

**20220204-ABP-312146**

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4<sup>th</sup> February 2022

**ABP Ref.: 312146**  
**App: Aughinish Alumina Limited**  
**For: Expansion of the Bauxite Disposal Area, extension to the existing Salt Cake Disposal Cell and extension of the permitted borrow pit at Aughinish Alumina Limited**  
**Site: Aughinish East, Aughinish West, Island Mac Teige, Glenbane West, and Fawnamore at or adjacent to Aughinish Island, Askeaton, Co. Limerick**

A Chara,

Thank you for referring the above application to An Taisce for comment.

Compliance with the conditions of the existing planning permissions and EPA licensing for the site should be evaluated as a preliminary matter.

### **1. Potential Impacts to Water Quality and the Shannon Estuary**

The potential risks to water quality as a result of bauxite and salt cake disposal, particularly from a failure of containment in the Bauxite Residual Disposal Area (BRDA), are well known and discussed in the EIAR. Given the site's location on the shore of the Lower Shannon Estuary, which includes the Lower River Shannon SAC (site code: 002165), River Shannon and River Fergus Estuaries SPA (site code: 004077) and the Inner Shannon Estuary - South Shore pNHA (site code: 000435), the potential impacts must be fully addressed by the Board to ensure compliance with the Environmental Impact Assessment Directive, Habitats and Birds Directives, Water Framework Directive and Groundwater Directive.

The Water Framework Directive (2000/60/EC) (WFD) water quality status of the Lower Shannon Estuary in the area around the subject site is currently 'good'. That status must be maintained in order to achieve compliance with Ireland's legal obligations under the Directive for the current cycle to 2027.

The groundwater status in the area of the subject site is classified as 'poor' and 'at risk', per the criteria set out in the WFD. The overall status of whole groundwater body is 'good'. Per the Directive, the status of the groundwater in area of the site must be improved to at least 'good' by 2027. As noted by the applicant in Section 10.6.10.1 of the EIAR, two aquifers

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**Directors:** Philip Kearney (Chair), Trish O'Connell (Vice-Chair),  
Stuart McCaul (Secretary), Aoife O'Gorman (Treasurer), Hugh O'Reilly, John Sweeney, Olivia Rogers, Rónán O'Brien

underlie the subject site, the eastern-most of which is karstified and an important source of water for Co. Limerick. The risk of groundwater pollution is particularly high in areas of karst, therefore any risk of siltation or the release of other contaminants to groundwater must be fully assessed and carefully guarded against if permission is granted.

### **1.1 Water Framework Directive Compliance**

An Taisce submits that the Board should ensure that a full assessment of the proposal against the requirements Article 4 of the WFD is carried out to ascertain whether the development could impact the attainment of the objectives therein. It is unclear if a specific assessment as required under Article 4 has been carried out by the applicant to determine whether this project may cause a deterioration of the status of a surface or ground water body or where it may jeopardise the attainment of good surface or ground water status or of good ecological potential and good surface or ground water chemical status.

We would highlight that the requirements in relation to an Article 4 assessment are without regard to mitigation. In Case C- 461/13 Weser the CJEU held:

*"Article 4(1)(a)(i) to (iii) of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy must be interpreted as meaning that the Member States are required — unless a derogation is granted — to refuse authorisation for an individual project where it may cause a deterioration of the status of a body of surface water or where it jeopardises the attainment of good surface water status or of good ecological potential and good surface water chemical status by the date laid down by the directive."*

In Case C-529/15, the CJEU held as follows:

*"It should be borne in mind that, when a project is liable to have adverse effects on water, consent may be given to it if the conditions set out in Article 4(7)(a) to (d) of that directive are satisfied (see, to that effect, judgment of 4 May 2016, Commission v Austria, C-346/14, EU:C:2016:322, paragraph 65).*

*In order to determine whether a project has been authorised without infringing Directive 2000/60, a court may review whether the authority which issued the authorisation complied with the conditions laid down in Article 4(7)(a) to (d) of that directive, by determining, first, whether all practicable steps were taken to mitigate the adverse impact of the activities on the status of the body of water concerned; second, whether the reasons behind those activities were specifically set out and explained; third, whether those activities serve an overriding general interest and/or the benefits to the environment and society linked to the achievement of the objectives set out in Article 4(1) are outweighed by the benefits to human health, the maintenance of human safety or the sustainable development resulting from those activities; and, fourth, whether the beneficial objectives pursued by that project cannot, for reasons of technical feasibility or disproportionate cost, be*

*achieved by other means which are a significantly better environmental option (see, to that effect, judgment of 11 September 2012, Nomarchiaki Aftodioikisi Aitoloakarnanias and Others, C-43/10, EU:C:2012:560, paragraph 67)."*

There is also provision for the protection of water-dependent Natura 2000 sites under Article 4(1)(c) of the WFD, such as the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA in the case of this application. The Board should therefore evaluate if the proposal has the potential to affect the achievement of compliance with the conservation objectives of the water-dependent Natura 2000 sites listed as 'Protected areas' in the context of WFD Article 4(1).

Additionally, we would highlight that Article 5 of the Surface Water Regulations 2009 requires a public authority, in the performance of its functions, not to undertake those functions in a manner that knowingly causes or allows deterioration in the chemical or ecological status of a body of surface water.

## **2. Disaster Risks Exacerbated by Climate Change**

The major bauxite containment failure that occurred in Hungary in October 2010<sup>1</sup> is illustrative of the need to ensure that the potential impacts of a breach are thoroughly assessed, even if the risk of a breach is deemed very low, as the applicant in this case claims. The Hungarian disaster caused major property damage, loss of agricultural land and livestock, health problems for the local population, and major water quality and ecological impacts to a river system feeding the Danube, the remediation of which took years.

Given the site's location on Aughinish Island in the Lower Shannon Estuary, it is already vulnerable to the following, the frequency and magnitude of which will be intensified by climate change:

- Downstream fluvial flooding in the Shannon;
- High seasonal tides;
- Storm surge and coastal flooding;
- Extreme weather events, notably intense rainfall;
- South-westerly gales.

EIAR Section 16.5.4.2 identifies the following hazards as potential 'failure mechanisms' for containment on site:

- *Earthquake Event - leading to slope failure or dynamic liquefaction.*
- *Tidal Surge or Wave Event (River Shannon) - leading to erosion induced slope failure.*
- *Storm Event - leading to erosion induced slope failure.*

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<sup>1</sup> <https://www.reuters.com/article/us-hungary-spill-idUSTRE69415020101005>



- *Blast Event (Borrow Pit) - leading to static liquefaction induced slope failure or dynamic liquefaction.*
- *Slope Instability – as a result of either strength failure through the bauxite residue or erosion of the side-slopes.*
- *Static Liquefaction - of the unfarmed bauxite residue (leading to lower or overall slope failure) or farmed bauxite residue (leading to upper slope failure). Trigger events such as rate of rise, excessive strain / creep within the bauxite residue, foundation creep or a storm event leading to erosion induced slope failure are potential mechanisms that could result in static liquefaction.*
- *Foundation Failure – as a result of strength failure through the foundation soils leading to overall slope failure via static liquefaction.*
- *Overtopping Event (Discharged Bauxite Residue) - leading to erosion induced slope failure.*

Similarly, we note the following from Appendix E, Summary of Risk Assessment and Break Out Study:

*"The main failure modes or events identified leading to the loss of red mud and/or water into the environment:*

- *Loss of containment, through slope or foundation failure, or erosion;*
- *Overtopping of the SWP [storm water pond], LWP [liquid waste pond] and PIC [perimeter interceptor channel]; and*
- *Failure through storm surge."*

We would highlight that these main modes of containment failure are exacerbated by the aforementioned increased risks associated with climate change. The discussion of climate-related risks to the proposal in EIAR Chapter 17 is acknowledged. However, An Taisce submits that it is crucial that the potential impacts of these climate-exacerbated disasters on containment in the BRDA and the associated risks to the environment and human health from a containment breach be fully assessed across all EIAR headings. Furthermore, the risks posed by the occurrence of two or more hazards simultaneously (e.g. high downstream flooding in the Shannon *and* storm surge), which is a distinct possibility during a storm event, require assessment.

An Taisce also has concerns regarding flood risk assessment for the site given that that CFRAM Flood Risk Assessment mapping is not available for Aughinish Island. The Board should therefore ensure that the information provided in the application, notably in EIAR Chapter 10 on hydrology, is sufficient to determine the flood risk for the site and assess any implications thereof for containment in the BRDA.

### **3. Appropriate Assessment and Habitats Directive Legal Requirements**

An Taisce submits that the aforementioned concerns in Sections 1 and 2 of this submission regarding water quality and the risks posed by climate change exacerbated disasters should

be fully addressed in the NIS and the Board's assessment thereof in order to comply with Habitats Directive Article 6(3).

It is now well established in law that approval can only be granted for plans and projects when it has been established beyond all reasonable scientific doubt that the subject proposal will not adversely impact any Natura 2000 sites.

In Case C-258/11, *Sweetman & Others v An Bord Pleanála & Others*, it was held that the provisions of Articles 6(2)–(4) of the Habitats Directive must be interpreted together “as a coherent whole in the light of the conservation objectives pursued by the directive” and that they impose a series of specific obligations necessary to achieve and maintain favourable conservation status. A plan or project will negatively impact upon a site if it prevented the “lasting preservation of the constitutive characteristics” of the site for which it was designated, with reference to the site’s conservation objectives. Significantly it was determined that “authorisation for a plan or project ....may therefore be given only on condition that the competent authorities ....are certain that the plan or project will not have lasting adverse effects on the integrity of the site. That is so where **no reasonable scientific doubt remains** as to the absence of such effects” [emphasis added].

The competent authority must therefore refuse authorisation for any plans or projects where there is uncertainty as to whether the plan or project will have adverse effects on the integrity of the site. It was also held in paragraph 44 that:

*“So far as concerns the assessment carried out under Article 6(3) of the Habitats Directive, it should be pointed out that it **cannot have lacunae and must contain complete, precise and definitive findings** and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned (see, to this effect, Case C 404/09 *Commission v Spain*, paragraph 100 and the case-law cited)...”* [emphasis added].

The ECJ ruling for C-404/09 [*Commission v Spain*] held that:

*“[a]n assessment made under Article 6(3) of the Habitats Directive cannot be regarded as appropriate if it contains gaps and lacks complete, precise and definitive findings and conclusions **capable of removing all reasonable scientific doubt** as to the effects of the works proposed on the SPA concerned.”* [An Taisce emphasis]

Similarly, the court held in the case of the *Commission v Italy* that:

*“assessment must be organised in such a manner that the competent national authorities can be certain that a plan or project will not have adverse effects on the integrity of the site concerned, given that, **where doubt remains as to the absence of such effects, the competent authority will have to refuse permission.**”* (C304/05. Para 58) [An Taisce emphasis]



In *Kelly v An Bord Pleanála & Others*, [2013 No 802 J.R.] with reference to *Commission v Spain* C-404/09, the High Court held in paragraph 36 that the competent authority must carry out an Appropriate Assessment (AA) for a plan or project in light of the best scientific knowledge in the field. It was also held that the competent authority must lay out the rationale and reasoning which was used to arrive at the determination.

The case repeated the conclusion of the CJEU at paragraph 44 in the aforementioned Case C-258/11, namely that an AA *"cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt."* Consequently, it was held that an AA must include *"examination, analysis, evaluation, findings, conclusions and a final determination."*

The Kelly Judgement has provided a clarification of the requirements of an AA and in particular in paragraph 40, a summary of what must be delivered by the process in order to be lawfully conducted:

*"(i) Must identify, in the light of the best scientific knowledge in the field, all aspects of the development project which can, by itself or in combination with other plans or projects, affect the European site in the light of its conservation objectives. This clearly requires both examination and analysis.*

*(ii) Must contain complete, precise and definitive findings and conclusions and may not have lacunae or gaps. The requirement for precise and definitive findings and conclusions appears to require analysis, evaluation and decisions. Further, the reference to findings and conclusions in a scientific context requires both findings following analysis and conclusions following an evaluation each in the light of the best scientific knowledge in the field.*

*(iii) May only include a determination that the proposed development will not adversely affect the integrity of any relevant European site where upon the basis of complete, precise and definitive findings and conclusions made the Board decides that no reasonable scientific doubt remains as to the absence of the identified potential effects."*

If uncertainty exists regarding the potential impact of any proposed development full account should be taken of the precautionary principle and the development should be refused.

#### **4. Assessment of Long Term Plan**

The long term plan for the site, beyond the approximately nine year production capacity gain facilitated by the proposal, should be fully established and assessed against Ireland's environmental legal obligations, particularly with regard to Natura 2000 sites and water quality. We note the proposed minimum five year after-care period post-closure of the BRDA, followed then by passive monitoring for at least 30 years. The actions to be taken if

any breach is found post-closure should be detailed and evaluated. All post-closure plans must take account of and be assessed against the risks posed by climate change-exacerbated flooding and storm events.

Please acknowledge our submission and advise us of any decision made.

Yours sincerely,

Phoebe Duvall  
*Planning and Environmental Policy Officer*  
*An Taisce – The National Trust for Ireland*