

Integrated Single Electricity Market (I-SEM)

CRM Location Capacity Constraints Methodology

SEM 17 027

Aughinish Alumina Ltd Response

165 May 2017

This response is non-confidential

Thomas Quinn
Commission for Energy Regulation,
The Exchange,
Belgard Square North,
Tallaght,
Dublin 24

Lesley Robinson
Utility Regulator,
Queens House,
14 Queen Street,
Belfast,
BT1 6ED

16th May 2017

RE: CRM Location Capacity Constraints Methodology Consultation Paper

Dear Mr. Quinn and Ms. Robinson,
Thank you for the opportunity to provide feedback on this consultation.

Background

Aughinish Alumina Ltd (Aughinish) is an alumina plant in West Limerick. Aughinish owns and operates a 160MW Combined Heat and Power (CHP) plant which satisfies both the 45MW baseload electrical demand of the alumina plant and also provides a large proportion of the continuous high temperature, the high-pressure steam demand of the alumina plant. The CHP operates at an efficiency of 80% with the excess electricity generated by the CHP, approximately 115MW, exported to the market.

Assessment Criteria

Aughinish is disappointed that the Regulatory Authorities assessment criteria (section 1.5) continue to ignore the government's environmental targets and policy to reduce carbon emissions. Aughinish insists that the environmental assessment should specify reduction targets in carbon emissions. Below, in red, is a redrafting for your consideration:

- ~~Environmental: while a market cannot be designed specifically around renewable generation, the selected wholesale market design should promote renewable energy sources and facilitate government targets for renewables.~~
- **Environmental: the selected wholesale market design should promote primary energy savings, promote carbon emission reduction and facilitate government targets for increased renewable generation.**

CHP is the simultaneous production of electricity and heat, both of which are used usefully. Through the utilisation of the heat, the efficiency of a cogeneration plant can reach 90% or more. Cogeneration, therefore, offers energy savings ranging between 15-40% when compared to the supply of electricity and heat from conventional power stations and boilers. Migration towards cogeneration is the key to achieving immediate energy savings and CO₂ reductions, helping to meet climate and energy efficiency goals cost-effectively.

Cogeneration optimises the energy supply to all types of consumers, with the following benefits for both users and society at large:

- Increased efficiency of energy conversion and use. Cogeneration is the most effective and efficient form of power generation.
- Lower emissions to the environment, in particular of CO₂, the main greenhouse gas. Cogeneration is the single biggest solution to climate change goals.
- Cogeneration is dispatchable and predictable, thus plays a key role in enabling a higher share of renewable electricity in the system while ensuring grid stability. Cogeneration can be dispatched when intermittent renewables are not generating and will be key in providing system stability, as the share of RES increases.
- Large cost savings, providing additional competitiveness for industrial and commercial users and offering affordable heat for users (domestic and industrial).
- An opportunity to move towards more decentralised forms of electricity generation, where plants are designed to meet the needs of local consumers, providing high efficiency, avoiding transmission losses and increasing the flexibility of system use.
- Provides competition in generation.

Methodology

Our feedback is built upon our original response to SEM-16-052 where we were of the view that the CRM should not be used to solve locational issues. The CACM and other system support mechanisms i.e. Reserves, Balancing Services, DS3, TLAFs etc should be used to address system issues, not the Capacity Market.

Subject to the decisions already made in relation to location issues, Aughinish support the methodology for the determination of the Locational Capacity Constraint Areas and the minimum MW requirement in each such area.

As a historic consumer of power, we ask that the Regulators ensure that the additional cost incurred by consumers due to constraints in the system are visible and transparent. These should act as a rational driver for investment in constrained locations.

Derating Factors

Aughinish support appendix B and any improvements to the stability of Derating Factors from year to year so long as this does not delay market signals to participants.

Technology Groupings: the two High Efficient CHP units within the Aughinish manufacturing facility have a 99% reliability factor across its 11 years of operation. We are concerned that this type of reliability will be undervalued in the technology grouping. We suggest that any amendments to the methodology should consider if customers are best represented through the use of the proposed technology groupings.

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

Best Regards,

Thomas O'Sullivan
Business Analyst
Aughinish Alumina Ltd.