



SC C2 'System Control and Operation'

Sintesi attività tecniche ed Eventi futuri

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Cirio Diego – RSE

Assemblea dei soci del Comitato Nazionale Italiano cigré
29 novembre 2018 – Auditorium Terna Galbani, Roma

Sintesi attività: Paris session 2018



Large Disturbances WS (27 agosto 2018)



- Evento organizzato in sinergia con il C5*
- Il C2 ha trattato 4 eventi:
 1. **pan-European Cold Spell January 2017**
 2. South Australian blackout 26-09-2016
 3. USA hurricanes Irma and Harvey 2017
 4. Brazilian blackout 21-03-2018
- **‘Managing Critical Grid Situations’**: prestazione a 3 voci (BE-FR-IT) su evoluzione mix generazione, adeguatezza e coordinamento regionale (MAF, Seasonal Outlook, SMTA, Risk Preparedness)

Annual SC C2 Meeting (28 agosto 2018)



- La nuova strategia cigré enfatizza la necessità di allargare il raggio d’azione ai **distributori**. In quest’ottica sono stati rivisti Scopo, Piano Strategico e Attività del C2
- Individuati **3 nuovi Preferential Subject**:
 1. Capabilities for Future System Operation (su training Operatori, decision making support tool, Wide Area Monitor. & Control)
 2. Observability, controllability, TSO-DSO
 3. DG flexibility, aggregatori, nuovi prodotti e servizi ancillari

cigré Paper C2-105



- **Titolo**: ‘Field test results of an Italian 380 kV top-down Restoration strategy from neighboring power systems supplying very long restoration path’
- **Autori**: Bassi, Baffa Scirocco, Bruno, Caciolli, Di Salvatore, Giannuzzi, Pisani, Zaottini (Terna); Pasini, Fedeli (Strel)
- **Tema**: Studio* e prova reale della direttrice di rialimentazione da Villarodin (FR) a Brindisi (1400 km)*

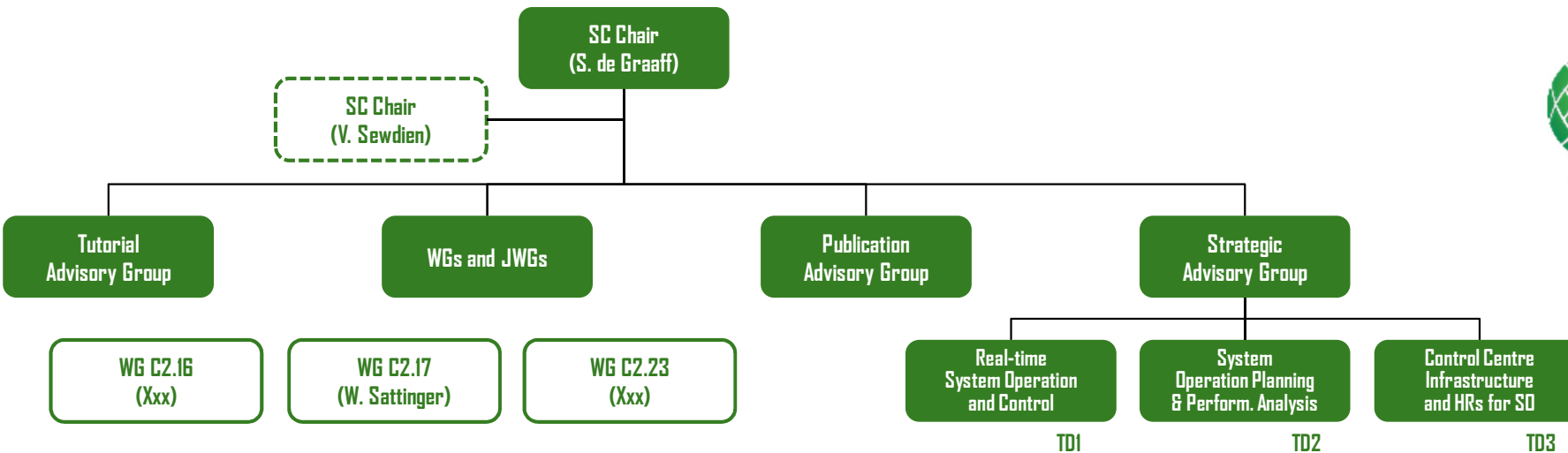
(*) Metodologia: analisi statiche e dinamiche per il controllo della tensione; analisi elettromagnetiche per i fenomeni di risonanza (DlgSILENT); analisi elettromagnetiche per lo stress meccanico ai macchinari e il comportamento del sistema protettivo (SICRE)

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Organizzazione: organismi attivi



- a** 7 Working Group
- b** 5 Joint Working Group con altri 4 SC (B4, C4, C5 e C6)
- c** 3 Strategic Advisory Group incentrati su 3 Technical Direction:
 - TD 1 Real-time System Operation and Control
 - TD 2 System Operational Planning and Performance Analysis
 - TD 3 Control Centre Infrastructure and Human Resources for System Operation



- **WG C2.16** Challenges in the control center (EMS) due to DG and RES
- **WG C2.17** Wide Area Monitoring Systems - Support for Control Room Applications
- **WG C2.23** System Restoration Procedure and Practices
- **WG C2.24** Mitigating the risk of fire starts and the consequences of fires near OHLs for SO
- **WG C2.25** Operating Strategies and Preparedness for System Operational Resilience
- **WG C2.39** Operator Training in Electricity Grids at Different Control Levels and for Different Participants/ Actors
- **WG C2.40** TSO-DSO Co-Operation – Control Centre Tools Requirements
- **JWG C2/C6.36** System Operation Emphasizing DSO/TSO Interaction and Coordination
- **JWG C2/C4.37** Recommendations for Systematic Framework Design of Power System Stability Control
- **JWG C2/B4.38** Capabilities and requirements definition for Power Electronics based technology for secure and efficient system operation and control
- **JWG C2/C5.05** Development and Changes in the Business of System Operators
- **JWG C2/C4.41** Impact of high penetration of inverter-based generation on system inertia

Coordinamento con
WG C4.47 e G015

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Publicazione ed eventi scorsi



Publicazioni da Agosto 2017

WG C2.15

- Challenges in the Control Center (EMS) due to Distributed Generation and Renewables, **TB* 700**

WG C2.23

- System Restoration Procedure and Practices, **TB 712**

JWG C2/C6.36

- System Operation Emphasising DSO/ TSO Interaction & Coordination, **TB 712**

C2/ C4

- Effects of Increasing Power Electronics based Technology on Power System Stability: Performance and Operations, **Reference paper**

JWG C2/C4.37

- Recommendations for Systematic Framework Design of Power System Stability Control, **TB in finalizzazione**

Workshop, Conferenze e Seminari

1

Data: 20 aprile 2018

Luogo: Lisbona (PT)

Evento: CIGRE Portugal Annual meeting

Rappresentanti: Susana de Graaff (SC Chair)

2

Data: 1 ottobre 2018

Luogo: Recife (BR)

Evento: XIV SEPOPE (Symposium of Specialists in Electric Operational and Expansion Planning)

Rappresentanti: S. de Graaff, E.M. Carlini

(*) Technical Brochure

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Eventi futuri SC C2



3-6 giugno 2019
in Aalborg (DK)

- 2019 CIGRE Symposium "*Going Offshore – Challenges of the future power supergrid*"
-

2021
in Slovenia

- 2019 CIGRE Symposium "*Challenges of system performances in energy transition framework - Re-powering markets and Low emission technologies - 100 years of CIGRE and vision for next*"
-

10-16 ottobre 2021
in Kyoto (JP)

- 2021 CIGRE Symposium proposal "*Active Distribution Network Planning, Operation and Control*"
-

2021
in India

- Colloquium proposal

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