

# DS3 Programme Advisory Council Status Update

18 January 2012

## General

The DS3 Programme is progressing well. Key milestones achieved since the last Advisory Council meeting include:

- Agreement in principle with DSOs on universal wind farm standard.
- System Services Review Preliminary Consultation published 13/12/2011.
- Proposal on change to RoCoF brought to Ireland Grid Code Review Panel.
- Invite issued for DS3 Joint Grid Code Working Group.
- Approval of Ireland Grid Code modification to allow Demand-Side Units (DSU) to have an export capacity.
- Processing Ireland's first DSU application.

## Status

Workstream	Commentary
Programme Management	<ul style="list-style-type: none"> <li>• Programme plans published on website 22/12/2011.</li> <li>• EirGrid plan to engage in relevant demonstration projects to trail new concepts and the application of certain technology on the power system.</li> <li>• Monthly meetings with RAs ongoing. Last meeting was held on 05/01/2012.</li> </ul>
Communications	<ul style="list-style-type: none"> <li>• DS3 section now on EirGrid homepage. Programme Office site also live. DS3 link on SONI homepage.</li> <li>• Industry forum planned for 14/03/2012.</li> </ul>
System Services	<ul style="list-style-type: none"> <li>• System Services Review Preliminary Consultation published 13/12/2011. Responses to be submitted by 03/02/2012.</li> <li>• International System Services Review to be published 20/01/2012.</li> <li>• A notification of the dates for the bilateral industry meetings to be issued 20/01/2012.</li> <li>• Review of Harmonised Ancillary Services and Generator Performance Incentives in progress.</li> </ul>
RoCoF	<ul style="list-style-type: none"> <li>• There was much discussion on RoCoF at the last Advisory Council meeting. The RoCoF discussion paper has been updated providing much more detail on each option.</li> <li>• An all-island working group under the Grid Code is to be set up to progress RoCoF among other topics under DS3. Invitation issued 09/01/2012 and response due by 27/01/2012.</li> </ul>
Grid Code	<ul style="list-style-type: none"> <li>• Proposal on change to RoCoF brought to Ireland Grid Code Review Panel.</li> <li>• Request for participation in all-island Grid Code working group for DS3 has been circulated to the Joint Grid Code Review Panel. The first meeting is scheduled for 13/02/2012.</li> <li>• The next Grid Code Review Panel meeting is 23/02/2012. An update on RoCoF will be provided at this meeting.</li> </ul>

DSM	<ul style="list-style-type: none"> <li>• Ireland Grid Code modification to allow Demand-Side Units (DSU) to have an export capacity approved.</li> <li>• Awaiting decision from NIAUR on Northern Ireland DSU Grid Code modifications.</li> <li>• Proposed decision published by RAs regarding obligation on Demand Side Units to comply with the Bidding Code of Practice (CER/11/220).</li> <li>• DSU application (received 04/11/2011) progressing well. Test plan development almost complete.</li> </ul>
Voltage Control	<ul style="list-style-type: none"> <li>• Voltage Control is a central workstream in the DS3 programme. It has dependencies on the Grid Code workstream regarding dynamic reactive power provision of generators and the Performance Monitoring &amp; Testing workstream regarding controllability of wind farms.</li> <li>• Voltage Control meeting held between TSOs and DSOs on 24/11/2012.</li> <li>• Agreement in principle with DSOs on universal wind farm standard. Working on detail.</li> </ul>
Frequency Control	<ul style="list-style-type: none"> <li>• Frequency Control is a central workstream in the DS3 Programme with dependencies on the Grid Code, RoCoF, Renewable Data, Model Development and Studies, System Services, WSAT and Performance Monitoring &amp; Testing workstreams.</li> <li>• Conference call held with GE on the potential of a demonstration project to show emulated inertia.</li> </ul>
Control Centre Tools & Capability	<ul style="list-style-type: none"> <li>• Scope yet to be agreed and finalised and project plans published to the website.</li> </ul>
Model Development & Studies	<ul style="list-style-type: none"> <li>• Governor validation following system events is ongoing.</li> </ul>
WSAT – Wind Security Assessment Tool	<ul style="list-style-type: none"> <li>• Already live in National Control Centre in Dublin.</li> <li>• Testing of all-island EMS-generated snapshots of system to ensure accuracy completed.</li> <li>• Comparison of all-island power flow against state estimator complete.</li> <li>• Interface between WSAT and new EMS complete.</li> </ul>
Renewable Data	<ul style="list-style-type: none"> <li>• Annual Renewable Report published 15/12/2011.</li> <li>• All-island wind and fuel mix reports being published to website.</li> <li>• Annual All-Island Wind and Fuel Mix Summary to be published to website in coming weeks.</li> </ul>
Performance Monitoring & Testing	<ul style="list-style-type: none"> <li>• All-island monthly Ancillary Services and Other System Charges reports published to website.</li> <li>• EirGrid unit level quarterly Performance Monitoring reports issued to generating units.</li> </ul>

## Appendix 1 – Deliverables to June 2012

All decisions/deliverables/tasks are taken from the published DS3 Programme workstream plans.

Key:  Complete  Due Q1 2012  Due Q2 2012  Overdue

Task no.	Workstream	Work area	Decision/Deliverable/Task	DS3 Workstream Dependencies	Responsible	Due by	Complete	Comment
DSM.1.1	DSM		Approval of Grid Code Modification for DSU (MOD_36_10)		CER	31/12/2011	Yes	
DSM.1.2	DSM		Northern Ireland Grid Code Modification Consultation		TSOs / RAs	31/12/2011	Yes	
DSM.1.3	DSM		Northern Ireland Approval of DSU Modification		NIAUR	31/03/2012	Yes	
DSM.1.4	DSM		Delivering T & SC Modification Panel		SEMC	31/03/2012	No	Final Recommendation Report issued to RAs
DSM.1.5	DSM		System Services Consultation #1		TSOs / RAs	31/12/2011	Yes	
DSM.1.8	DSM		DSU Operation (ROI Pilot)		TSOs / Industry	30/06/2012	No	
DSM.2.1	DSM	Contracts & Licensing	Review of licensing arrangements for AGU		RAs	30/06/2012	No	
DSM.2.3	DSM	Contracts & Licensing	Development of regulatory contract for AGU		RAs	30/06/2012	No	
DSM.2.4	DSM	Contracts & Licensing	Decision on DSU supplier license & tie in with Bidding Code of Practice		RAs	31/12/2011	No	A proposed decision has been issued (CER/11/220)
DSM.3.3	DSM	DSU Commissioning & Testing	Investigate metering mechanisms for AGU		TSOs	31/03/2012	No	In progress
DSM.3.4	DSM	DSU Commissioning & Testing	Develop Grid Code testing procedures for AGU/DSU		TSOs	31/03/2012	No	In progress
DSM.3.5	DSM	DSU Commissioning & Testing	Development of process for performance validation for DSU		TSOs	30/06/2012	No	
FC.2.1	Frequency Control	Operational Policy: Frequency Response to Large Disturbances	Study the frequency response to large disturbances based on historical data	Model Development and Studies	TSOs	30/06/2012	No	
FC.2.2	Frequency Control	Operational Policy: Frequency Response to Large Disturbances	Look at long-term System Services implications for inertia provision	System Services	TSOs	31/05/2012	No	
FC.2.3	Frequency Control		Derive a working all-island system model of the Power System	WSAT	TSOs	30/06/2012	No	
FC.4.1	Frequency Control	Operational Policy: Frequency Regulation	Study the frequency regulation issue / historical data / likely issues	Renewable Data / Model Development and Studies	TSOs	30/06/2012	No	
FC.4.2	Frequency Control	Operational Policy: Frequency Regulation	Look at long-term System Services implications for frequency regulation provision	System Services	TSOs	30/06/2012	No	
FC.5.1	Frequency Control	Operational Policy: Ramping Services	Analysis of historical data and studies on expected ramping requirements in the future	Renewable Data / Model Development and Studies	TSOs	30/06/2012	No	
FC.5.2	Frequency Control	Operational Policy: Ramping Services	Look at long-term System Services for ramping services provision	System Services	TSOs	30/06/2012	No	
GC.01.1	Grid Code	Wind farm Steady-state control modes	Follow up on Grid Code changes with performance monitoring and testing		TSOs	31/03/2012	No	
GC.01.2	Grid Code	Wind farm Steady-state control modes	Discuss WFPS voltage control modes with DSOs – and develop changes to Distribution Codes as necessary		TSOs	30/06/2012	No	
GC.02.02	Grid Code	Dynamic Active and Reactive Power Response – Wind farms	Draft proposal on WFPS Dynamic Reactive Power		TSOs	31/03/2012	No	Initial draft complete

GC.02.03	Grid Code	and Conventional Plant Dynamic Active and Reactive Power Response – Wind farms and Conventional Plant	Agree all-island position on WFPS Reactive Power	TSOs	31/03/2012	No	In progress
GC.02.04	Grid Code	Dynamic Active and Reactive Power Response – Wind farms and Conventional Plant	Draft proposal for Ireland and Northern Ireland Grid Code Review Panels and present	TSOs	30/06/2012	No	
GC.02.05	Grid Code	Dynamic Active and Reactive Power Response – Wind farms and Conventional Plant	Engagement with stakeholders	TSOs	30/06/2012	No	
GC.03.1	Grid Code	Rate of Change of Frequency Ride-Through Ability	Bring proposal on change to RoCoF to Ireland Grid Code Review Panel	TSOs	31/12/2011	Yes	
GC.03.3	Grid Code	Rate of Change of Frequency Ride-Through Ability	Present proposal to DS3 Advisory Council	TSOs	31/12/2011	Yes	
GC.03.4	Grid Code	Rate of Change of Frequency Ride-Through Ability	Establish DS3 Grid Code Working Group	TSOs / RAs / Industry	31/03/2012	Yes	Members selected and ToR circulated
GC.03.5	Grid Code	Rate of Change of Frequency Ride-Through Ability	Discuss RoCoF with industry / stakeholders and agree a common position	RoCoF WG	30/06/2012	No	
GC.04.1	Grid Code	Waste-to-Energy	Draft internal discussion document on different approaches	TSOs	31/12/2011	Yes	
GC.04.2	Grid Code	Waste-to-Energy	Bring proposal to Ireland Grid Code Review Panel (Grid Code modification or derogation option)	TSOs	31/12/2011	Yes	
GC.04.3	Grid Code	Waste-to-Energy	Decision on Waste-to-Energy proposals that were brought to the Grid Code Review Panel	CER	31/03/2012	Yes	Not to be pursued
GC.05.1	Grid Code	Dynamic Model Requirements	Look at international requirements (UK/US/Australia/Europe etc.) on dynamic models	TSOs	31/03/2012	No	Work on this beginning shortly
GC.05.2	Grid Code	Dynamic Model Requirements	Review current requirements and collate ideas	TSOs	30/06/2012	No	
GC.06.1	Grid Code	Demand-side Management	Bring modifications on Demand-side unit MEC to Grid Code Review Panel	TSOs	31/12/2011	Yes	
GC.08.1	Grid Code	Negative Reserve	Carry out a review of international best practice on negative reserve	TSOs	30/06/2012	No	
MDV.1.1	Model Development and Studies	Model Development and Validation	Develop all-island model for PSS/E / WSAT	WSAT TSOs	30/06/2012	No	
MDV.1.2	Model Development and Studies	Model Development and Validation	Develop process for Generation Excitation Model validation	Performance Monitoring TSOs	30/06/2012	No	
MDV.2.1	Model Development and Studies	System Studies	Frequency Response following a large disturbance	Frequency Control TSOs	30/06/2012	No	
MDV.2.2	Model Development and Studies	System Studies	Loss of Largest In-feed Study	Frequency Control TSOs	31/03/2012	No	Draft complete
MDV.2.3	Model Development and Studies	System Studies	Frequency Regulation Study	Frequency Control TSOs	30/06/2012	No	
MDV.2.4	Model Development and Studies	System Studies	Study of Ramping Requirements	System Services / Grid Code TSOs	30/06/2012	No	
PMT.1.1	Performance Monitoring and Testing	Documentation All-Island Performance Monitoring process and reports	Defining the current processes in EirGrid and SONI	TSOs	31/05/2012	No	
PMT.2.1	Performance Monitoring and Testing	All-Island Performance Monitoring Reporting	Publish all-island monthly system level Performance Monitoring statistics	TSOs	31/12/2011	Yes	
PMT.2.2	Performance Monitoring and Testing	All-Island Performance Monitoring Reporting	Delivery of EirGrid unit level quarterly Performance Monitoring reports	TSOs	31/12/2011	Yes	
PMT.2.3	Performance	All-Island Performance	Delivery of all-island unit level quarterly Performance Monitoring	TSOs	31/05/2012	No	

	Monitoring and Testing	Monitoring Reporting	reports				
PMT.4.1	Performance Monitoring and Testing	Feedback of Performance Monitoring results into Operational Policy	EirGrid System Portfolio Performance Monitoring results aggregated	TSOs	31/12/2011	Yes	
PMT.4.2	Performance Monitoring and Testing	Feedback of Performance Monitoring results into Operational Policy	All-Island System Portfolio Performance Monitoring results aggregated	TSOs	31/05/2012	No	
PMT.4.3	Performance Monitoring and Testing	Feedback of Performance Monitoring results into Operational Policy	Operational Policy Review	TSOs	31/05/2012	No	
PMT.4.4	Performance Monitoring and Testing	Feedback of Performance Monitoring results into Operational Policy	Enhanced System Portfolio Performance Monitoring capability aggregated	TSOs	31/05/2012	No	
PMT.5.1	Performance Monitoring and Testing	Standardised and documented All-Island testing process	Industry review of Commissioning and Testing process by working group to Joint Grid Code Review Panel (JCRP)	TSOs	30/06/2012	No	
RCF.1.01	RoCoF	Setting appropriate RoCoF standards on all generators	Bring RoCoF modification to the Grid Code Review Panel meeting	TSOs	31/12/2011	Yes	
RCF.1.02	RoCoF	Setting appropriate RoCoF standards on all generators	Identify regulatory mechanism for implementing RoCoF standard in Northern Ireland	SONI	31/12/2011	Yes	Entry in Grid Code required
RCF.1.03	RoCoF	Setting appropriate RoCoF standards on all generators	Formal response from generators and wind farms to modification	All generators	31/12/2011	Superseded	To be covered by Joint Grid Code Working Group
RCF.1.04	RoCoF	Setting appropriate RoCoF standards on all generators	Establish DS3 Grid Code Working Group	TSOs / Industry	31/03/2012	Yes	Members selected and Terms of Reference circulated
RCF.1.05	RoCoF	Setting appropriate RoCoF standards on all generators	Working group develops proposals on RoCoF standards for Conventional and Wind Generators	TSOs / Industry	30/06/2012	No	
RCF.2.01	RoCoF	Ensuring appropriate RoCoF on distribution protection	Kick-off and scope TSO-DSO RoCoF working groups	TSOs / DSOs	31/12/2011	Yes	
RCF.2.02	RoCoF	Ensuring appropriate RoCoF on distribution protection	Examine safety implications and security impact on changes to G10, G59 protection settings including RoCoF and voltage	DSOs	30/06/2012	No	
RCF.2.03	RoCoF	Ensuring appropriate RoCoF on distribution protection	Provide written report on implications for RoCoF setting to loss of mains protection including implementation strategy	DSOs	30/06/2012	No	
SS.01	System Services		Project establishment	TSOs	31/10/2011	Yes	
SS.02	System Services		Publish International System Services Review report	TSOs	20/01/2012	Yes	
SS.04	System Services		System Services Consultation #1	TSOs	31/01/2012	Yes	
SS.05	System Services		Bilateral Meetings on System Services consultation	TSOs	29/02/2012	No	Invitations issued 20/01/2012
SS.06	System Services		Industry workshop	TSOs	15/03/2012	No	Scheduled for 14/03/2012
SS.07	System Services		Review of Harmonised Ancillary Services and Generator Performance Incentives since introduction	TSOs	29/02/2012	No	In progress
SS.08	System Services		Development of system services product options	TSOs	15/05/2012	No	
SS.09	System Services		System Services Consultation #2	TSOs	31/05/2012	No	
VC.02	Voltage Control		Engagement between TSOs and DSOs on universal wind farm standard including dynamic reactive power provision and appropriate controls for embedded conventional plant	TSOs / DSOs	31/03/2012	No	Agreement in principle. Working on detail
VC.03	Voltage Control		Grid Code and Distribution code changes brought to industry for discussion	TSOs / DSOs / All	30/06/2012	No	
VC.04	Voltage Control		Decision: Steady-state Reactive Power Control for embedded conventional plant	TSOs / DSOs	30/06/2012	No	

WSAT.1.1	WSAT	All-Island EMS Snapshot	Tests of the all-island EMS generated snapshots of system to ensure accuracy	TSOs	31/10/2011	Yes	
WSAT.1.2	WSAT	All-Island EMS Snapshot	Developing interface between WSAT and new EMS	TSOs	31/10/2011	Yes	
WSAT.1.3	WSAT	All-Island EMS Snapshot	Comparison of all-island power flow against state estimator	TSOs	30/11/2011	Yes	
WSAT.1.4	WSAT	All-Island EMS Snapshot	Final approval of functioning new snapshots in WSAT	TSOs	31/01/2012	No	In progress
WSAT.1.5	WSAT	All-Island EMS Snapshot	Installation of redundant server	TSOs	30/04/2012	No	
WSAT.2.1	WSAT	Merging SONI model and all-island wind forecast data into WSAT	Creating all-island dynamic and contingency files	TSOs	29/02/2012	No	In progress
WSAT.2.2	WSAT	Merging SONI model and all-island wind forecast data into WSAT	Implement All-Island system WSAT in the test server	TSOs	31/03/2012	No	In progress
WSAT.2.3	WSAT	Merging SONI model and all-island wind forecast data into WSAT	All-Island Wind Forecast streaming to WSAT	TSOs	30/06/2012	No	
WSAT.2.4	WSAT	Merging SONI model and all-island wind forecast data into WSAT	Implement All-Island system WSAT in the pre-prod and NCC server	TSOs	31/05/2012	No	
WSAT.3.1	WSAT	Validation and tuning on-line all-island TSAT dynamic models	Governor model adjustments and cross-validation	TSOs	30/04/2012	No	
WSAT.3.2	WSAT	Validation and tuning on-line all-island TSAT dynamic models	Implement improved governor models in EirGrid's WSAT	TSOs	31/03/2012	No	Scheduled to begin 01/03/2011
WSAT.4.1	WSAT	Implementation WSAT in CHCC	Install WSAT pre-prod monitor at near-time section in SONI	TSOs	30/06/2012	No	
WSAT.4.2	WSAT	Implementation WSAT in CHCC	Install WSAT NCC monitor in CHCC	TSOs	30/06/2012	No	
WSAT.4.3	WSAT	Implementation WSAT in CHCC	Run WSAT pre-prod in test mode, correct errors	TSOs	30/06/2012	No	