

Update on Expert Groups & Workshops

ENTSO-E

5th Grid Connection European Stakeholder
Committee Meeting

Expert Groups

- **Fast Fault current contribution**
 - **Compliance Monitoring**
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EG on fast fault current contribution / high penetration issues

- 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:
1 physical meeting and 7 webinars with at least 75 % of the members participating
Systematic overview of system needs in the respective fault periods
Derived performance requirements according to the system needs
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 performance criteria for benchmarking and testing

EG on compliance monitoring

- Total ≈ 25 experts from 22 companies
- 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

EG on compliance monitoring

Activities completed in the reporting period

	Activity	Start	End	Explanation
1	Kick-off meeting for the Expert Group (EG)	2016/11/29	2016/11/29	Establishing the expert group on compliance monitoring according to request from ACER and stakeholders
2	Review of current IGD on Compliance Monitoring (CM) and Compliance Testing (CT)	11/2016	01/2017	General guidance on compliance monitoring. ENTSO-E guidance document for national implementation for network codes on grid connection
3	Workshop with the EG CM	2017/01/27	2017/01/27	The workshop focused on creating an overview and concluding the proposed improvements for the IGD. Recommendation for the next IGD was collected.
4	Recommendations for the next version of the IGD	2017/01/27	2017/02/03	Drafting revised version of IGD
5	Revision of the IGD – CM/CT and compiling of the recommendations	2017/02/06	2017/02/10	Revised version of IGD

EG on compliance monitoring

Remaining issues

	Issue	Planned action
1	<p>Keep contact with and within the EG CM/CT</p> <p>The EG CM/CT members want to provide their skills to provide solutions and be informed and activated when/if needed.</p>	<p>Ideas to involve interested members from the EG in the standardisation processes.</p>

Public Workshops

- **CBA Workshop – 2 March 2017**
 - **Freq. Stability Parameters Workshop – 9 March 2017**
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02/03 CBA Stakeholder Workshop - Summary and conclusions

- Expectation from all stakeholders attending that an expert group is required
- Scope of IGD shall be limited to CNC implementation issues – to avoid legal ambiguity
- By respecting the principle of subsidiarity, procedural discussions on retrospective application and derogations likewise out of scope – national processes
- An expert group will need a clear commitment from all parties to work

⇒ ENTSO-E to establish an expert group taking into account the above considerations.

Proposal for Scope and Timing of Expert Group

First deliverable:

- **IGD to be amended in line with comments from workshop, but respecting the following limitations:**
 - CNC implementation issues only
 - Principle of subsidiarity with regard to national processes
 - Two examples to be added:
 - *CBA for retrospective application (ENTSO-E lead)*
 - *CBA derogations (stakeholders lead)*
- **Timescale for delivery – 6 months**

More information here: <https://www.entsoe.eu/news-events/events/Pages/Events/2017-03-02-cnc-cba.aspx?EventWorkshopId=284>

09/03 FSP Stakeholder Workshop - Summary and conclusions 1/2

Essential points to be taken into account in the Implementation Guidance Documents

- **Inertia issues**
 - Application of synthetic inertia
 - Replacing the dynamic performance of synchronous generators
 - Maturity of synthetic inertia
- **RoCoF issues**
 - Definition of reference incidents (e.g. consideration at country or above?) / technical criteria determining the requested performance and corresponding technical capabilities
 - Measurement methodology of frequency and rate-of-change of frequency needs to be defined, in particular to assess transient performance of generators.
 - How RoCoF testing is foreseen? Field test, simulation, manufacturer certificate?
 - Management of angle changes
- **LFSM**
 - Active power response – interrelation between amplitude of response and response time
 - Response delay
- **Controllability of large number of generating units (for distributed generation)**
- **Cross-country harmonisation of parameters (synchronous area level vs. country level)**

09/03 FSP Stakeholder Workshop - Summary and conclusions 2/2

- HVDC
 - Parameters for HVDC system embedded within a synchronous area should be covered by an IGD
 - Parameters for HVDC systems interconnecting two synchronous areas
- A fair/shared action for each member state and each generator/contracted generator within the member state should be reached
- Capabilities to be distinguished from protection settings while ensuring consistency
 - e.g. robustness to frequency sensitivity vs. loss-of-mains / intentional islanding
- Technical capabilities vs. Operational performance
 - Common interpretation of definitions / terminology
 - Distinction between uses cases for design and operation
- Compliance testing/simulation of connection requirements defined by selectable values within a range

More information here: <https://www.entsoe.eu/news-events/events/Pages/Events/2017-03-09-cnc-freq.aspx?EventWorkshopId=283>