

4th September 2014

Attention:

Mr Andrew McCorrison
Utility Regulator
Queens House
14 Queen Street
Belfast
BT1 6ED

Mr Robert O'Rourke
Commission for Energy Regulation
The Exchange
Belgard Square North
Tallaght
Dublin 24

Subject: DS3 System Services Procurement Design (SEM-14-059)

Dear Sirs,

This response is not confidential.

Aughinish Alumina Limited ("AAL") welcomes the opportunity to respond to this consultation paper. AAL would like to commend the Regulators and TSOs on the detailed programme which has led to this consultation.

The follow are the key concerns of AAL:

- As a large demand user of power AAL is only too aware of the potential consequences should DS-3 Systems Services (DS3SS) fail to provide in times of system stress. We therefore support the Regulators in rewarding service provision which can be relied upon.
- Cost recovery of enhanced RoCoF provision should be included in DS3 SS.
- AAL is disappointed that the consultation and its valuation analysis of the 5 options, under various installed wind scenarios, have failed to consider the impact on carbon emissions. This is the key driver of government renewable policy and therefore the purpose of the DS3 program.
- AAL run a High Efficient Combined Heat and Power (HE-CHP) plant designated as a Trading Site in the SEM. Provision should be made for such special units in System Service design.
- As a HE-CHP plant, AAL would suggest the detailed design of DS3 SS should be mindful of the European Union Energy Efficiency Directive (2012/27/EU) and the negative impact mandatory provision could have on the Alumina Plant which hosts the HE-CHP plant on Aughinish Island.
- AAL have expressed their concerns about the preferred option 5, especially in relation to:
 - Optimisation of tenders by the TSO
 - Bid submission mechanism
 - Mandatory provision
 - Lack of transparency
 - Dispatch base services being included in the bid evaluation

Below please find our detailed response in the format requested by the SEM committee
We look forward to meeting with the Regulators to expand on these points.

Yours sincerely

Thomas O'Sullivan
Sr. Business Analyst

Consultation Questions

1.0 Summary

1.1 Introduction

AAL is a large alumina manufacturing refinery based in the mid-west region since 1983, employing almost 600 people. With a consumption of over 700MW of primary energy, AAL is one of the largest users of energy in Ireland as well as being the second largest consumer of electrical power. In 2006 (8 years ago), AAL commissioned and constructed an 80% efficient 160MW combined heat and power plant (“CHP”) to meet the power and heat needs of the alumina refinery. We have taken all available steps to decarbonisation in line with Government policies at zero cost to the Irish consumer. Between 2011-2104, AAL has converted completely from HFO to natural gas. These investments have significantly decarbonised the production process. We therefore have an insight, and support the governments initiative to decarbonise power production on the island of Ireland.

Large industry requires excellent power quality to ensure reliability and competitiveness. From a power consumers point of view AAL is concerned about the risks to grid power quality should the DS3 program not deliver in times of up to 75% System Non-Synchronous Penetration. Therefore AAL supports the SEMCs principle to reward reliable providers of System Services (DS3 SS) and the advancement of enhanced performance monitoring as part of the DS3 program. AAL note the benefits of the proposed competitive market based solution but have some reservations around Option 5.

We also have a concern from a large demand users point of view at the acknowledgement by the Regulatory Authorities that the Island of Ireland is at the forefront of power generation with a large penetration of SNSP and very limited interconnection. This offers the Regulators very little international experience upon which to make these crucial decisions and any lag in technological readiness might result in sub-optimal solution.

As the primary function of the CHP plant, embedded within the Alumina plant in AAL, is to provide highly efficient steam and power, AAL have concerns relating to the mandatory nature of the consulted DS3 SS procurement options and how it could impact on steam generation at the Alumina plant. This market mitigation measure creates an unnecessary risk and AAL believe that rational participants will contract to supply services in accordance with market conditions. The Regulators should give some consideration as to how this provision could easily jeopardise the viability of the alumina plant.

In saying this, the uniqueness of this CHP plant in the SEM with the benefits of an Open Cycle Gas Turbine and a demand side response unit whilst still producing power more efficiently than any other thermal plant cannot be over looked. AAL will consult with our OEMs to actively participate in the SS market as long as doing so does not impede our alumina plant needs. Trading site arrangements similar to those in the SEM should be incorporated into the detailed design of DS3 SS to efficiently utilise existing resources.

It is envisaged that the majority of the services required will be provided from enhanced existing units already on the system. However this consultation gives no signal to these units as to what services are in scarce supply. The market needs to be given the forecast volumes for each service.

1.2 Cost recovery of enhanced RoCoF

The objective of the DS3 program is to allow safe operation of the grid at up to 75% SNSP generation, up from the current 50% restriction. With this move to lower marginal cost generation the RA’s have forecasted a substantial cost benefit to final customers in the SEM.

- 5% SNSP increase will be facilitated by DS3 SS and this will save consumers €177m annually at an estimated cost of around € 550m. As part of DS3 the RA's have indicated that this cost will be met by consumers plus some value sharing.
- 10% SNSP increase will be facilitated by enhanced RoCoF capabilities and this will provide significant savings to the consumer at major cost to generators. The cost of providing enhanced RoCoF services should be allocated in a similar manner.

It would seem logical that generators who must offer enhanced RoCoF services should be compensated for the additional costs they must carry. The costs to generators to study and, if possible, modify existing units to become compliant are significant and will provide long term benefits to the final customer. AAL suggest that enhanced RoCoF provision should be compensated through System Services based on a Capability basis.

2.0 Demand and Supply Side analysis

Carbon emissions evaluation.

AAL recognises that the government targets will help reduce the wholesale price of electricity in the SEM . The “other credible scenarios” with lower SNSP levels delivering up to 39.7% renewable generation is also encouraging. We believe that carbon emissions should be taken into account as part of Demand Analysis especially when considering other credible scenarios where benefits of RES reduces with increasing SNSP. Under Directive 2009/28/EC, Ireland is legally obliged to ensure that by 2020, at least 16% of all energy consumed in the state is from renewable sources. Further the reduction of greenhouse gas emissions is a key part of the energy policy of the Irish government along with a 40% renewables target. Renewable energy is a method of producing low carbon power and the DS3 program has been established to facilitate up to 75% instantaneous SNSP generation. In the SEM Committees pursuit of 40% renewables, carbon emissions should be used in their assessment. DS3 SS by its nature will promote inefficient thermal generation by running efficient units at very low levels or by replacing them with inefficient units. The outcome of which might be an electricity market designed to deliver government policy with a less than optimal outcome.

3.0 Procurement Designs

AAL are surprised that the SEMC have failed to include carbon emissions as part of their assessment criteria. There is an obligation on the regulators to consider carbon emissions, Government greenhouse gas reduction targets, European law and Irish law as part of the market design. Whilst the purpose of the DS3 program is to facilitate greater wind penetration it should not be done at the expense of higher carbon emissions and the discrimination of best in class High Efficiency Combined Heat and Power (HE-CHP). Should the CHP plant in Aughinish be aggressively dispatched down the steam demand of the alumina plant will be met by Heavy Fuel Oil boilers with lengthy start-up times and increased emissions.

The interdependent nature of a HE-CHP plant and its heat load/host is a well understood feature of cogeneration technology and HE-CHP is recognised and accepted within the EU as having a major contribution to helping achieve the efficiency targets. Article 15 of The European Union Energy Efficiency Directive (2012/27/EU) acknowledges the definite role that HE-CHP generation has to play in delivering the EU's headline 20% energy efficiency targets by 2020 and further improvements beyond 2020. By its nature as a trading site the power consumed in AAL suffers no transmission losses, thereby saving 0.8MW of power. The same power consumed is produced from 80% efficient gas fired generation producing the lowest carbon content power which is reliably available. The remaining power not consumed on site is exported to the grid complementing renewable energy in driving down the carbon content of power consumed in the SEM. The HE-CHP plant in AAL has generated a saving of around 330,000 tonnes CO₂ per annum to Irelands efficiency targets.

4.0 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?

The procurement options cover a broad range and seem appropriate for a high level design consultation.

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

Option 1: Regulated Tariff

AAL disagree with the classification of investment under option 1 as 'Low'. 5 year certainty is adequate for existing participants to invest in enhanced service provision.

The SEMC mandated total payment cap would protect customers financial interests and allow the TSO the flexibility to contract as it sees fit for individual services.

AAL do not support mandatory participation. Mandatory participation is proposed as a market power mitigation measure but could have adverse consequences to participants especially in relation to co-generation and the heat requirements of the host.

AAL would only support this option on a voluntary basis.

Option 2: System Services Pot

This option is an adoption of the current SEM capacity methodology. AAL agrees with the assessment of this option and that it is not an optimal solution.

Option 3: Regulated Competition

AAL see this as a viable option and support the explicit voluntary nature. The 5 to 10 year contracts for groups 1, 3 & 4 would promote investment whilst having short term remuneration for ramping services would focus cost on times of system stress.

Option 4: Competitive Split Auction

This option built around the IPA report recommendation is a well-structured approach. Long term contracts would allow investors their long-term cost recovery whilst not guaranteeing any short term returns. All participants, both existing and new, would then compete in the short term market to supply services for the forthcoming year.

AAL do not support mandatory participation. Mandatory participation is proposed as a market power mitigation measure but could have adverse consequences to participants especially in relation to co-generation and the heat requirements of the host.

AAL would support this option as long as participation is voluntary.

Option 5: competitive Multiple Bid Auction

This is the SEMCs preferred option.

AAL do not support this option and we believe that a simpler design would better support the SEMCs objectives. We believe this option is overly complicated in terms of design, implementation and also raises concerns about market power.

AAL do not support its mandatory participation.

AAL disagree with the consultation paper that this design mitigates market power issues, in fact

- The inclusions of all services into a single bid creates uncertainty for participants and there is a risk of manipulation of bid build ups and weighting on one scarce service over another.
- The unregulated contract length being part of the bid submission also allows for manipulation.
- The multiple, mutually exclusive bids adds confusion to this option and removes transparency from the TSOs tender selection process. Lack of transparency in itself leads to market manipulation issues.

Dispatch based services in this option would be part of the bid evaluation but would be settled in real time for every trading period. These can therefore not be considered for investment purposes. It would seem reasonable to remove these from the tender evaluation and put a short term day-ahead market for such services under this option.

Investors would need to submit multiple bids resulting in the same cost recovery but with different weightings on services to ensure their bid is not rejected due to a service deemed by the TSO to be low priority.

c) Which option do you prefer?

Without additional information it is not possible to specify a preferred option. Option 1, 3 & 4 could be supported by AAL subject to our concerns already raised in the response.

5.0 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?

No. As stated above this option is overly complicated, inhibits transparency and does not best suit electricity customers. A fall back option in itself raises concerns.

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

AAL would only support voluntary participation due to the steam demand of the Alumina plant. Perhaps this should be part of the consideration for trading sites or other special units.

Multiple bids from a single participant for the same service provision is not ideal. It could lead to lost opportunity or market manipulation.

Dispatch based services should not be included in the auction evaluation

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

Yes

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

To mitigate against manipulation of the market AAL believe the market should be designed to incorporate transparency with published volumes and with price discovery or known price makeup which is clearly defined and available to all stakeholders. This is a market mitigation measure of the existing SEM which should be retained and built upon. If this is not possible under option 5 it should be considered justification enough to adopt another option where it can be achieved.

Option 5 creates more market power manipulation concerns than the other options.

The SEMC should be mindful of the adverse effects mandatory participation could place on carbon emissions and the Alumina plant in Aughinish which relies on the steam generated from the High Efficient CHP plant.

6.0 Payment basis for the services

AAL agreed that reliable delivery of DS3 SS when they are required should be rewarded. Concerns about secondary markets or reliability tolerances can be addressed as part of the detailed design; all units need to take maintenance outages and should be able to avoid penalties. AAL supports the consultation that Participants with reliability below 90% should receive diminished DS3 SS revenues as proposed for option 1 & 2. It is not clear from section 5.6, Variations in Quality, how reliability would be adjudicated in the other three options.

7.0 Interaction with I-SEM

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

AAL have a concern about how a participant is made whole in Euphemia should they be dispatched down from their market position in order to provide services. The I-SEM proposed decision paper refers to pay-as-bid pricing for non-energy balancing. Will a participant receive their market payment, repay an imbalance charge and receive a balancing payment? If so, the single imbalance price could be an exposure to participants.

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

The recovery of a participants short run marginal costs seems appropriate as is the case in the current SEM.

8.0 Other Issues

- a) Enhanced RoCoF provision should be paid through System Services based on a Capability basis
- b) Trading site arrangements similar to those in the SEM should be incorporated into the detailed design of DS3 SS to efficiently utilise existing resources.
- c) Consideration need to be made for the host heat demand of co-generation units, whether domestic district heating or HE-CHP as required under Irish & EU law.
- d) Carbon emissions should be evaluated as part of the Demand Analysis
- e) Transparency in the current market has been a key element of its success to date. It has allowed investment certainty and protected against market power dominance. This should be a requirement in the SS procurement design.
- f) The market needs to be given the forecast volumes for each service.
- g) To ensure investment in services, the benefit of DS3 SS provision should be shared between providers and consumers.
- h) Certainty of service supply should be a priority in this consultation process.
- i) If a participant is not successful in winning a contract for DS3 SS supply but are infact delivering a service, be it inertia, ramp rate or reserve, how should they be rewarded for the service they provide?