



AUGHINISH ALUMINA LIMITED  
(Registered in Ireland No.59982)

For Attention of:

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Non-Confidential Response to SEM-20-028

22<sup>nd</sup> June 2020

Dear Gina / Gary,

Ref: Implementation of Regulation 2019/943 in relation to Dispatch and Redispatch

Firstly we welcome the 8-week consultation process to consider these complex issues. We have replied to the consultation questions as requested. The response outlines our position in more detail but at a high level we seek confirmation from the RA's that the following will apply:

- 1) The Aughinish high efficiency CHP with priority dispatch will not be subject to downward dispatch below Min Gen, other than for network security reasons for which there is no other solution. Financial compensation is not a viable alternative.
- 2) Aughinish's high efficiency CHP facility retains its priority dispatch status even after the site invests in new facilities to help decarbonise further.

## Introduction

Aughinish Alumina Limited (Aughinish) since 1983 has operated a large alumina refinery based in West Limerick. The alumina plant is one of the most energy-efficient in the world and produces 30% of EU alumina requirements for the production of aluminium and other products. In 2003, Aughinish invested over US \$130M in a 160MW High-Efficiency Combined Heat and Power ("HE CHP") plant to meet the power and continuous heat needs of the refinery, thus becoming an exporter of power and no longer only a consumer. Since commercial operation in 2006, the CHP plant has played a major role in Ireland reducing emissions, accounting for an average saving of approximately 330,000 tonnes<sup>1</sup> of CO<sub>2</sub> per annum. Aughinish is one of the least carbon-intensive fossil fuel generator in Ireland, with an electrical carbon intensity of ~234 g CO<sub>2</sub> /kWh.

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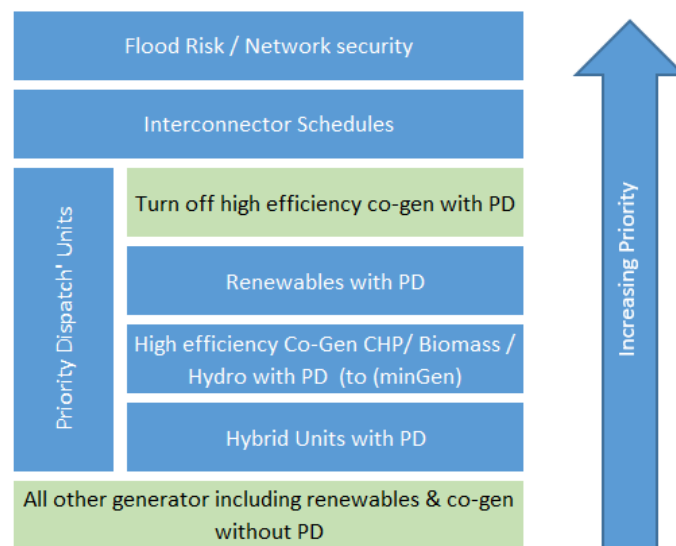
<sup>1</sup> The 330,000t CO<sub>2</sub> savings includes gas CHP replacing Heavy Fuel Oil boilers, and grid power imports.

## The high-level Aughinish Alumina Ltd position

In our response, we want to emphasise the importance of the physical consequence in real-time of any SEMC decision related to the Electricity Regulation 2019/943. Our two high efficient CHP units (Sealrock3 and Sealrock4) operate in an integrated manner to deliver low carbon power and continuous useful heat to the alumina plant. Due to the configuration of our Trading Site, ours is the only CHP site on the island which is subject to dispatch by the Transmission System Operator (TSO). If CHP is dispatched off by the TSO then continuous heat is lost and alumina plant must shut down.

The continuous secure supply of heat is critical to the viable operation of the alumina plant and any financial compensation should only be considered as a last resort if the TSO had no other option but to turn the CHP below its Min Gen to solve a grid security concern. Consideration of financial compensation is appropriate but physical delivery of heat is the greatest obstacle to CHP in Ireland. This consultation will inform the TSO's Balancing Market Principle Statement (BMPS) and will be the rulebook for real-time decisions made in the Control Centre. For our alumina plant, we need at a minimum to secure a continuous heat supply from our CHP when operating at Min Gen. This is self-generated power most of which we self-consume on site. We can position the units in the market (always exposed to market prices) and submit Physical Notifications but the TSO, due to the metering configuration, can dispatch down our self-generated power. The TSO does not have this control with other CHP units who operate 'behind the meter'.

Aughinish asks for a clear simple direction that high efficient CHP with priority dispatch should not be subject to downward dispatch below Min Gen (ie turned off), other than for exceptional network security reasons for which there is no other solution.



## The “energy-efficiency-first” principle

The CEP will put systems in place towards 2030 targets, this is a step towards European carbon neutrality by 2050 as set out in the new Green Deal. The Clean Energy<sup>2</sup> strand of the Green Deal prioritises energy efficiency and the integration of renewables. At the core of the European climate change ambitions is the principle of ‘energy-efficiency-first’<sup>3</sup>. Without energy efficiency, the investment needs and costs associated with decarbonising energy production and the additional infrastructure will simply be too high for consumers to bear.

Aughinish’s CHP makes better use of existing resources by reusing exhaust heat from power generation to satisfy an existing continuous heat load. As the Island of Ireland transitions into a climate-neutral future, electricity from high efficient CHP will be an important enabler. It will deliver system security and with fast-acting ramp rates between Min Gen and Max Gen it will continue to support variable generation technologies for decades to come. When ultimately available in Ireland the same CHP units can be powered by alternative low/zero-carbon fuels through existing infrastructure.

The certified 24.4% primary energy saving from Aughinish’s HE CHP is a prime example of how greenhouse gas emissions can be reduced by using synergies across the heat and power sectors. The SEMC has the opportunity to follow the European direction by enshrining the energy-efficiency-first principle across an integrated energy system. CHP brings together electricity and heat, it bridges consumer and producer and in so doing has substantial primary energy saving, reduces grid infrastructure and reduces transmission losses.

Continuity of minimum heat delivery is the biggest risk to CHP, this is the reason it was provided PD in Article 15(5) of Directive 2012/27/EU on energy efficiency. For our part, we are satisfied the EU legislators have maintained a stable regulatory framework for pre-2019 investments and recognised the continuing need for continuity of heat in Regulation 2019/943 by “grandfathering” Priority Dispatch for existing HECHP in Art 12. This grandfathering is not subject to provisions set out in Art 13 for redispatch.

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<sup>2</sup> [https://ec.europa.eu/commission/presscorner/api/files/attachment/860072/Clean\\_energy\\_en.pdf.pdf](https://ec.europa.eu/commission/presscorner/api/files/attachment/860072/Clean_energy_en.pdf.pdf)

<sup>3</sup> [https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT\\_18\\_3997](https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_18_3997)

## **Response to consultation questions:**

Consultation Question 1: Do you agree with the RAs' interpretation of the requirements under Articles 12 and 13 and specifically the application of dispatch, redispatch and market based/non-market based redispatch in the SEM?

After safety, our top priority is the continuity of heat supply. Our HE CHP units can offer flexibility to support variable generation and provision of system services down to our Min Gen. Turning off the CHP generating facility will result in shutting down the Alumina plant. Financial compensation is of secondary importance to our alumina plant if it forced to shut down. A shut down of the facility causes huge disruption to production which takes days to recover from, the lost production can never be recovered and our reputation with our owners to make delivery commitments is tarnished. The cost to the host site of being turned off is unquestionable "significantly disproportionate".

Under Art 12 Priority Dispatch is grandfathered for our facility, this is not subject to provision of Art 13. We welcome the stable regulatory framework this provides.

Section 1.2 is not clear enough for us to fully agree with the RAs interpretation. We fear misinterpretation of its application into the BMPS is possible without more clarity. We can agree fully with the TSO's proposal for a revised priority dispatch hierarchy in Section 3.4 Pages 34 and 35 and believe this gives absolute clarity.

Consultation Question 2: In terms of the practical implementation of Article 12(1) to introduce a distinction between units which retain eligibility for priority dispatch and those which are not eligible, the RAs propose;

- Where a commissioning programme has been agreed with the TSOs on or before 4 July 2019, it is proposed that such units will be eligible for priority dispatch.
- Where a unit is eligible to be processed to receive a valid connection offer by 4 July 2019, the RAs are of the view that this represents a contract concluded before priority dispatch ceases to apply under Article 12 and that such units are also eligible for priority dispatch.
- Where a unit becomes active under a contract concluded before 4 July 2019 including a REFIT letter of offer or PPA, the RAs welcome feedback on the proposal for such generators to be eligible for priority dispatch.

Interested stakeholder's views are invited on these proposals.

According to Art12(6) retention of Priority Dispatch appears to apply:

1. To units commissioned before 4<sup>th</sup> July 2019
  - a. We would consider the term "commissioned" to mean that the generating facility finalised construction to substantial completion, passed all Performance Tests including Grid Tests and received generating License prior to 4<sup>th</sup> July 2019.

Or

2. To contracts concluded before 4 July 2019,
  - a. "eligible to be processed to receive a valid connection" in our opinion is not what the legislature intended when writing "contracts concluded".

Question 3: It is the RAs' understanding that any unit which is non-renewable dispatchable but is no longer eligible for priority dispatch can be treated like any other unit within the current scheduling and dispatch process, through submission of PNs with an associated incremental and decremental curve. Feedback is requested on this aspect of implementation of Article 12 of the new Electricity Regulation. Consultation

**No, Aughinish does not agree with the position set out in Question 2.** The reasons are outlined below.

We agree Art 12 removes the PD from new HE CHP but this does not mean that Ireland, should reject the "energy efficiency first" principle. To do so might allow for more streamlined market rules but would result in suboptimal decarbonisation of the island.

### **Energy Efficiency First**

Energy Efficiency should be seen as the first fuel. HE CHP is still the easy win to reducing Ireland's dependence on fossil fuels. The Energy Efficiency Directive, drafted in 2012, redrafted in 2016 and under review again has been consistent that Member States (MSs) must carry out a cost-benefit analysis of all proposed standalone, large generators and standalone large boilers, to install instead a HE CHP facility. Additionally MS must report to the commission on any dispatch down of HE CHP units. These requirements and the benefits of the substantial energy saving from HE CHP are not extinguished with the removal of priority dispatch in Art 12.

### **Continuity of heat supply**

While the installation of a HE CHP instead of a CCGT might incur a greater capital cost on the host site it will produce real savings in the medium and long term. The biggest barrier to installing large CHP in Ireland is not the cost, it is the risk to continuity of heat supply. If the TSO who dispatches the units have no mandate (and have no dispatch tools) to take the heat load into consideration then the potential host site will immediately reject the HE CHP option. In doing so all stakeholders loss out: the environmentally through increased emissions, financially for the host site, MS in the increasing burn of fossil fuels. Without some consideration for the crossover between the electricity market and the provision of heat, Ireland will reinforce our reliance on imported fossil fuels for another 30year technology lifecycle.

### **Self-Generated**

Art13(6)c gives the highest priority to self-generated power. Only units retaining priority dispatch under Art12 have a higher priority.

Aughinish has for a long time highlighted the discrepancy of the dispatch tool being able to schedule a demand response which is not offered to the market. Aughinish typically sells 115MW to the market but the TSO can dispatch 160MW. The difference is the TSO's ability to dispatch our self-generated power. Currently, Aughinish is the only site in the market where this unusual situation arises. Grandfathering of PD under Article 12 will minimise the risk to our site. To protect future low carbon HE CHP installations the redrafted PD hierarchy should ensure the Min Gen of autoproducing (or self-generating) HE CHP (or renewables) is given the highest ranking unless no other solution would resolve a network security issue.

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## Significantly disproportionate costs

In the context of the SEM, what are significantly disproportionate costs?

New HE CHP without PD could suffer very high costs from being turned off by the TSO. These facilities should be able to secure their continuity of heat requirement under Art13 due to the very high cost. Art13(6)a and Art13(6)b have clauses which must consider if an action would cause “significantly disproportionate costs” and “disproportionate costs” clauses.

In our opinion, the TSO must be able to see the cost associated with his/her dispatching action. A dispatching tool must be made available to the TSO’s to take the cost associated with continuity of heat supply into consideration when scheduling and dispatching new HE CHP under Art13. Perhaps the solution lies in the application of the deemed Decremental prices for constraints to give effect to the hierarchy of PD. Existing software applications can be used to give effect to the regulation by considering the cost impact of continuity of heat supply

Aughinish recommend that the Decremental prices used in the scheduling and dispatching should be the lower of: (the pre-determined negative decremental prices) or (the participants submitted decremental prices)

This solves two problems:

1. The TSO will seek out alternative solutions before incurring a “significantly disproportionate costs” or a “disproportionate costs”
2. The TSO is not contracting a unit on behalf of consumers without being aware of the price which will be used for settlement.

If the SEMC achieve this new non-renewable dispatchable unit who suffer large costs from being turned off could retain the minimum needed continuity of heat if they are willing to accept the consequence of being exposed to the market price.

In an Irish context, the volume is likely to be inconsequential compared to the roll-out of wind and solar generation. From a CHP perspective the new site would have to satisfy the following:

1. Be a new non-renewable dispatchable unit (contracted after 4 July 2019)
2. Be above the 10MW deminimus threshold and subject to TSO dispatch (all but one CHP plant today is under 10MW)
3. Be exporting more power than their self-generated power (which under Art 13(6) already has the highest priority in redispatch).
4. Be so reliant on CHP that they are willing to accept negative prices for exported power.

The SEMC can now create an environment which would facilitate new private investment in low carbon technology.

Question 4: It is proposed that any unit which is non-dispatchable but controllable and is no longer eligible for priority dispatch would run at their FPN, be settled at the imbalance price for any volumes sold ex-ante and could set the imbalance price.

As part of this proposal, there is a question of whether such units would be required to submit FPNs or where no FPN is submitted, the unit could be assigned a deemed FPN calculated by the TSOs as per the process today. Where a unit elects to submit an FPN, in this case, the TSOs would be required to use this as long as it does not deviate above a certain percentage of the TSOs' own forecast availability of the unit.

As an alternative or as a possible interim measure, taking account of the zero marginal cost nature of non-dispatchable but controllable generation in the market today, i.e. wind, solar, units no longer eligible for priority dispatch could be scheduled to their availability as per the process today on the assumption that this reflects economic dispatch in any case, but where there is excessive generation on the system such units would be subject to energy balancing prior to any priority dispatch units. In particular, the RAs are seeking feedback from the TSOs on measures which can be introduced to facilitate required compliance with the new Electricity Regulation within the scheduling and dispatch and balancing market systems. Consultation

No comment on FPN and allocation of COD for new non-dispatchable but controllable units.



Consultation Question 5: Feedback is invited from interested stakeholders on the treatment of non-dispatchable and non-controllable units.

Non-dispatchable and non-controllable units should not be at an advantage to dispatchable or controllable units. The alternative would be a perverse incentive to remove tools from the TSO.

Consultation Question 6: Do you agree with the RA's interpretation that new generators which are no longer eligible for priority dispatch (both dispatchable and non-dispatchable but controllable) will be subject to energy balancing actions by the TSOs, considered in dispatch economically and settled like any other instance of balancing energy?

Except for consideration of self-generated electricity under Art 13(6)c, we agree.

For such self-generated electricity this should only be turned down if no other solution would solve a network security issue. We assume that dispatch economically means the TSO has dispatch and scheduling software which recognises any disproportionation costs and that any deemed decremental prices are not obscuring the cost of the dispatch actions.

Consultation Question 7: What is your view on the application of bids and offers to zero-marginal cost generation?

No Comment

Consultation Question 8: What is your view on a potential rule-set being implemented for non-dispatchable units where (a), systems cannot facilitate ranking of decremental bids for such units for balancing actions for a certain time period and/or (b) where convergent bid prices require a tie-break rule?

No Comment

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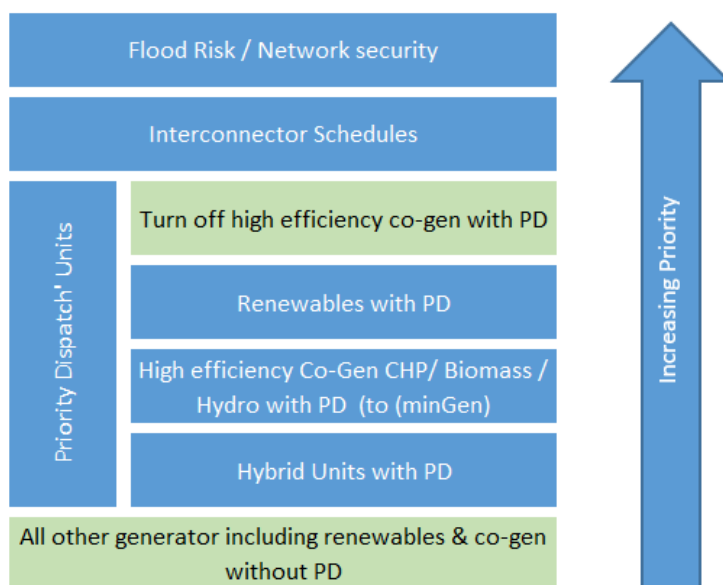
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Consultation Question 9: Do you agree with the TSOs' proposal for a revised priority dispatch hierarchy? The RAs request that the TSOs consider the points raised in this Section in their response with any further proposed changes to the hierarchy.

Yes, we support the TSOs' proposal for a revised priority dispatch hierarchy described in section 3.4. We welcome the consideration for the must run minimum operating level of some CHP units which support their host site. A single clear hierarchy of dispatch must be produced. This will inform the BMPS and ultimately be used to physically dispatch the generation fleet. Below is our interpretation of the revised hierarchy of PD



Consultation Question 10: Feedback is requested from interested stakeholders on the types of demonstration projects that may be suitable for an application process for limited priority dispatch eligibility.

No comment

Consultation Question 11: The RAs' interpretation of the Regulation is that where a new connection agreement is required or where the generation capacity of a unit is increased, a unit will no longer be eligible for priority dispatch.

The RAs also propose that units should be able to make a choice on whether they wish to retain their priority dispatch status or not. Feedback is requested on this proposal.

The SEM Committee need to incorporate some flexibility if a modification to a connection agreement is to enhance the low carbon future on the island.

**Significant modifications:**

Priority dispatch is lost if a generator undergoes significant modifications according to Art 12. There is a concern that the application of this could hinder the process of electrification to decarbonise our economy.

If Aughinish were to install a large electric steam boiler facility, electrical thermal storage facility or a large battery storage facility on our site as part of decarbonising the site it would require additional import capacity and potentially additional export capacity and may be interpreted as a change connection agreement. These facilities would offer new services to the TSO to reduce dispatch down of wind generation. We do not consider these as a significant modification to our HE CHP facility. In summary, if a site which contains a PD generation facility moves to additional electrification (other facilities) and requires additional Import Capacity it is clear this is not connected with their existing PD generation facility.

Suggestions:

- Generation Capacity

An increased Max Import Capacity (MIC) to a site should not constitute a significant modification to an exporting facility. Increased electrification will form part of the decarbonisation of industrial sites.

- New connection agreement.

Connection agreements can be changed for various reasons e.g. a change of company name, change in RoCoF rules, etc. A new connection agreement does not automatically indicate that a PD generating facility within the site has been modified.

- Power-generation facility

There must be a differentiation between “Facility” and “Site”.

A power generation facility exists within a site. If the export/generation capacity or the Import Capacity is increased from/to the site due to an additional facility being installed the existing PD facility should not lose its PD. Any other application would hinder decarbonisation from new electrification of industrial process and hinder new services needed to minimise dispatch down of wind generators.

- “Significant modification”

We would welcome clarification if a modification is significant or not. As a starting position we would welcome the SEMC listing what is not a significant modification e.g. normal maintenance, improved RoCoF capability through software fine-tuning, installation of carbon capture and storage facility etc.

Grid capacity is a scarce resource. The FlexTech program is trying to make better use of existing capacities. The interpretation of “significant modifications” to a “power-generating facility” should be made carefully so that it will not hamper future decarbonisation of industry through electrification and remove tools to further integrate wind generators. Discretion should be afforded to the RAs especially if it reduces the carbon intensity of the power/heat economy in line with government targets.

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Section 4.2 Consultation Question 12: Do you agree with the RAs' interpretation of Article 13(5)(b) whereby downward redispatching of electricity produced from renewable energy sources or from high-efficiency cogeneration (i.e. the application of constraints and curtailment) regardless of priority dispatch status, should be minimised in the SEM? Under this interpretation, the only difference between renewable generators and HECHP eligible for priority dispatch will be how they are treated in terms of energy balancing.

No – PD is grandfathered under Art 12. PD facilities should be the last units moved from their physical notification in a constant situation. When units must be dispatched down for constraints non-PD facilities should be dispatched off before PD facilities. This is the reason to have retention of PD classification.

Consultation Question 13: Do you agree with the RAs' interpretation of Article 13(6) and the introduction of a new hierarchy for the application of non-market-based downward redispatching?

Considering the TSO only dispatches the fleet once, it is not simple to identify if it is for dispatch or re-dispatch reasons. One clear hierarchy must be used in the BMPS. Aughinish supports the hierarchy proposed by the TSO under section 3.4 of this consultation.

No, we do not agree with the RAs interpretation of Art 13(6).

Please see our response to Question 2 which highlights some aspects of Art 13(6), namely: Self-generated power and Disproportionate costs

The consultation has not addressed these

A tool must be made available to the TSO to avoid them contracting actions which have significant costs. Aughinish, in question 2, has identified a method of doing this using existing scheduling and dispatch tools.

Consultation Question 14: Do you agree with the RAs' interpretation of Article 13(7) and the view that the provision of financial compensation to firm generators subject to curtailment based on net revenues from the day-ahead market including any financial support that would have been received represents an unjustifiably high level of compensation?

No comment

Consultation Question 15: Which of the options on compensation for curtailment presented above do you view to be most appropriate to adopt in the SEM? Are there additional options that the RAs should consider around compensation for curtailment?

No comment on compensation, the priority for Aughinish is the physical dispatch and recognition of heat from HE CHP, compensation is a secondary concern.

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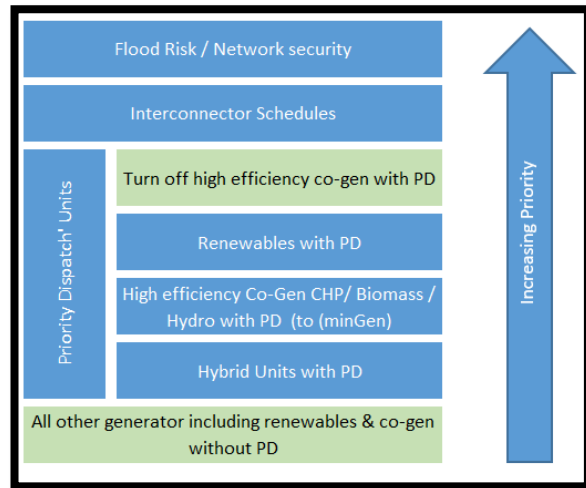
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## Summary of Aughinish’s position:

The CEP has put systems in place to aid carbon reduction by 2030, this is a step towards European carbon neutrality by 2050 as set out in the new Green Deal. An energy-efficient, more circular system where energy waste is re-used. At the core of the European climate change ambitions is the principle of ‘energy-efficiency-first’. Without energy efficiency, the investment needs and costs associated with decarbonising energy production and the additional infrastructure will simply be too high for consumers to bear.

- Continuity of heat is vital to the provision of low carbon intensity electricity from HE CHP
- The physical outcome resulting from this consultation is the primary concern of Aughinish, financial compensation is a secondary consideration.
- Art 12 has grandfathered Priority Dispatch (PD). These should be the last facilities constrained down by the TSO.
- The hierarchy of dispatch needs to be very clear for the BMPS. See the Aughinish draft in line with the TSO proposal.
- The interpretation of “significant modifications” to a “power-generating facility” should be made carefully so that it will not hamper future decarbonisation of industry through electrification and remove tools to further integrate wind generators”. The RAs must distinguish between import capacity and “generation capacity”. The RAs must distinguish between generation capacity to a new facility within a site and generation capacity to an existing PD facility within a site.
- Art13 should be considered for all non PD facilities. The consultation document did not address dispatch of non-PD Self-generated power and the avoidance of Disproportionate costs when dispatching non PD RES/HE CHP.



**Aughinish asks for a clear simple direction that high efficient CHP with priority dispatch should not be subject to downward dispatch below Min Gen, other than for network security reasons for which there is no other solution.**

Aughinish is available to provide supporting information, advice and to engage on this matter.

Yours sincerely,

Thomas O’Sullivan  
Aughinish Alumina