



Advisory Council DS3 Programme Meeting



Date: 24th October 2011
Venue: EirGrid Conference Centre
Chair: Fintan Slye
Meeting: No.1

Attendees: Yvonne Coughlan, Shane Rourke, Jon O'Sullivan, David Cashman, Dick Lewis, Fintan Slye, Paul Brandon, Donal Smith, Peter Harte, Peter Duffy, Juan Ma Rodriguez, Katrina Polaski, Ian Luney, Gráinne O'Shea, Carsten Junge, Úna Dixon, Joe Duddy, Michael Conlon, Gerry Hodgkinson, Pamela Walsh, Mervyn Adams, Colin Spain.

Apologies: Mark O'Malley, Catriona Diviney, Peter Thomas, Rónán O hOgartaigh, Davina McCay.

General:

The purpose of the Advisory Council meetings is to provide an opportunity for detailed input from industry on the DS3 programme. This was the first meeting of the Advisory Council. Meetings will take place quarterly. In advance of the meeting, draft DS3 programme work plans were circulated to the Advisory Council in addition to discussion papers on System Services and Rate of Change of Frequency (RoCoF). The meeting was structured around a number of key areas:

1. Modus Operandi of the Advisory Council
2. Programme Overview
3. RoCoF
4. System Services
5. Any Other Business

Modus Operandi:

Discussion Topics:

- The need for transparency within the DS3 programme was stressed as being important.
- The terms of reference for the Advisory Council for the DS3 programme were agreed with the Advisory Council.
- A preference was expressed that all material (agendas, discussion papers etc.) should be circulated 10 days in advance of any Advisory Council meetings.
- The importance of frequently updating the website to ensure DS3 progress is communicated to the wider industry was noted.

Action items:

- Provide information relating to upcoming Advisory Council meetings no later than 10 days in advance of the meeting. [TSOs]
- Organise an extranet webpage to distribute the information to Advisory Council members in advance of the meeting. [TSOs]
- Publish all minutes, presentations and discussion papers after a review has been conducted by all attendees. [TSOs]

DS3 Programme Overview:

Discussion Topics:

- There was a general consensus that stakeholder engagement has been proactive to date and that the DS3 programme, including the plan for stakeholder engagement, appears comprehensive.
- There was a request that the DS3 Overview Plan includes a section illustrating clearly how each of the work- streams interact (dependencies).
- There were comments and suggestions around the wording of various elements of the detailed sections of the DS3 plans.
- It was noted that it is important that information on DS3 is pitched at the right level when holding industry forums etc.
- It was suggested that it may be appropriate to invite Demand Side participants to Advisory Council meetings for specific aspects of the programme relating to Demand Side Management.
- There was some discussion on targets for the DS3 program and how these may influence, or be influenced by, external work programs. The TSOs and RAs acknowledged this and will monitor it on an on-going basis.
- It was pointed out that the more clarity there is on standards (Grid Code etc), and how they will be applied, the better manufacturers can respond and adapt to ensure these are met.

Action Items:

- Update DS3 overview document to clarify how each work stream relates to the next. Timelines, milestones and dependencies for each work package are to be clarified further. [TSOs]
- Consider engagement with Demand Side participants about DS3 program as required. [TSOs]
- Review System Tools section of the project and update to include details around real time controllability of wind farms. [TSOs]
- Revise wording of appropriate programme plans to ensure that it is clear that the programme addresses the full generation portfolio, not just wind generation. [TSOs]
- Review of programme plans [All]

Frequency Control – RoCoF Discussion Paper:

Discussion Topics:

- Studies have shown that there are two main causes of RoCoF. These are the RoCoF following the loss of the largest in-feed on the system and the potential RoCoF in the second or so following a network fault where there is a substantial temporary loss of wind generation on the power system. Both of these are exacerbated by the reduction in system inertia due to the displacement of synchronous generation by non-synchronous generators and interconnectors.
- The consequences of increased ROCOF which were discussed included:
 - Unknown effects on existing generating plant (shock loads and control issues).
 - Cascade tripping of embedded generation relying on ROCOF for island protection.
 - Reduction in the frequency nadir following a low frequency event leading to increased load shedding and increased risk of system collapse unless addressed.*Note: this has been the focus of a GB Grid Code working group¹.*
- The two options outlined in the discussion paper were discussed as possible solutions to mitigate the issues surrounding RoCoF.
 - The first option involves investigating changing the transmission and distribution system protection settings and investigating the capability of plant to ride through higher RoCoF with a view to increasing the RoCoF withstand required by the Grid Codes CC.7.3.1.1, CC.7.4 & WFPS1.5.1 from 0.5 Hz/s to e.g. 4 Hz/s.

¹ <http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/workinggroups/freqrespTSG/>

- The second option involves maintaining a sufficient amount of synchronous inertia on the system to avoid potential RoCoF issues.
- The TSOs stated that they are working closely with the DSOs to investigate solutions.
- It was noted that consideration must be given to any possible risks that may arise due to the changing of protection settings on the system.
- It was suggested that possible solutions to the RoCoF issue could be a combination of both options outlined rather than just one method.
- In any solution, it was noted that costs (ultimately to consumers) must be factored in to any decision.
- The ability of wind farms to provide emulated inertia to the system was discussed. The capability of this emulated inertia to contribute to the RoCoF issue was then debated. The TSOs noted that in the Facilitation of Renewables studies, the emulated inertia capability of wind farms was examined and was shown to contribute to limiting the frequency nadir reached.
- There was an offer of a demonstration project to show how wind farms could contribute to providing inertia. The TSOs welcomed the opportunity to engage on such a project.
- It was suggested that discussion with other TSOs and other island grid operators could be useful.
- It was stated that it may be difficult for existing conventional generators to obtain exact information on the level of RoCoF a unit is capable of riding through. There is currently ongoing work in Europe around this topic and it was suggested that the TSOs should check if there are relevant studies/analysis.

Action Items:

- Review the current discussion paper and provide further detail on the issues raised in the original document. Solutions to RoCoF to be analysed and considerations to be given to the combination of the two methods proposed. [TSOs]
- Details to be provided to the TSOs on progressing the demonstration project [specific participant]
- Work with industry and other TSOs on determining a method to best quantify the RoCoF capabilities of generators. [TSOs/Industry]
- Set up a working group under Grid Code Review Panel on ROCOF. [TSOs]
- Follow up with various parties in Europe on the RoCoF capability of plant [TSOs]

System Services:

Discussion Topics:

- The discussion paper circulated was reviewed. The general consensus was that the paper as presented was relatively comprehensive.
- It was noted that proposals should not focus only on wind farm power stations. The controllability, capability and monitoring of all Users are equally important.
- An international review of system services is currently being carried out and is to be published by the TSOs in the coming months.
- The general view of the Advisory Council was that the remuneration mechanisms for System Services should be reviewed.
- The influence of market structures on payments for services was discussed. The TSOs and Regulators are monitoring developments in the market structure and how this may affect system services requirements.
- The ability of emerging technologies such as storage to provide unique services was discussed. The TSOs stated it was their intention to articulate the services needed by the system without being prescriptive on the technology type.

Action Items:

- Develop a consultation paper based on the discussion paper and informed by the views of Advisory Council - to be published in quarter one of 2012. [TSOs/RAs]
- The period of consultation for the paper is to be a minimum of 6 weeks to allow for adequate time for review. [TSOs/RAs]

- TSOs to publish international review of systems services in the coming months. [TSOs]

Any Other Business

- The next meeting will be in Jan/Feb 2012 in Belfast or Dundalk. Options for dates to be circulated.