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Reference: **SESSION_2021_A3**



Type:

Session Materials

Title:

Sessions 2020 & 2021 - SC A3 Package

Contents:

Videos

SC A3

- **2020** - Workshop A3/B4: Meshed offshore HVDC transmission grid development
- **2020** - Tutorial: Innovation and trends in transmission and distribution equipment
- **2020** - Paper Session 3 (2020.08.27)
- **2020** - Paper Session 2 (2020.08.26)
- **2020** - Paper Session 1 (2020.08.26)
- **2021** - GDM 2 (2021.08.27)
- **2021** - GDM 1 (2021.08.26)
- **2021** - Workshop A3/B3: The impact of SF6 - Free alternatives in T&D substations and its switchgear switching equipment
- **2021** - Tutorial: State-of-the-art of DC circuit-breakers in T&D

General

- **2020** e-session Opening Ceremony (2020.08.24)
- **2020** e-session International NGN Activities Update and Discussion (2020.08.28)
- **2020** e-session_20200828_Women in Engineering_ Embracing Change and Overcoming Barriers(2020.08.28)
- **2020** e-session_20200903_closing speech from CIGRE President, Michel AUGONNET (2020.09.03)
- **2021** VCS Opening Ceremony (2021.08.20)

- **2021** VCS NGN (2021.08.23)
- **2021** VCS Women in Energy (2021.08.23)

Documents PDF

Session Papers & Presentations

- **A3-101** EDISON: A New Generation DC Circuit Breaker
- **A3-102** Environmental Performance of Dead-Tank Circuit Breakers with SF6 and Alternative Gases
- **A3-103** VARC DC circuit breaker – a versatile concept for non-zero current interruption
- **A3-104** Innovative T&D Switching Equipment and Development of its Testing Technology
- **A3-105** Low loss DC circuit breakers and DC GIS equipment
- **A3-106** First CO2-neutral 145 kV and up to 63 kA Dead Tank Circuit Breakers based on Vacuum Switching and Clean Air Insulation Technology
- **A3-107** Fault current limiters for electrical grids 220 kV on the base of the fast-acting highvoltage explosive commutators
- **A3-108** Studying the characteristics of non-traditional current and voltage converters for digital substations
- **A3-109** Power plants Modernization by Smart integrated vacuum generator breaker switchgears
- **A3-110** Development and Electrical Performance Research of a 12kV C4F7N/CO2 Ring Main Unit
- **A3-111** Experience of Capacitive Current Switching of EHV and UHV AC Circuit Breaker in Power System and Test
- **A3-112** Basic aspects of switching with series-connected vacuum interrupter units in high-voltage metal-enclosed and live tank arrangements
- **A3-113** Interrupting Performance Evaluation of High-Voltage Gas Circuit Breakers Using CFD Simulation and Data Analysis Technique
- **A3-114** The First Development of SF6-free 170kV 50kA 60Hz GIS with Fluoronitrile (C4F7N) Mixtures
- **A3-115** Case Study – Improving Reliability of Circuit Breaker by using Controlled Switching and removing Pre Insertion Resistor (PIR)
- **A3-116** Innovative SF6 Free Load Break Switch with Shunt Vacuum Interruption (SVI) Technology
- **A3-117** Return of experience of the SF6-free solution by the use of fluoronitrile gas mixture and progress on coverage of full range of transmission equipment
- **A3-118** C5 fluoroketone based gas mixtures as current interrupting media in high voltage switchgear
- **A3-119** Theoretical and Practical Behaviour of Eco-friendly SF6 Alternatives in High Voltage Switchgear
- **A3-201** CIGRE Reliability Survey on Equipment
- **A3-202** Operational Experience, Field Test and EMT Simulation for EHV Shunt-Reactor Switching
- **A3-204** In-service Diagnosis of Grading Capacitor Dielectric Deterioration
- **A3-205** Circuit Breaker De-Rating Assessment under High DC Time Constant

- **A3-206** Actual use survey and maintenance practice of circuit breakers for frequent switching applications
- **A3-207** A campaign for the ageing evaluation of station hollow core composite insulators after a number of years of service
- **A3-208** Overvoltages research in switching modes of cable and mixed overhead-cable lines, power transformers, shunt reactors and capacitor banks of 110-750 kV and development of a controlled switching device for the above electrical equipment
- **A3-209** X-ray inspection of operating high-voltage oil-filled circuit breakers
- **A3-210** On-line monitoring of paper-oil insulated current transformers
- **A3-211** Influence of Contact Heating on Main Circuit Resistance Measurement and Dynamic Contact Resistance Measurement in High Voltage Circuit Breakers
- **A3-212** Research on Simulation Testing Method of System Level's Strong Electromagnetic Disturbance in Substations
- **A3-213** Operational Aged Switchgear With The Age Up To 50 Years - Investigations, Testing, Results - Considerations For The Design And Operation Of Old and New Switchgear
- **A3-214** Investigation of ferroresonance oscillations in the systems with electromagnetic potential transformers by experimental and calculation methods
- **A3-215** Development of 362kV 63kA 60Hz Self-Blast Breaker without additional capacitors to prevent ferro-resonance by improving the SLF performance
- **A3-216** Damping Performance of VFTO using Magnetic Rings in 800kV GIS
- **A3-217** Approach & Experience of IoT Based Predictive Maintenance Technologies in Power Distribution Network
- **A3-218** Technical-Economic Study on Spark Gaps Replacement by Surge Arresters on Pole-Mounted MV/LV Transformers
- **A3-219** Pollution and Humidity Effects on Air Insulated Switchgear (AIS) of MV/LV Substations
- **A3-221** Digital Disconnecter and smart sensors: example of integration in the condition base asset management cloud tool
- **A3-222** External flashover of a 245kV live tank circuit breaker
- **A3-223** Monitoring of asymmetric short circuit currents at a hydro power plant using electronic fibre optical current transformers
- **A3-224** Accuracy study of a combined low-power instrument transformer in different climatic and pollution conditions
- **A3-225** Development of Light Asset Models based on Data Mining
- **A3-301** First 170 kV / 50 kA GIS with Clean Air and Vacuum Interrupter Technology as a Climate-neutral Alternative to SF6
- **A3-302** Benchmarking the suitability of a Bi-Staple Disc Spring as Novel Ultra-Fast Actuation Principle
- **A3-303** Performance tests of circuit-breakers for controlled switching

Tutorials - Documents

- **2020** Innovation & Trends in T&D Equipment

NGN Papers

- **2020** In-depth investigation of the characteristics of Aluminiumcast alloys for the enhancement of their mechanical withstand in HV devices
- **2020** Air Core Reactor Monitoring

Workshop

- **2020** - Forum A3/B4: HVDC Grid Technologies: 24 presentations
- **2021** - Forum A3/B3/D1: SF6 alternatives workshop

Summary Report

- **2020** SC A3

More Informations :

File Size:206,7 MB **Study Committee :** A3 **Year:**2021
