

Integrated Single Electricity Market
CRM
Capacity Market Code
Consultation Paper
SEM-17-004

Aughinish Alumina Ltd
Response
24 February 2017

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This response is non-confidential

1. Introduction

Aughinish Alumina Ltd (Aughinish) as a Large Energy User (LEU) and the owner/operator of a High Efficient CHP (CHP) plant have been participating in the I-SEM capacity consultation from the start of the Target Market design. We have been strong supporters of capacity being rewarded based on reliable delivery and of the long term security of the Irish grid. We recognise the importance to Ireland in retaining existing industry and attracting further foreign direct investment through having a world-class power supply system.

In previous responses to the CRM market design Aughinish, as a LEU, called for prudence in seeking exit signals and to be mindful not to undermine the system security. Additionally Aughinish has been consistent in seeking reassurances from the RAs that the Trading Site embedded in Aughinish is treated fairly. Aughinish is uniquely exposed to certain market rules due to it being the only large scale Autoproducer in the market. The two High Efficient CHP units generate 160MW of electrical power and satisfy the embedded 45MW electrical and 240MW steam demand of the alumina plant inside our 130MW MEC, the resultant 115MW is currently sold to the SEM.

In this consultation, Aughinish has four main points

1. Aughinish does not have 130MW available to the CRM
2. Practical implementation of 130MW RO
3. Registration uncertainty
4. Supplier Variable Charges for contiguous Autoproducers

The reason this is unique to Aughinish is that we operate in a trading site where the TSO centrally dispatches our units on a gross basis but we are settled on a net basis. Therefore, we believe the concerns we are raising only affect Aughinish and ask the RAs to consider this when evaluating our response

2. Details on main points

1. Aughinish does not have 130MW available to the CRM

- a. Using the MEC as the initial capacity for an Autoproducer is not compatible with the principle of net trading. Net Trading (by definition) must mean the amount of capacity (energy) the Autoproducer does not require for its own on-site requirements irrespective of MEC.
- b. In the last ten years Aughinish has at all times operated at maximise output. As can be seen in Fig 1 we have rarely come close to exporting power up to our MEC of 130MW

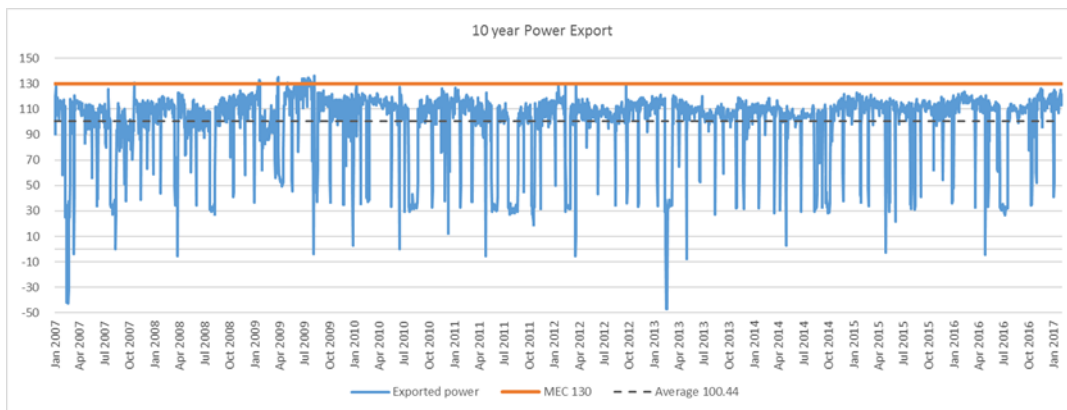


Figure 1 10 years power export data from Aughinish

- c. Figure 2 is a representation of Aughinish’s three physical assets on site. Aughinish built Sealrock3 and Sealrock4 to satisfy the steam and power demand of the alumina plant. The in-house demand capacity is first and foremost committed to the alumina plant. Without the on-site demand of the alumina plant, the High Efficiency CHP would not be viable.

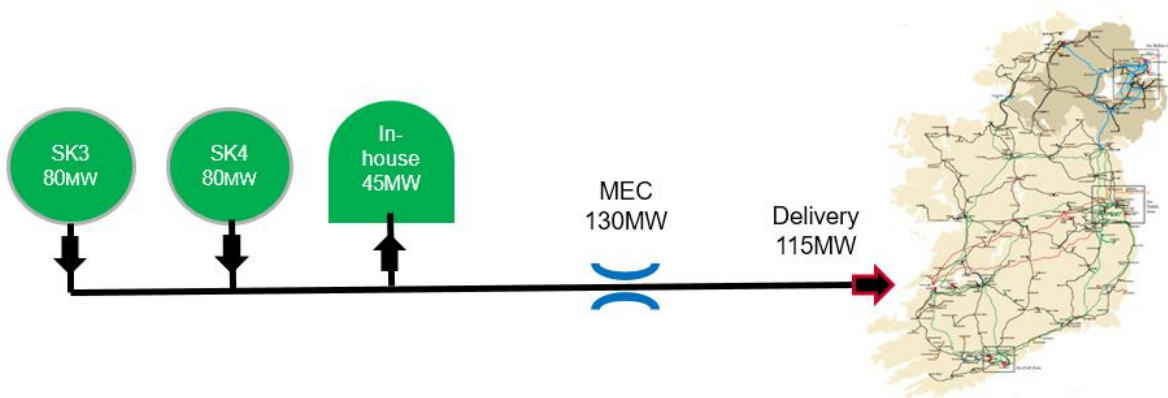


Figure 2 Aughinish Physical Assets

- d. It was never intended that procured MEC would become a contractual delivery commitment. If the RAs deem all holders of an MEC are capable of delivering power to match their MEC then it could be a perverse consequence that forward market liquidity considerations would use the MEC when determining market obligations.
- e. If Aughinish was forced to sell capacity above the electricity volume available to trade then it is certain that whenever the market price is above the strike price Aughinish will be exposed to difference payments up to the 1.5x the annual auction price even though the plant is operating normally/as expected. The market exposure created by the 15MW would be 13x the annual option fee, which cannot be justified. This risk is unacceptable and could force Aughinish to buy back the capacity it has just sold at an additional cost; alternatively, it might force us to reduce our MEC by 15MW, which clearly is not the intention of the RAs.
- f. Can the RAs guarantee that an offer to the CRM at the Auction Price Cap will not clear a RO?
 - i. There could be a social welfare benefit to contract a 1-year offer at Auction Price Cap ahead of a cheaper 10-year offer, this brings new regulatory risk to Autoproducers.
 - ii. The cost of curtailing the alumina production to satisfy a stress event could run into multi millions of Euro, many multiples of a Best New Entrant costs. The CRM Auction Price Cap would not come near to the cost of jeopardising production and the knock on effects that would dissipate out. This is unacceptable to Aughinish.

Above are the arguments why Aughinish is being disadvantaged in the proposed CRM design. Aughinish suggest the following solution:

Autoproducer initial capacity = $\text{Min}(\text{MEC}, (\text{Reg Capacity less Expected Demand}))$

2. Practical implementation of 130MW RO

The physically implementation of a 130MW RO would not be possible with the current interface systems. The Aughinish Control Room Operators receive dispatch instruction from the TSO through EDIL for SK3 and SK4. The in-house load is not dispatchable and is not part of any economic dispatch schedule. More so, the owners/operators cannot ensure the ability to instantaneously turndown the alumina plant in a safe and secure manner to satisfy capacity market requirements.

Aughinish would not accept forcing the alumina plant load to become dispatchable, changing it into a negative generating unit or introducing a new virtual 15MW generating unit.

3. Registration uncertainty

- A It is not clear from the consultation thus far how the CRM registration will represent the single site-trading site on Aughinish Island. Fig 3 shows a possible Capacity Market Unit structure in the CRM, Fig 4 is a representation of the Aughinish structure in the current SEM.

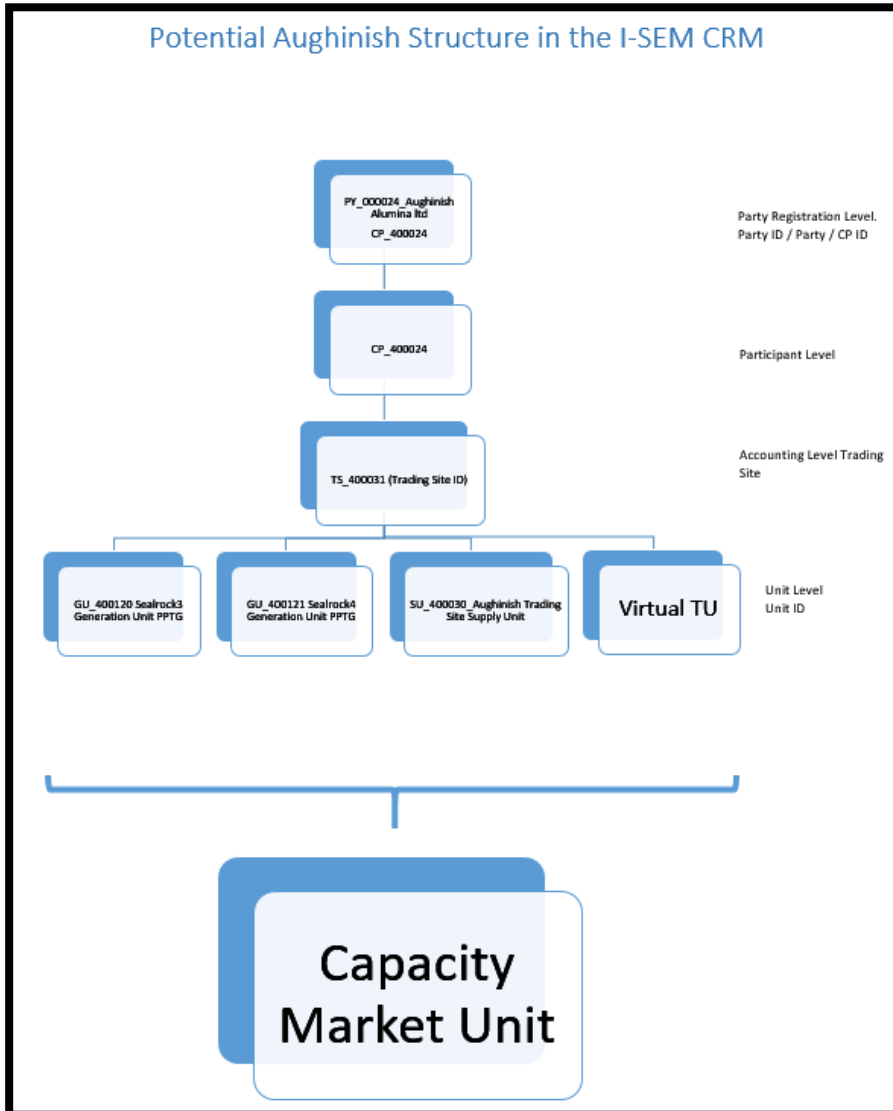


Figure 3 Potential CMU Structure

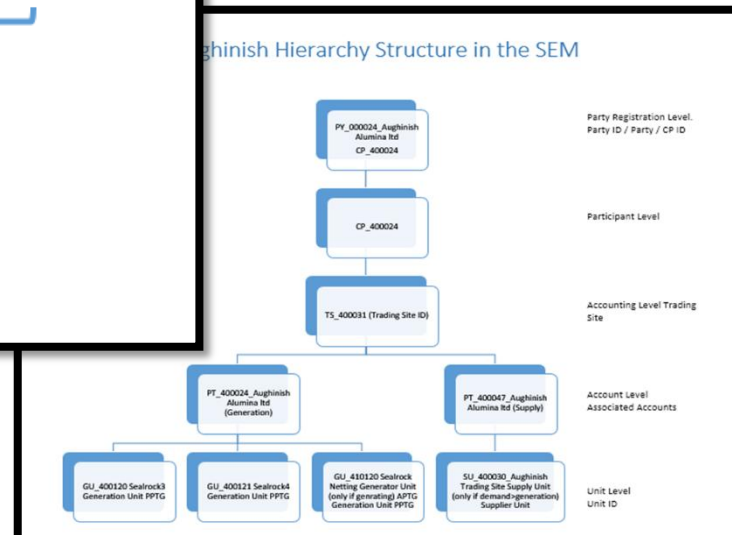


Figure 4 Aughinish Structure in the SEM

The market must retain net treatment of Autoproducers in the CRM. It might be appropriate that the Capacity Market Unit is equivalent to the accounting level trading site or that the three physical assets are registered as Candidate units (also perhaps the virtual Trading Unit) and have a one-to-many relationship with a single Capacity Market Unit.

- B We would also welcome clarity on which ‘size class (MW)’ would be used to derate the Aughinish site. We believe that because each gas turbine are under 100MW the 0 to 100MW de-rating factor should apply to our Initial Capacity after it is netted.

$$\begin{aligned} \text{Formula E.8.2.1 GDRCE} &= \text{MIN}[\text{DRFE} \times \text{ICE} \times (1 + \text{INCTOL}), \text{MAX}[\text{DRFE} \times \text{ICE} \times (1 - \text{DECTOL}), \\ &\text{NDRVE}]] \\ &= \text{MIN} [0.958 \times (80+80-45) \times (1+ \text{INCTOL}), \text{MAX}[0.958 \times (80+80-45) \times 1-\text{DECTOL}), \text{NDRVE}]] \\ &= 110\text{MW} \end{aligned}$$

- C Additionally it is not clear how the new virtual Trading Unit (as created in the ISEM energy market) will be included in the TSC to show delivery of any contracted RO.

4. Supplier Variable Charges

In a market where units can be buyers or sellers but not both, Aughinish would welcome clarification that supplier charges should apply to all consumer of power and not apply to contiguous Autoproducers who are selling and delivering power to the market.

3. Summary of changes required

Aughinish as a Large Energy User has previously expressed our concerns around the preservation of grid stability and asked for the CRM market to take a prudent approach to the issuing of exit signals to generators. We have three main points in which we want the RAs to address under this consultation:

1. Aughinish does not have 130MW available to the CRM. Our trading in the energy market will be up to 115MW. It is unreasonable to force Aughinish to sell capacity in excess of its electricity exports and the RAs must reconsider this proposal. A simple amendment would be as follows:

$$\text{Autoproducer initial capacity} = \text{Min}(\text{MEC}, (\text{Reg Capacity less Expected Demand}))$$

2. Registration uncertainty: Aughinish would welcome clarification on how the CRM market will register the site and how will it incorporate the principle of net power deliver from the single site-trading site.
3. Supplier Variable Charges: Aughinish request clarification on how contiguous Autoproducers will be recognised and its implications on supplier charges

As always, Aughinish is at your disposal if further clarification is needed.

Best Regards,
Thomas O’Sullivan
Sr Business Analyst | Aughinish Alumina Ltd.

APPENDIX A RESPONSE TEMPLATE

SUMMARY INFORMATION

Respondent's Name	Aughinish Alumina Ltd
Type of Stakeholder	Industrial participant (LEU, Autoproducer, High Efficient Generator)
Contact name (for any queries)	
Contact Email Address	
Contact Telephone Number	

This response is non-confidential

ID	I-SEM CMC Reference	Short Title	Commentary / Explanation	Suggested Drafting Change to the CMC	Relevant Cross-Reference for any impacted section
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ID	I-SEM CMC Reference	Short Title	Commentary / Explanation	Suggested Drafting Change to the CMC	Relevant Cross-Reference for any impacted section
1	b.5.2 Appendix D & Agreed Procedure 1	Net trading Autoproducer	<p>What units will Aughinish be registering. What is Aughinish's proposed Capacity Market Unit? It is not feasible that the TSO would seek to dispatch the non-dispatchable onsite demand. What changes would be necessary to EDIL?</p>		
2	b.5.3 b.7.1	Fees	<p>What is the likely cost of the various fees? accession participations fixed System operator Chare on each CMU VSMC on each supplier unit</p> <p>It would be consistent with the current market and the ISEM energy market if variable supplier charges only apply when a single site is consuming power.</p>		

ID	I-SEM CMC Reference	Short Title	Commentary / Explanation	Suggested Drafting Change to the CMC	Relevant Cross-Reference for any impacted section
4	C.3.2 Initial Capacity (Existing)	Autoproducer Initial Capacity	<p>SK3 & SK4 were built to service the heat and power needs of the alumina manufacturing facility and cannot offer capacity to the market to match our 130MW MEC.</p> <p>The net position of the single site trading site should be recognised in the capacity market as it is in the SEM today and in the ISEM energy market.</p> <p>The risk profile of holding a RO above the technical ability of the site puts the entire capacity fee at risk.</p> <p>The CRM Auction Price Cap would not come near to the cost of jeopardising production and the knock on effects that would dissipate out.</p> <p>Aughinish propose an 'Autoproducer MW Capacity' which takes into account the expected demand of the alumina plant.</p>		
6	E.5.1	EXCEPTION APPLICATIONS	<p>Aughinish do not agree with mandatory offering of capacity equal to an Autoproducers Max Export Capacity.</p> <p>Aughinish do not agree that an Exception Application should be necessary for an Autoproducer.</p>		

ID	I-SEM CMC Reference	Short Title	Commentary / Explanation	Suggested Drafting Change to the CMC	Relevant Cross-Reference for any impacted section
7	E.8.2 E.8.3	Initial capacity & Derated capacity & De-Rating Factor	<p>It is unclear how Aughinish’s trading site will be registered.</p> <p>Depending on how it is registered it might fall into a different De-Rating Factor (DRFE)</p> <p>SK3 & SK4 both have a registered capacity of 80MW each, the in house demand historically is around 45MW. The Trading Site capacity will likely remain around 115MW.</p> <p>Will it fall into the 001 to 100MW size class or the 101 to 200MW size class?</p> <p>Formula E.8.2.1 for an autoproducer $GDRCE = \text{MIN}[\text{DRFE} \times \text{ICE} \times (1 + \text{INCTOL}), \text{MAX}[\text{DRFE} \times \text{ICE} \times (1 - \text{DECTOL}), \text{NDRVE}]]$ $= \text{MIN} [0.958 \times (80+80-45) \times (1+ \text{INCTOL}), \text{MAX}[0.958 \times (80+80-45) \times 1 - \text{DECTOL}], \text{NDRVE}]]$ $= 110\text{MW}$</p>		

ID	I-SEM CMC Reference	Short Title	Commentary / Explanation	Suggested Drafting Change to the CMC	Relevant Cross-Reference for any impacted section
	Glossary & F.8.3.4	Definition of Clean power	<p>The Energy Efficiency directive recognises High-Efficiency CHP as being the most efficient use of a scarce resource and part of decarbonising Europe’s power.</p> <p>“The upgrading and strengthening of the grid rules in the Cogeneration Directive for high-efficiency CHP aims to maintain the equality of treatment of electricity from high-efficiency cogeneration with electricity from renewable energy sources.....The EED therefore requires Member States to ensure that the rules on how the different rights will be ranked in their electricity systems are clearly explained in detail and published in view of the need to maintain the grids’ operational security and stability, i.e. in cases where two or more equal priority access or dispatch rights conflict with each other.”</p> <p><i>Reference Guidance note on Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EC, and repealing Directives 2004/8/EC and 2006/32/EC Article 15: Energy transformation, transmission and distribution</i></p> <p>It is the option of Aughinish that the definition of ‘Clean’ in the context of the CRM rules is mandated under Irish, UK and European law to include High-Efficiency CHP</p>	<p>Clean</p> <p>i) in respect of a Capacity Market Unit comprised only of one or more Generator Units, means each of those Generator Units satisfies one of the following criteria: (a) if the unit is a Generator, it generates electricity using only renewable energy sources; and (b) if the unit is a Demand Side Unit, the demand response is provided by means of changes of electricity load by final customers</p> <p>ii) in respect of power generated and certified as high-efficiency cogeneration</p>	
F.9.1		Not accept the auction results	What steps are followed if a participant does not accept the auction results?		

ID	I-SEM CMC Reference	Short Title	Commentary / Explanation	Suggested Drafting Change to the CMC	Relevant Cross-Reference for any impacted section
	F.9.5 & Appendix G: "Data Publication" & Agreed Procedure 3 Qualification and Auction Process	Information Published Following a Capacity Auction	AAL would support: <ul style="list-style-type: none"> • Full COD publication of all auction participants to help protect small independent participants from market power manipulation • A market report aimed at interested public observers following every auction run. 		