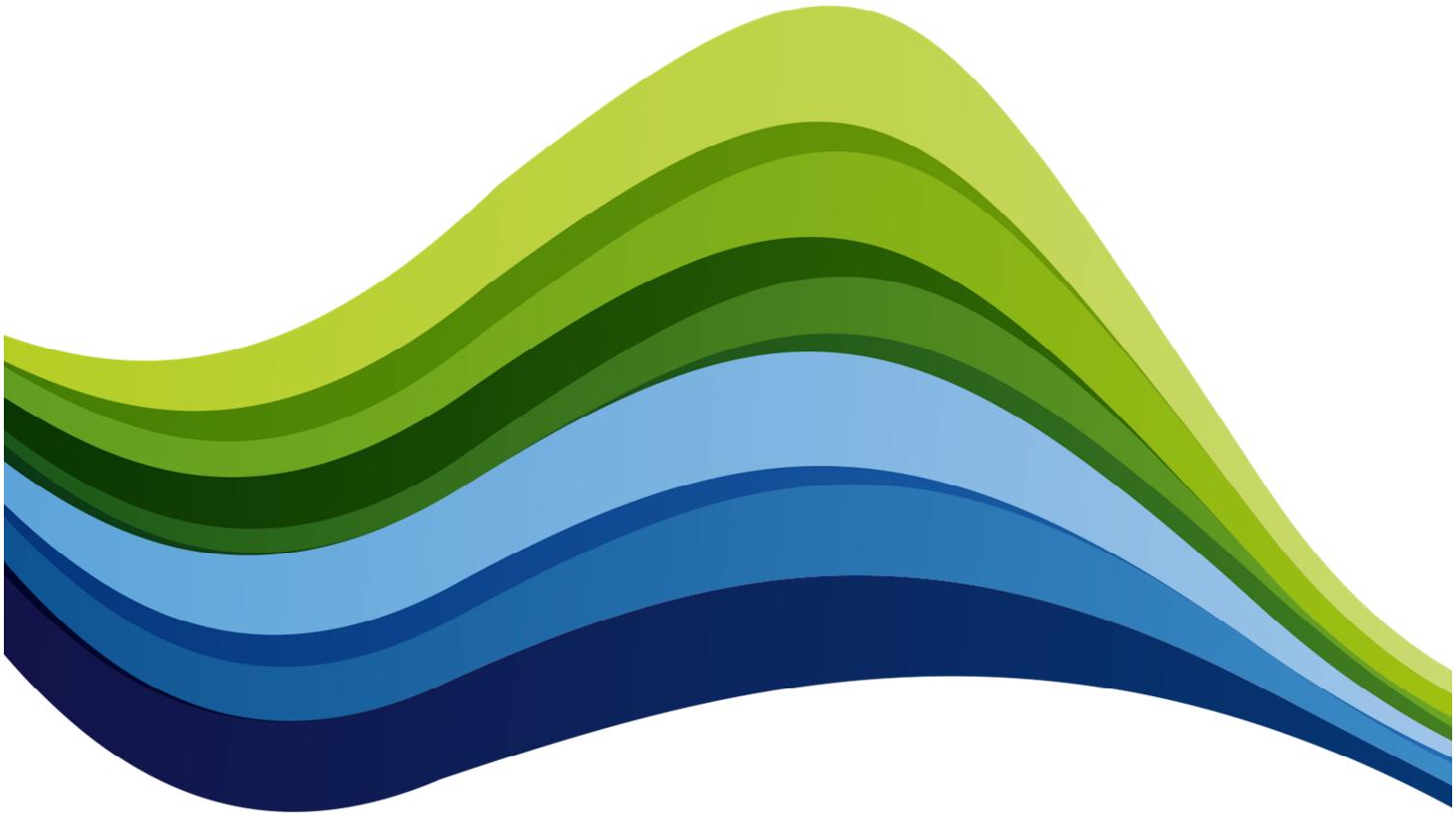
DS3

System Services Qualification Trial Process

If you have any questions in relation to our response, please don't hesitate to contact Jane McArdle (jane.mcardle@sse.com) or Connor Powell (connor.powell@sse.com)



Response/**July 2016**

Executive Summary

Thank you for giving SSE the opportunity to comment on the I-SEM Balancing Market Principles Terms of Reference consultation. SSE has over 1700MW of generation capacity and 800,000 retail customers in the all-island market.

SSE welcomes the opportunity to comment on the Qualification Trial Process for DS3 System Services. Our long-term priority for the businesses in our Wholesale segment is delivering sustainable, flexible energy production through a diverse portfolio of assets.

We have already enhanced stations in our existing thermal fleet in GB to meet system challenges. As a major producer of electricity in Ireland, SSE can enhance its existing fleet and bring forward innovative development projects if the TSOs and Regulatory Authorities create a stable, investable DS3 framework.

Our response covers the individual questions in detail, but we would also like to make some general points on the trials and their outcomes:

- The results of the trials should be made public, with this included as a condition precedent within the qualification process. Without adequate information disclosure, the number of developers able to bring forward viable projects under technology categories will be limited.
- For 'provenability' trials, participating generators should not be exposed to losses incurred from dispatch below actual available active power. The opportunity costs associated with testing will be substantial and are not adequately covered by the commercial arrangements outlined. A separate arrangement can keep the generator whole.
- When the trials are determined successful with the technology deemed qualified, the service provider should be immediately entitled to a System Services contract for their demonstrated volume in line with the Interim Arrangements.
- Both of the above are important – they create a proper economic incentive (or avoid imposing unnecessary penalties) for parties to bring forward proposals with units that are competitive, modern and representative of the Irish generation fleet. This will ensure that the trial process produces outcomes validated against robust data from representative units.
- We are also assuming that this trial process will be ongoing, with EirGrid providing the facility to test until such a time as an adequate number of technology providers have qualified their technology. Some service providers may not be in a position to commence a trial in early 2017 and they should not be excluded from this process. Details including timelines should be confirmed in the decision paper.
- As energy storage is likely to play a key role in System Services, we believe there should be a separate, dedicated category for storage. This will help to incentivise Energy Storage providers to get involved in the trials – some incentive to trial in SEM is required as a number of TSOs are running trials or tenders for storage. We believe Ireland, being a small island system would be an ideal testing ground.

- We would appreciate confirmation that a single proposed project can be successful in attaining both a provenability and a measurability trial in the decision paper.

- If the technology can sit within more than 1 category – for instance a project which combines DSM with batteries – we would like clarity on which category the technology would be placed in – or whether it would be considered / marked holistically.

- The payment mechanism associated with the trial is not enough of an incentive for Developers to get involved and may lead to them either not taking part or having to carry significant risk/cost on a new project. SSE fears that Ireland will be left behind when it comes to advancing System Services if sufficient funds for these projects/trials are not made available with some level of future contract value certainty. SSE would like to highlight a process in GB where a tender is underway for a System Service, Enhanced Frequency Response[1]. It is a competitive tender with longer term contracts (4 years). National Grid are "targeting" awarding 200MWs and are stating that they will only procure if these services are cheaper than alternative options over the longer term. It is also worth noting that National Grid use a bid-bond (set for the EFR service at £5000/MW) as a tool to gain commitment by deterring companies from submitting speculative bids. The 4 year contract can enable projects to achieve commercially viability. SSE is taking part in this tender by submitting a 20MW Battery project and a 5MW DSM project (equivalent to 2500 homes).

Our responses to the specific consultation paper questions are set out below.

Specific Consultation Paper Questions

Q1: Do you agree that the Qualification Trial Process should focus on both 'Provenability' and 'Measurability'?

Clarification is required on who is responsible for capturing the 'provenability' data; SSE assumes that this would be the TSO.

For the 'Measurability' trial it would be beneficial if the TSO specified the minimum requirements for data recording (parameters and sampling rates), also will the TSO have their own disturbance recorders to back up the information for validation? This would be preferable.

Q2: Do you agree that the Provenability Trials should focus on proving only two System Services, as representative of all System Services in those categories of System Services?

No, this should be split between technologies.

For generators SSE would agree with this general principle but for DSM and OT there should be a need to demonstrate all services within these categories.

[1] http://www2.nationalgrid.com/Enhanced-Frequency-Response.aspx

Q3: Do you agree that the Provenability Trials should focus on the Reserve and Ramping categories of System Services?

Yes.

Q4: Do you agree that the technology classes targeted in the Provenability Trials should be wind, demand side and 'other technologies'?

SSE would like to raise a concern regarding equipment manufacturers under the classes. SSE would recommend the trials are extended to allow different Original Equipment Manufacturers (OEMs) to participate within the classes. Each OEM will have a different methodology of providing the service.

It should be noted that Developers will need assurance from the OEMs and TSO that they can provide the services in compliance with the trials before any commercial installation of scale would occur.

Similarly for DSM and Battery technology:

- To what granularity will EirGrid decipher between proposed technologies and;
- How will they be consistently evaluated?

For example, for Li-Ion batteries, will one OEM battery provider, regardless of scale, prove the capabilities for all Li-Ion batteries? Or is this likely to be broken into further Li-Ion subgroups such as LiCoO2, LiMn2O4, LiNiMnCoO2, LiFePO4, LiNiCoAlO2, etc?

The decision should state how a project would be treated if the proposed technology sits in both the DSM and other technologies categories: e.g. batteries.

Q5: Do you agree that the Measurability Trials should be technology neutral?

Yes.

Q6: Do you agree with the proposed service provision volumes and proposed number of Service Providers to be included in the Provenability and Measurability Trials respectively?

No, SSE believes the limit on the provenability trial is too low to facilitate sufficient technology trials. SSE understands that the TSO must protect system security but EirGrid should be able to facilitate significantly more trials than SONI. This volume should be re-considered and only applied if the volumes became unmanageable.

For the Measurability trials again the number is too small and should not be capped but should also be unlimited and only capped if the number of trials becomes excessive from a resourcing perspective.

Q7: Do you agree with the minimum sizes of Providing Unit proposed for the Provenability trials?

Yes.

However, SSE would like clarification on the scalability of accreditation from the qualification trial process. Are there sizing brackets to be defined or is accreditation at 250kW (small wind

turbine or battery) transferable to a 3MW (large wind turbine or battery)? Is it the case that the service provider themselves can describe/prove that the service is scalable? Similarly for batteries can an aggregated series of small batteries be used to attain accreditation for utility scale batteries with the same chemistry, regardless of dissimilar inverters, storage size and control mechanisms?

Q8: Do you agree with the proposed evaluation criteria for the selection of participants to take part in the Provenability Trials?

While we agree that some form of assessment criteria should be applied, more details should be provided on how each criterion is weighted.

We do not believe that price should form part of the assessment criteria as no meaningful information on service pricing can be derived from a trial – all providers should receive an equal price. Any price competition will favour new providers willing to incur development costs, over existing assets which risk current market revenues and asset integrity. This bias could restrict system service volumes available to the TSO in subsequent delivery years.

SSE believes that the order of importance/ranking should be:

1. Proposal on how the services can be provided, backed up by evidence from OEM and technical information;
2. Timeline for installation;
3. Scope of work – with preference given to a project with the least complex and more comprehensive scope of work;
4. Expertise within the delivery team, interaction with TSO, proposals for attaining commercial and legal requirements, Health and Safety etc.

Q9: Do you agree with the proposed evaluation criteria for the selection of participants to take part in the Measurability Trials?

Fundamentally, the TSO should encourage as many trials as feasible without too many limitations. Evaluation criteria should be aligned with the Provenability criteria, with the addition of dynamic stability studies/simulations from the suppliers to demonstrate the service can be provided as per the specification. This will avoid speculative applications that consume limited TSO resources.

The payment of €25,000 per service is very low and does not provide any incentive for 'developers' to take part in trials if capital expenditure is required. Ultimately it will be the 'Developers' and not the 'OEMs' who will be investing in new projects long term. There is a possibility that this trial process will only enable OEM driven projects to succeed, which may not be the most efficient way to progress. For trials which require installation of retrofits or new installations both cost and risk will be borne by the developer of an operational site. SSE sees little difference between this process and the DS3 demonstrations project.

In order for a developer to be involved, especially in the case of a retrofit there will be an element of risk to the operation of the generator. This may prevent existing generators getting involved in these trials, even if their solutions are ultimately far more cost-effective.

A better approach would be for the developer to be kept cost neutral as an OEM will not be able to bring forward a retrofit project without generator involvement.

The payment cap should be increased to at least €250,000 per successful trial; this will lead to better resourced trials producing better data and better outcomes for the TSO in the long term.

As per the provenability trials:

- To what granularity will EirGrid decipher between proposed technologies and;
- How will they be consistently evaluated?

For example, with Li-Ion batteries, will one OEM battery provider, regardless of scale, prove the capabilities for all Li-Ion batteries? Or is this likely to be broken into further Li-Ion subgroups such as LiCoO2, LiMn2O4, LiNiMnCoO2, LiFePO4, LiNiCoAlO2, etc?

Q10: Given the stated aims of the Qualification Trial Process, are there different criteria that would better achieve those outcomes than what is proposed here? If so, what are they and how will they work?

SSE does not believe these trials should be limited. There should be a minimum set of criteria assessed by the TSO and if the assessment determines the trial is likely to succeed it should not be prevented from going ahead. This will give the TSO and consumers faster access to the services they need from reliable, proven counterparties.