework

461 - UPFC PLUS – Dynamic Load flow Management to increase utilization of transmission assets

463 - CIGRE JWG A3.43 progress report “Tools for lifecycle management of T&D switchgear based on data from condition monitoring systems”

465 - 3D Laser Scanning and Autodesk Inventor Workflow in Substation Design

466 - The influence of transient parameters on the ageing of transformer turn-to-turn paper-oil insulation

467 - Performance validation of a twin spacer damper system for AAC 49 mm conductors

471 - Grid Resilience Strategy – Natural Hazards: High Level Pragmatic Approach

472 - Electricity Grid Resilience Adaptation Framework – Proposed

473 - Modernizing Distribution Grid for DER Integration Using Distributed Edge Intelligence: Wireless Applications & Test Results

474 - Exploiting DC-DC Converters for DC fault protection in a DC Grid

475 - Understanding the contribution of the noise to the error in LPITs