# Update on Expert Groups & Workshops

**ENTSO-E** 

7<sup>th</sup> Grid Connection European Stakeholder Committee Meeting

## **Expert Groups**

- High Penetration
- Cost Benefit Analysis
- Compliance Monitoring



#### EG on high penetration

- Total 12 members
- Stakeholder groups represented in EG:
  Wind manufacturing industry (4), HVDC manufacturing industry (2), PV inverter manufacturing industry (1), power system analysis tool providers (1), academia (2), system operators (2)
- Phase 1 from December 2016 until end of January 2017 (finished):
  Substantially reviewed existing IGD on "Fast Fault Current Contribution"
  Created first version of IGD on "High penetration of Power Electronics interfaced Power Sources" (HPoPEiPS)
- Phase 2 from March 2017:

Further improve "holistic approach" of IGD on High penetration of Power Electronics interfaced Power Sources" Deriving "grid forming" performance criteria for benchmarking and testing Achievable performance for individual features for either no, low or substantial additional cost Release updated version of IGD on HPoPEIPS end of 2017

### EG on high penetration (continued)

Continuous webinars (on usually three-weekly basis), good participation of members

Next webinar 11<sup>th</sup> September

Dedicated session during Wind Integration Workshop (Berlin) in November
 Presentations from wind and PV manufacturers, power system analysis tool providers and system operators
 40min slot for subsequent discussion reserved

#### EG on Cost Benefit Analysis

- Total 18 members
- Stakeholder groups represented in EG: manufacturers and generation (8), regulators (1), system operators (4), industrial consumers (1), storage (1), network operators (3)
- Kick-off: 18/05/2017
- Timing: 6 months
- Target: To further develop the IGD on cost benefit analysis to meet reasonable stakeholder expectations

#### Schedule:

Date	Time (always CET)	Format/Location	Purpose
11 Sept (to be rescheduled)	10-12	Webex	Present and discuss 1st draft of sections
2 Oct	10-17	Brussels	Discuss and finalise drafting
31 Oct	10-12	Webex	Present final version to group for comment
21 Nov	10-12	Webex	Finalise IGD, confirm TORs fulfilled

### EG on Cost Benefit Analysis (continued)

#### **Structure**

**Scope** – essentially this will be drawing out where in the Network Codes a CBA is required and making distinctions between the different cases (derogations and retrospective CBAs). This is similar to the 1st ENTSO-E draft.

**Methodology** – this will set out the basics of the process and will reference the scope.

**Specific cases** – covering in more detail the different applications of a CBA.

**Examples** – referencing the material submitted.

#### EG on compliance monitoring

- Status:
  - 2 physical meetings (29/11/2016 and 27/01/2017) for IGD drafting: <a href="https://www.entsoe.eu/Documents/Network%20codes%20documents/NC%20RfG/170508">https://www.entsoe.eu/Documents/Network%20codes%20documents/NC%20RfG/170508</a>
     <a href="mailto:IGD\_Guidance\_on\_Compliance\_for\_publication.zip">IGD\_Guidance\_on\_Compliance\_for\_publication.zip</a>
  - Reorganising for a re-kick off (end of September)
  - Additional members from ENTSOE WG CNC volunteered to participate
- Total ≈ 25 experts from 22 companies (received 2 more nominations during inactive period)
- Stakeholder groups represented in EG: Turbine manufacturing industry, wind manufacturing industry, co-generation industry, engineering and certification bodies, utility companies, energy suppliers, DSO association, consultant companies, standardization entities,...

## EG on compliance monitoring (continued)

#### Next steps:

- Explore (Survey?) at CNC level how technical requirements will be checked by each TSO/DSO/country once CNC apply
- Invitation to CENELEC to discuss options for coordination/collaboration on compliance monitoring
- Assessment on the need for harmonization on compliance testing and simulation
- Periodical meetings/webinars

## Public Workshops

- 2<sup>nd</sup> Public Workshop on Freq. Stability Parameters – 20<sup>th</sup> July
- NEW 3<sup>rd</sup> Public Workshop on Freq.
  Stability Parameters 4th Oct



## 2<sup>nd</sup> Public Workshop on Freq. Stab. Parameters - Summary and conclusions

- July 20<sup>th</sup> at ENTSO-E premises in Brussels
- 30+ participants
- The workshop was focused on discussing the ENTSO-E suggestions on a first set of frequency related parameters + the stakeholders' feedback to a relevant survey that was launched by ENTSO-E:
  - Frequency sensitive mode (FSM)
  - Limited Frequency Sensitive Mode Overfrequency (LFSM-O)
  - Limited Frequency Sensitive Mode Underfrequency (LFSM-U)
  - Frequency ranges
  - Rate of Change of Frequency (RoCoF) Withstand Capability
  - Synthetic Inertia (SI)
  - Demand Response very fast Active Power Control (DR APC)
- The workshop also asked for a preliminary feedback on the remaining parameters: Demand Response System Frequency Control (DR SFC), Frequency ranges of automatic connection and gradient of active power increase, Auto reconnection after an incidental disconnection, Admissible active power reduction at low frequencies.

#### 3<sup>nd</sup> Public Workshop on Freq. Stab. Parameters

- October 4<sup>th</sup> in Brussels Invitation sent
- The workshop will focus on
  - Demand Response System Frequency Control (DR SFC)
  - Frequency ranges of automatic connection and gradient of active power increase
  - Auto reconnection after an incidental disconnection
  - Admissible active power reduction at low frequencies.

Agenda and more information will be announced <a href="here">here</a>

#### Roadmap on guidance for frequency stability requirements

Synthesis of the initial context considered for the guidance (long term visions, input from stakeholders, ...)

09/03/2017 -1st Public workshop on frequency stability requirements

⇒ see next chart for details

Action plan for stakeholder involvement to be derived from workshop outcomes:

- Format of further interaction
- Scope and timing of delivery stakeholder opinions/input for providing guidance on implementation

ENTSO-E elaboration of guidance for ranges and values regarding frequency stability requirements impacting plant design and standard elaboration

July-August 2017 request for stakeholder's input in the form of public consultation on the draft updated IGD on frequency stability requirements

July 2017- Publication of a draft updated IGD on frequency stability requirements

Dec 2017 - Publication of a final version of the updated IGD on frequency stability requirements

Continuous update of analysis at synchronous area level to prepare for update of non-exhaustive requirements according to the NC amendment framework

July 2017- 2<sup>nd</sup> Public workshop on frequency stability requirements per synchronous area

ENTSO-E elaboration of a first set of guidance for operational values to be used during the operational notification procedure (e.g. default settings of parameters)

Update was necessary to properly address this important topic:

- coordinate internally e.g. with experts from Operations,
- engage further with stakeholders (3<sup>rd</sup> public workshop)
- align better with the ENTSO-E evaluation process

According to action plan

## Roadmap on guidance for frequency stability requirements (updated)

Synthesis of the initial context considered for the guidance (long term visions, input from stakeholders, ...)

09/03/2017 -1st Public workshop on frequency stability requirements

 $\Rightarrow$  see next chart for details

Action plan for stakeholder involvement to be derived from workshop outcomes:

- Format of further interaction
- Scope and timing of delivery stakeholder opinions/input for providing guidance on implementation

04/10/2017 3<sup>rd</sup> Public Workshop on remaining frequency stability parameters

July 2017- ENTSO-E proposals and views for non-exhaustive parameters for frequency stability parameters to be available

July 2017- 2<sup>nd</sup> Public workshop on frequency stability requirements per synchronous area

ENTSO-E elaboration of guidance for ranges and values regarding frequency stability requirements impacting plant design and standard elaboration

ENTSO-E elaboration of a first set of guidance for operational values to be used during the operational notification procedure (e.g. default settings of parameters)

Finalisation of the relevant IGDs and internal evaluation

The week of 20<sup>th</sup> November – Kick off the public consultation of all relevant IGDs (duration: 1 month)

Jan 2018 - Publication of final versions of the IGDs on frequency stability requirements

Continuous update of analysis at synchronous area level to prepare for update of non-exhaustive requirements according to the NC amendment framework

According to action plan

#### Overview plan for next months

