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REF: TEL/CJD/14/177

5th September 2014

Re: DS3 System Services Procurement Consultation

Dear Sirs,

TEL welcomes this opportunity to respond to the consultation.

TEL agrees with the analysis that there are three key points to delivering successful DS3 system services:

1. Flexible thermal generation is required to support the growth in wind, and considerable capital investment will be required to provide this flexibility.
2. With no significant new generation planned, this capital investment will be required in current generation. The RA's have estimated that this investment is of the order of €500-€600 million by 2020.
3. The cost of this investment will primarily be borne by CCGT's.

Therefore, in order for there to be a secure system to support the wind targets, there has to be a sufficient reliable revenue stream to justify the CCGT's making this capital investment. This is particularly true where delivering this flexibility will result in a lowering of energy revenue for these same generators. TEL contends that none of the five options presented will provide this reliable revenue stream, sufficiently limit curtailment, deliver renewable energy policy or be in the consumer interest.

1. General Comments

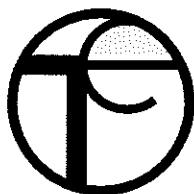
TEL has analysed why the investment may not occur under four headings: i) Value; ii) Payment Basis; iii) Complexity; and, iv) Balancing Market and Flexibility.

Value vs Cost Based Procurement

The analysis of the procurement options is weighted towards the short term interests of consumers. All the options are primarily cost based. This does not reflect the CER's consultants' analysis of the value that these services provide to society. As such the focus seems to be more on minimising costs in the short term, rather than providing value to the consumer through a secure service. TEL believes that such a focus will lead to a lack of sufficient investment, undersupply, reliability issues and increased costs for consumers due to high wind curtailment.

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There needs to be an incentive for investment to happen. Attempting to enforce a cap on payments by implementing a cost plus system of regulation will not encourage investment. If generators are only paid their cost of investment they will not invest. There needs to be sufficient return on investment to justify the risk. As such TEL believes that the final decision must be in favour of a value based option.

Payment Basis

The proposed payment basis introduces a significant element of uncertainty to the revenue stream.

The essential element of DS3 system services is security of supply. As such being able to provide a service that increases system security needs to be rewarded. TEL would argue that paying for nine services only on an 'As Used' basis gives no confidence to investors. However paying for these services on an 'Availability' basis would deliver greater revenue certainty. A dispatch ('As Used') payment basis is not suitable to pay for services that require significant capital investment e.g. ramping margin from CCGTs which is essential for system security.

At present all plant are required by the Grid Code to provide ancillary services. These services are paid for when the service can be realised from the plant in question. This system was implemented following consultation with industry as part of the Harmonised Ancillary Services Policy. The preferred option fundamentally changes this principle and will require generators to provide services, with exposure to GPI charges, while potentially not being paid for the provision of these services.

Furthermore, as many of the services are only available if plants run, only a plant that runs at a sufficient level can justify investment. Therefore the high merit order plant will benefit despite possibly not providing as much flexibility as a lower merit order plant which could provide greater value to the system. This is contrary to the stated aim of rewarding valuable plant.

TEL believes that the level of uncertainty created by this payment basis would result in the necessary capital expenditure for DS3 system services not being made.

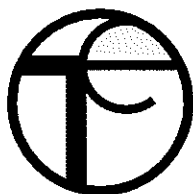
Complexity

The preferred procurement option, Option 5, is based on a multiple bid, multiple time frame auction. Generators will be required to supply bids reflecting each investment option across fourteen services. Nine of these services will be cleared on a trading period basis. From a TSO perspective, this system will be similar to solving 14 simultaneous equations; it will produce multiple solutions, with the TSO being forced to decide which their preference is. This subjective decision may be subject to legal challenges and would compromise the TSO's statutory duty to remain objective. From a generator perspective, having to submit multiple bids across 14 services, potentially subject to a BCOP, would also be extremely complex.

Furthermore in year 2, a generator who was either unsuccessful in year 1, or who only bid in on an annual basis, will be able to calculate all the prices of their competitors who have bid in on a long term basis. As such they may be able to price themselves to be successful for all services thereby stranding any investment that is supported by a long term DS3 contract. This would not be an issue if the generators were paid on an availability basis.

TEL believes that the complexity of Option 5, in particular, adds uncertainty to any investment case, and that this will result in lower investment.

Balancing Market and Flexibility



Under the proposed system there will be no incentive for generators that are successful in securing a DS3 contract to provide the flexibility for which they are being paid. For example if a plant is providing ramping margin they may not be on load and will be paid for the provision of the service. If the ramping margin needs to be called, the generators balancing bid may make them uncompetitive, and another generator, who does not hold a DS3 contract, may in fact provide the energy. This disconnect between the provision of services and the provision of flexible energy needs to be addressed. Furthermore due to the suggested co-optimisation, a plant that is paid on an "As Used" basis for a service may be at an unfair advantage in the balancing market.

The proposals do not appear to adequately consider the relationship between providing the flexibility services, and subsequently providing the energy. While balancing energy and DS3 System Service are separate revenue streams there must be an incentive to for DS3 service providers to provide the flexibility in the energy market for which they are being paid.

Conclusion

For these reasons, TEL believes that the preferred option will not provide the necessary investment. This lack of investment will see an increase in curtailment, a failure to deliver renewable policy and considerably lower reliability, all of which are not in the interest of the consumer. TEL urges the RA's to look again at the analysis performed by the TSO, Pöyry, KEMA and the IPA, and market participants responses to the previous consultations. TEL recommends the focus for a procurement option should first be on delivering investment for a reliable system. This is in the long term interest of the consumer. To achieve this TEL asks that the RA's implement a value based option, with a payment basis of availability and capability.

2. Demand and Supply Side analysis

Respondents are asked to provide views on the approach to the demand and supply analysis, the results and the interpretation of those results

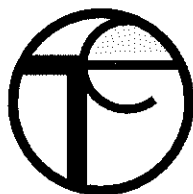
PLEXOS model

TEL is concerned that much of the analysis for the consultation both from the TSO and the IPA was formed from the PLEXOS model. This PLEXOS model design is based on the current market but for the year 2020. However, this model does not consider the impact of the I-SEM which will be three years old at that stage. This may fundamentally underestimate the value that DS3 System Services provide. TEL accepts that the High Level Design of the I-SEM is also only a proposed decision, but the critical aspect of a Day Ahead market based on the EUPHEMIA algorithm should, if possible, be factored in.

Profitability

In the results section (4.6) of the Demand Analysis, it states that '*As production costs fall, the price of energy can be expected to fall. However as generators costs are also lower they can expect higher profits*'. This is followed in section 4.7 with '*this implies that inframarginal rent ... increases*'. However, this analysis does not state that in both cases it is wind not thermal generators who will benefit from the increase in inframarginal rent. In fact thermal generators will see a significant drop in their energy revenues.

Wind generation has zero short run marginal cost, and as such will always be on in the market when it is available and will always, where prices remain above zero, achieve inframarginal rent. Therefore this analysis of potential increased inframarginal rent is not a



benefit to thermal generation who will be the primary provider of DS3 system services. Rather the model (or an up to date EUPHEMIA based model) should be used to calculate the change in inframarginal rent that would accrue to DS3 system service providers due to this huge growth in wind generation.

It is not the purpose of DS3 system services to dampen exit signals, however it should ensure that sufficient valuable (i.e. flexible) generation remains on the system to meet the 75% SNSP. Analysis needs to be performed to see if the expected energy revenue losses, and lower CRM income for thermal generation lead to a shortage of this flexible thermal generation on the system and potential consequences for a secure system.

Volume Analysis

The analysis has not clearly quantified the minimum level of each service that will be required to operate the system securely. This is required to enable generators identify scarce services and to investigate investment options to deliver the required flexibility.

As with any multiparty development with a time lag, it is highly likely that installed wind generation capacity will exceed the base case estimate of 4,572 MW. Therefore average SNSP across the year will be considerably higher than that envisaged in the 'end point scenario'. If curtailment is to be avoided a much higher volume of system services may be required from thermal generators.

In the TSOs' 'Generation Capacity Statement for 2014 – 2023' wind generation capacity for 2023 was forecast to be more than 5.7GW. The IPA analysis places the value on production cost savings for this level of wind at €459 million. If this is the case, the potential value of DS3 System services could be significantly undervalued.

3. Procurement Designs

Do you agree with the criteria and analysis used by the SEM Committee to evaluate the options?

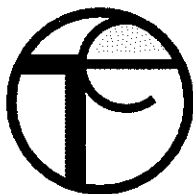
TEL does not agree with the criteria and analysis used.

The criteria used seem inconsistent – Curtailment and RES are strongly related, having these as two separate criteria gives an undue weighting compared to both the consumer interest and investment. There should be a system security criteria. The customer interest is considered purely a function of cost in the short term, yet the longer term cost of non-delivery is not considered to be in the customer interest.

Therefore a reasonable set of criteria could be:

- 1) Security
- 2) Consumer interest (including keeping the lights on)
- 3) Investment
- 4) RES and Curtailment (i.e. delivering renewable policy)

The assessment of the options against the original criteria is also subjective. It could easily be argued that Option 5 will lead to loss of generation in the short term and no incentive for new investment either through upgrades or new plant. This would result in having Option 5 scoring very low for RES, Curtailment and Investment.



4. Procurement Options

a. Do you agree with the design of the procurement options? Are there any different design elements or procurement options that the SEM Committee should consider?

TEL does not agree with the design of any of the procurement options.

TEL believes that the critical aspect of DS3 system services is the necessity to deliver flexibility to deliver renewable policy. As such, each of the options should first encourage investment in flexibility. TEL contends that the five options under the current consultation do not encourage investment.

TEL contends that the starting point for any pro investment option (that is in the interests of consumers) is that it must be value based and that it must be paid on the basis of availability or capability.

TEL believes that all of the options should have been optimised and then compared against each other and consulted upon. As this was not done, the counterfactual option set that was created was not strong and Option 5 is shown as the de-facto favourite.

TEL believes that the value based, regulated option proposed by the TSOs does meet the long term consumer interest.

b. Do you agree with the SEM Committee's analysis of the procurement options?

TEL does not agree with the analysis of the procurement options.

The analysis of each of the options is debatable. For instance there is little logic to the 'High' score that is provided for Option 5 for Investment and Curtailment as there is no certainty of investment with this method. As such there is limited chance that curtailment will be maintained at an acceptable level.

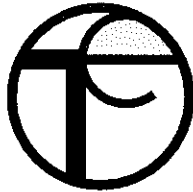
The nature of the multiple bid auction, where all services are cleared at the same time does not provide certainty over price. As the proposed system is extremely complex it is likely to have many possible solutions and the TSO will need to choose a preferred solution. This will add considerable uncertainty to the revenue stream.

c. Which option do you prefer?

TEL prefers the TSO proposal of a value based regulated option.

However, of the options in the consultation, it would be interesting to see how options 1, 3 and 4 could be optimised. There needs to be greater certainty of revenue in order to deliver the investment required for security, minimising curtailment and meeting the RES targets. Once this greater certainty is assured, the aim can be to minimise costs.

A key aspect of delivering this greater certainty will be the payment basis. CCGTs could potentially provide 1 hour and 3 hour ramping margin at significantly greater volume and more efficiently than OCGTs when called but this would require investment. The Ramping and Reserve services should be paid on an availability basis to support this investment, while the Grid Stability products should be provided on a capability basis. This may see an increase in



consumer cost in the short term, but it will provide certainty of investment and subsequently greater security, reliability and protect the long term interests of consumers.

While TEL recognises the benefits to consumers that a market mechanism will deliver, the conditions do not currently exist for a competitive market. IPA recognises that market concentration will be high in the ancillary services market. The ancillary services market would still be considered concentrated by EU Commission standards even if ESB divested of their three largest CCGTs. Under these conditions it does not seem wise to implement a competitive mechanism as it will not deliver competitive results. The implementation of a market mechanism should be delayed until a competitive market can exist.

5. Option 5: Multiple Bid Auctions

a. Do you agree which the SEM Committee's proposal to adopt this option and only to fall back on Option 1 (Regulated Tariffs) where the auction fails to deliver the required volume of services?

TEL does not agree with the proposal to adopt this option.

This solution of Option 5, with Option 1 as a fall back will not encourage investment due to the following reasons:

- 1) The proposed payment basis will not provide any revenue certainty
- 2) The multiple bid, multiple timeframe auction is extremely complex both for generators to bid into and for the TSO to administer. This will add uncertainty to any investment case. It will require the TSO to subjectively weight the services in order to achieve a solution to the auction.
- 3) The proposal for co-optimisation, where one plant provides the DS3 service but is not the next plant on in the balancing market, may see an increase in that plant running out of merit.
- 4) In the event that Option 1 is required (i.e. Option 5 has not produced the required quantity for any service) Option 1 would have to offer a higher price. Therefore those generators that waited would receive a higher price than those that entered the auction.
- 5) By having a fall back option, the RA's are accepting the potential for Option 5 to fail.

Due to the high uncertainty associated with this solution, it is unlikely that sufficient investment would be achieved to support the forecasted levels of wind generation.

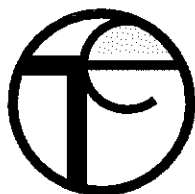
b. Are there any specific issues the SEM Committee should consider regarding the auction design?

In year 2, a generator who was either unsuccessful in year 1, or only bid in on an annual basis, will be able to calculate all the prices of their competitors who have bid in on a long term basis. This generator may then be able to price themselves to be successful for all services thereby stranding any investment that is supported by a long term DS3 contract. This issue would not arise if the generators were paid on an availability basis.

c. Do you agree that market power mitigation measures are required?

TEL believes that under the complex Option 5 there is a likelihood that market power mitigation measures will be required.

Portfolio players could capitalise on Option 5 by stacking their bids for each service so that the price has a steep curve. This would enable them to ensure success in the auction both



for services that are over supplied and extract a substantial premium for scarce services without the need to estimate the technical capability of competitors.

Under a regulated tariff structure there would not be an issue with market power.

d. Are the SEM Committee's proposals regarding market power sufficient? Should alternative or additional measures be considered?

TEL does not support the specified proposals for limiting market power. The two proposals are either counterproductive or not viable.

Limiting the number of long term contracts to put downward pressure on prices is incongruous with the long term aim of DS3 and would reduce system security.

Equally the BCOP proposed under Option 5 would be extremely difficult to monitor and comply with. How does a plant apportion its capital costs over 14 services? Must it justify its distribution of these costs?

TEL believes that consideration should be given to a floor price for each service. In the absence of such a floor price, generators may end up bidding below the long run marginal cost of service provision leading to losses even for successful bidders.

e. Are there any specific requirements that the SEM Committee should include in the bidding rules?

TEL believes that by 2020, there may be a shortage of thermal generation in the market, as the current proposals for Energy Revenue, CRM and now DS3 system services will see a significant drop in revenue for lower merit order plant.

As such, consideration should be given to price support mechanisms as opposed to attempting to minimise costs, potentially at a risk to security.

6. Payment basis for the services

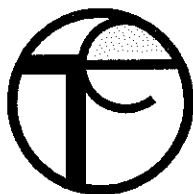
Do you agree with the proposed payment basis for each service/option?

TEL believes that the proposed payment basis is unsuitable for these services. Dispatch ('As Used') products are wholly unsuitable to pay for services that require significant capital investment e.g. Ramping. The Ramping service could be paid for based on a long term contract that will pay for the investment in the upgrade. Alternatively it could be paid for on a Capability or Availability basis.

The essential element of DS3 system services is security of supply. As such, being able to provide a service that increases system security needs to be rewarded. TEL would argue that paying for nine services only on an 'As Used' basis gives no confidence to investors and may in fact reduce the provision of the necessary services. However, by paying on an 'Availability' basis there will be greater revenue certainty.

Furthermore, as many of the services are only available if a plant runs, only a plant that runs at a sufficient level can justify investment. Therefore the high merit order plant will benefit despite possibly not providing as much flexibility or value as a lower merit order plant. This is contrary to the stated aim of rewarding valuable plant.

TEL recommends that the payment basis should be more in line with the original TSO proposals, i.e. that it should be based on either technical capability, or availability.



7. Interaction with I-SEM

a. Do you agree with the SEM Committee's views on the interaction with the energy market?

TEL does not agree with the SEM Committee's analysis of the interaction with the energy market.

Energy market revenue is to pay generators for the cost of delivering energy. Capacity revenue is to recompense generators for fixed costs that they will not cover through energy revenue. DS3 System Service revenue should be a new revenue stream designed to pay for the value of delivering system services and should be sufficient to cover the capital cost (including a reasonable rate of return) required to invest in flexibility. If generators were to reduce their balancing or capacity bids it could result in under-recovery of either their energy costs or fixed costs, and would exacerbate the missing money problem that the RAs recognised in the I-SEM proposed decision. The mechanism for awarding contracts should ensure that the lowest cost solutions that deliver the required flexibility are prioritised.

b. Do you have any views on the potential interactions and the appropriate measures to address these interactions?

TEL believes that the preferred option, together with reduced energy revenue from the I-SEM and the proposed reliability based CRM would see a significant drop in income for thermal generators. This may result in a number of generators closing and could reduce system security and may lead to supply shortages.

The RA's have recognised the missing money problem that exists in an energy only market and have thus proposed a capacity mechanism in the I-SEM. Any attempt to reduce revenue streams further because of ancillary service revenue, may exacerbate this missing money problem.

There needs to be an incentive for investment to happen. Attempting to enforce a cap on payments by implementing cost plus regulation will not encourage investment. If generators are only paid their cost of investment they will not invest. There needs to be sufficient return on investment to justify the uncertainty. TEL believes that the procurement method must be value based.

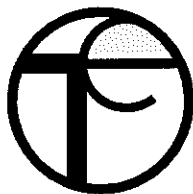
8. Other Issues

Are there any other issues not raised in this paper the SEM Committee should consider?

TEL considers that DS3 is of greater importance to the Irish System than the I-SEM. There is a need to get DS3 right first time. The preferred option in this consultation is overly complex, both for generators and for the TSO's to resolve. The option will not ensure security and sustainability and will frustrate renewable policy delivery.

The RA's and the TSO's have each consulted with industry and hired consultants to analyse requirements and propose solutions. This analysis needs to be reviewed, and a solution which will protect the long term interests of consumers and society needs to be provided. This solution cannot just be focused on minimising cost in the short term, but on providing a solution that will protect the system into the future.

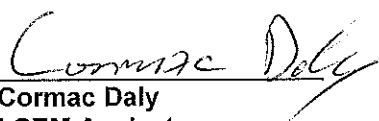
TEL would recommend that plants who have recently made an investment, or who make an investment prior to the commencement of DS3 payments are not disadvantaged. This



prospective disadvantage would stall any potential plant flexibility investment for fear that the capital costs would not be recoverable through the system services revenue. This could result in insufficient flexibility being available to support the high SNSP in 2020.

TEL trusts that these comments prove constructive to the process and looks forward to further positive engagement with the RAs and SEMC.

Yours sincerely,


Cormac Daly
I-SEM Analyst