DS3 Programme Status Update

14th January 2015

- The TSOs sent a letter to the SEM Committee on behalf of Advisory Council members on 14/11/2014. The letter conveyed the concern of the DS3 Advisory Council that delays in the implementation of the DS3 Programme have the potential to have a significant impact on both consumers and generator owners and developers and ultimately could jeopardise the delivery of 2020 renewable electricity targets.

- CER announced the formal commencement of the RoCoF Implementation Project on 21/11/2014 - see here. UR announced on 21/11/2014 that the timelines of the project in Northern Ireland would be aligned with those in Ireland.

- A RoCoF Alternative Solutions workshop was held in Dundalk on 21/11/2014 with approximately 70 industry representatives attending. This workshop included a number of industry presentations which can be found here. Following this, the TSOs invited industry to submit comments on the topics discussed at the workshop such as potential alternative solutions and/or additional information (capabilities, costs and/or previous deployment). The final date for submissions was the 12/12/2014 and 15 submissions were received from industry.

- Per Regulatory Authority (RA) instruction, the TSOs published the DS3 System Services Portfolio Capability Analysis report on 28/11/2014. The report can be found here. The objective of this report was to identify indicative system service capability estimates for the existing portfolio and also for a single enhanced 2020 portfolio that the TSOs believe can meet the 2020 renewable electricity targets. Further to this publication, EirGrid and SONI published a System Services Portfolio Capability Clarification Note on 12/12/2014. The clarification note can be found here. This was published in response to industry feedback and underlined that the original analysis should not be construed as predetermining or forecasting the technologies which will be, or should be, successful in a System Services procurement process.

- The CER and UR submitted a draft System Services decision paper to the SEM Committee on 27/11/2014. A decision paper was published on 19/12/2014 and can be found here. The paper outlines the chosen approach which is a hybrid of the regulated tariff and multi-bid auction approach. The detailed design phase will begin in early 2015, with envisaged 'go-live' date of interim regulated tariffs of October 2016.

- The eighth TSO-DSO DS3 Joint Working Group meeting took place on 27/11/2014. Issues discussed included NIE resourcing in relation to DS3, Nodal Control Pilot projects and Demand Side Unit (DSU) application process.

- A number of DSU related Grid Code modifications were presented at the Joint Grid Code Review Panel meeting which took place on 12/11/2014. These modifications can be found here.

- Three new Advisory Council members have been appointed. These are Vandad Hamidi from National Grid, Paddy Finn a Demand Side Management expert and Mick Hogan a HVDC Interconnection expert. JuanMa Rodríguez has stepped down from the Advisory Council.

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Status

Workstream	Commentary
Communications	• The EirGrid Customer Conference took place on the 22/10/2014. DS3 had an expo stand for the day and presented on "*The critical path of DS3*". This was attended by over 50 members of Industry. This presentation can be found here. • A RoCoF Alternative Solutions workshop was held in Dundalk on 21/11/2014 with approximately 70 industry representatives in attendance. Presentations can be found here. • The eighth TSO-DSO DS3 Joint Working Group meeting took place on 27/11/2014. Issues discussed included the 2015 TSO-DSO work plan, Nodal Control Pilot projects and the DSU application process. • A TSO-DSO DS3 Oversight Committee meeting took place in Belfast on 29/09/2014. • A presentation on the progress of DS3 was given at the Meitheal na Gaoithe Irish Wind Farmers' Association conference on 06/11/2014. • Queen's University Belfast research staff visited the Oval on 13/11/2014 and a number of DS3 presentations were provided.
System Services	• Per RA instruction, the TSOs published the DS3 System Services Portfolio Capability Analysis report. The report can be found here. The objective of this report was to identify indicative system service capability estimates for the existing portfolio and also for a single enhanced 2020 portfolio that the TSOs believe can meet the 2020 renewable electricity targets. • Further to the publication of the DS3 System Services Portfolio Capability Analysis on 28/11/2014, EirGrid and SONI published a System Services Portfolio Capability Clarification Note on 12/12/2014. The clarification note can be found here. This was published in response to industry feedback and underlined that the original analysis should not be construed as predetermining or forecasting the technologies which will be, or should be, successful in a System Services procurement process. • The CER and UR submitted a System Services draft decision paper to SEM Committee on 27/11/2014. A corresponding decision paper was published on 19/12/2014 and can be found here. The paper outlines the chosen approach which is a hybrid of the regulated tariff and multi-bid auction approaches. The detailed design phase will begin in early 2015, with envisaged 'go-live' date of interim regulated tariff in October 2016.
RoCoF	• CER appointed their Independent Expert, TNEI, for the RoCoF Generator Studies on 07/10/14. • On the 17/10/14 the TSOs published a document that describes the 2 phases of the RoCoF Alternative Solutions project, the potential solutions and proposed assessment criteria. The document can be found here. • A RoCoF Alternative Solutions workshop was held in Dundalk on 21/11/2014 with approximately 70 from industry attending. This workshop included a number of industry presentations and these can be found here. Following this, the TSOs invited industry to submit comments on the topics discussed at the workshop such as potential alternative solutions and/or additional information (capabilities, costs, and/or previous deployment). Approximately 15 submissions have been received to date. • CER announced the formal commencement of the RoCoF Implementation Project on 21/11/2014 at the workshop in Dundalk. UR also announced on 21/11/2014 that the timelines of the project in Northern Ireland have been aligned with those in Ireland. • Kick-off meetings on the RoCoF Generator Studies Project were held

	with generators in Ireland. Seven separate meetings were held between 24/11/2014 and 26/11/2014, which were attended by EirGrid, CER, individual generators and the CER appointed independent consultant (TNEI). Generator Studies Project meetings were held with generators in Northern Ireland on 03/12/2014 and 04/12/2014.
Grid Code	• A number of DSU related Grid Code modifications were presented at the Grid Code Review Panel meeting which took place on 12/11/2014. These modifications can be found here. • The Grid Code modification for Dynamic Models was not tabled at the recent Grid Code Review Panel meeting, which took place on 12/11/2014, due to time constraints at the meeting. This modification is due to be circulated to all GCRP members for review and agreement in January 2014. • A review of Over Frequency Reserve clauses in the Grid Code will be completed in early January 2015.
DSM	• Two further DSU Grid Code modifications were approved (subject to industry comment) at the Ireland Grid Code Review Panel on 12/11/2014. The corresponding SONI DSU Grid Code Modification Consultation was closed on 12/12/2014. • A teleconference on the DSU application process was held on 10/12/2014 with ESBN and NIE. A workshop is scheduled for January to further deal with this issue. • A report into the impact of large scale, coordinated demand switching on system frequency stability was signed off and presented to the OPR (Operational Policy Review) committee on 28/11/2014. • TSO-NIE report on the impact of DSUs on load shedding was completed ahead of schedule – corresponding TSO-ESBN report was also completed ahead of schedule.
Voltage Control	• Progress continues to be made on the Cauteen Nodal Voltage Control Pilot Project with ESBN. Meetings have taken place to discuss signalling, the commissioning and testing process and derogations of wind farms associated with the pilot. • Recent personnel changes in NIE have led to a revised workplan for the Magherakeel Nodal Voltage Control Pilot Project. • The Network Planning team in EirGrid are continuing their system-wide reactive compensation studies. The due date for completion of the studies is Q1 2015. Preliminary results indicate significant off-setting of transmission reactive compensation requirements if distribution connected wind-farms make a reactive power contribution.
Frequency Control	• Work is underway on developing a ramping policy and looking at how the tool will be integrated and used in the control centres. The high-level methodology for how the tool will be deployed has been agreed. • A more detailed representation of the distribution network for the 'full study to investigate voltage dip-induced frequency dips' was completed and presented to the OPR (Operational Policy Review) Committee on 16/12/2014. The next steps in this body of work, in particular model validation, have begun.
Control Centre Tools & Capability	• Inclusion of Inertia and RoCoF constraints in RCUC was rolled out successfully on 15/11/2014. • Work on the EMS Integration Project is on-going. Live telemetry is being fed to the new platform in Dublin and Belfast. Conversion of existing EMS displays (300+) to the new harmonised template is on-going and Operations are reviewing modified displays. Initial RTU communications circuit testing to the new EMS has commenced. • Work is progressing on the EMS Short Circuit Tool. Significant data validation and some additional EMS modelling has been carried out. There has been a significant improvement in results due to further transformer modelling modifications, however further cross-validation is

	required. • A method of managing DSO initiated wind constraints using functionality in the new wind dispatch tool has been agreed in Operations and downstream changes are now live. An agreed protocol was rolled out in the NCC (a similar policy exists in CHCC). • Tender process for Wind Forecast vendor is underway.
Model Development & Studies	• The full version of the Plexos tool which will facilitate an automated approach to large-scale dynamic studies is progressing. The tool is to be validated by running a number of cases to ensure that it runs satisfactorily. Additional functionality including contingency analysis also to be looked at. • The Voltage Dip Induced Frequency Dip Study was completed and signed off. Recommendations from this study were presented to the OPR (Operational Policy Review) Committee on 16/12/2014. A plan of next steps is currently being agreed upon. • Static Reserve study is progressing. The scope has been agreed and signed off. The required models have been received by Powertech and work has commenced on the cases as a 'first pass' on reserve requirements. Further cases will be explored in the coming weeks with a view to extending the analysis.
WSAT – Wind Security Assessment Tool	• Generator Response Validation and Parameter Identification report has been approved. Next steps include a semi-automated investigation into improving the dynamic response of selected generator models in TSAT (Transient Stability Assessment Tool). • TSAT v PMU (Phasor Monitoring Unit) Frequency Comparison report has been approved. TSAT v PMU Voltage Comparison report is currently under review. • Pre-production TSAT frequency review report has been finalised and signed off. The WSAT User Manual for Grid Controllers has been updated to include frequency analysis and new North-West Transfer and is ready for sign off. • Work is on-going on the cross validation of selected individual dynamic models against real system events. Reports have been drafted for units PB4, PB5, DB1 and MP3. Reports for PB4, PB5 and DB1 are approved.
Renewable Data	• The 2013 Annual Wind Constraint and Curtailment Report was published on 06/10/14.The report can be found here. • The Quarterly Wind Constraint and Curtailment Reports for Q2 2014 were circulated to the relevant parties.
Performance Monitoring & Testing	• A total of 13 conventional test procedures have now been published to the website with feedback being sought up to 18th December 2014. This includes a new RoCoF test procedure which is already being used on-site. • Work is on-going on delivery of the Enhanced Performance Monitoring IT system. An impact assessment arising from recent System Services decision and I-SEM project is also underway.

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