



DS3: System Services Review Workstream (2013-2015)

CONTEXT

The nature of the power system is changing to meet the Governments' policies with respect to renewable energy. This has significant implications for the needs of the power system, particularly in respect of system services. The 2011 report "Ensuring a Secure, Reliable and Efficient Power System in a Changing Environment" (DS3 report) indicated that there will be different system services needed, both in magnitude and design, in order to securely and efficiently operate the power system of Ireland and Northern Ireland with up to 40% of the electricity consumption coming from renewable sources, in particular (non-synchronous) wind generation. In addition, the power system is changing from other external policy drivers, including increasing interconnection, future market coupling and the impact of increasing demand side management and Smart Grid initiatives.

EirGrid and SONI have licence and/or statutory obligations to ensure sufficient services are available to be able to operate an efficient, reliable and secure power system. EirGrid, under paragraph 8 (1) (b) of SI 445/2000 and licence condition 3, will ensure sufficient system services are available at all times. Similarly, under licence condition 29, SONI is obliged to contract for sufficient services as may be required to meet the operational and network standards applicable at the time.

System Services are those services, aside from energy, that are necessary for the secure operation of the power system. These services are also referred to as Ancillary Services and System Support Services.

The All Island Energy Market Development Framework (Nov 2004) included, as a goal, the harmonisation of ancillary services (AS) arrangements. The Harmonised AS (HAS) project, which began in January 2008, culminated in the successful implementation of harmonised arrangements in February 2010. The primary focus of the project was to align the arrangements in both jurisdictions, but without including a fundamental review of the services. These arrangements, together with the introduction of generator performance incentives (GPIs) and the enhancement of performance monitoring, have brought about a number of benefits, including parity of treatment in both jurisdictions, greater transparency and a greater focus (from generators) on performance capability and Grid Code compliance. The Harmonised AS arrangements and GPIs provide a platform for a comprehensive review to be undertaken of the types and amounts of system services required.

WORKSTREAM OBJECTIVES

In light of the impending changes to the power system, this System Services Review should:

- clarify system needs – now and projected for the future,
- review effectiveness of existing services and payment structures,
- develop new services, determine appropriate valuations of these services and develop new/revised payment structures that foster a continued focus on performance and where appropriate drive investment,
- develop and implement an appropriate timetable for the implementation of any new arrangements in order to provide early signals to investors.

It should be noted that the annual tariff review for the Harmonised AS arrangements will continue in parallel to this work and is not part of the scope of this workstream.

WORK COMPLETED

The preliminary consultation was published as planned in December 2011. It was followed by two weeks of bilateral meetings between the TSOs and industry participants in January 2012. A total of 28 responses were received to the preliminary consultation. In considering the responses to the initial consultation, the TSOs decided to prepare two separate subsequent consultations (three in total) rather than the one originally planned.

The TSOs published the second System Services consultation paper in June 2012. This paper provided further information on the system needs, and presented proposals for new products, remuneration principles and the contractual arrangements for the services. The proposed new products were aimed at mitigating the identified system issues associated with frequency control and voltage control for a power system with high levels of variable non-synchronous generation. The paper excluded proposals on the financial details, including funding and remuneration levels, which were addressed in the third consultation paper in Phase 1. Following publication of the paper, an Industry Forum was held on the 4th July 2012 in Dundalk where the industry and other interested parties had the opportunity to learn about the proposals and seek clarity on any specific items. After an eight-week consultation period, 26 responses were received. Most of these responses were from Generators or Generator affiliations. The remainder were from demand affiliations and academia. Overall there was a very positive response to the need for the proposed new products.

In December 2012, the third and final System Services consultation of Phase 1 was published. The paper seeks views on a proposed methodology for determining the cumulative benefit of the required new system services to the electricity industry on the island of Ireland. It provides an indication of capital costs which may be incurred to provide these new services. Views are also sought on four methods, identified by the TSOs, by which the proposed System Services revenue might be allocated between each of the proposed system services products. An updated section on the proposed new products which adds detail and takes account of points raised by the respondents to the previous papers is included at the end of the paper together with further examples provided in the Appendices. In addition, further details are provided on the proposed payment structures, contractual arrangements and link to performance monitoring.

Responses to the third consultation paper were due to be submitted by 13th February 2013. As part of this consultation, the TSOs offered to hold bilateral discussions with respondents. Following this consultation, and having given consideration to the responses to all three consultations and the feedback received in both sets of bilateral meetings and industry workshops, the TSOs prepared and submitted a recommendations paper for the SEMC on 27th April 2013. Additionally, a System Services Industry Forum was held on 26th June 2013 to clarify the contents of the recommendations paper. Following this, the SEMC issued a consultation paper on 2nd August 2013. On 20th

December 2013 the SEMC issued a Decision Paper on the DS3 System Services technical definition – here the services proposed by the TSOs were approved in principle.

FOCUS FOR 2013 – 2015

The SEMC indicated that further Cost-Benefit Analysis will be required before forming conclusions on the financial aspects of System Services. The TSOs have committed to engaging with the RAs to provide appropriate additional information and analysis to facilitate the SEMC. A second SEMC consultation paper on the framework and financial arrangements for System Services is expected to be published in May 2014. A final decision on System Services is expected by the end of 2014. Preliminary preparatory work on Phase 2 will commence following the SEMC's consultation but the details cannot be determined until a final decision has been made.

Following a final decision from the SEMC, the System Services Review will enter an implementation phase. Based on the TSO recommendations paper, high-level milestones for Phase 2 are included in the table below. However, it should be noted that the details and the timings are dependent on the SEMC decision.

In phase 2, the details of the products will be developed and transformed into business rules and functional specifications, which will be implemented in the settlement system. Rates for the System Services products will be developed and consulted on with industry. This phase will also involve the operational readiness including developing the System Services Agreement, the necessary documentation describing the new arrangements and processes, training, executing the contracts and having a period of parallel running before go-live. It will also contain a number of further industry consultations

The following sections set out the original workstream plan as published in December 2011

APPROACH

The proposed high-level approach to this review has two phases: the Consultation phase (phase 1) and the Implementation phase (phase 2).

- Phase 1 will have three elements: 1) engagement with the industry to determine the scope of the project and to formally consult on the proposals for System Services, 2) carry out studies and analysis of the operational and commercial impacts of System Services, 3) bring a recommendation to the SEM Committee. Phase 1 culminates in final proposals and a “go/no go” decision.
- Phase 2 will involve implementation of the new System Services arrangements, including: contractual changes, settlement system changes and testing, rate determination and tariff setting, training, transition planning and go-live. The timescale

for phase 2 will depend on the outcome of phase 1. If significant changes to the existing arrangements are proposed, a staged rollout of the new arrangements may be required.

This scope only considers issues in phase 1 as the outcome of this will significantly impact the scope of phase 2. A high-level plan with milestones and indicative timelines for phase 1 is described in this project plan and is contained in Appendix 1. During the course of phase 1, a detailed plan for phase 2 will be developed and published.

SCOPE

The proposed high level scope of the review has been broken into a number of work areas, as described below. Following the first, high-level industry consultation, the scope of Phase 1 will be reviewed and more tightly defined¹. The second stage of consultation is a key milestone and will require agreement between the TSOs and RAs.

Phase 1 Scope:

High-Level Approach

Agree the scope of the project including consultation with industry and timelines for the project milestones.

Industry Consultation

A multi-stage consultation process with industry is planned. The first consultation (end 2011) will be high level and will seek views on the structures for System Services, the scope of the review, the contractual arrangements and the degree of interaction with the other components of the wholesale market. The second more detailed consultation stage incorporates proposals on product designs, remuneration & contractual arrangements. The third consultation in Phase 1 concentrates on financial arrangements and provides more detailed examples on product designs.

Studies and analysis

Building on the work done to date, further analysis will be carried out to determine the required levels of services, identify areas of scarcity and to develop proposals for potential System Services products; this will include financial analysis as required. The technical studies will be divided into two broad areas: dispatch studies (producing future dispatch profiles using a tool such as Plexos) and system studies (e.g. using the TSAT tool to determine minimum inertia requirements).

In addition, the TSOs have commissioned consultants to carry out an international review of the Ancillary Services arrangements in a number of other markets, including an assessment of the HAS arrangements in Ireland and Northern Ireland.

¹ Before the second stage of consultation begins, there will be agreement between the TSOs and RAs on the approach to be taken.

Proposals for System Services products

The development of proposals for System Services products (including potential new services) will be based on a review of the existing products, the results of the analysis and studies carried out and the outcome of the initial high-level consultation. Early engagement with industry will be important – this will be achieved via the two-phase consultation process described above, which will incorporate industry forums and bilateral meetings. This is further described in the Stakeholder engagement section below.

Performance Monitoring

Performance monitoring processes exist in both EirGrid and SONI that are integral to system operation and managing the System Services arrangements. A review of these processes will be carried out and areas for expansion will be examined. The details of this are contained in a separate, parallel DS3 work plan. Improved quality of performance monitoring may be a requirement for new System Services products.

Phase 2 Scope:

Settlement system design, implementation and readiness programme

The products developed in phase 1 will be high-level in nature. In phase 2, the details will be developed and transformed into business rules and functional specifications, which will be implemented in the settlement system. Rates for the System Services products will be developed and consulted on with industry. This phase will also involve the operational readiness including developing the System Services Agreement, the necessary documentation describing the new arrangements and processes, training, executing the contracts and having a period of parallel running before go-live.

PROJECT PLAN - PHASE 1

The System Services Review Phase 1 project plan will consist of three major parts, an initial industry consultation, detailed technical and financial analysis and a second stage of consultation leading to a recommendation to the SEM Committee. Timelines for the project plan are detailed in Appendix 1.

Part 1:

This initial consultation will:

- explain the changing characteristics of the power system and the need for a review,
- provide a roadmap for the review,
- request opinions from industry on the scope of the review, and
- seek views on contractual mechanisms for procuring System Services.

The results of this initial phase of consultation will be reviewed to inform the second stage of the consultation.

Part 2:

Detailed technical and financial analysis is required to inform the development of appropriate products and the level of remuneration required, if any. The purpose of the technical studies will

quantify the required system performance to maintain adequate system security with a changing portfolio. The financial analysis will evaluate the need and efficacy of System Services in achieving this. The financial and technical outputs will inform the second stage of consultation with industry.

Part 3:

The second stage of consultation will provide proposals in terms of the nature of products being offered, the mechanism for monitoring the performance of these services and the level of remuneration for, and the contractual nature of the services. This second stage may consist of multiple consultations. It is envisaged that at the end of this second stage, a recommendation will be made to the SEM Committee for approval.

STAKEHOLDER ENGAGEMENT

The System Services review is relevant to future investment in the Ireland and Northern Ireland power system. To this end, the TSOs will engage systematically with industry through the following processes:

- After the first consultation, the TSOs, with RA participation, will set aside two weeks where all participants are invited to meet bilaterally and discuss issues that they believe are relevant for consideration in the System Services review. These meetings will be scheduled for Dublin or Belfast as appropriate. The meetings will be kept confidential but the list of participants afforded a meeting will be published.
- The DS3 Advisory Council will be used as a forum to discuss the approach to the System Services review plan.
- A number of forums open to all participants will be held to update the industry on progress and to present details of the product options prior to the publication of the second consultation.
- The consultations themselves will offer a formal avenue for participants to engage with the TSO on the System Services Review. It is the intention of the TSO to publish all responses received.

TASK NO.	TASK	RESPONSIBILITY	ORIGINAL DUE DATE	DUE DATE
Phase 1				
SS.1.11.1	Industry consultation period (8 weeks)	Industry	13/02/2013	Complete
SS.1.12	Final TSO Recommendations to RAs	TSOs	30/11/2012	Complete
SS.1.13	SEMC issues proposed decision paper on System Services – technical aspects	SEM Committee	03/06/2013	Complete
SS.1.14	Industry consultation period (6 weeks)	Industry	15/07/2013	Complete
SS.1.15	Decision by SEMC – technical aspects of System Services	SEM Committee	26/09/2013	Complete
SS.1.16	EirGrid/SONI engagement with RAs on further economic analysis	TSOs/RAs	New Task	Q1 2014
SS.1.17	SEMC issues proposed decision paper on System Services framework and financial arrangements	SEM Committee	Q2 2013	Q2 2014
SS.1.18	Industry consultation period following SEMC Proposed Decision	Industry	Q3 2013	Q2 2014
SS.1.19	Decision by SEM committee	SEM Committee	Q3 2013	Q4 2014
SS.1.20	Phase 2 Implementation Project Plan published	TSOs/RAs	Q2 2013	Q4 2014
SS.1.21	Detailed preliminary Phase 2 Plan prepared	TSOs	Q3 2013	Q4 2014
SS.1.22	Implementation Project initial preparatory work	TSOs	Q3 2013	Q4 2014
Phase 2				
SS.2.01	Phase 2 Implementation Project initiated	TSOs	New Task	Due dates for these tasks will be published in Q4 2014 following the SEMC decision
SS.2.02	Detailed Product Development complete	TSOs	New Task	
SS.2.03	Functional Specification prepared	TSOs	New Task	
SS.2.04	Business Rules documented	TSOs	New Task	
SS.2.05	Consultation on implementation details for products	TSOs	New Task	
SS.2.06	Settlement System changes specified	TSOs	New Task	
SS.2.07	Legal changes identified	TSOs	New Task	
SS.2.08	Contract template agreements drafted	TSOs	New Task	
SS.2.09	Consultation on contract framework	TSOs	New Task	
SS.2.10	Consultation on process and implementation details for performance scalars	TSOs	New Task	
SS.2.11	Consultation on portfolio and input assumptions for determining revenue allocation between products	TSOs	New Task	
SS.2.12	Product Rates Consultation	TSOs	New Task	
SS.2.13	Rate scalar consultation and determination	RAs and TSOs	New Task	
SS.2.14	Settlement System changes completed & tested	TSOs	New Task	
SS.2.15	System Services Contracts in place	TSOs	New Task	
SS.2.16	Parallel Running of new and existing arrangements (market trial with customers)	TSOs & Industry	New Task	
SS.2.17	New System Services available and in use	TSOs	New Task	