



IIA and Input for the FG on System Operation

**Results of first Discussion and Inputs from System
Operation Expert Group**

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18th Florence Forum, 10-11 June 2010

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IIA and Input for FG on System Operation - Background

- System Operation (cf. Article 8 of the Regulation) is one of the three areas (together with Grid Connection and CACM) where ERGEG will conduct IIA and provide Input for the FG during the Interim Period (until March 2011)
- Grid Connection (Pilot Project) and CACM project under way after the EU Commission invitation letter on 26 March 2010
- System Operation project first phase started → EC requested on 23 April 2010 a common position of ERGEG and ENTSO-E at the XVIII Florence Forum
- First exchange of views with ENTSO-E on 10 May 2010 ...

- Some issues need to be addressed with priority, e.g.:
 - Scheduling and schedule management
 - Arrangements between TSOs (before it was e.g. MLA in UCTE)
 - Compliance monitoring and enforcement
 - Inter-synchronous-areas issues
 - Congestion Management issues (flow-based in the future, etc.)
- A roadmap and feasible plan needed
- Existing essential technical rules (e.g. P-f control, emergency control, restoration procedures) should not be “opened” without a clear goal and objective
- ERGEG: essential and important input expected from the System Operation Expert Group

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System Operation Expert Group

- In February 2010, ERGEG invited applications for System Operation Expert Group
- Candidates have been selected according to pre-defined criteria and qualifications:
 - System operation from expert's viewpoint e.g. academia, consultant or network operators, preferable at the transmission / EHV level (beyond 110 kV) and/or TSOs' operational cooperation at least within one synchronous area;
 - R&D experience either from System Operators, Generators or Academics side;
 - Knowledge of the contents of and discussions on the Guidelines of Good Practice on Operational Security recently publicly consulted on by ERGEG;
 - Electric power engineering and energy economics background is an advantage;
 - Activity in the development of national grid codes is an advantage.

SO Expert Group Members

- Marek Zima, Italy (Alba Soluzioni)
- Michael Zoglauer, Austria (TIWAG)
- Eckart Lindwedel, Germany (Fichtner)
- Javier Paradinas, Spain (Iberdrola Generacion)
- Guido Cervigni, Italy, (LECG Consulting)
- Jörg Teupen, Germany (E.On Netz)
- Steve Drummond, UK (SMD Consulting)
- Peter Wibæk Christensen, Denmark (Vestad Wind Systems A/S)
- Carlo Sabelli, Italy (TERNNA)
- Juan Rodriguez Garcia, Spain (RED Electrica)
- Jonathan O'Sullivan, Ireland (EirGrid)
- Rudolf Baumann, Switzerland (Swissgrid)
- Chrisoph Schneiders, Germany (Amprion)
- Peter Rasch, Germany (Transpower)

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SO Expert Group Kick-off 30 March 2010

- In preparation for the meeting, the experts have been asked to consider the following questions (related to IIA) and prepare their inputs:
 - Problem identification: (i) What is the issue / problem; (ii) What are the underlying drivers; (iii) Who is affected; (iv) How would problem evolve if there is no change
 - Objectives of FG for SO: (i) General; (ii) Specific; (iii) Operational
- The inputs by experts were used by the ERGEG SO project team in preparation of the first draft of Chapters 2 (Problem Identification) and 3 (Objectives) of the IIA
- This first draft intended for discussion at the second meeting on 12 May 2010

General

- **Enforceability**
- Integration of **new technologies** (DC-links, supergrids / off-shore, etc.)

Generation

- Insufficient **performance in normal and emergency operation** (ramping, dynamics, etc.)
- Uncertainty if **instructions** are followed
- Reliability – uncertainty in announced **performance**
- Lack of **information, communication**
- Different **priorisation in dispatching**
- Provision of **ancillary services not standardized**

Generation *(cont'd)*

- Intermittent generation: **uncertain behaviour**, missing **observability**, weak participation and insufficient controllability in **power system control**
- Distributed generation: lack of **clarity in relation to power system control**, performance / **restoration**
- Need of **conventional backup for wind** (power and energy ...)
- Discrepancy between **market order and network requirements**

Interconnections

- Discrepancy between **physics and market operations** (increased loop flows)
- Increased **cross-regional exchange** (DC links)
- Different behaviour of **interconnection with third countries** (e.g. non-EU countries in SEE)

TSO-TSO

- Increased **interdependence of control areas**
- How to enhance / introduce **responsibility for overall security?**
- Issues on **system status**: Are (n-1) criteria still valid? Their definition and usage?
- How to enhance **awareness of roles and responsibilities?**
- Enhance **collaboration framework** (e.g. distribution of cost/benefits)

TSO-DSO

- Behaviour of **DSOs impacts system security** (e.g. switching actions, transparency)
- **Restoration** → unclear and/or uncoordinated contribution of DSOs; no black-start contribution needed from DSOs below 110 kV
- Roles & responsibilities on e.g. load-shedding **between TSOs and DSOs**

Traders / market participants

- Lack of **detailed information** (e.g. just aggregated schedule, no detailed data on generation and load)



Initial Objectives Proposed by SO Expert Group

- Align product definitions with **operational requirements**
- Ensure **compliance** of grid codes, incentives and compliance monitoring
- Set correct / adequate **standards**
- Define and **improve processes**
- Clear **rules to apply to all**
- General **standards for participation in ancillary services**
- Framework for **cross-border regional exchange**
- Optimisation of **reserves**



Initial Objectives Elaborated by SO Expert Group *(cont'd)*

- Better **data quality and forecasting** (enforcement?)
- EU **harmonisation** of specific issues
- Services and characteristics (e.g. fault ride through, reactive power management) of **RES generators** have to be defined
- Controllability **closer to real time**
- Adjust **rules for high penetration of intermittent and distributed generation**
- Install **reactive power compensation**
- Clear **cooperation process for restoration**

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Next Steps

- Exchange of detailed views – based on experts' inputs – with ENTSO-E and preparation of a common paper
 - Presentation and discussion at the XVIII Florence Forum
 - Discussion and agreement with the EC and ENTSO-E on the action plan and project organisation / cooperation
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- Adjustments & refinement of the draft of Problem Identification and Objectives, taking into account expert inputs
 - Final Problem Identification and Objectives to be discussed at the third SO Expert Group meeting on 05 July 2010
 - Continue with preparation of the IIA and then FG

- IIA to **address all problems & objectives** and elaborate the necessary / preferred policy options
- FG input draft also to **tackle (as far as possible) all the issues** of importance for System Operation
- The first SO Code to **address the priority issues** (scheduling, TSO agreement, inter-synchronous areas' issues, congestion management, compliance monitoring and enforcement) and aim at enhancing the existing essential technical rules in terms of more details and consequent implementation at the synchronous area level
- Common **agreement and roadmap** / plan with EC, ERGEG and ENTSO-E on further code evolution in the issues where long testing, scientific analyses, etc. are needed
- **Commitment** of all parties is essential (legal framework !)



Thank you for your attention!

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