

**THE HIGH COURT
PLANNING & ENVIRONMENT
JUDICIAL REVIEW**

**Record No: 2025/754JR
[2026] IEHC 387**

**IN THE MATTER OF SECTION 50, 50A AND 50B OF THE PLANNING AND DEVELOPMENT ACT 2000, AS
AMENDED**

Between:

ENVIRONMENTAL TRUST IRELAND

Applicant

and

AN COIMISIÚN PLEANÁLA

Respondent

and

**AUGHINISH ALUMINA LTD
and
LIMERICK ALUMINA REFINING LTD**

Notice Parties

JUDGMENT OF MR JUSTICE DAVID HOLLAND DELIVERED 19 JUNE 2026

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INTRODUCTION¹

1. ETI² seeks certiorari quashing the “Impugned Decision” of the Commission,³ made on 31st March 2025, to grant SID⁴ planning permission under s.37G PDA 2000⁵ to the first Notice Party (“AAL”) for a “Proposed Development” at Aughinish Island, County Limerick (where it operates an alumina refinery), such development to include:⁶

- Vertical expansion of its existing 184 ha Bauxite Residue Waste Area (“BRDA”⁷) from its existing maximum permitted height of 32mOD⁸ to 44mOD to enable annual deposition of up to 1 million m³ of bauxite residue, (a waste product of alumina⁹ refining – also known as “red mud” and consisting mainly of oxides of iron, aluminium and titanium) with a projected total deposition of about 8 million m³ to closure of the BRDA in about 2039.¹⁰
- Vertical expansion of its existing Salt Cake Disposal Cell (“SCDC”¹¹), within the BRDA, containing dissolved salt cake (caustic liquor leachate) from a maximum height of about 29mOD to about 31.25mOD¹² to allow disposal of an additional 22,500m³ of salt cake.¹³ Salt cake is also a waste product of alumina refining. About 27,000m³ of rock fill will be required to construct the SCDC perimeter wall - which will be lined with geosynthetic material. SCDC content is “decanted” back to the refinery for caustic recovery and reuse.

1 Headings are for navigational assistance only. They are not curial or determinative of content.

2 The Applicant is referred to as ETI, the Respondent as the Commission and the first Notice Party as AAL.

3 An Coimisiún Pleanála. For much of its involvement in this matter it was known as An Bord Pleanála. Somewhat anachronistically I will generally in this judgment use the updated nomenclature – including referring to board members as commissioners.

4 Strategic Infrastructure Development.

5 Planning and Development Act 2000 as amended. Unless otherwise indicated, references to legislation in this judgment are to the legislation as amended at the date of the Impugned Decision.

6 What follows lists only those elements of the Proposed Development with which I am concerned.

7 A general visual impression of the BRDA staging can be gleaned from EIAR Figures 8.16 & 8.17.

8 Metres over Ordnance Datum. The permitted BRDA provides a disposal area until about 2030.

9 Aluminium oxide – a powder used to make aluminium products.

10 That year of 2039 was estimated some years ago and may require adjustment in light of delay in effecting the Impugned Decision and also as it assumed current rates of production when, in fact, increased alumina production is anticipated. However, nothing turns on the adjustment. However it seems safe to assume at least a decade of operation, if not appreciably more.

11 Generally described in EIAR §10.6.8.4.

12 It will have a maximum overall height of c.35.50mOD when capped at cell closure.

13 Volume in February 2025 was about 72,800m³.

- Expansion of an adjacent existing Borrow Pit Quarry¹⁴ by 3.9 ha. to 8.4 ha. to quarry an additional 380,000m³ of rock for use in building BRDA and SCDC walls (“Proposed Borrow Pit Extension”).¹⁵ Rock blasting will be limited to 7 blasts annually between April and September and to no more than 1 per week.
- Upgrades to water management infrastructure associated with the BRDA and Borrow Pit Quarry.

2. All the foregoing is to facilitate the continuing operations of AAL’s alumina refinery, and all will be on a 222-ha site, (“the Site”) which forms a south western part of the greater AAL site, including the alumina refinery, of 601 ha, at Aughinish Island,¹⁶ County Limerick. AAL occupies much the greater part of the island, which is on the southern shore of the Shannon Estuary, about 30km west of Limerick city, 1 to 2km east of Foynes port and about 50 km upstream of the estuary’s outlet to the Atlantic Ocean. Broadly, the Refinery Plant is in the north/northeast of the island and the BRDA is in the south west of the island.

3. In making the Impugned Decision, the Commission adopted its Inspector’s Report dated 11 February 2025 (“the Inspector’s Report”).

4. AAL’s operation is usefully summarised in the introduction to its Industrial Emissions Licence (“IEL” - issued by the EPA¹⁷) of September 2021.¹⁸ Inter alia, it records that AAL extracts alumina from bauxite, a red earth ore, by the Bayer process. Bauxite and sodium hydroxide are shipped in bulk to the site via a jetty in the estuary off Aughinish. The Bayer process involves the digestion (dissolution) of aluminium hydrate out of the bauxite under pressure in high temperature¹⁹ sodium hydroxide. Aluminium hydrate is precipitated as a white slurry and dried²⁰ to produce alumina - the white powder product. The alumina is shipped, via the jetty, for smelting overseas to produce aluminium metal.

5. The Aughinish refinery has been in operation since 1983. AAL claims that it produces over 50% of the smelter-grade alumina produced in the EU and that it is in the top 5 most carbon-efficient alumina refineries globally. AAL deposes that the EU has, by EU Regulation 2024/1252,²¹ identified alumina, and its value chain (bauxite and aluminium), as both a Critical Raw Material and a Strategic Raw Material. It is important also to acknowledge the support for the continued operation – indeed, the expansion and further development - of the refinery in planning policy,²² including:

14 Permitted under permission ABP-301011-18. Quarrying started in April 2022.

15 For the avoidance of doubt I should record that a misperception (the basis of which is unclear) that the Borrow Pit/ Borrow Pit Extension might ultimately be backfilled with bauxite residue and hence incorporated in the BRDA was clarified at trial. That will not occur. Day 1 14:20.

16 My strong impression is that Aughinish is no longer discernible as an island distinct from the mainland. But nothing seems to turn on that observation for present purposes. See Day 2 14:18.

17 ref. P0035-07.

18 P0035-07.

19 245 - 255°C.

20 at 1000°C.

21 It establishes a framework for ensuring secure and sustainable supply of critical raw materials.

22 See generally, Inspector’s Report, February 2025, §5 Policy Context.

- The non-statutory Strategic Integrated Framework for the Shannon Estuary, 2013 (“SIFP”). It is cited as a case study in the National Planning Framework and in the statutory Regional Spatial and Economic Strategy for the Southern Region (“RSESSR”) and in the Limerick Development Plan 2022-2028 (“the 2022 Development Plan”). The SIFP
 - designates Aughinish Island as one of 9 “Strategic Development Locations” in its study area and aims to *“safeguard the role and function of Aughinish Alumina as a key driver of economic growth in the region, encouraging its sustainable growth, expansion and diversification.”*
 - contemplates on Aughinish Island other sustainable land uses *“compatible or complementary with the level of flood risk.”*
- The RSESSR, which states objectives to support and promote the delivery of the SIFP Strategic Development Locations adjoining sheltered deep water.
- The 2022 Development Plan which,
 - Identifies the entire of Aughinish Island, including the entire AAL site and in turn including its jetty and the Site, as one of 5 Strategic Development Locations in Limerick,²³ *“vital for Limerick’s future economic development”*.
 - States Objective ECON O57 to *“Safeguard Strategic Development locations along the Estuary ... (including) Aughinish Island for ... sustainable growth and development of marine related industry All proposed developments shall be in accordance with regional and national priorities and the SEA Directive, Birds and Habitats Directive, Water Framework Directive, Shellfish Waters Directive, Floods Directive and EIA Directive.²⁴ Detailed botanical, faunal and ornithological surveys should be undertaken in relation to proposed developments at these Strategic Development Locations, to fully consider the potential effects of the development and inform how to best avoid significant ecological effects.”²⁵*

6. Overall, planning policy conspicuously supports the continued operation and further development of the refinery as a key driver of economic growth in the region – as the Inspector observes.²⁶ As is apparent from Objective ECON O57, that policy support is explicitly subject to environmental considerations. In that context, it bears observing that the 2022 Development Plan identifies the Shannon Estuary as a rich and diverse natural ecosystem.²⁷ The entire estuary²⁸ is included in the Lower River Shannon SAC (“the SAC”) and most of the estuary²⁹ is included in the River Shannon and River Fergus Estuaries SPA (“the SPA”).³⁰ The SAC and the SPA both include the estuary waters immediately adjacent Aughinish (including the Site) and the Robertstown River adjacent Aughinish (including the Site).

²³ Chapter 5, A Strong Economy, Section 4, Marine Economy, 5.11 Shannon Estuary – Limerick Docklands and Foynes, Map 5.5 Map of Aughinish.

²⁴ Environmental buffer zones are provided for.

²⁵ The Inspector also cites Objective ECON O58(a) to, inter alia, promote the economic and industrial development of the Shannon estuary as a strategic transport, energy and logistics hub. I confess that I don’t see it as much adding to the picture.

²⁶ Inspector’s Report §10.2.7.

²⁷ 6.3.1 Biodiversity.

²⁸ Out to a line between Kerry Head to the south and Loop Head to the north.

²⁹ Out to a line between Doonaha in Co. Clare and Dooneen Point in Co. Kerry – see River Shannon and River Fergus SPA Site Synopsis & Conservation Objectives Map 1.

³⁰ See Lower River Shannon SAC Conservation Objectives Maps 1 & 2. See also maps in 2022 Development Plan Vol 5.

7. Bauxite Residue is a non-hazardous waste. Salt Cake is a hazardous waste.³¹ The IEL records that the insoluble wastes of the refining process produces, mainly sand and bauxite residue, are separated by filtration, washed and deposited in the BRDA. The IEL provides that *“the maximum finished level for the BRDA shall be 32m above mean sea level.”*

8. A very general visual appreciation of the BRDA can be gleaned from the depiction below of the north and west flanks of the Phase 1 BRDA in April 2021.³²



9. Deposition of bauxite residue in the BRDA started at pre-existing land surface elevation.³³ The BRDA comprises Phase 1, a Phase 1 Extension and Phase 2 as follows:

- Phase 1, of 72 ha, was constructed in the early 1980s. It is not lined but is said in the EIAR³⁴ to be underlain by 4m to 30m of low permeability estuarine soils.
- Phase 1, Extension, of 32 ha, was constructed in the mid-to-late 1990s. It is composite lined.³⁵ Phase 1 and Phase 1 extension merged over time.³⁶
- Phase 2, of 80 ha, lies south of Phase 1 and was commissioned in 2011. It is also composite lined.
- Phases 1 and 2 are being progressively merged.³⁷

31 Inspector’s Report §10.2.4.

32 Figure 10.51: North and West Flanks of the Phase 1 BRDA (April 2021).

33 Inspector’s report p25.

34 Environmental Impact Assessment Report for purposes of Environmental Impact Assessment within the meaning of the EIA Directive.

35 EIAR §8.6.2 & Table 15 BRDA Lining Systems.

36 EIAR §8.6.2.

37 Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development, Appendix A – Basis of Design and Design Criteria, Technical Memorandum 30 November 2021.

- The BRDA is surrounded by a permeable inner and a low permeability outer perimeter wall (“IPW” and “OPW”³⁸). The IPW is also the starter stage raise (Stage 0).³⁹ Between the IPW and the OPW is a composite lined Perimeter Interceptor Channel (“PIC”⁴⁰) to which water run-off and leachate from the BRDA flows and seeps.⁴¹ The downstream slope has been overlain with a gabion mattress for the northern and western extents of the Phase 1 BRDA.⁴²

10. Running outside the PIC is a Toe Drain to catch further seepage. Some distance further on again is a Perimeter Drain and beyond it, to north and west, are older flood defences which I will describe when considering the issue of flooding.

11. Inside the IPW, bauxite residue is deposited in “Stage Raises”. These can be thought of as basins enclosed by 2m high permeable rock fill walls,⁴³ into which the bauxite residue is pumped as a slurry/paste. Since 2009 (BRDA Phase 1, Stage 7 and all of Phase 2) the bauxite residue is “mud farmed”⁴⁴ to dry, compact, strengthen and densify it. When a stage raise is full of farmed mud, another stage raise – walled basin - is laid on top of it but on a smaller footprint. Over time this progressively creates an inward-stepping terraced effect. It can be thought of as tending to a shallow dome profile.⁴⁵ Accordingly and as yet, the elevation of the BRDA varies from about 22 - 24mOD at the IPW perimeter to about 32mOD at the highest point. To state the obvious, the Impugned Decision - permission for “vertical expansion” of the BRDA - means creating additional Stage Raises, placing more bauxite residue on top of the existing BRDA to a higher maximum permitted height.

12. The effluent gathered in the PIC and the Toe Drain is pumped to an Effluent Clarification System (“ECS”) (or temporarily to a Storm Water Pond (“SWP”⁴⁶) pending pumping on to the ECS) where it is treated. The treated effluent is pumped to a Liquid Waste Pond (“LWP”) for cooling and settlement. Generally, from the LWP the treated effluent is discharged to the estuary at a discharge near the jetty and pursuant to the IEL.⁴⁷ Some treated effluent is recycled to the BRDA sprinkler system to minimise dust emissions – typically in dry weather.

38 Not to be confused with “OPW” referring to the Office of Public Works.

39 §3.1.1, Hydrological Assessment for the Perimeter Interceptor Channels, Storm Water Pond and Liquid Waste Pond BRDA Raise Development to Stage 16, Golder November 2021 – Appendix I to Appendix A to the EIA - Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development, Golder November 2021.

40 There are multiple PICs for Phases 1 and 2 but nothing turns on that. The PIC system is schematically illustrated in Figure 10.12: BRDA Water Management System - Block Flow Diagram and described in §10.6.8.2 Perimeter Interceptor Channel.

41 EIA §10.6.8.1 - bauxite residue slurry bleed water, surface water runoff, sprinkler water and seepage.

42 §6.2 BRDA Basin, Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development.

43 Permeable to allow drainage to the PIC.

44 Mud farming uses a special machine, an “amphiro”, which ploughs, aerates and compresses the surface of the bauxite residue, reducing moisture and pH (via atmospheric carbonation) and enhances the drying process by increasing the surface area of the bauxite residue exposed to the wind. The farming process also improves the geotechnical properties of the bauxite residue. – see REPORT Engineering Design: Closure Water Quality Predictions §1.1 and Technical Memorandum 30 November 2021.

45 Precisely, this is a bit misleading but it is a useful way of thinking about the matter. In fact the BRDA was developed in two stages. When the subject planning the application was made Phase 1 had 10 and Phase 2 had 4 stage raises. See Figure 10.52: Representative Section of BRDA Raise from Stage 11 to Stage 16 for an appreciation of the shallow dome.

46 The SWP provides surge capacity for surface water that cannot be immediately processed in the ECS. It also provides water for dilution or wash water in other areas of the facility.

47 See generally, EIA §10.6.8.3 Storm Water Pond and Liquid Waste Pond. The SWP, the LWP and the Borrow Pit lie generally contiguous to the north eastern corner of the BRDA.

Category A Waste Facility

13. The IEL, EIAR⁴⁸ and Inspector's Report⁴⁹ record that the BRDA is a Category A waste facility for the purposes of Directive 2006/21/EC on the management of waste from the extractive industries.⁵⁰ The EPA is the competent authority for designating Category A facilities and presumably record their reasons for designation. Article 9 and Annex III of that Directive requires that a waste facility be placed in Category A if:

- a failure or incorrect operation, e.g. the collapse of a heap or the bursting of a dam, could give rise to a major accident, on the basis of a risk assessment, taking into account factors such as the present or future size, the location and the environmental impact of the waste facility; or
- it contains waste classified as hazardous under Directive 91/689/EEC above a certain threshold; or
- it contains substances or preparations classified as dangerous under Directives 67/548/EEC or 1999/45/EC above a certain threshold.

14. Despite inquiry,⁵¹ I have not been directed to, and have been unable to find in the papers, any elucidation of the particular basis, of these three possible, on which the BRDA is a Category A waste facility or any certification or other record by the EPA, which is the relevant competent authority, of that categorisation or any risk assessment of the kind contemplated by Directive 2006/21/EC. I confess to finding this surprising in the general context of the proceedings. But as no particularised issue arises from it, I will pursue it no further.

15. It is useful to note here also that the IEL records the EPA's reasons for granting the IEL – remembering that the IEL licenses the existing development, not the Proposed Development, which is, however, largely an extension of the existing development. The EPA's reasons include the following of present interest.⁵²

- Potential significant effects of the activities on the environment include potential leakages of contaminants to ground or groundwater.
- Potential leakage of contaminants to ground or groundwater will be mitigated by integrity assessment, compliance with environmental quality standards for groundwater and implementation of monitoring, maintenance and control measures.
- Effluent discharges to the estuary will be mitigated by imposing emission limit values to ensure compliance with environmental quality standards and the IED.⁵³
- Noise and vibration emissions will be mitigated by restriction on borrow pit blasting and by monitoring and control measures.

48 Environmental Impact Report November 2021 §10.6.3.

49 Inspector's Report §10.2.4.

50 As transposed by the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009.

51 Day 1 14:42.

52 The reasons are lengthy. I record and paraphrase those which seem relevant here.

53 Industrial Emissions Directive 2010/75/EU - (integrated pollution prevention and control) (Recast).

- Compliance with the monitoring, mitigation and preventative measures required by the IEL will
 - enable the activities to operate without causing environmental pollution.
 - significantly reduce the likelihood of accidental emissions.
 - limit the environmental consequences of any accidental emission.

- Having completed an AA, it is determined that
 - The licensed activities, if managed, operated and controlled in accordance with the IEL, will have no adverse effect on the integrity of any European Sites having regard to their conservation objectives. The IEL imposes conditions to ensure they do not.
 - The IEL conditions as to bunding, containment (including of the BRDA) and the protection of surface water and groundwater suffice to ensure that any accidental emissions will not significantly impact on the qualifying interests of any of the European sites, particularly in light of the nature of the potential accidental emissions.
 - No reasonable scientific doubt remains but that the licensed activities will not adversely affect the integrity of European Sites.

16. ETI is an unincorporated environmental protection NGO. Its standing for purposes of s.50A 3(b)(ii) PDA 2000 is not disputed in these proceedings. It participated in the SID planning process.⁵⁴ Broadly, ETI say that

- Procedural errors attended the Commission's processing of the planning application.

- Bauxite residue and its leachate are significant pollutants, including by reason of heavy metal content, were either to escape the BRDA - including by seepage or by reason of flooding of the BRDA.

- Such escape to nearby surface water bodies or groundwater risks adverse impact on habitats, flora and fauna (various of which it identifies) some of which are species and habitats protected in European Sites designated under the Habitats and/or Birds Directives.

- Quarry blasting may disturb the Bottlenose Dolphin in the Shannon estuary. It is a qualifying interest of the SAC and is also strictly protected from disturbance by Article 12 of the Habitats Directive.

- The environmental information provided by AAL to the Commission was incomplete and out-of-date.

⁵⁴ Submissions dated 20 January 2022, 21 March 2024 and 29 March 2024.

CHRONOLOGY OF PLANNING APPLICATION

17. AAL made its SID Planning Application in December 2021 directly to the Commission. It included a Planning Report, an EIAR and an AA⁵⁵ Screening Report/NIS.⁵⁶ ETI made a submission, to which AAL replied.⁵⁷ An earlier permission⁵⁸ (the “Quashed Decision”) for the Proposed Development was quashed on consent⁵⁹ and remitted to the Commission.⁶⁰ The Impugned Decision was made on that remittal.
18. After remittal, the sequence became somewhat complicated.
- a. The Limerick County Development Plan 2010-2016 (as extended), which had informed the quashed permission, had been replaced by the 2022 Development Plan, which was adopted in June 2022.
 - b. By Direction⁶¹ of 23 November 2023 and letter of 13 December 2023, the Commission invited AAL to make any further submissions – including “any” updates to the EIAR and AA⁶² Screening report/NIS⁶³ and a response to An Taisce’s (pre-remittal) submission of 4 February 2022.
 - c. By response of 19 January 2024, AAL,
 - Addressed the 2022 Development Plan – including as to climate policy and the Climate Action Plan 2024 (“CAP24”).
 - Addressed An Taisce’s submission of 4 February 2022.
 - Invoked its annual IEL⁶⁴ AERs⁶⁵ in general terms and by providing a link to them on the EPA Website (as I see it, effectively incorporating the AERs in the application.)
 - Invoked quarry blast monitoring records⁶⁶ as showing compliance with the EIAR for each of the original quarry planning application and the Proposed Development.⁶⁷
 - Asserted that the information already before the Commission sufficed for EIA and AA Screening/AA. So it did not update the EIAR or NIS – each of which had been finalized in November 2021.
 - d. By Commission Direction of 14 February 2024⁶⁸ AAL’s Response of 19 January 2024 was circulated for response. By Commission Direction of 8 March 2024⁶⁹ AAL’s submission, dated 6 July 2022, responding

55 Appropriate Assessment for the purposes of the Habitats Directive.

56 Natura Impact Statement for the purposes of Appropriate Assessment.

57 By response dated 6 July 2022.

58 31 August 2022 - ABP 312146-21.

59 in proceedings entitled Environmental Trust Ireland v An Bord Pleanála, Record Number 2022/913JR. A similar order was made in proceedings by another NGO - Record Number 2022/901 JR. Order perfected 29/06/23.

60 As a consequence of the Order of the High Court, and arising from the point in time to which the application for planning permission was remitted, the Inspector’s Report dated 25 July 2022, the Direction dated 29 August 2022 and the Order dated 31 August 2022 (both recording the Quashed Decision) were removed from the Commission’s file. The application was also assigned a new internal reference number being ABP-318302-23.

61 (BD-014659-23) (ABP-318302-23).

62 Appropriate Assessment for purposes of the Habitats Directive.

63 Natura Impact Statement for purposes of Appropriate Assessment.

64 Industrial Emissions Licence P0035-07, issued by the Environmental Protection Agency.

65 Annual Environmental Reports to the EPA regarding emissions – the most recent being that of March 2023.

66 4 blasts between June and September 2022.

67 Appendix A: Table 10.10 (Evaluation of Initial Impacts and their Significance) and Table 10.11 (Evaluation of predicted Residual Impacts and their Effect Significance) of the EIAR.

68 (BD-015434-24) (ABP-318302-23).

69 (BD-015775-24) (ABP-318302-23).

to submissions made to that date save those by An Taisce,⁷⁰ was circulated for response. Responses ensued - including by the EPA of 21 March 2024, and by ETI of 21 and 29 March 2024.

- e. The Commission's "Initial Inspector"⁷¹ reported to it by report of 6 August 2024 – the "Initial Inspector's Report". He recommended that permission issue.
- f. At its meeting of 3 October 2024, the Commission identified a potential conflict of interest in respect of a Commission member present and the file was withdrawn from the meeting.⁷²
- g. At its meeting of 8 October 2024, the Commission generally accepted its Initial Inspector's recommendation and decided to grant permission.
- h. At its meeting of 11 November 2024, the Commission recorded that, since its meeting of 8 October 2024, it had come to its attention that the Initial Inspector's Report, to which the members had had regard in deciding to grant permission, had been prepared using artificial intelligence software ("AI"). The Commission decided that it was unsafe to rely on that report and to return the file to its inspectorate for a new report from a different inspector and for decision by a differently composed Commission.
- i. Thereafter, the file was assigned to Senior Commission Inspector, Pauline Fitzpatrick. She took up the Commission's hard copy case file, extracted the Initial Inspector's Report and shredded it without reading it or having had regard to it. At about the same time, the Commission's Assistant Director of Planning also deleted the electronic version from the Commission "J-Drive".⁷³ The net effect was that, at least nominally,⁷⁴ the Commission had destroyed all copies of the Initial Inspector's Report. I accept that the purpose of so doing was well-intentioned: to avoid any possibility that regard to the Initial Inspector's Report would contaminate the Commission's decision to grant or refuse permission. However, an issue now arises whether statute permitted that course or required that some other course be taken to achieve the same purpose.
- j. Inspector Fitzpatrick reported on 11 February 2025 recommending that permission be granted.
- k. On 26 February 2025, the subject case file was taken up by Eamonn James Kelly – a Commission Commissioner. Mr Kelly deposes that he had had no prior involvement with the file and never saw the Initial Inspector's Report which, by that time, was not on the file or otherwise available to the Commissioners. Mr Kelly took up the file to act as "Lead Commissioner" - formerly termed the "Presenting" Board member. That is not a statutory role but is a long-standing practice of the Commission. The role is to consider in depth the inspector's report and the file contents and "present" them to the other Commissioners at the Commission meeting at which the matter is considered and, ultimately decided. The Inspector is not present unless asked to attend. The full file is physically before

70 Report of Senior Planning Inspector Fitzpatrick to the Commission February 2025 §6.4.

71 As this inspector's actions are no longer a subject of dispute it is unnecessary to name the Inspector in question.

72 Given the resolution of certain disputes, it is unnecessary to name the Commission member in question and I mention the meeting only for the sake of completeness.

73 The J Drive is where electronic copies of Inspector's reports are stored.

74 Ignoring the prospect of forensic electronic recovery. After discovery was requested, the Commission ultimately found or recovered a copy of the report in question and exhibited it.

the Commissioners but, as I understand, those other Commissioners may often know little or nothing of the file before that presentation. Indeed that was so in the present case.⁷⁵ But, as counsel for the Commission emphasised, Commissioners come to these matters as experts and it is always open to them to defer decision on a matter to enable further consideration if they consider it necessary.

- l. On 12 March 2025, the Board’s Chairperson, pursuant to s.112A(8) PDA 2000⁷⁶ and “*Having regard to the particular significance*” of the case, transferred its consideration “*to a meeting of all available members of the Board*”.
- m. On the following day, 13 March 2025, the Board made the Impugned Decision. 5 members participated.⁷⁷ Save for Mr Kelly, none had previously participated in the process and none are recorded as having previously accessed the file. None had read or had any regard to the Initial Inspector’s Report. They considered Ms Fitzpatrick’s Inspector’s Report of 11 February 2025.

WHAT THIS CASE IS NOT ABOUT

19. Given some of the arguments, it is necessary to state what, in general terms, this case is not about. Though their history and environmental effects are relevant to consideration of the Proposed Development and to issues of cumulative impact, it is necessary to keep in mind that this case is not, primarily, about the AAL Refinery generally or the existing BRDA and Borrow Pit or their environmental effects or, for that matter, lack of them. It is about the Proposed Development for which, and for which alone, the Impugned Decision granted planning permission – essentially the Proposed BRDA extension and the Proposed Borrow Pit Extension.

PLEADINGS IN JUDICIAL REVIEW⁷⁸

20. Counsel for the Commission and for Aughinish fairly observed⁷⁹ that in oral argument counsel for ETI had not opened ETI’s Statement of Grounds – rather he, skilfully it was said, orally conflated his grounds as overlapping and interconnected. Of course, grounds may well overlap and be interconnected, as to fact or in law or both. But that does not dilute the strictness of pleading requirements. The required pleading standard is of acceptable clarity on a fair and reasonable interpretation of the pleading read as a whole, as to which substance prevails over form but to which substance the pleading party is strictly confined - e.g. **Moss**.⁸⁰ In other words, interpretation of pleading is on a fair and reasonable discernment of what is acceptably clear and precise. But the pleader is held strictly to the meaning disclosed by such interpretation. It seems to me that a rigid or doctrinaire rule that only those particulars in form subtending a particular core ground may be

⁷⁵ As to these issues see Day 1 11:22et seq.

⁷⁶ It permitted the transfer the of “consideration of any matter from the Strategic Infrastructure Division to a meeting of all available members of the Board where he or she considers the matter to be of particular complexity or significance.”

⁷⁷ Mary Henchy, Liam McGree, Emer Maughan, Mary Gurrie, Eamonn James Kelly.

⁷⁸ I think the time is past in which it was regarded as inaccurate nomenclature to refer to “pleadings” in judicial review.

⁷⁹ Day 2 11:49 and 15:36 et seq.

⁸⁰ Moss v An Coimisiún Pleanála & Lightsource [2026] IEHC 62.

considered as to that ground would offend the interpretation of a pleading as a whole and would tend to pointless repetition of particulars and prolixity – in an area of the law not overburdened with brevity. Explicit cross-reference of particulars of one core ground to another core ground can assist. But it can also result in formulaic and highly precautionary pleading. Certainly, a pleading in planning judicial review is not a pot pourri of particulars to be mixed and matched with core grounds at trial as hindsight spots a point not quite pleaded. Probably, the most that can be said as a general proposition is that a pleader should not be surprised if shut out from transposing particulars from the core ground to which they are pleaded to another core ground if to do so would offend the requirement of acceptable clarity and precision on a fair and reasonable reading, and bearing in mind the required overall strictness of approach and that a pleader in judicial review cannot have the benefit of genuine ambiguity, doubt or confusion in his pleading.⁸¹ In short, a pleader must ensure that his/her opponents know, with particularity, the case they must meet, discretely as to each pleaded ground.

IMPUGNED DECISION

21. In granting permission, the Commission,

- Decided to grant permission generally in accordance with the Inspector's recommendation.⁸²
- Recorded regard to, inter alia, the established use of the site - including the Alumina Refinery, BRDA and Borrow Pit, the IEL, CAP24, the application documents, the various submissions and observations and the Inspector's Report.
- As to AA, considered the information to hand adequate for AA, agreed with the Inspector's AA Screening, and adopted the Inspector's AA. Overall, the Commission was satisfied that the Proposed Development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Sites in view of their conservation objectives. (Condition 3 of the Impugned Decision required implementation of mitigation envisaged in the NIS).
- As to EIA, considered that the EIAR and AAL's supporting documents adequately considered alternatives to the Proposed Development and adequately described its direct, indirect, secondary and cumulative effects on the environment. The Commission adopted the Inspector's Report, examination and reasoned conclusions, including that
 - The assessment, based on extensive, site specific, empirical, monitoring data and investigations, provides scientific certainty.
 - Emissions to, and monitoring of, surface water and groundwater and borrow pit blasting would be controlled by the IEL and the Proposed Development will not change the licensed effluent discharges. (Condition 8 limited blasts to 7 annually between 1 April and 30 September.)
 - Surface water runoff from the BRDA will continue to percolate through the rock-fill stages and discharge to the encompassing PIC, with no discharges to groundwater.

81 Ballyboden Tidy Towns Group v. An Bord Pleanála [2022] IEHC 7, [2022] 1 JIC 1001, Moss v. An Coimisiún Pleanála [2026] IEHC 62.

82 See Board Direction BD-019195-25ABP-318302-23 dated 24/05/2025.

- As to WFD⁸³ requirements, the Proposed Development will not risk deterioration of any ground- or surface-water body or otherwise jeopardise the attainment of good status for any water body.
- Subject to implementation of the mitigation set out in the EIAR,⁸⁴ and compliance with the conditions of the Impugned Decision, the environmental effects of the Proposed Development, by itself and in combination with other development in the vicinity, would be acceptable.
- Considered that the Proposed Development would be in accordance with the proper planning and sustainable development of the area – inter alia as, subject to compliance with the conditions of the Impugned Decision, it would not have significant negative environmental effects or give rise to a risk of pollution, and would be consistent with relevant provisions of the Climate Action Plan 2024.

10 CORE GROUNDS - LISTED⁸⁵

22. Much of Core Grounds 1 and 2, and all of Core Ground 12,⁸⁶ were not pursued. The 10 remaining Core Grounds, as to which 28 affidavits were sworn, and as to which the core exhibits were whittled down to a mere 82, are as follows.

CG1A-E & CG2A-F – Procedural Issues

23. I need not here recite the somewhat fractious procedural history of the proceedings. Suffice it to say that over time certain aspects of the procedure adopted by the Commission were clarified and as a result, at the start of the trial, ETI limited its case under Core Grounds 1A to 1E and 2A to 2F and, in those respects which remain, limited its claim to declaratory relief only. The following fairly records what remains.⁸⁷

- CG 1D & 2A. The Commission breached s.111(7) PDA 2000 by failing to keep proper records and by destroying records which it should have kept on its planning file.
- CG 2C. The Commission breached s.146(7) PDA 2000 by
 - failing to make available on its public file, or on request, copies of documents relating to the Impugned Decision - in particular the Initial Inspector’s Report.
 - destroying the Initial Inspector’s Report in the preparation of which AI had been used.
- CG 1E & 2A. The absence of satisfactory records leading to the Impugned Decision is such that the Commission cannot establish that the conditions for a lawful decision were fulfilled and led to contradictory accounts of the decision-making process, uncertainty and lack of transparency.

83 Water Framework Directive.

84 Required by Condition 2 of the Impugned Decision.

85 I have edited the Core Grounds but to no substantive effect.

86 As to impact on the flora species Triangular Clubrush and Opposite Leaved Pondweed. See Day 2 15:33 et seq.

87 I have added broadly descriptive headings but they are not determinative of content.

CG3 – BRDA Seepage Risk

24. CG3. The Commission failed to have regard to a relevant factor and/or carried out an incomplete and irrational analysis of the potential for seepage from the BRDA.

CG4 – Material Contravention - Flooding

CG4. The Commission acted irrationally and *ultra vires* and/or failed to give adequate reasons generally and/or failed to have regard to relevant certain provisions of the Development Plan in the manner in which it dealt with the risk of flooding arising from the Proposed Development. Alternatively, the Commission materially contravened the Development Plan.

CG5 - Heavy Metal Concentrations in Groundwater

CG5. The Commission acted unlawfully, failed to apply the precautionary principle and acted irrationally and without a proper statistical foundation in finding (§11.7.25) that the results for heavy metal concentrations in groundwater, which recorded elevated levels of arsenic, cadmium, iron, magnesium, nickel and zinc, do not form part of a continuing trend which could be attributed to consistent trends in terms of elevated concentrations. Such concentrations ought to have prompted further and rigorous analysis as to whether they were the result of AAL development to date.

CG6 - No Ecological Impact Assessment - Material Contravention of Development Plan

CG6. The Commission failed to

- have regard to and/or materially contravened Development Plan Objective EH O3 in failing to seek an Ecological Impact Assessment.
- consider whether the Proposed Development materially contravened the Development Plan.
- give reasons explaining why the Proposed Development did not materially contravene the Development Plan or why it merited permission despite such contravention.

Also, there was no ecological assessment or survey of protected plant species such as Triangular Club Rush, Opposite Leaved Pond Weed and Flora Protection Order species generally.

CG7 – Cumulative Effect of Quarrying

CG7. The Commission unlawfully erred in AA and/or EIA in failing to assess the in-combination/cumulative impacts of the proposed quarrying with quarrying at other nearby quarries.

CG8 & 9 - Bottlenose Dolphin – Strict Protection & Assumption of Habituation

CG8 & 9. The Bottlenose Dolphin is a qualifying interest of the SAC⁸⁸ and is a Habitats Directive Annex IV species entitled to strict protection. The Commission erred in law, acted irrationally, *ultra vires* and failed to have regard to a relevant factor in

- failing to have regard to the fact that the Bottlenose Dolphin is a Habitats Directive Annex IV species entitled to strict protection and confined their consideration to the Bottlenose Dolphin qua Habitats Directive Annex II species.
- finding, assuming and/or concluding that the Bottlenose Dolphin had “habituated” to AAL’s activities and development at the Site and/or had likely done so. That conclusion was unlawful, supposition, irrational and unsupported by adequate evidence.

CG10 – Environmental Reports Out of Date

CG11 – EIA - AAL Failure to Put Information Before Commission

CG10. The Commission erred in granting permission in March 2025 given the age of AAL’s environmental reports - the AA Screening Reports/NIS and EIAR are dated November 2021.

CG 11. The Decision is unlawful, made without access to the best scientific evidence and unsustainable as, after the remittal of the quashed first planning permission to the Commission, AAL had obtained relevant environmental reports but had not put them before the Commission. In failing to take into account the current state of knowledge and methods of assessment in the compilation of EIA reports in making its EIA assessment, the Commission acted *ultra vires* and contrary to EIA Directive⁸⁹ Article 5(1) and Annex IV, s.177 PDA, 2000 and Article 94 PDR 2001⁹⁰ - which require that EIA have regard to current knowledge and methods of assessment.

PRELIMINARY ISSUES & PLEADING OBJECTIONS

25. During the trial, I ruled on preliminary issues as follows:

OPINION EVIDENCE OF MICHELLE HAYES

- a. I deemed inadmissible and excluded the opinion evidence of Michelle Hayes. She is both president of ETI and a salaried partner in the firm of solicitors on record for ETI in these proceedings. Her position is illustrated in her third affidavit, in which she states:

⁸⁸ Special Area of Conservation within the meaning of the Habitats Directive – European Sites part of the Natura 2000 network.

⁸⁹ Directive 2011/92/EU, as amended by Directive 2014/52/EU.

⁹⁰ Planning and Development Regulations 2001 as amended.

“I make this Affidavit on behalf of and with the authority of Environmental Trust Ireland, an environmental protection organization of which I am co-founder and President. I am a volunteer with Environmental Trust Ireland.”

“I am a Practising Solicitor and also a Pharmacy graduate and during that professional degree course I studied a range of subjects including Toxicology, Botany, Pharmacokinetics, pharmacognosy, analytical chemistry, Therapeutics etc which has given me an understanding of many of the scientific concepts and reports applicable in environmental planning matters. I served on the Climate Action, Biodiversity and Environment Strategic Policy Committee of Limerick City and County Council for almost 5 years. I hold an Advanced Diploma from King’s Inns in Planning and Environmental Law. As a graduate in a scientific discipline, I have scientific training, knowledge and long experience in matters of environmental science and I beg the Court to have regard to my views, as expressed below, in respect of certain affidavits filed by the Notice Party.”

- b. I excluded Ms Hayes’ opinion evidence
- essentially for reasons articulated, as to Ms Hayes herself qua litigant in an earlier **ETI** case⁹¹ and in the cases of **Duffy, Murphy** and **Foran**.⁹²
 - also as her duty as a member of the firm of solicitors on record for ETI to act as an advocate for its interests is incompatible with an expert’s overriding duty, to the court, of not merely independence but impartiality. I consider that to be so even though, as I accept, she did not as solicitor have carriage of the file or professional involvement in it. While I would have taken that view in any event, it is amplified by the fact that in this case she is also a litigant in these proceedings and in that capacity would necessarily have had significant dealings with the solicitor who did have carriage of the file. In **Duffy v McGee**,⁹³ Collins J said that *“An expert witness should never assume the role of advocate”*. The converse is also true.
- c. In that earlier **ETI** case⁹⁴ having considered her position in some detail, I concluded:

“I cannot, by reference to criteria of expertise and independence, admit the opinion evidence of Ms Hayes.”

- d. I emphasised at the hearing and now repeat that my decision in no way impugns Ms Hayes’ personal integrity. However, and perhaps especially as she is a practicing solicitor, I must express my surprise that, in adducing her opinion evidence in this case, she appears to have completely ignored my decision in the earlier **ETI** case as to the admissibility of her evidence. She could of, course, have sought to persuade me that my earlier decision had been wrong in principle and that I should depart from it on a **Worldport** basis.⁹⁵ No real attempt was made to do so.

91 Environmental Trust Ireland v An Bord Pleanála & Cloncaragh [2022] IEHC 540.

92 Duffy v ABP & McDonagh [2024] IEHC 558 §13, Murphy v An Bord Pleanála [2024] IEHC 59 at §13, §14; Foran v An Coimisiún Pleanála & Glenveagh [2026] IEHC 23.

93 Duffy v McGee [2022] IECA 254, [2022] 11 JIC 0701.

94 Environmental Trust Ireland v An Bord Pleanála & Cloncaragh [2022] IEHC 540.

95 In the Matter of Worldport Ireland Limited (In Liquidation) [2005] IEHC 189. Clarke J – “It is well established that, as a matter of judicial comity, a judge of first instance ought usually follow the decision of another judge of the same court unless there are substantial reasons for believing that the initial judgment was wrong.”

- e. In any event, Ms Hayes' opinion evidence is inadmissible in these proceedings and I so ruled at trial.⁹⁶
- f. In hindsight, I may have been in error in admitting the factual content of Ms Hayes' affidavit – though I have not resiled from my ruling as to do so would have been unfair. In **Kennedy**,⁹⁷ Humphreys J said in terms resonant here and with which I respectfully agree:

“In general terms it is not the function of the court to trawl through the wreckage of a substantially inadmissible affidavit to fillet scraps of remaining material and identify fragments that could have constituted acceptable averments. That is a time-consuming, indeed time-wasting, exercise, which should not be visited on the court and the opposing parties. It's on the party concerned, in this case the applicants, to confine their evidence to admissible matters. It's one thing to strike out discrete, net, clearly-identifiable elements of inadmissibility. But once the inadmissible matters become permeating or overwhelming, the only fair thing to do taking into account the rights of the other parties is to strike the affidavit out altogether.”

26. As will be seen, however, some of Ms Hayes' inadmissible averments got in by the back door of their adoption by Ms Bolger. However, that has not had any determinative effect in the proceedings, for reasons I will indicate in due course.

EXPERT EVIDENCE OF MARY KATE BOLGER

- a. I deemed admissible, for reasons I gave when ruling⁹⁸ and need not repeat here at length, the expert evidence of Mary Kate Bolger, a marine biologist and dolphin expert, to which objection was taken, in reliance on **Kennedy**, as she had objected to the planning application.
- b. As noted in the earlier **ETI** case, pragmatism intrudes to some extent on the logic of the law of inadmissibility of expert evidence for want of independence. Not least, expert evidence is routinely admitted from experts employed by parties and from experts who have been engaged for many years by developers to obtain the impugned planning permission and whose performance in that capacity can often be, in greater or lesser degree, at stake in proceedings. Such pragmatism may be brought to bear as much on the position of applicants for judicial review as on notice party developers and also in the cause of the practicalities of effecting EU law rights, taken together, of public participation and to effective remedy. Had ETI retained Ms Bolger, even on a nominal fee, to submit the very same objection which she in fact made to the Commission on her own behalf, AAL could not have objected to her evidence without logically excluding their own expert evidence. As I say, the dividing line as to admissibility of expert evidence is not entirely logical and, in some cases, it may be better to consider the issue as going to weight rather than admissibility. But whereas Ms Hayes is, Ms Bolger is not a litigant and that seems to me to make the difference – at least in this case.

⁹⁶ Day 1 12:05.

⁹⁷ *Kennedy v An Bord Pleanála* [2024] IEHC 570.

⁹⁸ Day 1 12:37 – 12:48.

c. AAL’s objection to other affidavits adduced by ETI were, ultimately, withdrawn.

PLEADING OBJECTIONS

27. There are various pleading objections to the case as argued by ETI. I will not rule on them as preliminary matters. As a general observation, Ms Hayes’ affidavits in particular, and ETI’s other affidavits in instances, ranged well beyond ETI’s pleaded grounds. That is impermissible – affidavits cannot substitute for pleading in judicial review – **100m Tall**.⁹⁹ I would not rule out that, short of such substitution as to a matter not pleaded and particularised, and considering pleadings in context – all documents must be interpreted in context - an affidavit may assist in a pleading’s achieving the required acceptable clarity. That said, pleading requirements in judicial review are stringent.¹⁰⁰ They apply equally stringently as to EU law issues - **Eco Advocacy (Case C-721/21)**.¹⁰¹ Rather than addressing the pleading objections at length, I will primarily address them implicitly by simply confining my considerations to the pleaded case. In some instances, I address them specifically.

GENERAL OBSERVATIONS – MERITS, IRRATIONALITY, EXPERT EVIDENCE, GLOSSARY & RUSSIAN DOLLS

28. On a conspectus of the affidavits, it is impossible to avoid the impression that they descended into a dispute on the merits of the Proposed Development as if these proceedings were an appeal on those merits, not a judicial review. In that respect, it must be said that the fault lies primarily – or at least initially - with ETI. However, I have a certain sympathy with ETI for two reasons:

- First, as has been seen, they repeatedly pleaded irrationality – which can be a merits-based assertion of illegality, albeit one of very particular kind and degree.
- Second, as the law as to discretionary remedy in judicial review has developed recently, and whereas a respondent can defeat a challenge on the law alone, to avoid discretionary refusal of relief an applicant must at least anticipate the possibility of having to address the merits of the Impugned Decision as their consideration may have been affected by the legal error alleged. To put it another way, an applicant for judicial review may have to show not merely legal error but that the error matters in substantive merit. It may be fair to say that the balance of the caselaw is in a degree of flux in this regard.

29. As I have said, ETI repeatedly pleads irrationality. Administrative decisions are judicially reviewable as to merit only for irrationality. Gone, I think, are the days when it was perceived, even if unfairly, that the **O’Keeffe**¹⁰² “no evidence” standard was authority for the view that the validity of an impugned decision could securely hang on any evidential thread or shred, however infinitesimally fine. However, the pleader of

99 100 Meter Tall Group v An Bord Pleanála [2025] IEHC 42 §205 citing Eco Advocacy v An Bord Pleanála [2025] IEHC 15 §90.

100 People Over Wind & Another v An Bord Pleanála & Ors (No. 1) [2015] IEHC 271, [2015] 5 JIC 0106 and, e.g., 100 Meter Tall Group v An Bord Pleanála [2025] IEHC 42 §38(3).

101 Eco Advocacy CLG v An Bord Pleanála (C-721/21), [2024] Env L.R. 8 (2023) EU:C:2023:477.

102 O’Keeffe v An Bord Pleanála [1993] 1 IR 39.

irrationality still faces the high hurdle of demonstrating, as was said in O’Keeffe citing Henchy J in **Keegan**, that the impugned decision “*plainly and unambiguously flies in the face of fundamental reason and common sense*”¹⁰³ – which requires “*something overwhelming*.”¹⁰⁴ As Humphreys J said in **Holohan**¹⁰⁵ and as repeatedly cited since: the court can’t quash for irrationality merely if it considers that “*the exercise by a decision-maker of a discretion, or a finding as to fact, is simply wrong (or even clearly wrong) on the merits ...*” If it did so, the court would “*be itself guilty of usurping power*” which the law assigns not to the courts but to the statutory decision-maker – here the Commission.

30. Various disputes of expert evidence are disclosed on the affidavits. The disputes are perhaps typified by those between the engineers - Mr Duffy for ETI and Mr Corrigan for AAL. Mr Duffy is, what one may call with no disrespect, a general civil engineer. He holds a bachelor’s degree in engineering from NUIG and an advanced diploma in planning and environmental law from Kings Inns. He has over 30 years’ experience in site civil works, geotechnical assessment, soil mechanics, site assessment and planning applications. He has a particular interest in environmental considerations relating to wastewater treatment. Mr Corrigan holds a bachelor’s degree in civil structural and environmental engineering from TCD. For over 26 years he has worked primarily in the field of mine waste & tailings, latterly leading mine waste teams in the UK and Ireland. He is a member of the Institute of Materials, Minerals & Mining and prepared and/or supervised the preparation for AAL of the Engineering Design Report submitted with the Planning Application and relevant EIAR chapters - Chapter 8: Soils, Land and Geology and Chapter 10: Hydrology and Hydrogeology. My perusal of the papers has led me readily to accept that what I will call tailings engineering is the arcane and highly specialised sub-discipline applicable to the Proposed Development as it relates to the BRDA. In that light, and while I consider both qualified in law, in terms of expertise, to give relevant evidence, were it necessary and permissible in law to prefer the evidence given on affidavit by either engineer, I would prefer that of Mr Corrigan. He is the specialist in tailings engineering. While Mr Duffy refers to his experience in geotechnical assessment and soil mechanics, he professes no experience or specialism in tailings engineering or the like. That is neither a criticism of him nor a surprise given what I imagine to be the relatively small call for tailings engineers in Ireland.

31. However, I do not consider it necessary to prefer the evidence of either engineer on the basis of their respective expertises. Cross-examination was posited but did not proceed. **RAS Medical**¹⁰⁶ is authority that absent cross-examination a conflict of admissible evidence is generally resolved against the party on whom lies the onus of proof - see also and recently **Moss**.¹⁰⁷ In that light and as ETI bears the onus of proof of matters as to which determination of dispute is required - **McGowan**¹⁰⁸ - I take the evidence of Mr Corrigan as correct as to such disputed matters.

103 The State (Keegan) v Stardust Compensation Tribunal [1986] I.R. 642. Substantially the same test was variously by Henchy J in that case – whether 1. It is fundamentally at variance with reason and common sense. 2. It is indefensible for being in the teeth of plain reason and common sense. 3. the court is satisfied that the decision-maker has breached his obligation whereby he 'must not flagrantly reject or disregard fundamental reason or common sense in reaching his decision'."

104 Citing Lord Greene M.R. in Associated Provincial Picture Houses Limited v Wednesbury Corporation [1948] 1 K.B. 223.

105 Holohan v An Bord Pleanála [2017] IEHC 268. Cited, inter alia, in Jennings & O’Connor v An Bord Pleanála & Colbeam 2023 IEHC 14; Coyne v An Bord Pleanála [2023] IEHC 412; Fernleigh v ABP & Ironborn [2023] IEHC 525; Duffy v ABP & McDonagh [2024] IEHC 558; Grassridge v Dún Laoghaire Rathdown County Council [2024] IEHC 669; Ryan v ABP & Analog [2025] IEHC 111, Concerned Residents of Coolkill v An Bord Pleanála & Midsal Homes [2025] IEHC 265.

106 RAS Medical v Royal College of Surgeons [2019] IESC 4.

107 Moss v An Coimisiún Pleanála & Lightsource [2026] IEHC 62 §53(viii).

108 McGowan v An Coimisiún Pleanála [2025] IEHC 405 §50 and cases cited therein.

32. In **Hayes**,¹⁰⁹ Butler J, having cited RAS Medical, made an observation specific to judicial review of AA but of some general application in this case and to criticisms in judicial review of environmental assessments by decisionmakers such as the Commission.

“The onus of proof in this application lay with Ms. Hayes. This is an important point as the court is engaged in a process of judicial review on foot of an application brought by Ms Hayes to which the normal rules as to the conduct of litigation apply. The court is not responsible for carrying out an appropriate assessment in which it asks itself if it has doubts as to whether the necessary level of scientific certainty has been reached. The onus lies on Ms Hayes to show, on the balance of probabilities, that the EPA could not have been satisfied as to the absence of such doubt or that it made a legal error in treating itself as being so satisfied. The filing of a contrary expert affidavit does not necessarily mean that a court must accept that there are now scientific doubts as to the reliability of evidence led at the oral hearing. If resolution of an issue is necessary in order to decide the case in an applicant’s favour and neither side has cross examined the other side’s experts on their affidavits, then the applicant will rarely have discharged the burden of proof that lies on them by virtue of being the moving party in the case.”¹¹⁰

And later:

“Introducing contrary expert evidence at this stage which, had it been before the EPA, might have had a bearing on the manner in which the issue was treated, does not discharge the onus of proof that lies on Ms. Hayes to establish that the EPA erred in accepting the evidence of this expert witness in the first instance.”

33. In similar vein, **Eco Advocacy**¹¹¹ records that the onus of proof lies on the applicant for judicial review to show, normally by evidence, or by demonstrating a flaw on the face of material, that AA or EIA was defective. **Moss**¹¹² records that, in judicial review, the applicant bears the burden of proof of scientific and factual shortcomings in EIA or AA.

34. On the other hand, **RAS Medical** sets a general and strong rule, but not an absolute rule. Judges are not disabled from a properly sceptical approach to expert evidence. In **Moss**¹¹³ it is said that a court has a common-sense power to evaluate evidence and need not always regard all averments as equally credible or disregard internal or evident problems with them. **Tesco v Stateline**¹¹⁴ provides an example. As Collins J said in **Duffy v McGee**,¹¹⁵ *“the weight to be given to evidence, including expert evidence, is always a matter for the court. Even if uncontradicted, a court is not obliged to accept the evidence of an expert witness ...”* He said *“the court must not surrender its judgment to experts, however well-qualified they may appear to be. To*

109 Hayes & Foley v Environmental Protection Agency & Irish Cement [2024] IECA 162 §273.

110 NB - Emphases in this judgment are added unless the contrary is indicated.

111 Eco Advocacy CLG v An Bord Pleanála [2025] IEHC 15, citing An Taisce v an Bord Pleanála & Ors. [2022] IESC 8, [2022] 2 I.R. 173, [2022] 1 I.L.R.M. 281 §124; Carrownagowan Concern Group v An Bord Pleanála [2024] IEHC 300 §191(v); Nagle View Turbine Aware Group v An Bord Pleanála [2024] IEHC 603, §115.

112 Moss v An Coimisiún Pleanála & Lightsource [2026] IEHC 62 §53(iv) citing Nagle View Turbine Aware Group v An Bord Pleanála [2024] IEHC 603 and [2025] IESCDT 41.

113 Moss v An Coimisiún Pleanála & Lightsource [2026] IEHC 62 §53(vii).

114 Tesco Ireland Limited v Stateline Transport Limited [2024] IECA 46.

115 Duffy v McGee [2022] IECA 254, [2022] 11 JIC 0701.

properly perform its function, the court must be able to understand and engage with the evidence, which in turn requires that experts should sufficiently explain their opinions and the basis for them.” It follows that “*mere assertion or “bare ipse dixit” by an expert witness “is, accordingly, worthless”*. That is because the expert witness must “*provide material on which a court can form its own conclusions on relevant issues”*. And, of course, a court is not constrained to accept the only account available.¹¹⁶ Though I do not propose it as a test, it may be illustrative to observe that judges need not credulously accept uncontradicted nonsense – even from an expert.

35. That said, particular caution must be exercised in discounting disputed but apparently reliable expert evidence tendered on affidavit for the party not bearing the onus of proof, which expert has not been cross-examined and where the issue, in judicial review, is often not acceptance or rejection of the substantive evidence but is, rather, whether a particular conclusion was, in law and on the materials before it, open to the administrative decisionmaker whose decision is impugned.

36. That the EIA Directive requires that an EIAR must contain a non-technical summary reflects the function of an EIAR as a public document intended to be understood by the public whose participation in environmental decision-making is a central aim and virtue of environmental law. Some issues resist simplification and it is inevitable that in complex cases, that public may have to grapple with complex, often scientific, technical and engineering, concepts, terms of art, jargon and acronyms – **Connelly**.¹¹⁷ The use of technical language is not merely inevitable but desirable as it tends to precision and, when understood, clarity. However, it is far from inevitable that an EIAR should not do what it can to ease lay comprehension. I have no doubt that the present EIAR, which relates to a type of development unusual in Ireland and involving esoteric and arcane technical issues, would and should have greatly benefitted from either a comprehensive glossary or glossaries for specific chapters or some other means of introducing complex issues to the lay public. For my own part, the absence of a glossary has made my task appreciably and unnecessarily more difficult. I imagine it is also counterproductive as it engenders incomprehension and hence suspicion – even if unfounded - on the basis that, as Shaw asserted, all professions are a conspiracy against the laity.¹¹⁸ While in saying so I do not purport to impose a new legal obligation, I have no hesitation in saying that as a matter of good practice, authors of EIARs must bear in mind that they are writing not only for a cognoscenti but also for a laity.

37. As an aside – an important one from the point of view at least of the practicalities of litigation, though I imagine also more generally - I observe that the technical documents in this case, which run to at least many hundreds of pages (likely far more), are an egregious example of the “Russian Dolls” effect in which appendices to documents themselves contain appendices which in turn contain appendices of their own and so on. Attempting to discern to which document another document is appended becomes highly confusing.

¹¹⁶ Moss v An Coimisiún Pleanála & Lightsource [2026] IEHC 62 §53(vii) – citing by analogy DPP v Barnes [2007] 3 I.R. 130, [2007] 1 I.L.R.M. 350 §95.

¹¹⁷ Connelly v An Bord Pleanála, Clare County Council & McMahon Finn Wind [2018] IESC 31, [2021] 2 IR 752 §74.

¹¹⁸ George Bernard Shaw, The Doctor's Dilemma, 1906.

38. The “Russian Dolls” effect, and its potential to confuse, is especially notable in AAL’s AA reports. As exhibited, they run to an impressive 851 pages.

- In the first instance, and simply enough, the booklet consists of 6 sections: 1, Introduction; 2, Background to the AA Process; 3, Methodology, 4, AA Screening Report, 5, AA Assessment Criteria; 6, Natura Impact Statement.
- However, the contents page covers only 158 of the 851 pages.
- The contents page lists two appendices: 1, NIS prepared in relation to the EPA licence review¹¹⁹ (Ecology Ireland 2020); 2 Conceptual Site Model (CSM).
- It is perhaps notable, though not necessarily objectionable, that an NIS would append an entire other NIS. As a general observation, it is for the author, not the reader, of an NIS to coherently coalesce all relevant content. It is not for the reader to have to assemble a jigsaw. At very least, careful attention to cross-referencing the NIS and its appendices is called for.
- The contents page for Appendix 1, NIS for the EPA licence review 2020, at page 170 of the booklet,
 - covers a further 134 pages (bringing us up to roughly 292 of 851 pages) and
 - without further pagination lists a further 8 Appendices, numbered 1 - 8 – in truth sub-appendices of Appendix 1.
- Sub-Appendix 6 of Appendix 1, a Baseline Water Characterisation Survey, contains a further contents page listing a further 3 Appendices, numbered 1 - 3, but again without further pagination – one might call these Sub-Sub Appendices of Appendix 1 to the NIS.
- Sub-Appendix 7 of Appendix 1 is a Marine Sediment Characterisation Aughinish Port Dredging and Disposal Operations report of April 2018. Its contents page lists a further 5 Sub-Sub Appendices numbered 1 – 5 - again without pagination. One of these, Sub-Sub Appendix 5, even has a Sub-Sub-Sub Appendix 5.1!
- Virtually all these appendices include an appendix cover sheet. But most of those cover sheets do not explicitly identify the document to which the appendix is appended. As I have said, attempting to discern to which document a document is appended becomes highly confusing. And it often becomes difficult to know exactly what document one is looking at.

39. I appreciate that there is a certain inevitability to the Russian Dolls effect in a process which necessarily involves the iterative accretion over lengthy periods of, sometimes many, discrete expert reports in distinct disciplines and also of data. It may be that the position using hardcopies is made somewhat clearer by the use of physical dividers and the like. But we are long past the time at which it is unreasonable to expect the assemblers of voluminous documents to think about the needs of those perusing them electronically. Beyond observing that the result in this case was highly confusing, time-consuming and non-conducive to effective public participation it is not, I suppose, for me to prescribe solutions. I am not to be taken as laying down rules. However, I respectfully encourage litigants to bear the issue in mind in preparing indices to large exhibits. I suggest that it would also be generally helpful were appendix cover sheets in expert reports to explicitly identify the documents to which they are appended.

¹¹⁹ It starts at p169 of the 851-page .pdf file.

CG 1 & 2 – PROCEDURAL ISSUES

40. As has been seen, what remains of Grounds 1 and 2 are a claim, for declaratory reliefs only, that

- CG 1D & 2A. the Commission breached s.111(7) PDA 2000 by failing to keep proper written records of its decisions and by destroying records – specifically, the Initial Inspector’s Report - which it should have kept.
- CG 1D & 2C. the Commission breached s.146(7) PDA 2000 by
 - failing to make available on its public file or on request copies of documents relating to the Impugned Decision - in particular the Initial Inspector’s Report.
 - destroying the Initial Inspector’s Report in the preparation of which AI had been used – which it should kept on its public file.
- CG 1E & 2A. The absence of satisfactory records leading to the Impugned Decision is such that the Commission cannot establish that the conditions for a lawful decision were fulfilled and led to contradictory accounts of the decision-making process, uncertainty and lack of transparency.

STATUTORY CONTEXT

41. ETI invokes:

- **S.111(7) PDA 2000.** It provides that *“The Board shall arrange to keep a written record of all its decisions including the names of those present at a meeting of the Board and the number of those persons who vote for or against those decisions.”*

- **S.146 PDA 2000.** It provides, inter alia, as follows

“(5) Within 3 days following the making of a decision on any matter falling to be decided by it ... the documents relating to the matter —

(a) shall be made available by the Board for inspection at the offices of the Board by members of the public, and

(b) may be made available by the Board for such inspection —

(i) at any other place, or

(ii) by electronic means,

as the Board considers appropriate.

(6) Copies of the documents referred to in subsection (5) and of extracts from such documents shall be made available for purchase at the offices of the Board, or such other places as the Board may determine, for a fee not exceeding the reasonable cost of making the copy.

(7) The documents referred to in subsection (5) shall —

- (a) where an environmental impact assessment was carried out, be made available for inspection on the Board's website in perpetuity beginning on the third day following the making by the Board of the decision on the matter concerned, or
- (b) where no environmental impact assessment was carried out, be made available by the means referred to in subsection (5)(b) for a period of at least 5 years beginning on the third day following the making by the Board of the decision on the matter concerned."

DESTRUCTION OF INITIAL INSPECTOR'S REPORT

42. As has been seen, the Initial Inspector's Report informed a Commission decision of 8 October 2024 to grant permission – a decision made before the Commissioners learnt that the report had been informed by AI. That information led, correctly, to what must have been, in the factual sense, a highly unusual decision to rescind the decision of 8 October 2024 to grant permission, appoint a new inspector, await her report and decide the matter again by Commissioners who had not made the decision of 8 October 2024. Attempting, no doubt bona fide, to ensure that the AI-informed Initial Inspector's Report did not, as it were, infect the renewed decision-making process, Ms FitzPatrick destroyed the hard copy on the case file without reading it and the Commission's Assistant Director of Planning also deleted the electronic version from the Commission IT system's J-Drive.

COMPUTERISED RECORDS

43. I am satisfied that an appreciable part of the abandoned Grounds 1 and 2 arose from lack of clarity in the records made public by the Commission as to the involvement in the process at various times of various the Commission staff and Commissioners, in the context of both issues as the use of AI in the Initial Inspector's report and issues relating to conflict of interest. While I need not recite the detail, I am satisfied that the proceedings prompted clarification of those issues.

44. However, I should mention one issue in particular – which is described as follows in an affidavit for the Commission:

"The Commission Meeting Records record Ms. Fitzpatrick as being the inspector and Mr. Eamonn James Kelly¹²⁰ as having been present at all Board meetings relating to this remitted application since the matter was remitted in June 2023. However, the Meeting Records are autogenerated on a presumption that the Inspector and Commission Members at the conclusion of the file are the same as from the outset. Therefore, if a new Inspector or Presenting Member is assigned to the matter at a later stage, and those details are inserted for the concluding Meeting Record, the earlier records are automatically adjusted to reflect this. This is a feature of Plean-IT, the internal IT system used by the Commission."

¹²⁰ Then a Board Member. Latterly a Commissioner.

45. This passage needs some explanation in light of what seems to me to have been a form of record prepared without proper attention to the need that it be accurate and intelligible, not to the cognoscenti, but to the public, who come to such records knowing little or nothing of the Commission’s procedures. The form in question is headed “Board Meeting Record”. That for the meeting of 8 October 2024, at which a decision (later rescinded) was made to grant permission in light of the Initial Inspector’s Report, as exhibited, contains the following:

General:	Attendees:
ABP Case No.: ABP-318302-23	Stephen Bohan
Meeting: BM-004426-24	Peter Mullan
Meeting Date: 08/10/2024	Tom Rabbette
Meeting Location: Office of An Bord Pleanála	
Board Meeting Record Signed Off: Yes	
ABP Case:	
Inspector: Pauline Fitzpatrick	
Board Member: Eamonn James Kelly	
Case Type: Private Development	

46. Of this, the following can be said:

- a. The Form uses the designation “Board Member”. As far as the document discloses on its face, only one person is so described. Doubtless, the confused reader might wonder why only one Board Member was at a Board meeting and whether it was quorate. As it happens, Eamonn James Kelly was a Board Member but was not in fact at that meeting.
- b. Three persons are identified as “Attendees”. In many organisations it is common that non-decision-makers attend meetings – for example executives attending company board meetings or local authority officials attending council meetings. Often, a meeting minute will refer to such persons as “In attendance” – thereby identifying such persons as mere attendees and not decision-makers. Here, consistent on its face with such a common usage, “Attendees” are contradistinguished from the “Board Member”. At first, the reader would reasonably imagine that these were Board staff in attendance but not decision-makers. However, thinking the meeting otherwise inquorate, the reader might then infer that the three “Attendees” were in fact Board members despite, for no apparent reason, being accorded, at least nominally, a different status on the record. All the more so if s(he) happened to know, by their names, that the three “Attendees” were in fact Board Members – as in fact they were.
- c. Having deduced (which I think the correct word) that the three were in fact Board Members, the reader returns to wonder why the fourth is explicitly and separately identified as a “Board Member”. In fact, that is because he is not merely a Board Member, he is the “Presenting Member” or “Lead Board Member” - assigned to consider the file in detail before the meeting and “present” it to the other Board Members. Why the form does not explicitly say so, I was not told.

- d. The Form might also lead the reader to imagine that the named inspector was at the Board meeting – After all, it is explicitly a “Board Meeting Record”. One might so imagine especially as, I understand, inspectors are sometimes asked to attend Board meetings. But in this case, the Inspector was not present.
- e. No doubt in many cases readers can figure out, perhaps by doing a bit of research, what exactly this record is intended to disclose. But why should they have to figure it out when a little thought as to how the document would be read by a member of the public, unfamiliar with the Board, could have produced the following or something similar? In my experience of judicial review, in public administration a tendency to generate documents which will be readily understood by “insiders” without foreseeing that they may need to be understood by “outsiders” can cause readily avoidable difficulties, as occurred in this case.

ABP Case No.: ABP-318302-23	Presenting Board Member	Eamonn James Kelly ¹²¹
Meeting: BM-004426-24	Other Board Members Present	Stephen Bohan
Meeting Date: 08/10/2024		Peter Mullan
Meeting Location: Office of An Bord Pleanála		Tom Rabbette
Board Meeting Record Signed Off:	Yes	
ABP Inspector: Pauline Fitzpatrick ¹²²	Present? Y/N	N
Case Type: Private Development		

47. However, this case has revealed an additional and more serious problem. That is because the “Inspector” and “Board Member” entries in the form were not merely auto-populated by the relevant software. They were also retroactively and anachronistically “updated” by the software “feature” to which the affidavit cited above referred. Returning to the actual record set out above (as opposed to my illustrative alternative version), the list of “Attendees” (in fact, Board members) is correct. This part of the form does not, it seems, “auto-update”. However

- Pauline Fitzpatrick was not the Inspector in situ at the time of that meeting – that was the Initial Inspector.
- Eamonn James Kelly was not the presenting Board member and was not present at the meeting. I am unsure who the presenting Board member was. But given the use of a presenting member is standard practice, and Mr Kelly’s name was auto-updated by the software, the possibility at least arises that the name of the actual presenting member at the meeting of 8 October 2024 is missing. Or perhaps it was one of the three Board members identified as attendees. The record does not now tell us.

121 For reasons considered below, this entry is in fact incorrect as to the meeting in question but is included for illustrative purposes.

122 For reasons considered below, this entry is in fact incorrect as to the meeting in question but is included for illustrative purposes.

- The form as originally signed by Board members (I presume signed electronically as I have seen no hard copy version) as an authentic statutory record of the meeting had been correct in those regards when signed. It did not name Ms Fitzpatrick or Mr Kelly. But, after it was authenticated by such signature, it was later automatically, retroactively, anachronistically and erroneously altered as I have indicated. The result is that the content of the form, as it existed thereafter, was materially false.

48. Accordingly, on perusing the erroneously updated version, ETI reasonably inferred that Inspector Fitzpatrick and Mr Kelly, who were undoubtedly influential in the Impugned Decision later made, were knowledgeable of and potentially influenced by the content of the Initial Inspector's AI-influenced report which the Board had considered at the meeting of 8 October 2024. That the inference has proved erroneous does not, on the particular facts of this case, imply that it was at all unreasonable.

49. I find it at least odd that the affidavit sworn for the Commission, in disclosing the software "feature", made no comment on the situation as to record-keeping thus disclosed and contained no recognition that it described a real problem for the integrity of the Commission's statutory records. I am sure there was no mal-intent by anyone as to record-keeping. But it is to be objectively observed that in the foregoing deposition, the text "*the earlier records are automatically adjusted*" is verbal drab. It could just as accurately but more informatively have read "*the earlier records are automatically falsified*" both in substance and in, my view, in breach of s.111(7) PDA 2000. I have no doubt that s.111(7) PDA 2000 requires that the records to be kept be and remain accurate – that is implicit in the word "record". Counsel for the Commission agreed. While this automatic and retroactive record alteration may be, as the Commission's affidavit put it, a "*feature of Plean-IT, the internal IT system used by the Commission*", it is a feature which must be disabled as soon as possible so that the records of meetings accurately, and permanently accurately, record those involved in each meeting. It is a matter of some alarm that the Commission's deponent so deposed without, as far as his affidavit made apparent, appreciating or acknowledging the alarming significance of the averment. I do not know for how long the software "feature" was active or how many records it falsified. And, of course, it is deeply unimpressive both that the problem should have arisen in the first place and that it went unnoticed by the Commission until illuminated by litigation and only by that litigation became known to ETI.

50. That said, counsel for the Commission tells me, no doubt accurately, that the Commission only became aware of the problem as a result of this case and assures me that it in fact appreciates the gravity of the situation and is intent on rectifying it as part of the impending replacement of the software in question.¹²³ In this respect at least, ETI has done the Commission and the public interest a considerable service.

51. Counsel for the Commission seeks to persuade me that there was no breach of s.111(7) as, at all times, the names of the board members were correct (sub nom "attendees") as specifically required by s.111(7). The conclusion does not follow from the predicate as it ignores the word "including" in s.111(7). Simply, the record was not accurate as to the identification of the "Board Member" and as to the "Inspector". And it was not accurate because of a systemic flaw in the Board's software.

¹²³ Day 1 12:52.

BREACH OF S.111(7) PDA 2000 – DUTY TO KEEP RECORDS OF MEETINGS

52. I find therefore that the Board, by reason of the automated, retrospective and material falsification of its signed (and thereby authenticated) meeting records, as to identification of the presenting board member and the inspector, breached its s.111(7) duty to “*keep a written record of all its decisions*”.

53. I repeat that, in using the word “falsified”, I describe the effect of the software. I suggest no malign intent. But, subject to that observation, the word is accurate.

A CONCATENATION

54. What can only be described as this series of unfortunate events lead ETI, as I have said, to not unreasonably suspect, albeit erroneously as we now know, that Inspector Fitzpatrick when reporting, and Mr Kelly when presenting to the other the Commission Members and when voting on the Impugned Decision, were aware of, or likely to have been aware of, and been informed in their decision-making process by, the content of the AI-infected Initial Inspector’s Report - which was nowhere to be found on the Commission’s public file for inspection. As I say, its destruction and deletion were entirely well-intentioned. But those intentions paved, at least in part, the road to these proceedings. While at one level an understandable reaction, it seems to me that there should always be pause for thought and consideration of the possibility of unintended consequences before a public body destroys what are documents ordinarily required by statute to be made available for public inspection. Other administrative steps could and should have been taken to securely and verifiably quarantine the Initial Inspector’s Report and to ensure that it did not inform the ensuing decision-making process. As it happened, it turned out, when ETI pressed the matter, that a copy of the offending report was in fact elsewhere on the Commission’s system – apparently as an attachment to an e-mail – which is how it ultimately proved possible to exhibit it.¹²⁴ If nothing else, this illustrates that attempting to destroy documents which exist in electronic form is often ill-advised also because it is very often ineffective.

BREACH OF S.246 PDA 2000 - INITIAL INSPECTOR’S REPORT – A DOCUMENT “RELATING TO THE MATTER”?

55. The Commission argue that, as by its destruction it was excluded from the process, the Initial Inspector’s Report thereupon was no longer a document “*relating to the matter*” within the meaning of s.146. I take a contrary view. The Commission’s argument is that the phrase document “*relating to the matter*” in fact means something different – “*document on which the decision was taken*”.¹²⁵ In effect they seek to rewrite s.246.

¹²⁴ Philip Lee (the Commission) to Hayes (ETI) 20 January 2026.

¹²⁵ Day 2 p29.

56. The Commission also object that ETI’s argument would result in *“two Inspectors’ reports published on the Board’s website”*.¹²⁶ But, at least as a general observation, that is not at all unusual: many appeal files contain more than one Inspector’s report. It is unusual, no doubt, that the second report is intended to completely replace the first – but I have no doubt that simple bureaucratic measures can avoid potential confusion. Indeed, in this case it was the removal of the first report which caused, rather than avoided, confusion.

57. While meaning is always contextual, where legislation uses well-understood phrases, the starting point is that it is at least likely that the Oireachtas intends to use them as well-understood. In **Nowak**¹²⁷ the phrase *“relating to”* – whether, for the purpose of the GDPR,¹²⁸ data *“related”* to a person - was considered in part by reference to the simple question, was the data *“about”* the person? In **Ironborn**,¹²⁹ Mulcahy J noted that in **Highlands Residents**¹³⁰ McDonald J had stated, albeit obiter, that the words *“in relation to”*, in the absence of some indication to the contrary in the relevant statutory provision, are generally regarded as *“wide words”*. McDonald J cited **Eccles Hall**¹³¹ in which it had been observed that *“the somewhat similar phrase “in connection with” used in s. 60 of the Companies Act, 1963 are “of wide import”* and he cited **PMT Partners**¹³² in the High Court of Australia¹³³ as to an arbitration provision:

“.. the words ‘in or in relation to’ are particularly wide. Cases concerning the interpretation of this phrase in other statutory contexts are of limited assistance. However, the cases do show that the words are prima facie broad and designed to catch things which have sufficient nexus to the subject. The question of sufficiency of nexus is, of course, dependent on the statutory context. ...”

The phrase McDonald J was considering was *“in relation to the zoning of the land”* in s.9(6) of the 2016 Act¹³⁴ – a planning act, of which he said:

“The choice of such wide words by the Oireachtas is striking. It would have been an easy matter for the Oireachtas to provide that the Board shall not grant permission where a proposed development contravenes a zoning objective of a development plan. Instead the Oireachtas chose to use much wider language namely “in relation to the zoning of the land”.”

And he referred to the *“wider ambit of the words “in relation to the zoning of the land”.”*

58. It is of some illustrative interest to observe that the deponent who swore the affidavit describing the software issue deposed that *“the documentation relevant to the Commission’s Decision is available on the Commission’s website – at <https://www.pleanala.ie/en-ie/case/318302>.”* – in other words, what the

126 Day 2 p29.

127 Nowak v The Data Protection Commissioner [2020] IECA 174.

128 General Data Protection Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data.

129 Ironborn Real Estate Limited v Dun Laoghaire-Rathdown County Council [2023] IEHC 477 §73.

130 Highlands Residents Association v An Bord Pleanála [2020] IEHC 622. §44.

131 Eccles Hall Ltd v Bank of Nova Scotia (High Court, unreported, Murphy J., 3rd February 1995) at p. 16.

132 PMT Partners Pty Ltd (in liquidation) v Australian National Parks and Wildlife Service (1995) 184 CLR 301 p. 328. [Twohey and Gummow J.J.].

133 The Australian equivalent of our Supreme Court.

134 Planning and Development (Housing) and Residential Tenancies Act, 2016.

Commission publishes in pursuit of its statutory duty to do so. The deponent’s list is impressively broad and reads as follows:

“At the outset, and for ease of reference, that website includes all application documentation, the submissions made as part of the public consultation process, the responses to the public consultation and requests for further information provided by the Notice Parties, correspondence between the Commission and the parties to the application, certain internal memoranda relating to the processing of the application, the Inspector’s Report dated 11 February 2025 and the records of decisions made by the Commission in respect of the application, along with the High Court Orders made in the earlier proceedings.”

59. The Initial Inspector’s Report was commissioned by the Commission and prepared by the Initial Inspector in the exercise of a statutory power. It in fact informed the exercise by the Commission of its statutory power to grant permission, albeit a decision soon thereafter rescinded. And, as I understand, the Commission did make public its decisions of 8 October 2024 granting permission on foot of the Initial Inspector’s report and of 11th November 2024 rescinding that decision as prepared using AI. It is difficult to see that the Commission were wrong in considering that these two formal and important decisions were “related to the matter”. And if they were right, I cannot see that the Initial Inspector’s Report should be differently regarded.

60. As to context, underlying s.146(7) is the concept of public transparency of the planning and environmental decision-making process. That context does not appear to me to provide a basis for cutting back the naturally wide import of the phrase “*in relation to*”. The PDA 2000 does not, for example, as it might have done, limit publication to “*the documents considered by the Board in making its decision*”. So, clearly, the relationship of the document to the matter need not be that it is causative or informative of the ultimate decision. It must also be remembered that planning and environmental decision-making is not an event – it is a process – and a complex and iterative process at that. And as the law of judicial review teaches us, if nothing else, process and its fairness and transparency are important.

61. In **Carrownagowan**¹³⁵ Humphreys J held that “*documents relating to the matter*” does not include “*absolutely everything*” and was, as am I, unsurprised at authority¹³⁶ that it does not include the informal notes and jottings of a Board member made in the decision-making process. He contemplated exclusion of publication of documents which might “*contaminate the process*” – records of quashed decisions¹³⁷ (which may be a special case) and “*invalid submissions*”. I confess that I have difficulty seeing how mere publication of a document after the final decision has been made can retroactively contaminate the decision-making process. Some confusion may ensue. But confusion can be clarified and should not be confused with contamination in law. As to potential confusion in this case, for example, publication of the Board’s decision rescinding its first decision to grant permission, which explained why that was done, explained the true status of the Initial Inspector’s Report.

¹³⁵ Carrownagowan Concern Group, Rumberger & Henley v An Bord Pleanála & Futureenergy [2024] IEHC 300.

¹³⁶ Kerry County Council v An Bord Pleanála [2014] IEHC 238.

¹³⁷ Citing Clonres CLG v An Bord Pleanála (No 2)[2021] IEHC 303, [2021] 5 JIC 070.

62. Whatever about internal administrative documents, Humphreys J considered that “*formal documents part of the statutory process*” must be published. There can be no doubt but that an inspector’s report is such a document. He considered that “*documents relating to the matter*” include “*documents that come into existence, or that become part of the board’s statutory processes, by reason of the board being seized of the matter*”, “*documents that are properly part of the statutory process*” and “*if the document reaches a certain level of formality, say a submitted inspector’s report, it remains a document relating to the matter even if it is later amended — both versions should be published.*” This last observation seems to me to supply the closest analogy to the present case.

63. I do not purport to lay down a black letter, general, much less comprehensive, rule as to what precisely must be published. In my view, the phrase “*relating to the matter*” speaks adequately for itself and has a wide import. I need merely decide whether s.246 required publication of this particular Initial Inspector’s Report. Without, I confess, much hesitation, I hold that the Initial Inspector’s Report, while it did not (I so find) inform or affect the Impugned Decision, was nonetheless a “*document relating to the matter*” and that its non-publication breached s.146 PDA 2000.

DECLARATIONS

64. There remains the question whether I should make declarations of breach of s.111 and s.146 consequent on my findings to those effects. In a sense, this judgment serves that function. But that may be said of many cases in which declaratory relief is granted and does not, in my view provide the answer. The Commission oppose declarations – citing **Reid #7**¹³⁸ and **Save South Leinster Way**.¹³⁹ I have also considered **Eglinton Residents**¹⁴⁰ and **B v CFA**.¹⁴¹ In the latter, Hogan J reviewed the cases as to the inherent jurisdiction to make declarations. He found it subject to three requirements: good reason in the applicant for relief to seek the declaration in question; a real and substantial issue to be determined; and a legitimus contradictor with a real interest in opposing the grant of the declaration.

65. I do not think I need to recite complex reasons in this regard or to recount in detail the fractious interlocutory battles as to discovery.

a. Clearly, the Commission adequately fills the role of legitimus contradictor.

138 Reid v An Bord Pleanála (No. 7) [2024] IEHC 27, ([2024] 1 JIC 2401.

139 Save the South Leinster Way v An Coimisiún Pleanála, [2025] IEHC 541, [2025] 10 JIC 1503.

140 Eglinton Residents Association v An Bord Pleanála [2025] IEHC 209.

141 B v Child & Family Agency, [2025] IESC 2, [2025] 1 JIC 2704.

- b. I bear in mind that a salient purpose of judicial review is to foster “*the highest standards of public administration*” – **Huddleston, Saleem, Murtagh** and **ETI**.¹⁴² By reference to that purpose, declaratory relief in part serves the functions of recording fallings-short and expressing concern accordingly.
- c. I am satisfied that the declarations sought address real and substantial issues: both as to the scope of the obligations imposed on the Commission by s.111(7) and 246 PDA 2000 and as to the question whether the Commission complied with those obligations in the present case.
- d. In **Reid**, Humphreys J took the view that successful allegations against the Board of failure of its publication requirements were far from rare.
- e. It cannot be said that, as to the facts, either error was inadvertent.
 - o Someone designed and the Commission adopted the software in question (possibly, though it is unclear, in or about 2016¹⁴³) and the Commission continued to use it after adoption.
 - o The Initial Inspector’s Report was deliberately (if well-intentionally) destroyed.
- f. The software problem with meeting records is clearly systemic, unlikely to have been a one-off lapse, not minor, and could not have arisen had its design and installation been properly supervised and effected. While such things can happen in well-regulated environments, it should not have persisted had its operation thereafter been monitored and supervised. It should have readily been spotted by those in the Commission daily using the system. It should not have required litigation to unearth it. The duration of the software problem and the scope (whether great or small) of its falsifying effects remain unascertained – at least as a matter of public knowledge.
- g. Further, the Commission’s response on affidavit unimpressively failed to display the necessary appreciation of the gravity of its software flaw for its statutory recordkeeping. Though I note it is being attended to, it remains unresolved and is far from a merely historic matter.
- h. Had the AI-infected Initial Inspector’s Report been published, at least an appreciable part of the interlocutory sturm und drang in these proceedings would have been avoided. Its destruction was ill-judged by reference to the Commission’s statutory obligations of record-keeping and was open to misinterpretation as an attempt to minimise criticism of the Commission. I repeat that I have no reason to consider such an interpretation correct and do not doubt the bona fides of those who so acted. I also repeat that the published Commission direction that the decision be revisited explicitly recorded the AI issue.
- i. I am unimpressed by the Commission’s resistance to declaratory relief on the basis that, while it accepts that its erroneous records caused confusion, a simple request for clarification would have clarified matters.¹⁴⁴ It might or it might not have clarified matters – and it is easy to say it would have done so when the point can no longer be put to the test. The argument reflects a remarkably Commission-centric view – blaming the reader for not setting about the correction of its own error. In the relatively brief

142 R(Huddleston) v Lancashire County Council, [1986] 2 All ER 941; Saleem v Minister for Justice [2011] IEHC 55; Murtagh v Kilrane [2017] IEHC 384; Environmental Trust Ireland v An Bord Pleanála & Cloncaragh [2022] IEHC 540.

143 Day 2 11:19 et seq.

144 Day 2 11:15.

time available to an applicant to seek leave for judicial review, it has much to do. It is not obliged to second-guess the Commission's records (of which there are many in a given case), decide which to query and await the Commission's reply to inquiry. On the contrary, a central point of the statutory obligation on the Commission is that such a person is entitled to rely on such records as it is the Commission's legal duty to keep.

- j. I am satisfied that ETI has good reason to seek the declaratory relief in question.
- o It was a participant in the planning process in which the illegality of which it seeks a declaration occurred and so is entitled to concern itself with an allegedly significant illegality in that decision.
 - o Further, as an environmental NGO, it has a general and legitimate interest in the legality and transparency of the Commission's procedural actions.
 - o In addition, the combination of the Commission's procedural misadventures in this case did prejudice ETI in some degree. They undoubtedly and reasonably occupied its attention, bandwidth and resources in preparing for and prosecuting this litigation – though I accept that proceedings on the substantive environmental issues would have been prosecuted anyway.

66. Though the foregoing suffices to decide the question, I consider that, as may have been expected from Fordham J, his decision in **Badger Trust**¹⁴⁵ pithily expresses well-established principles as to the purpose of judicial review, relevant here and going back at least to **Huddleston**: he says that judicial review is (subject to pleading rules¹⁴⁶) an

“audit of the legality of public decision-making”, the value of which is not “necessarily a function of the outcomes of cases. The public interest enterprise of judicial review accountability secures lawfulness. It promotes discipline. It exposes unlawfulness. It promotes public confidence in public authority decision-making.”

67. I will grant relief declaratory of breaches of ss.111 and 146. I invite ETI and the Commission to agree the terms of such declarations. I will hear them on that issue if needs be.

CG3 – BRDA SEEPAGE RISK

CG3 - ETI PLEADINGS & POSITION

68. CG3 asserts that the Commission
- failed to have regard to a relevant factor - the potential for effluent seepage from the BRDA and/or
 - performed an incomplete and irrational analysis of that potential.

145 R.(Badger Trust) v Natural England, [2025] EWHC 2761 (Admin) [2026] A.C.D. 4, [2025] Costs L.R. 1751. Cited by Humphreys J in People Over Wind v. Commissioner for Environmental Information [No. 3] [2026] IEHC 69.

146 My observation.

69. ETI's particulars of CG3,

- a. note that the Inspector accepted the conclusion in AAL's Seepage and Water Quality Assessment¹⁴⁷ of "negligible seepage through the base of the BRDA either in the lined or unlined phases due to the underlying depth of bauxite residue and the characteristics of the underlying estuarine soils".
- b. assert that the Commission failed to ask itself whether there was a risk of increased seepage
 - o given the Proposed Development is to substantially increase the height and volume of the BRDA and/or
 - o in the context of two acknowledged "soft spots" in the BRDA,
 - o whereby there is clear and obvious potential for increased seepage by increased pressure inside the BRDA.

70. The "central thrust" of ETI's submission is that ACL's analysis of risk and risk mitigation was generic, perfunctory and inadequate

- in that it revolved around data relating to the existing BRDA - not to its proposed vertical expansion and
- given the absence of evidence as to the alleged risk posed specifically by pressure due to increased height of the red mud column.

ETI says it need not prove, even prima facie, an increased danger of alkaline leachate seepage, which would include heavy metals, due to increased pressure: it is for the Commission to show that it assessed the risk.

CG3 - COMMISSION & AAL POSITION

71. The Commission and AAL say

- a. The only legal errors pleaded are irrationality and failure to have regard to relevant considerations.
- b. ETI has not discharged its burden of proof. Its complaints are mere assertion without evidential foundation and are not advanced by reference to, or by engaging with, the evidence before the Commission. See for example, EIAR Chapter 10 (§10.9.1); Appendix A of the EIAR: "*Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development*" and Appendix H to that Design Report, "*Seepage and Water Quality Assessment*"; and Inspector's Report (§10.7 et seq)). In contrast, there was no evidence before the Commission to substantiate the asserted "*clear and obvious potential for increased seepage*" and "*increased danger of seepage*".
- c. The Commission clearly had regard to the seepage issue and material before it supported its seepage analysis.

¹⁴⁷ EIAR Appendix A, Engineering Design Report Appendix H. "*Seepage and Water Quality Assessment*".

- d. ETI's assertions of evidential flaws are unsupported by evidence - in particular expert evidence. Mr Duffy is not, and Mr Corrigan is, expert on these issues. In any event, Mr Corrigan's evidence must be preferred absent cross-examination.
- e. As a matter of logic, and as borne out by expert material and evidence, to assess whether the height extension of the BRDA poses a seepage risk, it is necessary to assess whether there is a risk of seepage in the existing BRDA, which is the base on which the Proposed Development will be placed.

72. Importantly, Mr Corrigan deposed that he wished *"to be very clear that predictions on the overall seepage potential for the BRDA should only be predicted through seepage modelling of the BRDA materials and the underlying conditions."* I paraphrase: if seepage potential is not modelled, it's not predicted.

CG3 - SEEPAGE – MATERIALS BEFORE COMMISSION & RATIONALITY OF IMPUGNED DECISION

73. Notably, the Commission actively brought me at trial to the materials which I now turn to consider.¹⁴⁸

74. AAL's EIAR states that

*"There is potential that increased height of the BRDA and thus a greater hydraulic head could potentially increase the risk for seepage through the base of the BRDA. However, the seepage assessment (Golder 2021) for the BRDA Raise concluded that there is negligible seepage through the base of the facility, either in the unlined or lined phases due to the underlying depth of bauxite residue, the characteristics of the underlying estuarine soils and the composite basal lining system (natural and geosynthetic)."*¹⁴⁹

75. The first of these sentences recognises, essentially, the risk identified by ETI as requiring consideration – that, ceteris paribus (and as a matter of basic Inter Cert¹⁵⁰ physics), the higher the BRDA, the potentially greater the head of hydraulic pressure on its base. And so, potentially, the greater the risk of seepage of alkaline leachate through that base. This principle is not in dispute. It is accepted by Mr Corrigan, engineer for AAL.

76. Strictly, the second sentence does not answer the question put by the first. It cites Golder's¹⁵¹ finding as to the present absence of seepage through the base of the existing BRDA. That is no doubt very relevant

148 See e.g. day 2 12:25.

149 §10.9.1 Construction and Operational Phase Impacts. Note that in the case of this Proposed Development the "construction" phase of the BRDA is also its "operational" phase.

150 Apologies to younger readers.

151 Golder Associates Ireland Limited. Golder has served as the Design Engineer for the BRDA since 2003 and since 2018 is the AAL-appointed Engineer of Record (EoR) for the BRDA, following AAL's adoption of the Canadian Dam Association (CDA) Dam Safety Guidelines (CDA 2013, 2014) for the BRDA.

to, but is not a conclusion as to, risk of seepage through the BRDA base posed by the greater hydraulic head to be created by the Proposed Development.

77. The second sentence specifically cites the “*seepage assessment (Golder 2021)*” (“Closure Seepage Study/2021 Seepage Assessment¹⁵²) - to which assessment the Commission and AAL direct me¹⁵³ to demonstrate, as they assert, the evidential basis for the Commission’s decision and the lack of evidential basis for Ground 3.

78. Significantly, the passage set out is not substantively the expression of opinion by the EIAR’s author. Substantively, it is the invocation by that author of the expert opinion of the author of the Closure Seepage Study/2021 Seepage Assessment – i.e. Golder. So, to ascertain the true evidential basis for the assertion “*that there is negligible seepage through the base of the facility*” and, if this is understood as referring to the existing BRDA, for the implicit assertion that that there will be negligible seepage through the base of the facility by reason of the Proposed Development, one must consider that seepage assessment and ask whether the author of the EIAR and, in adopting the EIAR, the Commission, correctly interpreted the Closure Seepage Study/2021 Seepage Assessment.

79. Before turning to the Closure Seepage Study/2021 Seepage Assessment, I note that the EIAR, in reliance thereon, describes it as done:

“..... for the BRDA at closure following the construction to Stage 16 and the construction of the dome and the capping and restoration works. The modelling has been used to estimate the potential volumes of seepage generated along the side slopes of the restored Stage 16 BRDA, as well as the surface water runoff from the dome.”¹⁵⁴

80. At trial I queried the significance of the underlined words. AAL told me that the model looked at seepage at (by which was meant after) closure of the BRDA. That accords with my own reading of the Closure Seepage Study/2021 Seepage Assessment. I was told that was modelled because the BRDA will be there forever. In those terms, that modelling makes sense for that reason. However, I asked whether the modelling addressed, as to seepage, the situation, which will persist until closure of the BRDA in 2039, during which time the BRDA is actively in operation - with ongoing introduction of bauxite residue slurry and slurry farming and precipitation directly onto the uncapped bauxite residue. I observed that Mr Corrigan was invoking a model of a capped BRDA, in which there is no continuing supply by either a slurry to be dried out or of precipitation. That is a very different environment to the post-closure environment which the seepage modelling modelled.¹⁵⁵ I asked whether Golder had addressed and modelled seepage in those, pre-closure,

152 EIAR Appendix A, Engineering Design Report (Golder November 2021); Appendix H, Seepage and Water Quality Assessment - Aughinish Alumina Bauxite Residue Disposal Area Engineering Design: Closure Water Quality Predictions (Golder August 2021); Appendix C, Seepage Modelling Report, Aughinish Alumina Limited Engineering Design Closure Study - Seepage Assessment for BRDA at Stage 16 (Golder August 2021).

153 Day 2, 12:11.

154 EIAR §10.9.1 Construction and Operational Phase Impacts.

155 Day 2 16:48.

circumstances?¹⁵⁶ The Commission was to check but I heard no more. Counsel for AAL said “*All I can say to the Court is at the moment in time the seepage is negligible.*”¹⁵⁷ – which I do not doubt but which is not the answer to the question. Counsel’s later answer was no more reassuring.¹⁵⁸

81. The Seepage and Water Quality Assessment appended to the EIAR¹⁵⁹ assessed “*potential water quality following closure of the BRDA*”. It in turn appended, as Appendix C, what it called a “*Closure Seepage Study*”¹⁶⁰ – i.e. the 2021 Seepage Assessment to which the EIAR passage above refers.¹⁶¹ It is important to understand,

- First, that the Water Quality Assessment considered primarily the likely quality of the water in the PIC post-closure of the BRDA, with a view to informing the treatment and/or discharge of that water. The assessment is to “*inform requirements for water management and treatment post-closure.*”
- Second, that the Closure Seepage Study/2021 Seepage Assessment was intended to inform that particular assessment of water quality, and hence was primarily concerned with seepage into the PIC. The Water Quality Assessment “*uses the findings of the closure seepage study to estimate the mixed water quality in the PIC after 5 years post closure using a geochemical mixing model, whereby BRDA seepage and runoff will inform the water quality.*”

82. That Closure Seepage Study/2021 Seepage Assessment records that in August 2021 the BRDA Phase 1 was at Stage 9/10 and Phase 2 was at Stage 3/4 and that, on closure at Stage 16, the BRDA will be capped.¹⁶² This “cap” is also referred to as the “dome”.¹⁶³ The primary objective of the Closure Seepage Study/2021 Seepage Assessment “*is to estimate the likely volumes of seepage generated along the side slopes of the restored Stage 16 BRDA, as well as the surface water runoff from the facility dome*”.¹⁶⁴ It concludes that 97.3% of the water in the PIC will accrue from surface water runoff from the BRDA dome and side slopes and 6.3% will accrue as sidewall leachate seepage from the BRDA slopes. It concludes that “*In the post-closure conditions for the BRDA, the water quality in the perimeter interceptor channel (PIC) is expected to be comprised predominantly of runoff (dilute contact water over the surface of the BRDA) and a minor amount of seepage (highly alkaline liquid held in the pore space of the bauxite residue, expressed slowly as seepage due to overlying pressure).*” The focus of the Closure Seepage Study/2021 Seepage Assessment is to assess seepage into the PIC “*as a consequence of infiltration into the restored BRDA Stage 16*” - as seepage at the

156 Day 2 12:16 et seq. & 12:28 & 16.35.

157 Day 2 16.35.

158 Day 2 16.48 et seq. The relevant passage starts with the following: Counsel: Again, Judge, all I can -- it was modelled. Judge: Yeah, but the model wasn't of the: condition of the BRDA before it's capped. Counsel: Yes, but, okay, well maybe, Judge, if we can look at it. Judge: But in years between now and 2039.

159 EIAR Appendix A, Engineering Design Report (Golder November 2021); Appendix H, Seepage and Water Quality Assessment - Aughinish Alumina Bauxite Residue Disposal Area Engineering Design: Closure Water Quality Predictions (Golder August 2021).

160 EIAR Appendix A, Engineering Design Report (Golder November 2021); Appendix H, Seepage and Water Quality Assessment - Aughinish Alumina Bauxite Residue Disposal Area Engineering Design: Closure Water Quality Predictions (Golder August 2021) §1.1.

161 So, in “Russian Dolls” terms, we have here Appendix C to Appendix H to Appendix A to the EIAR. A comprehensive and paginated index of appendices would have been extremely useful.

162 With a minimum 1m depth of “amended bauxite residue”, which comprises bauxite residue mixed with neutralised process sand, gypsum, and organic material. The cap will be planted with vegetation. See also EIAR §8.9.2 Closure Phase Impacts as to the dome and the capping also of the BRDA side slopes. See also and generally, IEL Condition 10 Closure, Restoration and Aftercare Management.

163 The engineering design and drawings for the BRDA Dome Closure are provided in Appendix J to EIAR Appendix A, Engineering Design Report BRDA and the key design elements are summarized at §8.3 BRDA Dome Closure of that report.

164 §2.4 Boundary and Initial Conditions.

base of the side slopes, as surface water seepage in the side slopes or as seepage through the BRDA basal liner into the PIC.

83. As what was being studied was post-closure water quality in the PIC, which laterally surrounds the BRDA,¹⁶⁵ it might be thought that the Closure Seepage Study/2021 Seepage Assessment did not address BRDA basal liner seepage more or less vertically into the ground below the BRDA. However, that is not so. The Study¹⁶⁶ states:

“The model constructed for this study can also be used to provide an estimate of the level of seepage through the base of the BRDA facility.

Simulation results indicate that the total volume of seepage through the base of the Phase 1 BRDA sector of the model is negligible. Even after scaling to the 104 ha. basal footprint of the Phase 1 BRDA, the total seepage over the 1-year simulation period is on the order of $2 \times 10^{-8} \text{ m}^3/\text{year}$, see Table 3. This is considered to be due to the very low permeability of the (unfarmed) bauxite residue, which effectively becomes the primary liner for the Phase 1 BRDA in the long term. Similarly, seepage through the 80 ha. basal footprint of the Phase 2 sector of the model is so low ($2 \times 10^{-8} \text{ m}^3/\text{year}$, see Table 3) as to be effectively considered zero.”

84. A model was constructed to assess “potential seepage from the restored BRDA to Stage 16 the modelled design takes into consideration the changes in the lining system and material properties of the material deposited in the BRDA over time and the proposed vegetative restoration at site closure”.¹⁶⁷ The Closure Seepage Study/2021 Seepage Assessment predicts that “There is negligible seepage through the base of the facility, either in the unlined or lined phases”¹⁶⁸ and “Though the Phase 2 BRDA is underlain by a composite geosynthetic lining, for both the Phase 1 and Phase 2 BRDAs, the deposited bauxite residue effectively becomes the primary liner in the long term as a result of its low hydraulic conductivity properties and its significant depth, in comparison to the thickness of either the underlying geosynthetic layers and/or the estuarine soils present.”¹⁶⁹ The Closure Seepage Study/2021 Seepage Assessment considers that given the low permeability of the lining system and the significant depth of the overlying low permeability bauxite residue, minor defects in the Phase 2 basal liner would make no substantive difference to the basal seepage rates once about 10m of residue is deposited.

85. However, and importantly, it will have been seen above that the Closure Seepage Study/2021 Seepage Assessment relates to the post-closure state of the BRDA. In describing the modelling objective, the Study states

165 P1 - “Golder has undertaken modelling of the restored BRDA to assess the potential for seepage to occur from the infiltration into the restored BRDA at Stage 16 and to quantify these potential discharges should these be identified. The findings are then utilized in the assessment for the conceptual water quality in the PICs following closure of the BRDA at Stage 16 ...”

166 §3.3 Basal Seepage.

167 EIAR Appendix A, Engineering Design Report (Golder November 2021); Appendix H, Seepage and Water Quality Assessment - Aughinish Alumina Bauxite Residue Disposal Area Engineering Design: Closure Water Quality Predictions (Golder August 2021). §2.2 Seepage Modelling; Also, Closure Seepage Study/2021 Seepage Assessment §6.

168 §6.0 Conclusions.

169 §6.0 Conclusions.

Note:¹⁷⁰ *This study deals with the post-closure phase of the BRDA, i.e. following restoration at Stage 16, and no consideration of changes in the structure and/or properties of the BRDA are included in model simulations.*¹⁷¹

Also, the model assumes that

- *“the BRDA is at Stage 16 from the start and no modelling of the construction phase is included”* and
- *“the hydraulic properties of the BRDA’s constituent materials and its underlying geology, as well as the characteristics of the vegetation cover on its upper surface, remain constant over the simulated period.”*¹⁷²

86. The Closure Seepage Study/2021 Seepage Assessment is a highly technical exercise – much of it well beyond lay (judicial) understanding. That said, some comments can be made:

- a. The Study was not primarily concerned with seepage through the basal lining into the underlying geology. However, the content set out above, as to the area of the basal footprint, makes clear that what is considered in that passage is not lateral seepage into the PIC surrounding the BRDA (the primary focus of the study) but is seepage vertically into the ground below the BRDA. And, in that context, the conclusion that *“There is negligible seepage through the base of the facility, either in the unlined or lined phases”* must be understood as relating to seepage vertically into the ground below the BRDA.
- b. However, one must identify the circumstances by reference to which that conclusion was reached. I expressed at trial puzzlement that ACL and AAL were directing me to an explicitly “post-closure” study as evidence of the lack of risk of basal seepage during the operational phase of the BRDA to Stage 16 – an operational phase estimated to run to about 2039.
- c. The answer I was given was that at closure the BRDA will be at its highest - so the vertical pressure on the base will be at its highest. As to exclusively the height/hydraulic head parameter, I have no difficulty accepting this as a worst-case scenario on a ceteris paribus basis. Indeed, such height underlies the case made by ETI. But, as between the operational and the post-closure phases, it is very far from apparent that all will be equal.
- d. The liquid inputs to the BRDA will be very different before and after closure. Before closure, the BRDA will be in a dynamic, operational phase, with ongoing slurry deposition, mud farming, dust spraying and natural precipitation directly on the bauxite residue. After closure, bauxite residue slurry deposition, mud farming, and spraying will have ceased. Also, the BRDA will have been capped with a “dome” to minimize precipitation input to the body of the BRDA. It seems likely, or at least appreciably possible, that the model input consisting of *“infiltration into the restored BRDA Stage 16”* – i.e. precipitation infiltration through the cap and into the BRDA below – is an appreciably different phenomenon to the

¹⁷⁰ Emphasis in original.

¹⁷¹ §1.4 Modelling Objective. Latter emphasis added.

¹⁷² §2.1 Code Selection and Modelling Approach; §5.0 Uncertainty And Model Limitations.

earlier operational charging, over many years and progressively increasing height, of the uncapped BRDA with large volumes of bauxite residue slurry and with precipitation.

- e. It is therefore not apparent that the Study of the post-closure seepage pressure or seepage outcome equates to a study of the operational seepage pressure or seepage outcome. Of course, they may equate – and even if the latter pressure is higher, it may not raise seepage rates if basal liner integrity would anyway survive the higher pressure. But such conclusions are not apparent from the Closure Seepage Study/2021 Seepage Assessment. I cannot and do not draw any conclusions on these technical issues, whether against or in favour of the Impugned Decision.
- f. But in that context, it seems to me very notable that the expert modellers, Golders, thought it necessary to explicitly draw to particular attention that, in their model, *“the BRDA is at Stage 16 from the start and no modelling of the construction phase is included”* and that *“no consideration of changes in the structure and/or properties of the BRDA are included in model simulations”*. These observations can only be understood as denoting limits of the Closure Seepage Study/2021 Seepage Assessment. In substance, they seem to me clearly, deliberately and no doubt properly, to disavow the applicability of the Closure Seepage Study/2021 Seepage Assessment to the construction/operational phase of the BRDA to about 2039. And these disavowals are, of course, entirely consistent with the explicitly stated only purpose of the Closure Seepage Study/2021 Seepage Assessment, which related to seepage only from the post-closure BRDA.
- g. Perhaps the position on the evidence before me might have looked different absent those disavowals. But I do not think it possible properly to ignore them.

87. On that view,

- While the Closure Seepage Study/2021 Seepage Assessment does provide evidence of negligible seepage through the BRDA base to date, and predicts negligible seepage in the post-closure phase after completion and capping of the Proposed Development, it does not provide such evidence as to the construction/operational phase of the Proposed Development. It is, as has been said, a central thrust of ETI’s case that ACL’s risk analysis was inadequate in that it revolved around data relating to the existing BRDA, not to its proposed vertical expansion by way of the Proposed Development.
- While future data cannot be gathered, it can be modelled. Indeed, Mr Corrigan says it must be modelled. But the Closure Seepage Study/2021 Seepage Assessment explicitly did not model the construction/operational phase of the Proposed Development. On the contrary, the authors took some care to disavow having done so.
- It follows, in my view, that the EIAR is, in this respect, entirely reliant on and based on a misinterpretation of the Closure Seepage Study/2021 Seepage Assessment.¹⁷³

173 §10.9.1 Construction and Operational Phase Impacts.

- The Impugned Decision, based on acceptance of the EIAR in this regard, is therefore irrational for want of evidence for the implicit and vital conclusion in the EIAR that “*that there will be negligible seepage through the base of the facility” by reason of the Proposed Development* and as it relates to the BRDA’s operational phase to about 2039.

88. Mr Corrigan for AAL deposes¹⁷⁴ that he is

“very clear that predictions on the overall seepage potential for the BRDA should only be predicted through seepage modelling of the BRDA materials and the underlying conditions. As stated at §8 of my First Affidavit, “it is important to understand (i) the permeability of the different soils that make up the BRDA and its underlying soils and (ii) the level of difference that the proposed increase in height of the BRDA can have on the potential generation of seepage. Seepage through a medium is directly related to the permeability of the material making up that medium as well as the head that is driving the seepage.” For clarity, I state that seepage modelling of the complex conditions making up the BRDA and the underlying conditions was completed using modelling software specifically created for modelling seepages in such instances and the conclusion from this modelling process was that the seepage was found to be negligible. The findings from this seepage analysis were presented in the Engineering Design Report which was part of the Planning Application documentation that was before the Commission when it made its Decision.”

89. Much of this is entirely unsurprising – not least that seepage potential predictions for the BRDA should only be made through seepage modelling and that a significant factor in such modelling is the head that is driving the seepage. But

- seepage data is to hand only for the existing BRDA, whereas the construction/operational phase of Proposed Development will progressively increase the pressure-driving head, and
- the Closure Seepage Study/2021 Seepage Assessment models only post-closure seepage and explicitly disavows modelling seepage in the construction/operational phase of the Proposed Development.

90. To put it another way, while there is evidence of the current basal seepage performance of the BRDA and modelling evidence of the expected basal seepage performance of the BRDA post-closure in or about 2039, I cannot see that there is any evidence, in permission application documents as opened to me, of the basal seepage performance of the BRDA in the interim between those two periods - during the proposed vertical expansion of the BRDA and by reason of the Proposed Development. Ultimately, and despite my request, counsel for AAL could not point me to any such evidence.

174 Affidavit filed 19 February 2026.

91. For the avoidance of doubt, I acknowledge that Mr Corrigan for AAL deposes¹⁷⁵ that “*a seepage model was completed for the Proposed Development which concluded that there was negligible seepage from the proposed raise*”. However, for the reasons I have stated, this averment can only be taken as correct, anachronism aside, if it is understood as limited to a conclusion that there will be negligible seepage from the proposed raise once closed and capped.

92. I do not doubt that it is Mr Corrigan’s bona fide and expert “*professional opinion*” of the Proposed Development that “*there is a negligible increased risk of seepage above what is a negligible risk in the current situation*”. He may be right. He may in due course be found by the Commission to be right. But, not least by reference to his own assertion on affidavit that seepage potential predictions for the BRDA should only be made through seepage modelling, the fact is that there is no such modelling as to the construction/operational phase of the BRDA. As I paraphrased him above: if seepage potential is not modelled, it’s not predicted. So, on his own logic, his opinion as to risk of seepage during the construction/operational phase of the BRDA is an ipse dixit (as that phrase is deployed in **Duffy v McGee**¹⁷⁶). Certainly, if nothing else, it can be said that it is not a basis on which I can assume that any analytical error as to seepage is harmless – an issue on which the Commission and/or AAL bear the onus of proof (e.g. **Moss**¹⁷⁷). This is, par excellence, a matter for the expert Commission to reconsider, not for a judge to decide. Perhaps, for example, it may require further modelling, or other evidence, of basal leakage risk in specifically the construction/operational phase, as opposed to the post-closure phase, of the Proposed Development. It may even be that expert evidence to the Commission will explain to its reasonable satisfaction why the post-closure modelling can be taken as applicable to the pre-closure construction/operational phase despite the disavowal of the modellers (the relevant experts, Golders) and Mr Corrigan of that proposition. But that is not the situation at present.

93. I should add that I do not see that any later AAL submissions in the planning process go beyond the seepage risk analysis on which the EIAR relies or specifically address such risk as to the construction /operational phase of the Proposed Development, as opposed to the operation of the BRDA to date or in the post-closure phase.

94. Finally, AAL is entirely correct in saying that, as a matter of logic and expert evidence, to assess whether the proposed BRDA height extension poses a risk of seepage, it is necessary to assess whether there is a risk of seepage in the existing BRDA, which is the base on which the Proposed Development will be placed. However and equally logically, while that assessment will inform an assessment whether the proposed BRDA height extension poses a risk of seepage in its construction/operational phase, it is not a substitute for that assessment. Nor, by similar logic, is an assessment of the seepage risk from the closed and capped BRDA a substitute for assessment whether the proposed BRDA height extension poses a risk of seepage in its construction/operational phase. In short, in proposing a logic, AAL fails to follow that logic to its conclusion.

175 Affidavit filed 19 February 2026.

176 *Duffy v McGee* [2022] IECA 254, [2022] 11 JIC 0701.

177 *Moss v An Coimisiún Pleanála & Lightsources* [2026] IEHC 62 §48(vi).

CG3 - DECISION

95. For the foregoing reasons, the Impugned Decision will be quashed as irrational for want of an evidential basis for the conclusion that basal seepage through the base of the BRDA will continue to be negligible despite and during the construction/operational phase of the Proposed Development to about 2039, before its closure and capping after Stage 16 has been laid. As I have said it is particularly notable that expert modeller which did the seepage modelling relied upon by AAL explicitly stated that *“no modelling of the construction phase is included”*. And as I have said, Mr Corrigan’s evidence is that if it’s not modelled, it’s not predicted.

CG3 – POSTSCRIPT – SEEPAGE TRAVEL TIME & SOFT SPOTS

96. I expressed at trial puzzlement also at the stress laid by Mr Corrigan¹⁷⁸ on the mere fact of travel time of seepage through the BRDA from its top to its base before encountering the underlying estuarine silts - which he put at between 33 and 47 years or more.¹⁷⁹ I did not get a satisfactory explanation of this observation.¹⁸⁰ I could speculate – for example as to attenuation of polluting potential by time and passage through the BRDA. But I must not. Suffice it to say that to any extent Mr Corrigan suggested - and I do not hold that he did – that risk of seepage can be discounted merely on the basis that it will not arise until many years hereafter, no legal basis for such a view was suggested and I am unaware of any. Deferred pollution is nonetheless environmental protection denied. The essence of sustainable development is that future generations are not unjustifiably burdened. Remittal for the reason stated above will provide opportunity to clarify the position in this regard. It will also provide opportunity to clarify any implications of the fact that during those 33 to 47 years the leachate travelling from the top of the BRDA may be, as it were, pushing lower leachate ahead of it – perhaps in a more or less continuous flow. On the other hand, it may also be that the descent of the uppermost leachate will progressively reduce the hydraulic head, thus diminishing seepage risk over time. Perhaps these mechanisms can be modelled. These are all issues beyond a judge. But, as I say, the opportunity to clarify them, or even to dismiss them as ill-conceived, will now arise.

97. In view of my decision, it is unnecessary for me to pursue the pleaded and disputed additional risk of seepage due to “soft spots” in the BRDA – allegedly at the locations of old SCDCs no longer used.¹⁸¹ If needs be, the Commission can reconsider that issue on remittal.

178 Affidavit 22 December 2025 §9.

179 E.g. Day 2 16:41 & 16:46 et seq.

180 Day 2 16:48.

181 See EIA, Appendix A, Engineering Design Report, §7.2.4.

CG4 - FLOODING

98. In this case, the relevant flood risks¹⁸² are, essentially, coastal and pluvial, the risk of their coincidence and the risk that such events will result in the failure of BRDA waste containment such that bauxite residue escape will pollute the Shannon estuary.

99. While I will return to the issue, it is useful to state by way of introduction that, in the development management process in the planning system, flood risk posed by/to a proposed development is assessed generally via the Flood Risk Guidelines.¹⁸³ They inform a system of Flood Zone mapping in Development Plan Strategic Flood Risk Assessments (“SFRA”). That mapping is generally informed by the OPW’s CFRAMS¹⁸⁴ mapping – though CFRAMS is part of a Flood Directive process distinct from the planning system. But not all land in a county is flood-mapped in CFRAMS and explicitly flood-zoned in SFRAs. The Site is not. The Flood Risk Guidelines¹⁸⁵ state that flood-zoning is based on the probability of flooding from rivers and the sea (coastal) – it does not consider pluvial and groundwater flood-risk. The zones are as follows:

- Flood Zone A - at highest risk of flooding from rivers and the sea - a 1%, or more, chance of flooding in any one year from rivers or a 0.5%, or more, chance of flooding from the sea.¹⁸⁶
- Flood Zone B - at moderate risk of flooding from rivers and the sea – not in Zone A but at a 0.1%, or more, chance of flooding in any one year.
- Flood Zone C - the low-risk area, with a less 0.1% chance of flooding from rivers, estuaries or the sea in any one year. Importantly, it is a residual zone - *“Flood Zone C covers all areas of the plan¹⁸⁷ which are not in Zones A or B.”*¹⁸⁸ The SFRA repeats the point.¹⁸⁹

100. As flood zones are merely indicative and high-level, in planning permission applications on sites at risk of flooding, Site-Specific Flood Risk Assessments (“SSFRA”) are required.

101. For completeness, I should record that at trial, and on my inquiry, I was informed that, as part of the CFRAMS, a Flood Risk Review Report (FRRR) of March 2012 as to the Shannon River Basin District had considered, inter alia, AAL’s Combined Heat & Power Plant (“CHP”), which the OPW had identified in its 2011

182 Flood risk expresses the combination of the likelihood of occurrence of a flood and the magnitude of the potential consequences of such a flood. It contemplates three components - the source of the hazard, the receptors affected by the hazard and the mechanism of transfer between the two.

183 The Planning System and Flood Risk Management Guidelines 2009 - as Amended by Flood Circular-pl2.2014153.

184 “CFRAMS” (Catchment Flood Risk Assessment and Management Studies) refers to a more or less continuous and highly iterative OPW project of mapping river catchments and coastal areas – generating Flood Hazard maps (as to probability of occurrence of flooding) and Flood Risk maps (as to consequences of flooding if it occurs) to identify areas (primarily communities) at risk of flooding and planning for their flood risk protection. Those maps are required by Directive 2007/60/EC (the Floods Directive) and the European Communities (Assessment and Management of Flood Risks) Regulations 2010, as amended, which require assessment whether watercourses and coastlines are at risk from flooding and measures to reduce the risk. The 2010 regulations appointed the OPW as competent authority/lead agency for the purposes of the Floods Directive and Regulations. The risk assessment and protection planning is required by the Floods Directive to be informed by ongoing cyclical review. CFRAMS is primarily about adaptation to flood risk by flood protection works and the like. But, via the Flood Risk Guidelines and Strategic Flood Risk Assessment (SFRA) in development plans, and resultant flood zoning and site-specific flood risk assessment, it also informs planning policy and development management as it relates to land use and flood-vulnerable development. This footnote is very much a brief summary of a complex system.

185 The Planning System and Flood Risk Management Guidelines 2009 - as amended by Flood Circular-pl2.2014153.

186 As coastal flooding is generally more dynamic than river flooding, a lower probability of coastal flooding is used to define the highest-risk zone.

187 i.e. Development Plan.

188 Flood Risk Guidelines, §2.23.

189 Development Plan SFRA p14.

Preliminary Flood Risk Assessment (“PFRA”)¹⁹⁰ as for coastal flood risk review. AAL supplied me with extracts of the FRRR and a link to the entire.¹⁹¹ The FRRR recommended against the CHP’s designation as an IRR¹⁹²/APSR /AFA¹⁹³ requiring further study. It is necessary to note why. The CHP is in the north-eastern part of the Island where the refinery is – not in the south-western BRDA area. The FRRR noted that no flood defences protected the CHP site as it is well (several metres) above maximum/highest tide levels and so is at no tidal flood risk. The FRRR does not directly consider, or appear to bear on, flood risk to the BRDA, save that:

- It recites that there is no known historical evidence of flooding at Aughinish Island.
- AAL draw my attention to the FRRR as including a map entitled “Shannon CFRAM Study, Flood risk Review Map, Aughinish Island” as not showing the BRDA as flooding. However it
 - identifies the Site as “Benefiting Lands”.¹⁹⁴ The FRRR defines that term as based on OPW maps “prepared to identify areas that would benefit from land drainage schemes, and typically indicate low-lying land near rivers and streams that might be expected to be prone to flooding.”
 - bears the legend: “The PFRA Flood Extents shown are indicative. They have been developed using simple and cost-effective methods that are suitable for the PFRA. They should not be used for local decision-making or any other purpose without verification.”

CG4 - ETI PLEADINGS & POSITION

102. Core Ground 4 asserts that the Commission, in the manner in which it addressed flood risk, acted irrationally and/or failed to give adequate reasons and/or failed to have regard to and/or materially contravened certain 2022 Development Plan provisions.

103. ETI’s particulars invoke the 2022 Development Plan as follows:

- Policy CAF P5,¹⁹⁵ as to Managing Flood Risk. It is
 - to protect Flood Zones A and B from inappropriate development in accordance with the Flood Risk Guidelines and the 2022 Development Plan’s SFRA;
 - in Flood Zone C to satisfy themselves that the probability of flooding (including the implications of climate change) is appropriate to the Proposed Development.

190 A high-level screening exercise which preliminarily identified areas of potentially significant flood risk from all sources, and summarises the probability and harmful consequences of past (historical) and future (potential) flooding.

191 Day 2, 11:00

192 The glossary to the FRRR describes an Individual Risk Receptor as a receptor warranting consideration of flood risk in its own right. Typically major infrastructure.

193 The glossary to the FRRR describes an APSR/AFA as an area (a community) at potentially significant flood risk, justifying its inclusion for further assessment.

194 Shannon CFRAM Study, Flood risk Review Map, Aughinish Island.

195 set out more fully below.

- Objective CAF O20.¹⁹⁶ It is to require SSFRA for all planning applications in Flood Zones A and B, the detail of which SSFRAs will depend on risk level and scale of development. A detailed SSFRA should, considering climate change, quantify the risks, the effects of mitigation and the management of any residual risks.
- SFRA §5.3, 5.5 and 5.8.¹⁹⁷ They¹⁹⁸
 - Require an appropriately detailed SSFRA,¹⁹⁹ in accordance with the Flood Risk Guidelines, in support of all planning applications - including that in Flood Zone C. The requirements are more prescriptive in Flood Zones A and B.
 - Stipulate that the fact that a site has not been flood-zone-mapped in the SFRA does not mean there is no flood risk. Instead, an SSFRA *“of appropriate detail should delineate the Flood Zones and/or suitable mitigation”*²⁰⁰ (In effect, as Flood Zone C is residual, this repeats the requirement of SSFRA in Flood Zone C.)
 - State that while Flood Zones A and B are identified in the SFRA, future studies may refine their extents *“so a comprehensive review of available data should be undertaken once a FRA has been triggered.”* (In effect, this requires comprehensive review of available data in SSFRA in all Flood Zones, including Flood Zone C.)
 - State that the required level of detail in SSFRA will vary depending on the risks identified and the proposed land use.
 - State that in SSFRA, in all Flood Zones, including Flood Zone C, the following are to be addressed
 - Climate change - particularly near areas at risk of tidal flooding. A development in Flood Zone C may be at risk of sea level rise added to the extreme²⁰¹ tide.
 - Non fluvial and non-coastal flood risk, including of groundwater flooding.
 - Residual risk (including culvert/structure blockage).
 - State that built elements should incorporate flood-resilient design.

104. ETI’s particulars assert, as to fact that

- the Commission, (by its Inspector’s Report) noted that Foynes is in Flood Zones A and B but that the CFRAMS mapping at figure 8-7 of the SFRA *“does not extend to the subject site.”*
- The Inspector was unsure as to in what flood zone the Proposed Development was located.

I observe that the Flood Risk Guidelines accept that explicit flood zoning will not extend to the entire county and so provide that Flood Zone C is the residual zone. On that view, the Site is in Flood Zone C. However, as has been seen, that fact does not absolve AAL and the Commission from appropriate SSFRA.

¹⁹⁶ set out more fully below.

¹⁹⁷ set out more fully below.

¹⁹⁸ What follows here is my understanding of the pleaded SFRA content.

¹⁹⁹ §5.3 says flood risk assessment but as it relates to a proposed development it follows that it must be site-specific.

²⁰⁰ SFRA §5.3.

²⁰¹ 1 in 200 years.

105. ETI's particulars and submissions assert that the Commission erred in law in:

- a. Failing to have regard to and/or apply the 2022 Development Plan as to flood risk. Specifically,
 - Policy CAF P5 and Objective CAF O20.
 - SFRA²⁰² §§5.3, 5.5 and 5.8.
- b. While noting that the SFRA Flood Zone mapping did not extend to the Site, failing to
 - find in what Flood Zone the Site is located,
 - thereby advert to a relevant factor,
 - give reasons for that finding,
 - give "*lawful and fulsome*"²⁰³ consideration" to the Development Plan's application to the Proposed Development.
- c. Permitting development without a "full" SSFRA,²⁰⁴ contrary to Objective CAF O20 and §5 SFRA. To the extent the Commission adverted to flooding, that did not amount to an SSFRA.
- d. Failing to require or do a Justification Test as required by Objective CAF P5 and §5 SFRA.
- e. Failing to have regard to the risk of flooding from groundwater.
- f. Failing to give adequate reasons as to its decision regarding flood risk.
- g. In the foregoing respects, acting irrationally and ultra vires.

106. ETI submits²⁰⁵ that

- a. The relevant questions are ultimately simple: (a) what is the true meaning of the 2022 Development Plan provisions as to flooding and (b) did the Commission comply with those provisions such as to make its decision lawful?
- b. The answers arise not from ETI's evidence, but from the applicable law, the interpretation of the 2022 Development Plan, the terms of the Impugned Decision and the matters considered and criteria applied in making it.
- c. The 2022 Development Plan required assessment of flood risk in accordance with its terms and regardless, as to the Site, of flood zoning or its absence.
- d. The absence of OPW CFRAMS flood maps for Aughinish Island does not imply absence of flood risk so as to obviate the need for flood risk assessment in accordance with the 2022 Development Plan.

202 Strategic Flood Risk Assessment.

203 Sic.

204 Site-Specific Flood Risk Assessment.

205 Written Submissions §4.11 et seq.

- e. The presence of flood protection works evidenced a real risk of flooding.
- f. The EIAR failed to engage with the 2022 Development Plan’s specific requirements as to flood risk.
- g. The Commission failed to indicate where in its process it considered those requirements.
- h. Absent evidence justifying the inference, the Court should not infer that the Commission considered the Impugned Decision against the flood risk provisions of the 2022 Development Plan rather than as to flood risk simpliciter.

CG4 - FLOOD RISK GUIDELINES

107. While ETI pleads 2022 Development Plan content and 2022 Development Plan SFRA content as to flood risk, that content is crucially informed by the Flood Risk Guidelines. Indeed, a development plan SFRA is a product of applying those guidelines. So, it seems best to start the analysis with the Flood Risk Guidelines in light of which the relevant 2022 Development Plan content is to be understood. Some account of the Flood Risk Guidelines is found in **Voyage Properties**²⁰⁶ - albeit as applicable to land use zoning in development plans rather than as to their application to planning applications/development management. As to their application to planning applications see **Heather Hill #2**.²⁰⁷ Though from its conclusion, the following from the Flood Risk Guidelines is a useful introduction:

*“Planning authorities must strike a fair balance between avoiding flood risk and facilitating necessary development, enabling future development to avoid areas of highest risk and ensuring that appropriate measures are taken to reduce flood risk to an acceptable level for those developments that have to take place, for reasons of proper planning and sustainable development, in areas at risk of flooding.”*²⁰⁸

108. Notably, the Flood Risk Guidelines accept that flood risk is not the only, or even necessarily the principal, issue in a planning application: *“Assessment of the application should be based principally on the policies and detailed objectives of the development plan, with flood risk considered, along with the full range of planning considerations for the application.”*²⁰⁹

109. The Flood Risk Guidelines are framed in terms of two basic tasks and two basic parameters.

- the tasks are those of incorporating flood risk assessment into
 - planning policy – notably development plan SFRA’s.
 - the planning permission/development management process – by SSFRA’s.
- the parameters are the flood-vulnerability of

206 Voyage Property v Limerick City & County Council, Minister for Housing & OPR [2025] IEHC 696 §56.

207 Heather Hill Management Co. v An Bord Pleanála & Burkeway Homes #2, [2022] IEHC 146.

208 Flood Risk Guidelines, §6.4.

209 §5.14.

- lands and their resultant flood zoning.
- development.

Flood-Vulnerability of Proposed Development

110. As to the flood-vulnerability of development, and though it is not expressly addressed in the papers, the obvious starting point is that the Proposed Development is, in principle and from the perspective of severity of consequence of flooding, highly flood-vulnerable. It falls within the classification of “*potential significant sources of pollution (SEVESO sites, IPPC sites,²¹⁰ etc.) in the event of flooding.*”²¹¹ This element of the classification also demonstrates the unsurprising proposition that flood risk assessment pursuant to the Flood Risk Guidelines is not limited to risk to the development itself – it encompasses the risk of off-site environmental pollution due to flooding.

111. That the Proposed Development is highly flood-vulnerable within the meaning of the Guidelines is a starting point of analysis: it by no means implies that the Proposed Development is impermissible. Not least, the flood-vulnerability classification says nothing of flood risk mitigation/defence/protection – both as to the Site (here, notably, the FTDB²¹²) and as to be provided in the Proposed Development itself (the BRDA is essentially a walled containment mechanism for the bauxite residue and salt cake). In this particular case, it is also likely to be relevant that what is proposed is the extension of an existing permitted and IEL-licensed development. So, the true question is likely to be whether and to what extent the Proposed Development incrementally increases any pre-existing flood risk?

Flood Zoning

112. Flood Zones are found in Development Plan SFRA flood risk maps. Flood risk-mapping in SFRAs is not necessarily limited to watercourses covered by the OPW’s CFRAMS and the OPW advises²¹³ on how to map flood risk at a county scale. However, a county development plan will not normally produce a flood risk map for all watercourses or coastal frontage.²¹⁴

113. Importantly, the Flood Risk Guidelines state that Development Plan SFRA Flood Zone mapping

- is “*indicative*” and “*Being indicative, such maps only give an indication of the areas at risk but, due to the scale and complexity of the exercise, cannot be relied upon to give precise information in relation to*

210 The reference to “IPPC sites” is to be read as including sites subject to IELs – The Integrated Pollution Prevention and Control Directive 2008/1/EC as to the permitting of industrial emissions was replaced by Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) pursuant to which the EPA issues IELs such as that issued to AAL.

211 Flood Risk Guidelines, Table 3.1 Classification of vulnerability of different types of development.

212 Flood Tidal Defence Berm – see further below.

213 The OPW’s general responsibility for flood risk management for purposes, inter alia, of the Flood Risks Directive 2007/60/EC is set out in the European Communities (Assessment and Management of Flood Risks) Regulations 2010 and 2015.

214 Flood Risk Guidelines, Appendix A §1.4 Scales used for flood risk assessment.

*individual sites.*²¹⁵ I observe that this general statement appears to apply to Flood Zone C as much as to Zones A and B.

- does not consider flood potential from non-riverine/non-coastal sources, such as precipitation (pluvial), groundwater or artificial drainage systems. Such flood risk should always be considered, regardless of flood zone.
- ignores flood defences, such as the FTDB²¹⁶ here, as defended areas are at residual risk of flooding from overtopping or breach of defences and as defences may not be maintained in the long run. The Guidelines say that *“the presence of a flood defence indicates an area at risk, not one that is safe.”*²¹⁷

114. So, as SFRA flood zoning determines what types of development are generally appropriate/inappropriate²¹⁸ on a site, that issue is determined without regard to flood defences and such that, to be permissible, generally inappropriate development must pass the Sequential Approach including, possibly, a Justification Test.²¹⁹ Broadly, the position is as follows:²²⁰

- In Flood Zone A, only water-compatible development is appropriate such that it needs no justification. All other development must pass, by SSFRA, the Sequential Approach and a Justification Test.
- In Flood Zone B,
 - Highly-vulnerable development (e.g. residential) must pass, by SSFRA, the Sequential Approach and a Justification Test.
 - Less vulnerable development (e.g. commercial) should only be considered if adequate sites are unavailable in Zone C. If so, the Guidelines’ formal Justification Test need not be applied but permission is still subject to SSFRA, *“to the appropriate level of detail to demonstrate that flood risk to and from the development will adequately be managed.”*
- In Flood Zone C, development is “appropriate” from a flood risk perspective. But if the site is identified as at risk of flooding, SSFRA *“is required for all planning applications, even developments appropriate to the particular flood zone. However, the detail of such a flood risk assessment will depend on the level of risk and scale of development.”*

215 Glossary to the Flood Risk Guidelines.

216 Flood Tidal Defence Berm – see further below.

217 Flood Risk Guidelines, §2.25, §3.4, p71.

218 The concept of “appropriate” development, as distinct from permissible development, is also explained in Voyage. the guidelines states that Appropriate development is development whose vulnerability to flooding is such that it is generally acceptable within a particular flood zone.

219 See below.

220 Flood Risk Guidelines §3.5; Table 3.2: Matrix of vulnerability versus flood zone; Box 5.1 Justification Test for development management and §5.8.

Flood Risk in Planning Permission Applications - SSFRA

115. As to SSFRA in planning permission applications, the Flood Risk Guidelines state that
- a. Notwithstanding flood zone mapping and any SFRA,²²¹ the applicant for permission is responsible in the first instance for assessing whether there is a flood risk and how it will be addressed.²²²
 - b. That an area has no history of flooding does not mean that it is not at risk of flooding.²²³
 - c. Where flood risk may be an issue for any proposed development, a more detailed flood risk assessment should be carried out appropriate to the scale and nature of the development and the risks arising.²²⁴
 - d. All applications for planning permission in an area at risk of flooding - even developments appropriate to the particular flood zone - should be accompanied by an appropriate Site-Specific Flood Risk Assessment ("SSFRA").²²⁵
 - e. An SSFRA is "*An examination of the risks from all sources of flooding of the risks to and potentially arising from development on a specific site, including an examination of the effectiveness and impacts of any control or mitigation measures to be incorporated in that development.*"²²⁶
 - f. Every FRA will be influenced by previous work, data availability, programme, the spatial scale and complexity of the flood risks and scale and location of planned development. It is therefore difficult to be prescriptive about the specific outputs of FRAs. Nonetheless, some prescription follows.
 - g. SSFRA detail will depend on and be proportionate to the level of risk, scale, nature and location of development and whether the development plan includes an SFRA.²²⁷ It should be supported by appropriate, including historical, data and information "*but focusing more on predictive assessment of less frequent or more extreme events, taking the likely impacts of climate change into account*"²²⁸ It should identify and assess risk via a source–pathway–receptor model.²²⁹ Of some note, consideration of pathway includes flood defences.
 - h. An SSFRA is to follow described risk assessment stages.²³⁰ In general, it should include
 - Plans showing the site and development proposals and its relationship with watercourses and structures which may influence local hydraulics.
 - Site levels and cross-sections relating development levels to sources of flooding and likely flood water levels.

221 i.e. in the development plan.

222 Flood Risk Guidelines §5.1.

223 Flood Risk Guidelines §5.8.

224 Flood Risk Guidelines §5.2.

225 Flood Risk Guidelines §5.8.

226 Flood Risk Guidelines Glossary.

227 Flood Risk Guidelines §5.8. – "introduced in chapter 2 and described in more detail in Appendix A": Appendix A §1.2 General principles of flood risk assessment.

228 Flood Risk Guidelines Appendix A §1.2 General principles of flood risk assessment.

229 Flood Risk Guidelines Appendix A §1.3 Source-Pathway-Receptor Model.

230 Flood Risk Guidelines §5.8. – "introduced in chapter 2 and described in more detail in Appendix A".

- Assessments of: All potential sources of flooding; Flood alleviation already in place; Potential impact of flooding on the site; How the layout and form of the development can reduce those impacts; Surface water management proposals; Effectiveness and impacts of mitigation measures; Residual risks after mitigation and the means of managing those risks; A summary sheet which describes how the flood risks have been managed.²³¹
- i. SSFRA should be incorporated into and integral to any EIA and AA and be approved/certified by a person, qualified, experienced and competent in flood risk assessments.²³²
- j. As to complex flood issues, the planning authority may wish to engage appropriate external advice.²³³
- k. Where, following the application of the Flood Risk Guidelines, development must occur in areas at risk of flooding, the risks should be mitigated and managed through the location, lay-out and design of the development to reduce such risks to an acceptable level. The residual risks should be considered carefully, taking into account the type of development and its vulnerability.²³⁴

Flood Zoning absent explicit Flood Zoning & SSFRA in Flood Zone C

116. In effect, ETI submits that, absent CFRAMS maps and SFRA Flood Zoning of the Site, AAL should have started an SSFRA by performing its own flood zoning exercise. I observe that the Flood Risk Guidelines include a useful matrix²³⁵ which

- suggests that in SFRA and where one is not available (presumably from the OPW) producing a flood zone map is unlikely to be necessary in preparing a county, as opposed to a city, development plan. This implies that the absence of a flood zoning map is not unusual outside cities.
- states that in doing an “*FRA for a site*” – i.e. SSFRA for a proposed development -
 - where no SFRA has been done, the developer should produce flood zones in accordance with OPW specifications.
 - where (as here) an SFRA has been done, the “*main purpose*” of SSFRA “*is not to challenge the flood zone map, but concentrate on the flood risk issues*”. So, the Flood Risk Guidelines do not require a developer to produce a flood zone map for a site if the development plan includes an SFRA.

²³¹ Flood Risk Guidelines §5.9 - described in more detail in Appendix A.

²³² Flood Risk Guidelines §5.11 & 5.18.

²³³ Flood Risk Guidelines §5.12.

²³⁴ Flood Risk Guidelines §5.12.

²³⁵ Appendix A, Table A5, p12. To some extent I have had to infer implied content from explicit content.

117. The Flood Risk Guidelines contain a “Frequently Asked Questions” section. One entry reads:

FAQ	<i>“My development is classed as appropriate for the flood zone in which it is located, do I need to carry out a flood risk assessment?”</i>
Answer	<i>Yes. While the combination of risk and vulnerability is such that the development is generally acceptable, the risk remains and it may change during the lifetime of the development. The flood risk assessment will enable consideration of mitigation measures, such as flood-resistant and flood-resilient construction that will reduce that risk. In addition, the flood zones are based on river and coastal flooding only and other causes of flooding may give rise to a higher risk than that from rivers or the sea.”</i>

118. As McDonald J said in **O’Neill**,²³⁶ that the land is in Flood Zone C is not the end of the analysis. It does not absolve the developer of flood risk assessment. He said that, though the development site in that case was in Flood Zone C, *“Of course, there was a requirement to have a flood risk assessment which complied with the requirements of Appendix A to the Flood Risk Management Guidelines.”*

Some Comment on Flood Risk Guidelines

119. It seems to me that the following general observations can be made of the Flood Risk Guidelines:

- Though they are phrased in mandatory terms, no doubt influenced by the importance of the subject-matter, and though the Commission must have regard to them, the Commission is not bound by their content or to comply with them – **Voyage Properties**.²³⁷
- The Guidelines serve as a framework within which Development Plan SFRA’s are generated.
- SSFRA is required in Flood Zone C – at least to the extent of identifying whether flood risk exists and, if it does, it must be appropriately assessed.
- In planning applications, even where compliance with the non-mandatory Flood Risk Guidelines is intended and especially as to the nature and degree of SSFRA required as to sites in Flood Zone C and as to the conclusions to be drawn from such SSFRA’s, the Commission’s judgement is highly evaluative, informed by highly technical considerations and deserving of curial deference in light of the Guidelines’ expectation and the EIA Directive’s requirement that EIA will be by a person, qualified, experienced and competent in flood risk assessments – if needs be in light of “appropriate external advice”. So, absent challenge to its expertise,²³⁸ the Commission’s judgement on flood issues is reviewable as to merit only for irrationality.

236 O’Neill v An Bord Pleanála & Ruirside [2020] IEHC 356 §81.

237 Voyage Property v Limerick City & County Council, Minister for Housing & OPR [2025] IEHC 696.

238 As to which, see the recent decision in Rogers v An Coimisiún Pleanála [2026] IEHC 257.

CG4 - DEVELOPMENT PLAN & SFRA AS TO FLOODING

Policy CAF P5, Managing Flood Risk & Objective CAF O20, Flood Risk Assessment

120. **Policy CAF P5**, as to Managing Flood Risk is in Development Plan §9.3: “*Flooding, Flood Risk Management and Water Management*”. It reveals that the Development Plan approach to flood risk is grounded in the Flood Risk Guidelines and it identifies the SFRA as Volume 4 of the Development Plan. Policy CAF P5 provides:²³⁹

- It is LCCC²⁴⁰ policy to protect Flood Zones A and B from inappropriate development and to direct development/land use to the appropriate lands, in accordance with, inter alia, the Flood Risk Guidelines and the SFRA.
- Where a proposed development/land use is inappropriate to the Flood Zone, but has passed the Plan Making Justification Test, the proposal will need to be accompanied by a Development Management Justification Test²⁴¹ and SSFRA in accordance with the Flood Risk Guidelines criteria and demonstrating measures to mitigate flood and climate change risk.
- In Flood Zone C, the developer should satisfy themselves that the probability of flooding is appropriate to the development proposed and should consider other sources of flooding, residual risks and climate change.

121. Development Plan **Objective CAF O20**, as to Flood Risk Assessment²⁴² provides that:²⁴³

- SSFRA²⁴⁴ is required for all planning applications in Flood Zones A and B and consideration is required of all flood sources (e.g. coastal/tidal, fluvial, pluvial or groundwater), where deemed necessary.
- The detail required in an SSFRA will depend on the level of risk and scale of development.
- SSFRA will
 - take into account, as appropriate to the site, SFRA requirements.
 - quantify the risks, the effects of selected mitigation and the management of any residual risks.
 - provide and consider information on climate change implications for flood risk in relevant locations.

239 What follows here is an edited version.

240 Limerick City and County Council.

241 i.e. a Justification Test performed in a planning permission application.

242 Also found in in Development Plan §9.3 “*Flooding, Flood Risk Management and Water Management*”.

243 What follows here is an edited version.

244 Referred to as an “FRA” but the acronym SSFRA is more precise for Site-Specific Flood Risk Assessment.

SFRA, §4 Identification of Flood Risk, §5 Policy Response (FRA Requirements)

122. The 2022 Development Plan SFRA, “§4.2.2 Tidal and Coastal Flooding”, notes that County Limerick is bounded by the tidal Shannon estuary and that numerous settlements along this coastal margin are vulnerable to tidal inundation, particularly when coupled with low pressure systems, westerly winds and storm surge. “§4.4 Climate Change Risk” states that settlements along the Shannon Estuary could be at significantly greater flood risk due to climate change. In such locations, climate change impact for both the MRFS (Medium Range Future Scenario) and HEFS (High End Future Scenario) should be understood - between a 0.5m (MRFS) and 1m (HEFS) rise in sea level should be allowed for, based on current OPW guidance. SFRA §4.2.3 “Flooding from Flood Defence Overtopping or Breach” cites the Flood Risk Guidelines to the effect that

“there are a number of flood relief schemes in Limerick City and County, which provide some flood protection, but also have inherent risks associated with them, which is termed residual risk.

Residual risk is the risk that remains after measures to control flood risk have been carried out. Residual risk can arise from overtopping of flood defences and/or from the breach from structural failure of the defences.”

“Although flood defences may reduce the risk of flooding, they cannot eliminate it. A flood defence may be overtopped by a flood that is higher than that for which it was designed, or be breached and allow flood water to rapidly inundate the area behind the defence. In addition, no guarantee can be given that flood defence will be maintained in perpetuity. As well as the actual risk, which may be reduced as a result of the flood defence, there will remain a residual risk that must be considered in determining the appropriateness of particular land uses and development. For these reasons, flooding will still remain a consideration behind flood defences and the flood zones deliberately ignore the presence of flood defences.”²⁴⁵

“ overtopping can destabilise a flood defence, cause erosion and make it more susceptible to breach or fail. Overtopping may become more likely in future years due to the impacts of climate change and it is important that any assessment of defences includes an appraisal of climate change risks. Breach or structural failure of flood defences is hard to predict and is largely related to the structural condition and type of flood defence, with impacts of breach linked to local topography and proximity to the breach location.”

123. The SFRA also states:

“Tidal flooding risk is present along the Shannon estuary and the lower reaches of the Shannon and some of its tributaries and presents a considerable future risk as sea level rise linked to climate change takes effect. Although the River Shannon CFRAM indicates areas of lands benefiting from flood defences, the vast majority of these defences are of agricultural standard only and cannot be taken into account when assessing flood risk to a development site. Breach analysis needs to be

²⁴⁵ See also Flood Risk Guidelines p71.

*undertaken as part of any flood risk assessment in such a location, and appropriate mitigation measures proposed.*²⁴⁶

124. While Aughinish is not a settlement, as the Proposed Development is flood-vulnerable as to the consequences if flooding occurs, the question at least arises whether SFRA content as to climate change risk in the Shannon Estuary applies to the Proposed Development.

125. The 2022 Development Plan SFRA describes “*Groundwater flooding*” as caused by the emergence of water from underground, and as particularly common in karst landscapes.²⁴⁷ It is usually very local but can cause significant damage to property, and pose risks to the environment and ground stability.

126. The 2022 Development Plan SFRA, “*5.2 Development Management and Flood Risk*” and “*5.3 Requirements for a Flood Risk Assessment*” and “*5.8 Requirements for a Flood Risk Assessment*” can be taken together. As relevant, they provide that:²⁴⁸

- a. All development applications must be accompanied by an appropriately detailed SSFRA. The level of detail will vary depending on the risks identified and the proposed land use.
- b. The SFRA Flood Zone maps are based on watercourses with catchments greater than 5km². Where a smaller watercourse is present on a site and flood risk has not been mapped under the SFRA,
 - That does not mean there is no flood risk.
 - Instead, an appropriately detailed SSFRA should delineate the Flood Zones and/or suitable mitigation.
 - In such locations the Justification Test has not been applied,²⁴⁹ so development must progress in accordance with the Sequential Approach and avoid Flood Zones A and B. (Given the premise that the locus has not been flood-mapped, this suggests that the developer should itself flood-zone the site. However, I do not think this is required – at least in any formal sense.)
- c. In addition, non-fluvial/non-coastal flood risk should be reviewed, including groundwater flooding and/or flooding due to stormwater deficiencies, restrictions or blockages.
- d. For sites in Flood Zone A or B, a site-specific “Stage 2 - Initial FRA” will be required, and may need to be developed into a “Stage 3 - Detailed FRA”.
- e. Future studies may refine the extents of Flood Zones A and B as delineated in the SFRA so a comprehensive review of available data should be done once FRA is triggered.

246 Development Plan SFRA §7. It should be acknowledged that this appears under the heading Limerick City and Environs, which, likely, does not include the site. However the content appears substantively to include the Shannon estuary generally.

247 SFRA §4.2.6.

248 What follows here is an edited version.

249 I presume this refers to the Plan-Making Justification Test for which the Flood-Risk Guidelines provides. The implication appears to be that, as no Plan-Making Justification Test has been done, the Development Management Justification Test for which the Flood-Risk Guidelines provides cannot be applied. This would seem to be a possibly harsh and unnecessary outcome. But it is not apparent that I need to pursue that issue in this case.

- f. Any proposal considered acceptable in principle shall demonstrate the use of the Sequential Approach in terms of the site layout and design and, in satisfying the Justification Test (where required). The proposal will demonstrate appropriate mitigation and management measures.
- g. SSFRAs should consider climate change impacts and residual risk and the proposed development should be remodelled where necessary.
- h. Where possible, the design of built elements should demonstrate principles of flood resilient design.
- i. §5.8.1 requires, inter alia, that in SSFRA
 - o Risks of developing behind defences are to be explored.
 - o Assessment of breach should be proportionate to the likelihood of defence failure.
- j. Further information on required FRA content is in the Flood Risk Guidelines.

127. SSFRA §5.8.1, as to “Development in Defended Areas”, merits fuller recitation:

- Where a site is referred to as being defended for the purposes of determining flood mitigation it is assumed that the defences
 - o provide a minimum of the 1% AEP (fluvial) or 0.5% AEP (tidal) standard of protection, and
 - o have been through a formal detailed design process and approved by OPW or LCCC.
- Informal defences, which may only be at an agricultural standard like many of those around the City, or those developed under the minor works scheme which may provide a lesser standard of protection, are not considered to provide a robust enough standard of protection to allow a moderation in the flood risk mitigation required at a site.
- The understanding of risks of developing behind defences needs to be explored in the SSFRA.

128. In this context, and as it applies to the Site, it bears mentioning that under the Arterial Drainage Acts²⁵⁰, the OPW effected arterial drainage schemes and flood defence schemes in river catchments to improve land for agriculture and to mitigate flooding. The 2022 Development Plan SFRA, as to Identification of Flood Risk (Stage 1),²⁵¹ identifies Arterial Drainage Benefiting land maps as showing lands benefitting from such a drainage scheme. Notably, it states that these schemes are not designed for a ‘design flood’ (i.e. a flood of a particular return period), and do not equate to protection by flood relief schemes. Their presence indicates low-lying, poorly drained land. As has been seen the PFRA map in the FRRR describes the Site as Benefiting Lands. This description appears to relate, at least generally, to the FTDB. It may be that it does not, and I note very general references to improvements to and maintenance of the FTDB. But my attention has not been drawn to any substantive consideration of the issue.

²⁵⁰ 1945 and 1995.

²⁵¹ Development Plan SFRA §4, Table 4-1: Dataset review, p13.

129. The Development Plan SFRA - “§5.5 Development in Flood Zone C” provides that:²⁵²

- A site in Flood Zone C close to a watercourse may be at flood risk, risk of climate change or other residual risk.
- Risk from sources other than fluvial and coastal must also be addressed for all development in Flood Zone C, including groundwater flooding. As a minimum in such a scenario, an assessment of flood risk should screen out possible sources of flood risk. Where they cannot be screened out SFRA should present mitigation measures with respect to the 1% AEP²⁵³ fluvial event or 0.5% AEP tidal flood event, with a climate change allowance.
- Climate change impacts should be considered for all proposed developments - particularly near areas at risk of tidal flooding. For example,²⁵⁴ development in Flood Zone C may be at risk when an allowance for sea level rise is added to the extreme (1 in 200-year) tide.

130. The Development Plan SFRA - “§5.9 Climate Change” provides that:²⁵⁵

- a. Analysis of potential impacts of future climate change on flood risk, and in particular residual flood risk, is essential. Areas of residual risk are highly sensitive to climate change impacts as any flood level increase will increase the likelihood of defence failure.
- b. The Flood Risk Guidelines recommend a precautionary approach to climate change due to the level of uncertainty involved.
- c. The OPW draft guidance recommends that two climate change scenarios be considered - the MRFS and the HEFS. In all cases, the allowances should be applied to the 1% AEP²⁵⁶ fluvial or 0.5% AEP tidal levels. Where a development is critical or extremely vulnerable (see Table 5-2) the impact of climate change on 0.1% AEP flows should also be tested.
- d. Climate change allowances are particularly important at development management stage (i.e. in considering planning permission applications).

252 What follows here is an edited version.

253 Annual Exceedance Probability.

254 It is not explicitly an example but that is my understanding of it.

255 What follows here is an edited version.

256 Annual Exceedance Probability.

Table 5-2: Climate change allowances by vulnerability and flood source.²⁵⁷

Development vulnerability	Climate change allowance - increase		
	Fluvial (Flow)	Tidal (sea level)	
Less vulnerable	20%	0.5m (MRFS)	+ 50mm for land movement
Highly vulnerable			
Critical or extremely vulnerable (e.g. hospitals, major substations, blue light services.)	30%	1.0m (HEFS)	

- e. However, this draft OPW guidance is over 10 years old. Climate science, particularly as to sea level rise, has developed rapidly. The many coastal-related climate change impacts include:
 - o continued sea level rise;
 - o potentially more severe Atlantic storms, which could generate more significant storm surges and extreme waves;
 - o increased water depths leading to larger waves reaching the coast.
- f. Further work on climate change impacts on flood levels done in the Shannon CFRAMS and the ICPSS²⁵⁸ provided flood extents for fluvial and coastal risk, and are available on www.floodinfo.ie.
- g. Climate change impacts can be assessed in a number of ways. For watercourses in the Shannon CFRAM study area, flood extents and water levels for the MRFS and HEFS have been developed.
- h. In a coastal or tidal scenario, a 0.5m or 1m increase to the 0.5% AEP sea level can be assessed based on topographic levels.

CG4 - CONCLUSIONS AS TO DEVELOPMENT PLAN/SFRA FLOOD RISK REQUIREMENTS

131. As they relate to lands not identified in an SFRA as in Flood Zones A or B, I have found the Flood Risk Guidelines, the 2022 Development Plan and the SFRA, taken alone or together, difficult to interpret save in fairly broad terms. That said, it seems to me that the following is discernible:

- a. What follows here must be considered in the context that the Commission’s duties as to the Flood Risk Guidelines were of regard only.²⁵⁹ Likewise, they were required only to “consider” the Development Plan, including its SFRA.²⁶⁰ Further, they were entitled to grant permission despite material contravention of the Development Plan, including of its SFRA.²⁶¹

²⁵⁷ Edited version – Inter alia I omit “Storm/surface water” as the relevant entry is “The surface water management plan including details of climate change allowances is under preparation”.

²⁵⁸ The Irish Coastal Protection Strategy Study, OPW 2013.

²⁵⁹ S.28 PDA 2000 (since repealed).

²⁶⁰ S.37G(2)(c) PDA 2000.

²⁶¹ S.37G(6) PDA 2000.

- b. As the SFRA is clearly an implementation of the Flood Risk Guidelines, it is proper to interpret it in that context.
- c. As to flood zoning, Zone C is residual: it includes the entire county to which a development plan relates insofar as not mapped as in Flood Zones A or B. In this case, it includes the Site.
- d. SSFRA is required for all planning applications - including Flood Zone C. A site may be positively mapped in an SFRA as in Flood Zone C following assessment. Or its designation as in Flood Zone C may be truly residual - deriving from an absence of any assessment /mapping exercise.
- e. The substance of the requirement for SSFRA differs as between Flood Zone C on the one hand and Flood Zones A and B on the other. It is in the latter sense that I understand ETI to refer to “full” SSFRA (including the Development Management Justification Test²⁶² where applicable) – which, it says, is required in this case in virtue of what it says is the Commission’s duty, absent Flood Zone mapping of the Site, to itself Flood Zone it – and to Zone it as in Flood Zones A or B.
- f. Unlike in Flood Zones A and B, the form, content and methodology of SSFRA of a proposed development in Flood Zone C is not prescribed in detail. It is not necessarily what ETI has termed a “full” SSFRA. It does not require that element of SSFRA which, in Flood Zones A and B, may include a Development Management Justification Test. The required scope and detail of SSFRA in Flood Zone C is to be comprehensively commensurate to the circumstances, including (though not limited to) the probability of flooding, the flood vulnerability of the proposed development and the prospect of climate change but will vary considerably with circumstance. For practical SSFRA purposes, it seems to me at least possible that, at least as a general observation, there may be a considerable difference between the two types of Flood Zone C – that positively mapped and that truly residual. The truly residual type is perhaps likely to require more rigorous SSFRA.
- g. Where relevant (as here), SSFRA must demonstrate an understanding of the risks of developing behind flood defences.²⁶³
- h. For some sites, SSFRA in Flood Zone C may be very brief and conclusionary – amounting to little more than identifying the absence of flood risk. For others, including the Site, quite the contrary. As the extent of the SSFRA requirement in Flood Zone C is so circumstance-dependent, and as the Flood Risk Guidelines acknowledge that it is accordingly difficult to be prescriptive about specific outputs,²⁶⁴ the adequacy of an SSFRA proffered by a developer is very much a matter of evaluative judgement for the statutory decisionmaker – i.e. the Commission. Accordingly, the question whether there is a material contravention of the development plan by reference to the adequacy of such an SSFRA is in the category of those material contraventions considered in **Jennings, Sherwin and Leech**²⁶⁵ to be judicially reviewable as to merit for irrationality only.

262 i.e. a Justification test specific to a proposed development in a planning permission application.

263 Development Plan SFRA §5.8.1 Development in Defended Areas

264 Flood Risk Guidelines Appendices, §1.6 Flood Risk Assessment – Recommended Outputs. “Every FRA will be designed and influenced by previous work, data availability, programme, the spatial scale and complexity of the flood risks and scale and location of planned development. It is therefore difficult to be prescriptive about the specific outputs of FRAs.”

265 *Jennings v An Bord Pleanála* [2023] IEHC 14; *Sherwin v An Bord Pleanála* [2024] IESC 13, *Leech v An Bord Pleanála* [2024] IEHC 599.

- i. As to whether, as to a site in Flood Zone C, the possibility of “rezoning” it, as it were, to Flood Zones A or B must be decided (as ETI asserts), such that what ETI terms “full” SSFRA might be required, there is some dissonance as between the SFRA and the Flood Risk Guidelines. As has been seen:
- the SFRA²⁶⁶ states that
 - where the SFRA has not flood-mapped the site, a developer in Flood Zone C should “delineate the Flood Zones²⁶⁷ and/or suitable mitigation measures (such as finished floor levels).”
 - as future studies may refine the extents of Flood Zones A and B, SSFRA of a site in Flood Zone C must include a comprehensive review of available data.
 - yet the Flood Risk Guidelines²⁶⁸ state, as to whether in SSFRA for a proposed development it is necessary to produce a flood zone map where one is not available,²⁶⁹ that where, as here, there is a development plan SFRA, the “*main purpose*” of SSFRA “*is not to challenge the flood zone map, but concentrate on the flood risk issues*”.
- j. On the one hand, the question posed by CG4 relates to the Development Plan and its SFRA rather than disregard of the Flood Risk Guidelines. On the other hand, there is no doubt but that the SFRA is fundamentally informed by and intended to be consistent with the Flood Risk Guidelines and, as I have said, the SFRA should be interpreted in their light. In the SFRA, the words “and/or”, in its “or” sense, in the phrase “*delineate the Flood Zones and/or suitable mitigation measures (such as finished floor levels)*” suggest an optionality as to delineation of Flood Zones by the developer where not delineated in the SFRA or that such delineation is not a binding or formal requirement. Rather, such delineation seems to be a possible approach to the substantive concentration on the flood risk issues required by the Guidelines. On that view, whether, if even a contravention of the SFRA, a failure to “*delineate the Flood Zones*” as to a Flood Zone C site is a material contravention arises in the context of the overarching question of the substantive adequacy of consideration of the flood risk issues. And, as I have said, that adequacy is reviewable as to merit only for irrationality.

CG4 - EIAR ON FLOODING

132. It is to be remembered that the EIAR preceded the 2022 Development Plan and its SFRA. Also, in this part of the judgment and as it is assessed in the EIAR chapters relevant to flooding, I will also set out certain content relevant to groundwater pollution relevant to Core Ground 5.

EIAR - Engineering Design Report

133. It is useful to start with the EIAR’s Engineering Design Report of 2021.²⁷⁰ It describes²⁷¹ environmental receptors in the Site vicinity as including the SAC and the SPA and states that its coastal location poses risks to

²⁶⁶ §5.3.

²⁶⁷ Capitalisation in original.

²⁶⁸ Matrix Appendix A, Table A5, p12.

²⁶⁹ i.e. the Site falls as residuum, into Flood Zone C.

²⁷⁰ EIAR Appendix A.

²⁷¹ 2021 Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development §3.

the Aughinish Site. Shannon Estuary water levels may be influenced by tides, waves, storm surges, climate change and sea level rise.²⁷² The risk is mitigated by the Site's location in the Estuary and not directly on the coastline. These risks were assessed to BRDA Stage 10 in a "Risk Assessment and Break-Out Study" 2019²⁷³ and that assessment remains generally appropriate for the BRDA to Stage 16 as the BRDA footprint, failure mechanisms and discharge pathways in a breach scenario remain unchanged.

(Despite this explicit reliance on this 2019 study and despite repeated searches, while subject to correction and while at least some of its conclusions are cited,²⁷⁴ I have been unable to establish that it was included in the planning application. Indeed it may be that an updated, 2020, version informed the IEL²⁷⁵).

134. In any event, the EIAR's Engineering Design Report of 2021 states that potential for increased volume and extent of discharge in a breach, due to the proposed increase of the BRDA to Stage 16, was reassessed in a 2021 Breach Analysis.²⁷⁶ It considered,²⁷⁷ inter alia, the following possibilities:

- Displacement of bauxite residue influenced water in the PIC by tidal surge and/or wave event without breaching the embankment wall and indirect displacement of the bauxite residue influenced water in the SWP and LWP based on sea level rise to 2200.
- Containment failure of the SWP, LWP and/or PICs in a tidal surge and/or wave event. Although not a significant hazard at the current sea level, a significant return period storm may breach the FTDB.
- Erosion-induced BRDA slope failure by tidal surge, wave event or rainfall.

135. It is recorded²⁷⁸ that

- Phase 1 BRDA has a Very Unlikely (≈ 1 in 10,000) to Highly Improbable (≈ 1 in 100,000) annual risk of containment failure (from all causes). Phase 1 slope instability and failure from tidal surge and/or wave events have an Almost Impossible risk of occurrence.²⁷⁹ Phase 2 BRDA has a Highly Improbable (≈ 1 in 100,000) to Almost Impossible (≈ 1 in 1,000,000) annual risk of containment failure (from all causes). Of the potential causes, earthquake has the highest annual probability of bauxite residue containment loss. These values are significantly less than the annual average probability of worldwide tailings dam failures (≈ 1 in 2,000).²⁸⁰

272 Tsunami hazard for Ireland is considered Highly Unlikely (Ireland Natural Risk Matrix for Natural Hazards 2017).

273 Golder Associates Ireland Limited, Risk Assessment and Break-Out Study for the BRDA. (Golder 2019A). 1897858.R01.A3, March 2019.

274 EIAR Appendix A, Engineering Design Report.

275 IEL §8.5.16 states: "The licensee shall implement the outstanding recommendations as set out in the Golder Associates report Risk Assessment and Break-out Study for the BRDA at Aughinish Alumina (ref. 09514150004.500 dated March 2013 and update document (ref 1897858.ROZ.AI dated June 2020) received as part of the licence review application"

276 2021 Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development §7.6, Appendix G – Breach Analysis - to EIAR Appendix A.

277 Appendix G – Breach Analysis - to EIAR Appendix A. §2.2 and 2.3.

278 2021 Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development §7.6.3.

279 Appendix G – Breach Analysis - to EIAR Appendix A. §§2.2, 2.3 & 2.6.1.

280 Golder 2019A.

- The impact of a breach is largely dependent on the volume of, and distance travelled by, the material discharged. Farmed bauxite residue would slump, not liquefy, such that the distance travelled would be small. Unfarmed bauxite residue would liquefy and travel further unless contained.
- The volume of bauxite residue that could be released in a breach is estimated²⁸¹ at up to 90,000m³. The area between the BRDA and the FTDB is at an elevation of approx. 1 mOD has a footprint of ≈187,000m², excluding the Bird Sanctuary, SPA and SAC and that area can retain ≈750,000m³ of residue and/or water if the FTDB remains intact.
- If the FTDB is breached by a tidal surge and the BRDA is breached, the bauxite residue and containment wastewater would potentially be washed into the Robertstown and Shannon Rivers. However, the expected break-out volumes are “relatively small”. (I confess that I have not found the calculations of such relatively small volumes or assessment of why such volumes are considered “relatively small” – but that may be my failure.)

136. The Breach Analysis records that the storm and tidal surge event required to overtop the FTDB has a 1 in 1,000-year return period.²⁸² This is notable for at least two reasons:

- It positions the FTDB as a flood defence of the BRDA, contrary to AAL’s averments in that regard.
- It posits the storm and tidal surge event required to overtop the FTDB of which the annual chance of occurrence is 0.1%. This is described as a “significant return period” – though the significance is not elaborated.²⁸³ However, as seen above, the SFRA²⁸⁴ requires mitigation of 0.5% AEP tidal flood event, with²⁸⁵ a climate change allowance.

EIAR Chapter 10 – Hydrology & Hydrogeology

137. The EIAR at Chapter 10 considers likely direct and indirect significant impacts of the Proposed Development on the water environment - on hydrological (surface water) and hydrogeological (groundwater) receptors, including flood risk, in an area extending 2km from the BRDA boundary.²⁸⁶ In describing the receiving environment, Chapter 10 states that there is no history of flooding on the Site²⁸⁷ and it is not flood-risk-mapped by CFRAMS. It states also²⁸⁸ that the WFD status of the Lower Shannon Estuary in the 2013 – 2018 monitoring period is ‘good’.²⁸⁹ Water quality results for surface water features around the Site are within threshold values between 2008 and 2021.

²⁸¹ assessed by two methods.

²⁸² Appendix G Breach Analysis p.8.

²⁸³ Appendix G Breach Analysis p.3 – “Although not a significant hazard at the current sea level, a significant return period storm event may breach the Flood Tidal Defence Berm (FTDB).”

²⁸⁴ “§5.5 Development in Flood Zone C”.

²⁸⁵ Which I understand to mean “plus”.

²⁸⁶ Figure 10.2: Study Area.

²⁸⁷ EIAR §10.6.7 Flooding generally describes the Receiving Environment; Citing the OPW - www.floodmaps.ie.

²⁸⁸ EIAR §10.9.1 Construction and Operational Phase Impacts.

²⁸⁹ EPA (2021).

138. The “*Commentary on the Future Baseline and Climate Trends*”²⁹⁰ notes that climate change could alter the Site’s water environment by, inter alia, changing flood risk and sea levels, and precipitation rates and patterns – including heavy precipitation events increasing by 20% annually.

Identification of BRDA Flood Defence

139. Since about 1900 there have been flood defences - the Flood Tidal Defence Berm (“FTDB”) - on the northern side (facing the estuary) and western side (facing Robertstown River and Foynes beyond) of the area of Aughinish Island where the BRDA now sits.²⁹¹ In the 1960’s, the OPW broadened and raised them to a crest height of 5mOD.²⁹² The EIAR

- illustrates these flood defences as running along the shoreline and broadly parallel to the northern and western BRDA boundaries.²⁹³
- states that “*The BRDA footprint and surrounding catchment is defended by the OPW constructed flood protection works on the north bank (Shannon Estuary) and west bank (Robertstown River) of the Island, where a flood tidal defence berm (FTDB) is present.*”²⁹⁴ (Indeed, this is the obvious conclusion one would draw from the exhibited OPW map of the FTDB.)
- says that “*AAL currently monitor and maintain the FTDB structure and improvement works to the upstream slope on the north bank have recently been undertaken by AAL.*”²⁹⁵
- identifies the Site, by reference to OPW Flood Mapping of 2021, as “*Flood Protection Benefitted Lands*”²⁹⁶ drained by an OPW Arterial Drainage Scheme.²⁹⁷ As has been seen, such schemes do not equate to formal flood protection schemes.
- refers, by reference to the FTDB, to “*the embankments on the eastern side of the river which currently protect the BRDA*”.

Notably, this section of the EIAR does not identify any other flood defences of the BRDA.²⁹⁸

290 EIAR §10.6.13.

291 See exhibited map of OPW embankments.

292 EIAR Figure 10.10.

293 EIAR Figure 10.10.

294 EIAR §10.6.7.

295 EIAR §10.6.7.

296 EIAR Figure 10.11.

297 EIAR Figure 10.11: Flood Protection Benefitted Lands (outlined in black), Source: OPW flood mapping, 2021. Under the Arterial Drainage Acts, 1945 and 1995, the OPW effected arterial drainage schemes and flood defence schemes in river catchments to improve land for agriculture and to mitigate flooding. The Development Plan SFRA, Table 4-1: Dataset review, identifies Arterial Drainage Benefiting land maps as showing lands benefitting from a drainage scheme. These schemes are not designed for a ‘design flood’ (i.e. a food of a particular return period), and do not equate to flood relief schemes. Their presence indicates low-lying, poorly drained land.

298 EIAR Figure 10.10 and §10.6.7 Flooding.

140. It bears adding here that EIAR Chapter 8, describing and assessing risk of coastal flooding and, inter alia, considering climate change, tidal surge and extreme storm events leading to erosion-induced BRDA slope failure, clearly envisages the FTDB as the flood defence of the BRDA.²⁹⁹

141. Despite this EIAR content, AAL's response to the Commission dated 6 July 2022 states that, though it maintains the FTDB, it is not part of the BRDA containment infrastructure. That could be interpreted as distinguishing containment from flood defence, but on affidavit in these proceedings, AAL says "*This FTDB is not the flood defence for the BRDA. The BRDA has its own flood defence, which consists of a gabion mattress at the downstream top of the outer permitter wall of the BRDA.*"³⁰⁰ As far as was drawn to my attention and as far as I can see, EIAR Chapter 10, in describing the BRDA's flood defences, describes no such flood defence. What is more and as has been seen, it explicitly identifies the FTDB as the BRDA's flood defence.³⁰¹ The FTDB's physical position is entirely consistent with such a function – even if before the advent of the BRDA it performed, as I readily infer, the more general function of flood-protecting for agricultural purposes the lands on which the BRDA now sits. Further again, and as will be seen, AAL's response dated 19 January 2024 to An Taisce's submissions stresses the FTDB as a flood defence of the BRDA.

142. In my view, AAL's averment that the FTDB "*is not the flood defence for the BRDA*" and its submission that the BRDA is "*not reliant on*" the FTDB as it has "*its own flood defence*" (the gabion mattress)³⁰² are inconsistent with the EIAR which was before the Commission. Despite AAL's unexplained confusion on this issue, what matters for present purposes is the evidence which was before the Commission. Despite AAL's response of 6 July 2022, I read the EIAR as clear that the FTDB is the primary flood defence for the BRDA. So too AAL's response of 19 January 2024. Not least, the FTDB crests at 5 mOD, whereas the gabion mattresses on the OPW crest at 3.5 mOD and will not be raised to a minimum elevation of 5 mOD until closure of the BRDA – in or about 2039.³⁰³ Indeed, as I have said, the description of the BRDA's flood defences in EIAR Chapter 10 does not even mention the gabion mattress. Other references to the gabion mattresses do not describe their function – certainly they do not describe them as a flood defence.³⁰⁴ However, that description at last makes its appearance in EIAR Chapter 16 as to "Major Accidents and Disasters". It does so in terms which make clear that the gabion mattresses are a supplemental flood protection - "*should the FTDB be overtopped*". AAL's averment caused – and one must infer, reflects - confusion and EIAR Chapter 10 unhelpfully did not describe the gabion mattresses in its description of the flood defences.

299 EIAR Chapter 8 addresses potential effects on soils, land and geology receptors in the vicinity of the Site. See §8.9.1 Operational Phase Impacts p8-54.

300 Affidavit of Louise Clune Sworn 22 December 2025.

301 EIAR Figure 10.10.

302 Day 2, 16:15 et seq.

303 EIAR §16.8.2.3.

304 §2.2.2.3 BRDA Structure – "The OPW downstream slope has been overlain with a wire mesh gabion mattress."

for the northern and western extents of the Phase 1 BRDA." §8.10.2 Additional Mitigation / Management envisages "increase in the elevation of existing gabion mattresses installed on the downstream slope of the OPW for the PIC along the north and west flanks of the BRDA, as detailed in the Closure Restoration and Aftercare Management Plan (CRAMP)."

Hydrogeology

143. As to hydrogeology, EIAR Chapter 10 describes the aquifers underlying the Site as generally consisting of a freshwater lens that is both downgradient of and isolated laterally from the mainland by Poulaweala Creek to the south, by Robertstown River to the west and by underlying saline groundwater.³⁰⁵ Some groundwater under the southeast of the Site is in the mainland but groundwater flow in this area is to west and north-west towards the Robertstown River and the Poulaweala Creek. Groundwater flow on Aughinish Island generally, and from the BRDA area specifically, is outwards towards the Shannon Estuary, Robertstown River and the Poulaweala Creek.³⁰⁶ South west of the site, it is away from the mainland. On the drawings provided, groundwater flow from the refinery area towards the BRDA is not apparent. Groundwater vulnerability to contamination at the BRDA is classified³⁰⁷ as Low³⁰⁸ to Extreme,³⁰⁹ dependent on the bedrock geology and presence of glacial drift or alluvial deposits, with rock at or near surface or karst.³¹⁰ Under the permitted Borrow Pit and Proposed Borrow Pit Extension, vulnerability is classified as extreme, with karst or rock at or near the surface. Karst boreholes are identified³¹¹ as being off-site. Groundwater recharge is described.³¹² The further consideration of hydrogeology is highly technical, based on site investigation and confirmatory of the wisdom of having the expert Commission rather than a judge decide the merits of such matters.

144. The EIAR, as to groundwater quality, states that the principal contaminant of concern in alumina production is dilute sodium aluminate, which is characterised by elevated pH/alkalinity and elevated aluminium. Fluoride, common in bauxite ore, is also present in sodium aluminate solution and so is a potential contaminant of concern.³¹³

145. Data from routine IEL-required groundwater quality monitoring from 45 observation wells (“OW”) around the BRDA perimeter³¹⁴ in the period 2008 – 2021 are described³¹⁵ for pH, electrical conductivity, Soda,³¹⁶ Fluoride, Chloride and Sulphates. There are indicator parameters or substances that can identify impacts. Those wells were also sampled in April and July 2021 for metals³¹⁷ - Aluminium, Magnesium, Iron and Zinc - and assessed by reference to Groundwater Regulation Threshold Values.³¹⁸ Aluminium results were compliant save for one anomalous outlier. Magnesium results were elevated along the northern and western flanks of the Phase 1 BRDA but are considered likely to have been affected by saline impact of the Shannon Estuary and Robertstown River. Iron and Zinc results were elevated in a number of wells.

305 EIAR §10.6.10.

306 EIAR Figures 10.19 & 10:20 Groundwater Contours (mOD) for the Site (January 2021) & (July 2021).

307 EIAR §10.6.10.4 - According to the GSI online mapping tool (GSI, 2021).

308 In the north/worth-west - Figure 10.24: Groundwater Vulnerability Map (Site Boundary in black), GSI 2021.

309 To the east and south.

310 Karst is rock features formed from the dissolution of soluble rocks such as limestone, creating underground voids and watercourses.

311 EIAR §10.6.10.6 Karst Features Figure 10.26: Karst Features in vicinity of the BRDA (GSI 2021).

312 EIAR §10.6.10.5 Groundwater Recharge & Figure 10.25: Groundwater Recharge at the Site.

313 EIAR §10.6.10.7 Groundwater Quality §10.6.10.7.1 BRDA Site.

314 EIAR Figure 10.28: Location of Observation Wells (OWs) around the perimeter of the BRDA.

315 EIAR §10.6.10.7.1 Groundwater Quality, BRDA Site, Table 10.7: Water Quality Metal Analysis for Phase 1 and Phase 2 BRDA (April and July 2021).

316 As I understand, the term Soda relates here to various sodium-based alkaline compounds.

317 EIAR p10-76. Table 10.7: Water Quality Metal Analysis for the Phase 1 and Phase 2 BRDA (April and July 2021).

318 EIAR p10-76 – Threshold values set by the EU Environmental Objectives (Groundwater) Regulations 2010, as amended, effecting the Water Framework Directive 2000/60/EC and the Groundwater Protection Directive 2006/118/EC.

146. Some data from groundwater quality monitoring from 12 monitoring wells³¹⁹ in the vicinity of the Borrow Pit and the Borrow Pit Extension for the same parameters are elevated above threshold. Most metals are not.³²⁰ Slightly elevated mercury was thought likely to be naturally occurring. Aluminium exceedances and slight Zinc exceedances were thought anomalous. Exceedances occur in isolation from other parameters i.e., a single metal exceeding a threshold in a round of readings (usually zinc or arsenic, sometimes mercury) and then not present for future rounds and hence are considered natural.

147. I interpose here to say that, as to groundwater monitoring, the EIAR provides not merely the conclusions but the data underlying them and explanations, by reference to those data, for the conclusions. Whether, in light of the data, such explanations and conclusions are convincing seems to me to be quintessentially a matter for expert evaluative judgement by the Commission on the materials before when it made its decision.

148. EIAR Chapter 10 also considers potential effects on the water environment³²¹ and the proposed mitigation and management of those effects.³²² It cites Chapter 16 as assessing the vulnerability of the Proposed Development to major accidents and/or disasters due to extreme storm, tidal surge and wave. EIAR Chapter 10 concludes³²³ that

- the Proposed Development will not have significant effects on surface water or groundwater.
- *“There is no current or predicted flood risk (either pluvial or coastal) for the Site.”*
- *“In summary, the significance of residual effects on water (and on human health from water) resulting from the different potential sources of impact are predicted to be no greater than slight adverse and, therefore, not significant.”*

Remembering that EIAR Chapter 10 considered climate change,³²⁴ the reference to *“predicted flood risk”* must be understood as encompassing a climate change prediction.

149. Tables 10.10 and 10.11³²⁵ summarise effects of the Proposed Development as follows:

319 MW1- 7, BH1&2, SPW3&4, OW13.

320 §10.6.10.7.2 Borrow Pit Extension Site. Table 10.8: Dissolved Metal Results from Monitoring Wells near the Borrow Pit sites (April to August 2021). Explanation of data at p10-88.

321 EIAR §10.9 Potential Effects.

322 EIAR §10.10 Mitigation and Management.

323 EIAR §10.17 Summary and Conclusions.

324 EIAR §10.6.13.

325 Later replicated in AAL’s response to the Commission dated 19 January 2024.

EIAR Table 10.10: Evaluation of Initial Impacts and their Significance³²⁶

Project Phase	Receptor	Sensitivity	Source of Impact/ Description of Change*	Impact Magnitude*
Construction & Operational	Groundwater	Medium ³²⁷	Changes in Borrow Pit groundwater flows or levels.	Negligible (adverse), direct, medium term, reversible.
	Surface Water	High ³²⁸	Mobilisation of leachate or activities impacting water quality or use, e.g., seepage, leaks and spills caused by bauxite residue and/or salt cake in the BRDA/ SCDC.	Low (adverse), direct, long term, reversible (BRDA and SCDC).
Closure	Groundwater	Medium		
			Groundwater quality changes after BRDA/SCDC closure.	Low (adverse), direct, long term, reversible (BRDA and SCDC).
			Changes in Borrow Pit groundwater flows or levels.	Low (beneficial), direct, permanent, reversible (BRDA / SCDC).
			Changes in Borrow Pit groundwater flows or levels.	Negligible (beneficial), direct, permanent, reversible.

* Taking account of the Proposed Development Design

326 Content edited and limited to that relevant to pleaded flooding grounds.

327 EIAR Table 10.9: Water Receptors (regionally and locally important aquifers under the Site but limited future resource potential due to salinity. Local groundwaters users are upgradient of and not identified as in the same hydrogeological system as the Site. The groundwater under the Site comprises a freshwater lens both downgradient and isolated laterally from the mainland by Poulaweala Creek and the Robertstown River. However, (§10.6.12) there are data gaps around the use of the wells locally so it was assumed that groundwater could be used as a local resource.

328 EIAR Table 10.9: Water Receptors - Connection to water sensitive SACs and SPAs and protected surface water bodies in the vicinity of the Site.

EIAR Table 10.11: Evaluation of Predicted Residual Impacts³²⁹ and their Effect Significance³³⁰

Project Phase	Receptor	Potential Source of Impact	Direct/ Indirect	Duration	Reversible/ Irreversible	Summary of Mitigation ³³¹	Residual Impact	
							Magnitude	Significance
Construction & Operational	Groundwater	Changes in Borrow Pit groundwater flows or levels.	Direct	Permanent	Reversible	Good practice pollution prevention measures and regular plant and equipment maintenance procedures. Waste management procedures.	Negligible	Not Significant / Slight
		Mobilisation of leachate or activities in the BRDA/ SCDC impacting water quality or use, e.g., seepage, leaks and spills caused by bauxite residue and/or salt cake.	Direct	Long Term	Reversible			
	Surface Water		Indirect	Long Term	Reversible			

³²⁹ After mitigation.

³³⁰ Content edited and limited to that relevant to pleaded flooding grounds.

³³¹ Proposed Development Design and Additional Mitigation. See measures described at EIAR §10.10.2 Additional Mitigation / Management.

EIAR Chapter 8 - Soils, Land & Geology

150. EIAR Chapter 8 considers³³² flood risks of BRDA failure by reason of

- tidal surge or wave events - leading to erosion-induced slope failure as the BRDA is close to the Shannon.
- rainfall erosion-induced slope failure.

It repeats³³³ the Breach Analysis conclusions³³⁴ as to the risk of containment failure and the expectations that farmed bauxite residue would slump and not reach the FTDB and that unfarmed bauxite residue, deposited pre-2009 in BRDA Phase 1 to Stage 6, and containment wastewater would potentially be washed into the Robertstown and Shannon Rivers but in relatively small break-out volumes. On those views, the resultant potential impact of the BRDA raise (i.e. the Proposed Development) is predicted to be low and level of effect to be moderate. It records that any SCDC breach would be contained in the BRDA such that potential impact is negligible.

EIAR Chapter 16 - Major Accidents

151. EIAR Chapter 16 considers both any vulnerability of the Proposed Development to major accidents and/or disasters and any potential for the Proposed Development to cause major accidents and/or disasters. As here relevant, it considers “Potential Tidal Surge or Wave Events”³³⁵ (i.e. coastal flooding) and Potential Storm (Extreme Rainfall) Events.³³⁶

152. In considering Potential Tidal Surge or Wave Events³³⁷ EIAR Chapter 16 states, inter alia, as follows:

“The BRDA is adjacent to the Shannon River estuary and to the Robertstown River and as such external erosion due to a tidal, surge or wave event breaching the Flood Tidal Defence Berm (FTDB), the outer perimeter wall (OPW) of the PIC and ultimately the inner perimeter wall (IPW) of the PIC (effectively the toe of the BRDA) is considered as a plausible mechanism for failure.

Such an event could erode the toe of the inner perimeter wall of the BRDA and expose the bauxite residue and lead to slope instability and the release of the bauxite residue.

The following hazards which could pose threats of such failures have been identified:

- Tidal surge events;
- Wave development and storm surge events;
- Tsunamis;
- Climate change leading to increase in sea level;
- Climate change increasing the frequency and magnitude of storm events; and
- Wave run-up i.e., topography and baseline measures in place at north and west faces of the BRDA.

332 EIAR §8.9.1 Operational Phase Impacts.

333 Much of this analysis is found also in Chapter 16.

334 Appendix G, Breach Analysis, to EIAR Appendix A, Engineering Design Report. – see conclusions above.

335 EIAR §16.8.2.3.

336 EIAR §16.8.2.2.

337 EIAR §16.8.2.3.

153. Chapter 16 then cites the 2019 Risk Assessment and Break-Out Study (as I say, I have failed to find this study) as having assessed the risk to the BRDA posed by tidal events, wave development and storm surges, plausible tsunami events and the potential increase in magnitude of these events and sea level due to climate change. It continues:

“Three potential accident hazard scenarios for inundation of the BRDA were considered:

- *Climate change leading to a significant increase in mean sea level (+0.6 m), combined with wave and storm events (+2.6 m) and a High Astronomical Tide event (2.8 mOD). This scenario suggests that a potential wave overtopping level of 6.0 mOD would need to be considered for the BRDA. This scenario, the combination of three extreme events is considered **Highly Improbable or Negligible**;*
- *Predicted extreme water level data for sea water elevation at the Aughinish site resulting from a 1,000-year combined tide and surge event (3.97 mOD) with the maximum wave height for the Shannon River (1.8m) which would require that a potential wave overtopping level of 5.8 mOD would need to be considered for the BRDA. This scenario is considered **Highly Improbable or Negligible**; and*
- *Modelling of various plausible tsunami sources suggests a range of 0.3 m to 0.5 m temporary increase in sea level for the Shannon Estuary. This increase would have no impact on the BRDA without the addition of a number of other events occurring at the same time. This combination of extreme events is considered **Highly Improbable or Negligible**.*

Potential Impacts from Tidal Surge or Wave Events

There are a number of other mitigating factors present to alleviate / eliminate any impacts on the site from tidal surges or wave events:

- *The Foynes Island protects the western flank of the Phase 1 BRDA;*
- *The northern and western flanks of the Phase 1 BRDA are protected by a Flood Tidal Defence Berm (FTDB), which has an elevation of approx. 5 mOD. This structure is regularly inspected and maintained;*
- *Storm waves have short wavelengths, break in shallow water and expend the energy stored. The northern, north-western and western sections of the BRDA have 50m to 100m stretches of open land at an elevation of 1 to 2 mOD between the BRDA and the Estuary. Should these areas become inundated by overtopping or breaching of the Flood Tidal Defence Berm (FTDB), they would represent shallow waters which would cause storm waves to break and thereby lessen any impact on the outer perimeter walls of the PICs, the SWP and the LWP; and*
- *In 2013, a gabion mattress revetment was installed on the side-slope of outer perimeter wall (OPW) for the PIC for the sections of the Phase 1 BRDA and the Phase 2 BRDA adjacent to the Robertstown and Shannon Rivers, i.e., estuary facing. The function of the revetment is to provide protection for the OPW, and subsequently the PIC and the inner perimeter wall (IPW), against erosion should the FTDB be overtopped. The revetment is 300mm in depth, filled with appropriately specified rock fill and installed to an elevation of 3.5 mOD and extends a minimum of 2m from the downstream toe. The gabion mattresses revetment will be raised to a minimum elevation of 5 mOD at closure.*

The likelihood of inundation of the BRDA leading to erosion induced slope failure is considered to be Highly Improbable or Negligible.”

- *If the BRDA itself were to fail and lead to the subsequent failure of the SCDC, both bauxite residue and salt cake could remobilise offsite and enter the Lower River Shannon SAC and the River*

*Shannon and River Fergus SPA³³⁸ to the north and west of the Phase 1 BRDA. The likelihood of a combination of events resulting in a failure of the BRDA is considered to be **Highly Improbable or Negligible** (Table 16.2). The consequence of the event (if the BRDA and SCDC were both to fail) is considered to be **Very Serious** (Table 16.3). This rating has been attributed to the greater consequences for the ‘Environment’, arising from heavy contamination of the rivers with released bauxite residue having localised effects or extended duration. It is considered that the impacts on ‘Life, Health, Welfare’, ‘Infrastructure’, and ‘Social’ would be in lower consequence categories. The overall risk of overtopping or other failures causing the uncontrolled release of contaminated water and/or bauxite residue from a tidal surge or wave event is assessed to be **Low** (Table 16.4).”*

154. I respectfully pose a question as to the EIAR proposition just recited - that a potential overtopping level of 6.0 mOD would need to be considered for the BRDA and that the necessary combination of three extreme events is highly improbable or negligible. The figure of 6.0 m is the sum of a mean sea level rise of 0.6 m, a wave/storm event adding 2.6 m and a high tide at 2.8 mOD. Clearly, the BRDA itself could not be overtopped by even the highly improbable combination of three such events – it is far higher. That which could be overtopped is not the BRDA but the FTDB. It has a crest of height of 5m OD and would seem susceptible to overtopping by a combination of two of the three events – a high tide at 2.8 mOD plus a wave/storm event adding 2.6 m in a total of 5.4 mOD (i.e. ignoring sea level rise) - or by a combination of two or three less extreme such events. Likewise, the FTDB would seem susceptible to overtopping by a combination of tide, surge and wave totalling less than the 5.8 mOD contemplated in the EIAR. The gabion mattresses revetment protecting the BRDA itself has a crest height of 3.5 mOD and will be raised to a minimum elevation of 5 mOD only at closure – which is envisaged for about 2039. I hasten to say that this is a question for expert judgement, not judicial judgment. I am a layman in this regard. Perhaps my reasoning is flawed and my regard to information is incomplete. And any, if any, recalculated risk might also be improbable in greater or lesser degree and/or be acceptable. I draw no conclusions and do not quash the Impugned Decision on this account. But posing these questions does not seem unreasonable.

155. EIAR Chapter 16 also considers Potential Storm (Extreme Rainfall) Events.³³⁹ It is first necessary to explain my understanding of the design approach to the Proposed Development as discernible in the EIAR, as relevant to this issue and as based on the CDA Guidelines for 2014, which stipulate, via inter alia deterministic standards-based analysis,³⁴⁰ the detail and methodology for the following approach.³⁴¹ I am satisfied that, while reliance on the CDA Guidelines has been criticised, credibly or not as to merit I cannot say, as based on long-outdated climate science,³⁴² it has not been successfully impugned as irrational in law or otherwise illegal.

338 Special Protection Areas designated under the Birds Directive. Part of the Natural 2000 Network.

339 EIAR §16.8.2.2.

340 This phrase was understood at trial to signify standards the application of which determines actions/outcomes. Day 1 14:39.

341 Canadian Dam Association Dam Safety Guidelines: Dam Safety Guidelines, CDA 2013: Application of Dam Safety Guidelines to Mining Dams, CDA 2014; Generally this content is drawn from Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development §2.6 Inflow Design Flood; Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development, Appendix A – Basis of Design and Design Criteria, Technical Memorandum 30 November 2021, §5.0 Project Specific Design Criteria. Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development §3.4.2 Precipitation. I imagine that my description may not fully satisfy engineers but it suffices for present purposes.

342 By Mr Duffy and by Futureproof Clare (see Inspector’s report §8.2.2.)

- a. The task is to design the BRDA (including the SCDC) and the BRDA water management system (the SWP, the LWP and the PIC), by a risk-informed approach, to withstand extreme rainfall events without failing.
- b. It is necessary to understand the BRDA, as it is intended to securely contain the deposited bauxite residue (and, within it, the salt cake in the SCDC), as a form of tailings dam³⁴³ – the failure of which could release pollutant matter to the surrounding environment.
- c. The starting point is the use of rainfall and storm data to discern the Probable Maximum Precipitation (“PMP”) and so characterise the Probable Maximum Flood (“PMF”) likely to affect the facility. As applicable to the BRDA, the PMF is the runoff generated by the PMP.
- d. The EIAR states that the PMF is the most extreme meteorological event, corresponding to a theoretical maximum flood with an undefined return period (i.e., greater than 1/10,000 years) and that the methods for estimating the PMF include accounting for climate change.
- e. Next, the facility in question is assigned a Hazard Potential Classification (“HPC”) - reflecting the incremental³⁴⁴ consequence of its failure in terms of loss of life, environmental impact and economic impact downstream, upstream or at the dam location itself. HPCs range from Low, Significant, High, Very High to Extreme consequence.
- f. The BRDA water management system is assigned a Low HPC.³⁴⁵ The BRDA itself is assigned a High HPC. Notably, this High HPC is assigned specifically for the clean-up and restoration costs of the adjacent SAC and SPA and for the potential for significant loss of important habitat.
- g. The PMF and the HPC are correlated, by a method stipulated in the CDA Guidelines, to yield an “Inflow Design Flood” (“IDF”). It forms the basis of the design of the facility to resist failure due to storm – i.e. it is the worst flood which the facility is designed to resist without failing.

156. EIAR Chapter 16 considers Potential Storm (Extreme Rainfall) Events.³⁴⁶ It states, inter alia, as follows:

- a. BRDA Overtopping – a relatively common cause of tailings dam failure - is not considered a significant concern, or even plausible, as the BRDA is not designed to retain or store water. It is always draining to the PIC. Indeed, the EIAR states that the BRDA has no potential for overtopping. The risk of rain erosion of the BRDA slope to such an extent that it causes slope instability and static flow liquefaction of the bauxite residue and /or overtopping of failure of the SCDC walls is assessed as in the ‘Highly Improbable’ to ‘Almost Impossible or Negligible’ range.

343 Tailings are usually the product of mining. Here they are the product of the alumina refining. The problem of their secure storage is essentially the same.

344 Incremental losses are those over and above losses that might have occurred in the same natural event or condition had the facility not failed.

345 EIAR §10.8.4 Proposed Water Management. §16.8.2.2 states that if the water management system failed, bauxite residue laden water could eventually discharge to the Lower River Shannon SAC and the River Shannon and River Fergus SPA. Given the presence of infrastructure such as toe drains and the FTDB, the consequence is considered minor - there would be no impact on the environment.

346 EIAR §16.8.2.2.

- b. Overtopping as a failure mechanism of the water management system - SWP, LWP and PIC - is considered. PIC overtopping resulting in erosion of the IPW and the OPW, and hence failure of the BRDA and SCDC, is considered. It is considered that, whereas the calculated IDF required SWP, LWP and PIC design for a 100-year flood,³⁴⁷ they had in fact been designed for a 200-year flood.³⁴⁸ However analysis showed that the water management system would not be overtopped in a 1,000-year flood³⁴⁹ and in a 24-hour IDF.
- c. The likelihood of overtopping resulting in failure of the overall BRDA, including its water management system, is deemed Highly Improbable or Negligible.
- d. If the water management system failed, bauxite residue laden water could eventually discharge to the SAC and the SPA. Given the presence of infrastructure such as the toe drains and the FTDB, the consequence is considered minor - there would be no impact on the environment.³⁵⁰
- e. If the SCDC failed, the consequences would be minor as the salt cake would slowly remobilise into the surrounding BRDA, the encompassing PIC or the SWP further downstream and be confined within the BRDA boundary. There would be no impact on the environment as the failure would be retained within the surrounding BRDA.
- f. The overall risk posed by extreme rainfall/storm is assessed to be Low.

EIAR Chapter 17 - Climate

157. EIAR Chapter 17 records a climate impact assessment of the Proposed Development by reference to such as the Climate Action and Low Carbon Development Act 2015, the Climate Action Plan³⁵¹ and Limerick County Council's "Climate Change Adaptation Strategy 2019-2024" and in line with listed guidance. Relevant here is the assessment of the Proposed Development's vulnerability to climate change and the adaptation required accordingly.³⁵² Inter alia, Chapter 17³⁵³

- identifies the potential for more intense storms and rainfall events and increased likelihood and magnitude of river and coastal flooding.
- reviews 30-years' meteorological data from 1981 to 2010. Unsurprisingly, it is available for Shannon Airport which is about 13 km north-east of the Proposed Development.
- reviews more recent weather patterns and extreme weather events - notable feature of which has been an increase in the frequency and severity of storms,³⁵⁴ heavy rainfall and flooding.

347 1% chance of occurring in any given year.

348 0.5% chance of occurring in any given year.

349 0.1% chance of occurring in any given year.

350 EIAR §16.8.2.2 states that

351 AAL's submission of 19 January 2024 updated the reference to encompass the Climate Action Plan 2024.

352 Much of the consideration of climate change relates to greenhouse gas emissions – not here relevant.

353 EIAR §17.3.1 Vulnerability of the Project to Climate Change.

354 Which are listed.

- reviews Met Éireann and EPA climate predictions and scenarios.

158. Thereafter Chapter 17 records that³⁵⁵

- Appropriate flood risk measures and extreme weather events have been considered as part of the construction planning for the Proposed Development.
- The potential for changes to long-term seasonal averages as a result of climate change is not considered significant.
- The likelihood of extreme weather and flooding is assessed as either very low or low, with a moderate adverse effect leading to a finding of low risk and thus a non-significant impact.³⁵⁶
- Climate change may alter future weather patterns, increase sea levels and increase rainfall frequency, resulting in potential flood-related impacts on site in future years. A detailed risk assessment³⁵⁷ as part of the EIAR, allowing for the potential climate change effects on sea levels and increased rainfall, found that the risk of a containment breach or red mud release was either highly improbable or very unlikely depending on the scenario.
- EIAR Chapter 10 found no current or predicted flood risk (pluvial or coastal) for the Site, such that there is a very low likelihood of extreme weather and flooding leading to a containment breach or red mud release - with a moderate to high adverse effect in the event of occurrence - leading to a finding of low risk and thus a non-significant impact.

CG4 - LCCC ON FLOODING

159. LCCC's submission of 23 February 2022 to the Commission, which preceded the making of the 2022 Development Plan, states as to flood risk³⁵⁸ that

- The Site is largely unmapped by CFRAMS.
- It is defined as OPW Benefitting Lands – which is reasonable given the level of the embankment and ground surrounding the Site.

³⁵⁵ EIAR §17.4.1.1 Impact of Climate Change on the Construction Phase; §17.4.2 Combined Construction & Operational Phase Impact; §17.4.2.1 Impact of Climate Change on the Operational Phase.

³⁵⁶ Overall risk being a product of risk of occurrence and severity of consequence of occurrence.

³⁵⁷ Entitled "Risk Assessment & Break-Out Study for the Bauxite Residue Disposal Area (BRDA)" (Golder Associated Ireland Ltd 2019) and 2021 Engineering Design Report Appendix G Breach Analysis – part of EIAR Appendix A. All considered above.

³⁵⁸ By enclosed internal e-mail of 10 January 2022 15:31.

- ICWWS³⁵⁹ mapping suggests that the present 0.5% and 0.1% AEP flood levels are about³⁶⁰ 3.53mOD and 3.72mOD respectively. The MRFS³⁶¹ is 4.22 mOD.
- The crest of the outer perimeter embankments³⁶² is about 5 mOD.³⁶³ The ground inside this is proposed to be 20 mOD and higher³⁶⁴ - well above the present 0.1% AEP level - 3.72mOD - and MRFS³⁶⁵ of 4.22 mOD.
- Therefore, the risk of Site inundation by an extreme flood is very low.
- So, the Proposed Development does not increase flood risk to the Site or surrounding area and so LCCC does not object on grounds of flooding.

160. I observe that the reference to the ground inside the FTDB as proposed to be 20 mOD and higher seems to be a reference to the height of the BRDA itself - as opposed to the ground between the FTDB and the BRDA which, as is noted elsewhere in this judgment, is at an elevation of about 1 mOD.

CG4 - AN TAISCE OBSERVATION

161. The Inspector's Report records An Taisce³⁶⁶ as expressing concerns as follows:

- As to potential impacts of bauxite and salt cake on water quality in case of BRDA containment failure, having regard to the EIA Directive, the Habitats and Birds Directives, the WFD and the Groundwater Directive. (I add that An Taisce says the risk must be thoroughly assessed.)
- That the Site is vulnerable to (a) downstream fluvial flooding in the Shannon, (b) high seasonal tides, (c) storm surge and coastal flooding, (d) extreme weather events, notably intense rainfall and (e) south-westerly gales; the frequency and magnitude of which will be intensified by climate change. These risks exacerbate the identified main modes of containment failure. (I add that An Taisce notes as potential containment 'failure mechanisms' Tidal Surge, Wave Event or Storm Event - leading to erosion-induced

359 Irish Coastal Wave and Water Level Modelling Study, Phase 1, OPW 2018. In this respect I was referred to the OPW's floodinfo.ie website (Day 2 16:05 p 199. As I understand, the ICWWS informed the OPW's National Coastal Flood Hazard Mapping (NCFHM), published in 2021, which provided indicative coastal flood extent and depth maps for the Irish coast. The NCFHM dataset does not take account of coastal defences and local topographical high points or include wave overtopping. It produced national scale coastal flood extent and depth maps for the 50%, 20%, 10%, 5%, 2%, 1%, 0.5% and 0.1% AEPs for the Current Scenario and for 4 climate change scenarios; the MRFS, HEFS, High+ End Future Scenario and High++ End Future Scenario. These scenarios represent a 0.5m, 1.0m, 1.5m and 2.0m increase in mean sea level respectively. This dataset supersedes the indicative 1st cycle PFRA coastal flood mapping by the OPW. See The Review of the National Preliminary Flood Risk Assessment (PFRA) 3rd Cycle Overview Report May 2025 p7.

360 The reference is to the nearest map node – S19 - not to the Site itself. I do not suggest anything turns on this observation.

361 "Mid-Range Future Scenario – a climate change scenario used in OPW Flood studies. Inter alia, it estimates future sea level rise.

362 I.e. the FTDB.

363 Citing the EIAR NTS.

364 This seems to be a reference to the height of the BRDA itself - as opposed to the ground between the FTDB and the BRDA which, as is noted elsewhere in this judgment, is at an elevation of about 1 mOD.

365 "Mid-Range Future Scenario – a climate change scenario used in OPW Flood studies. Inter alia, it estimates future sea level rise.

366 Observation 4 February 2022.

slope failure and possible static liquefaction of bauxite residue - all of which risks are exacerbated by climate change.)

- As to the adequacy of information to hand absent CFRAMS mapping of the Site. (I add that An Taisce raises such adequacy as to flood risk assessment and any implications for BRDA Containment.)
- That risk of groundwater pollution is particularly high in karst³⁶⁷ areas.
- (I add that An Taisce situates the foregoing issues in the context of AA.)

CG4 - AAL RESPONSE TO AN TAISCE

162. AAL replies to An Taisce's concerns, asserting that

- Flood risk assessment of the Site and Proposed Development have been fully addressed in the planning application. AAL cites EIAR Chapter 10 and EIAR Chapter 16 as to major accidents and/or disasters.³⁶⁸
- EIAR §10.6.7 notes that there is no record of flooding of the Site, and that the BRDA and surrounding catchment is defended by the OPW-constructed FTDB – which is monitored, maintained, repaired and improved.
- In CFRAMs, the OPW mapped the western side of the Robertstown River (Foynes) as an area of potential flood risk.³⁶⁹ But did not so identify or map the Site.
- Additional OPW 'National Coastal Flood Hazard Mapping' (2021), ignoring flood defences, depicts flood extents for Aughinish Island. But it does not change the flood risk assessment of the Site given flood protection provided by the existing FTDB.³⁷⁰ (It is not apparent that AAL enclosed the relevant 'National Coastal Flood Hazard Mapping' (OPW, 2021) or disclosed the flood extents it depicts as they relate to the Site. However, whatever their extent, AAL's reliance on the FTDB to discount them is clear.)

CG4 – IMPUGNED DECISION & INSPECTOR'S REPORT, FEBRUARY 2025.

163. The Impugned Decision

- Cites regard to the 2022 Development Plan but, no doubt reflecting the Inspector's citation of it, does so explicitly in reciting "*national, regional and local policy support for the proposed development*". It cites

³⁶⁷ Karst is formed from the dissolution of soluble rocks such as limestone, creating underground voids and watercourses.

³⁶⁸ I have identified relevant content of both above.

³⁶⁹ Referred to as an Area for Further Assessment, or 'AFA'.

³⁷⁰ Emphasis added given AAL averment that the FTDB is not part of the flood-defence of the BRDA. See above.

regard to the Inspector's report, the application documents (including the EIAR, the NIS and AAL's further information of 19 January 2024), the IEL and the submissions, including those of observers.

- Considers, as to proper planning and sustainable development, that the Proposed Development would not have significant negative effects on the environment, would not give rise to a risk of pollution and would be consistent with the relevant provisions of the Climate Action Plan 2024. It records making its decision consistently with s.15(1) of the Climate Action and Low Carbon Act 2015.
- Records AA, accepting the Inspector's report thereon and ruling out adverse effect on the integrity of, inter alia, the SAC and the SPA. It records EIA - again accepting the Inspector's report thereon and deeming the projects' environmental effects acceptable. It conditions the Proposed Development on implementation of the mitigation described in the EIAR and the NIS.

164. I pause to observe that, read alone and in its precise terms, the Impugned Decision does not disclose regard to flood risk, the 2022 Development Plan, including its SFRA, as to flood risk or the Flood Risk Guidelines. Of course, it is not to be read alone. It is to be read with the various documents it cites – principally the Inspectors' Report. But the Impugned Decision seems to me dependent upon those documents for a conclusion that it dealt adequately with flood risk.

165. The Inspector notes the FTDB *"to a height of 5mOD on the northern and western side of the island (constructed by the OPW)."*³⁷¹ She says nothing of the gabion mattresses or any other flood defences. She says, echoing AAL's assertion in its response of 6 July 2022³⁷² and referring to the FTDB, that *"In the interests of clarity I note that the embankment does not form part of the containment infrastructure for the BRDA."*³⁷³ Certainly, the FTDB does not directly contain the waste inside the BRDA. Nor was it constructed as part of the BRDA – which it long preceded. But, as I have held and despite AAL's confusion on the issue on affidavit, the FTDB is central to the flood defences of the BRDA. Elsewhere, the Inspector says: *"The BRDA and surrounding catchment is defended by the OPW constructed flood protection works on the north bank (Shannon Estuary) and west bank (Robertstown River) of the island where a flood tidal defence berm (FTDB) is present."*³⁷⁴ As has been seen, the Inspector has recorded AAL's submission of 19 January 2024 to the effect that the OPW's National Coastal Flood Hazard Mapping of 2021 does not change the flood risk assessment of the site *"given the flood protection provided by the existing FTDB."*³⁷⁵

166. Surprisingly, the Inspector's description of relevant 2022 Development Plan content is extremely brief.³⁷⁶ She recites only that content which favours the Aughinish refinery. Save for an incidental reference to the Flood Directive in reciting Objective ECON 057,³⁷⁷ which identifies Aughinish as a Strategic Development

371 Inspector's report §2.2.

372 Inspector's report §6.4, p28.

373 Inspector's report §10.3.28.

374 Inspector's report §11.7.5.

375 Inspector's report p31.

376 Inspector's report §5.3.1. Limerick City and County Development Plan 2022 -2028.

377 to safeguard the Strategic Development Locations at Foynes Port, Foynes Island and Aughinish Island for the sustainable growth and development of marine related industry"

Location,³⁷⁸ she describes no substantive Development Plan content as to flood risk. She does not refer to the 2022 Development Plan SFRA (let it be said, by itself an entire volume of the 2022 Development Plan) or to the Flood Risk Guidelines which inform their content. Nor had the planning report or EIAR submitted with AAL's SID application referred to those Guidelines as to SFRA or SSFRA and AAL's post-remittal submissions did not refer to the SFRA.

(For completeness, I should say that my searches of the 1,500 pages of the EIAR and its Appendix A yielded one reference to the Flood Risk Guidelines - but only as to its Technical Appendices as they relate to drainage works and not as to SFRA or SSFRA or the Guidelines' main document.³⁷⁹)

167. The Inspector records, inter alia,

- a. An Taisce's submission as to flood risk.³⁸⁰
- b. That Futureproof Clare, Cappagh Farmers Support Group and ETI
 - Disputed the EIAR assessment of risk of flooding causing a BRDA containment breach and of risk to groundwater – citing groundwater monitoring results showing excess heavy metals. Cappagh Farmers assert that the Site is on reclaimed tidal land and that the flood defences are in poor condition.
 - Asserted that AAL inadequately address
 - Climate change, in particular sea level rise, increased extreme weather, rainfall and flooding. Storm surge up the Shannon Estuary - a major factor in flooding - is ignored.
 - Leachate runoff from the BRDA and SCDC into the estuary and groundwater.
- c. AAL's response to these concerns. Having read those responses and the Inspectors' account of them, I note that AAL essentially rely on the content of the planning application documents, including the EIAR, and AAL's response of 19 January 2024.

168. The Inspector notes that Futureproof Clare had submitted, as to "Climate Change and Flood Risk",³⁸¹

- a. that the EIAR fails to refer to Chapter 13 of the Climate Action Plan 2024, as to adaptation to climate change and that the EIAR's Engineering Design Report fails to account for climate change.
- b. that the Commission must take account of anticipated sea level rise at least up to 2050.
- c. climate change-informed flood-extent projection maps by "Climate Central",³⁸² which it describes as *"providing accurate and granular information on sea level rise and coastal flood hazard backed by the*

³⁷⁸ delineated on Map 5.5 of the 2022 Development Plan.

³⁷⁹ §5.2, Hydrological Assessment for the Perimeter Interceptor Channels, Storm Water Pond and Liquid Waste Pond BRDA Raise Development to Stage 16, Golder November 2021 – Appendix I to Appendix A to the EIAR - Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development, Golder November 2021.

³⁸⁰ I have set out the Inspector's summary above.

³⁸¹ Inspector's report §8.2.2. p37, citing Futureproof Clare CLG Submission 21 March 2024 as to Climate Change and Flood Risk.

³⁸² Climate Central is a US-based NGO. It describes itself as "an independent group of scientists and communicators who research and report the facts about our changing climate and how it affects people's lives. We are a policy-neutral 501(c)(3) nonprofit."

latest IPCC³⁸³ science". The maps show the BRDA flooded at a flood level of 1m above high tide by *"combination of sea level rise, tides and storm surges"* – which, Futureproof Clare submitted, *"has the potential to cause one of the greatest ecological disasters ever in the State.*

- d. as to "lack of flood risk assessment" in the EIAR,³⁸⁴
- the relevance of the 2022 Development Plan SFRA showing Foynes in Flood Zones A and B (high and moderate flood risk).
 - *"on the basis of the data in relation to predicted flood impacts"*, Aughinish is likewise and properly in Flood Zone A, such *"that the lands have not been correctly classified for flood risk which is a preliminary requirement to addressing proposed development on lands."*
 - Accordingly, *"the proposed development could not be compliant with the Floods Directive in circumstances where the flood risk had not been properly classified"*.
 - As the lands are in Flood Zone A, the Flood Risk Guidelines require a Flood Risk Assessment and Justification Test before development consent.
 - Absent a Flood Risk Assessment and Justification Test, development consent would be premature.
- e. The Commission must, before it can lawfully determine AAL's application, interrogate the information provided on risk of inundation of the BRDA. It must resolve the contradiction between the independent evidence of anticipated sea level rise and AAL's submission as to flood risk, which is not based on the most up-to-date climate science and does not take account of the BRDA's location immediately beside a tidal estuary at risk of severe floods.

The foregoing, in describing the Futureproof Clare submission, is the Inspector's only reference to the Flood Risk Guidelines. It is one of the Inspector's two references to the 2022 Development Plan SFRA.

169. In her planning assessment, the Inspector considers the *"Potential for Containment Breach"*³⁸⁵ of the BRDA and its consequences for the receiving environment and sensitive receptors, as raised by all observers. The suggested mechanisms include perimeter wall failure and climate change impacts. The inspector notes

- ongoing monitoring of BRDA integrity – including as required by the IEL – and its compliant performance to date in that respect.
- AAL's classification of the BRDA in accordance with the CDA Guidelines - including their design criteria dependent on the consequence of failure. On that basis, the stability analysis is for a long-term undrained (total stress) condition within the BRDA (*"the critical stability case"* – I take this to mean that internal pressure stress on the BRDA containment is maximised by more or less saturated bauxite residue.³⁸⁶) - and against that condition the BRDA is designed with a minimum factor of safety of 1.5.³⁸⁷ In light of a criticism by Futureproof Clare,³⁸⁸ the Inspector accepts AAL's justification of its use of the

383 Intergovernmental Panel on Climate Change.

384 Inspector's report §8.2.2. Futureproof Clare CLG, Climate Change and Flood Risk, p37 & 38.

385 Inspector's report §10.3.8 et seq.

386 Discussed Day 1 15:23 et seq.

387 As I understand, a factor of safety results in a facility designed to survive loading in excess of that identified as imposed by its critical stability case. So factor of safety of 1.5 would result in a design to bear half again the load imposed by the critical stability case.

388 Advocating the use of more recent "Global Industry Standards on Tailings Management".

CDA Guidelines as international best practice and considers that their use did not undermine the assessment.³⁸⁹

170. The Inspector substantively addresses flood risk - under the heading of “Perimeter Wall Stability: Climatic Factors”.³⁹⁰

- a. She states that EIAR Chapter 10 assessed the likelihood of flooding “with no current or predicted flood risk identified for the site. As per the current CFRAM maps Aughinish Island is not identified as an area of potentially significant flood risk with no flood events recorded at or in the vicinity of the AAL site.”
- b. She notes the absence of history of flooding of the Site, the OPW Flood Hazard Mapping of 2021³⁹¹ and the Climate Central map provided by Futureproof – both of which maps show worst-case scenarios of flood extent in that they ignore the FTDB. She describes the OPW Flood Hazard Mapping of 2021 as indicating “*the extent of the site that might experience coastal flooding for a worst-case scenario. This data shows the extent of land that might be flooded by the sea (coastal flooding) during a theoretical or ‘design’ flood event with an estimated probability of occurrence, rather than information for actual floods that have occurred in the past.*”
- c. The Inspector does not quantify or describe “*the extent of the site*” to which she refers. But it is safe to infer that the OPW Flood Hazard Mapping of 2021 shows the Site as flooded in greater or lesser degree.
- d. Her observation that the OPW Flood Hazard Mapping is not based on past flooding is entirely proper, relevant and weighty. But it is difficult to see that it should be read as substantially discounting that mapping as merely theoretical. In fairness, that may not have been the Inspector’s intention. But it bears noting that Flood Hazard Mapping is prepared by the OPW as the national competent authority for flood protection and is prepared pursuant to Part 3 of the Flood Risks Regulations 2010³⁹² in compliance with requirements of the Floods Directive.³⁹³ And, of course, the very essence of climate-change informed planning in a context such as this is that locations which have not flooded in the past may be at risk of flooding in the future.
- e. Assessment of climate change risk will inevitably be predictive and in that sense theoretical. In that light and while, as will be seen, the precautionary principle is highly technical, not a talisman and can be over-deployed in judicial review, it does seem legitimate here to observe, as to predictive assessment of climate-change affected risk, that the principle is foundational to the high level of environmental protection at which Article 191 TFEU aims - **Waddenzee**.³⁹⁴ The principle states that where there is scientific uncertainty as to the existence or extent of a risk, institutions may take protective measures

389 Inspector’s report §10.3.11.

390 Inspector’s report §10.3.26 et seq. Inspector’s report §10.3.20 as to “Perimeter Wall Stability: Increased Bauxite Disposal” was opened to me (Day 1 15:29) but I do not consider it bears on the pleaded grounds.

391 Inspector’s report §10.3.28.

392 European Communities (Assessment and Management of Flood Risks) Regulations 2010 as amended.

393 Directive 2007/60/EC on the assessment and management of flood risks.

394 Landelijke Vereniging tot Behoud van de Waddenzee v Staatssecretaris van Landbouw (2004) Case C-127/02, ECLI:ECLI:EU:C:2004:482, [2004] ECR I-7405, [2005] All ER (EC) 353 – and recently WertInvest Hotelbetriebs GmbH v Magistrat der Stadt Wien, Case C-575/21, Opinion of Collins AG 24 November 2022.

without awaiting the reality and seriousness of the risk becoming fully apparent – see for example **Gowan** and **Monsanto**.³⁹⁵ Further, application of the principle in environmental contexts may outweigh economic interests – **Bayer**.³⁹⁶

- f. My observation is amplified by the fact that, while the Inspector very properly notes that the OPW Flood Hazard Mapping ignores the FTDB, the Flood Risk Guidelines and the SFRA are clear that
- flood defences imply the presence, not the absence of at least residual flood risk (due not merely to climate change but also to uncertainty of long-term maintenance and efficacy of defences - which is why flood zoning ignores defences)
 - SSFRA of residual risk must demonstrate an understanding of the risks of development behind flood defences.
- g. It must of course be said that the precautionary principle affords institutions considerable discretion as to its application. I am far from suggesting that in this case its application required any particular decision by the Commission. I am also conscious that the foregoing observations, as they focus on particular content of the Inspector’s report, should not detract from contextual consideration of her report as a whole. My purpose is merely to observe that the Inspector may not be understood as substantially discounting the OPW Flood Hazard Mapping as merely theoretical - either as to present flood risk or as to future flood risk.

171. The Inspector makes her second, brief, reference to the SFRA³⁹⁷ as follows:

“I note reference by Futureproof Clare CLG to the Strategic Flood Risk Assessment in³⁹⁸ As noted Foynes is within Flood Zones A and B. The mapping as presented in Figure 8-7 does not extend to the subject site.”

For the avoidance of doubt, I observe that this passage points out, correctly as to fact, that the Site is not flood zone mapped in the SFRA. But, as has been seen, that does not at all exhaust the relevance of the SFRA or exclude the requirement for SSFRA in detail appropriate to the Site, considered as a Flood Zone C site.

172. The Inspector observes that there is no evidence to support a claim that part of the BRDA lands are reclaimed. Or, at least, any reclamation preceded the 1840 OS³⁹⁹ map, which showed fields and structures.⁴⁰⁰ Thus, she observes, it is reasonable to conclude that the BRDA lands would not be affected or undermined by tidal activity.

395 Gowan Comercio Internacional v Ministero della Salute, Case C-77/09, Judgment of 22 December 2010, Monsanto Agricoltura Italia v Presidenza del Consiglio dei Ministri, Case C-236/01 [2003] ECR I-8105, §111.

396 Bayer v Commission, Judgment of the General Court of 17 May 2018, Cases T-429/13 and T-451/13, §109 – citing judgments of 21 October 2003, Solvay Pharmaceuticals v Council, T-392/02, EU:T:2003:277, paragraph 121 and the case-law cited, and of 12 April 2013, Du Pont de Nemours (France) and Others v Commission, T-31/07, not published, EU:T:2013:167, paragraph 134 and the case-law cited; and judgment of 26 November 2002, Artegodan and Others v Commission, T-74/00, T-76/00, T-83/00 to T-85/00, T-132/00, T-137/00 and T-141/00, EU:T:2002:283, paragraphs 183 and 184.

397 Inspector’s report §10.3.27.

398 Sic. However I readily infer the missing words to be “the 2022 Development Plan” or similar.

399 Ordnance Survey.

400 See also Inspector’s report §10.3.6.

- a. I confess to wondering whether that observation, taken by itself at least, is a sequitur or a conclusion adequately informed by climate-change considerations, not least as they relate to sea-level rise. I confess to imagining that land may be flood-vulnerable if low-lying and whether or not reclaimed. I have not been directed to any OS map predating the BRDA showing contours, but AAL record that the lands between the FTDB and the BRDA lie at 1 mOD⁴⁰¹ and it bears observing that OD is based on mean sea level, not high tide. The EIAR itself⁴⁰² posits a high tide of 2.8 mOD. And, of course, one is readily prompted to ask why the FTDB was built in the early 1900's and maintained and improved since – including by the OPW before the refinery was built. But I do not rest my decision on these observations as I think this an issue of merit for the Commission to decide.
- b. The Inspector notes⁴⁰³ that climate change had been considered in the EIAR⁴⁰⁴ and that Appendix G of the Engineering Design Report:⁴⁰⁵
 - assessed *“the potential of a breach occurring as a result of climate change with regard had to rising sea levels and increased rainfall.”*
 - concluded that, allowing for climate change, the risk associated with a containment breach or bauxite residue release was either highly improbable or very unlikely depending on the scenario considered.
- c. The Inspector considers that AAL's assessment of climate change scenarios, including flooding, is based on site-specific details from appropriate sources, is reasonable and robust and supports a proper assessment on which to conclude that climate change is not a threat to BRDA containment stability. This observation appears to refer at least in substantial part to *“Appendix G of the Engineering Design Report which assess the potential of a breach occurring as a result of climate change with regard had to rising sea levels and increased rainfall.”*
- d. I confess that I have been unable to find in Appendix G, which is Golder's "Breach Analysis" of 2021, any express reference to climate change. I found one reference to sea level rise - which appears to relate not to BRDA containment stability but to displacement by tidal surge or wave event of bauxite residue influenced water in the PIC, the SWP and/or the LWP. Appendix G does not detail its climate change assumptions. Perhaps they were stated in the 2019 document⁴⁰⁶ to which the 2021 document is an update, but, as I have said, I have failed to ascertain that the 2019 document was enclosed with the planning permission application. Again, while these observations seem worth making, I do not rest my decision on them as I think this an issue of merit for the Commission to decide.
- e. The Inspector accepts AAL's breach analysis and modelling to the effect that, if a tidal surge breached both the FTDB and BRDA containment, bauxite residue and wastewater would potentially be washed into the Robertstown and Shannon Rivers but in relatively small volumes.⁴⁰⁷ Potential breakout cannot

401 2021 Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development §7.6.3.

402 EIAR Chapter 16.

403 Inspector's report §10.3.30.

404 EIAR §17.3.1. Vulnerability of the Project to Climate Change – see above.

405 Appendix A of the EIAR: "Engineering Design Report: Bauxite Residue Disposal Area (BRDA) Raise Development", Appendix G "Breach Analysis". As relevant, these are described above.

406 Golder Associates Ireland Limited, Risk Assessment and Break-Out Study for the BRDA. (Golder 2019A). 1897858.R01.A3, March 2019.

407 As stated above, I have not found the calculations of such relatively small volumes or assessment of why such volumes are considered "relatively small".

be categorically ruled out but is highly improbable.⁴⁰⁸ These seem to be the primarily relevant conclusions.

CG4 – COMMISSION POSITION

173. The Commission pleads and submits that

- a. Ground 4 alleges as to flood risk, inter alia, failure to
 - correctly interpret the Development Plan.
 - do a “full Site-Specific Flood Assessment” – including by reference to the Flood Risk Guidelines.
- b. Insofar as ETI complains of non-compliance with, and material contravention of, the Development Plan, under s.37G(2)-(6) PDA 2000, the Commission had regard to the Plan. But it may grant permission in material contravention thereof - **Element Power**⁴⁰⁹ and **Coolglass**.⁴¹⁰ In any event, no material contravention is shown.
- c. ETI’s demand for a “full Site-Specific Flood Assessment”⁴¹¹ is predicated on a fact not established – that the Proposed Development is in Flood Zone A or B. ETI points to no positive evidence before the Commission that the Site is in Flood Zone A or B. The evidence before the Commission did not require flood risk assessment and so the Commission was entitled to proceed as it did.
 - I should say that I read this plea as the Commission’s response to ETI’s demand for specifically a “full Site-Specific Flood Assessment”⁴¹² on the basis that the Proposed Development is in Flood Zone A or B. I do not read it as an assertion that flood risk did not require any assessment.
- d. Flooding was addressed in the evidence before the Commission – by AAL, the Council and the Inspector. The latter found that the Site “*is not identified as an area of potentially significant flood risk with no flood events recorded at or in the vicinity of the AAL site*”.
- e. ETI fails to recognise that the Proposed Development is an extension to a pre-existing facility.
- f. The Commission repeatedly pleads the Flood Risk Guidelines and the SFRA.
- g. The evidence before the Commission did not establish any flood risk from the Proposed Development. The Commission’s conclusions on flooding were open to it on the evidence before it.
- h. ETI failed to discharge its burden of proof. It has shown no
 - illegality in the Commission’s approach to flooding – including by reference to the Development Plan.
 - evidence, or evidence before the Commission, that a Site-Specific Flood Assessment was necessary.

408 Inspector’s report §10.3.42 & 10.3.43.

409 Element Power v An Bord Pleanála [2017] IEHC 550 at §68.

410 Coolglass Wind Farm Limited v An Coimisiún Pleanála [2026] IESC 5.

411 Submissions §4.11 et seq.

412 Submissions §4.11 et seq.

- i. If needs be, relief should be refused on a discretionary basis.

CG4 – AAL POSITION

174. AAL says

- a. S.37G(2)(c) PDA 2000, as to SID applications, requires the Commission to “*consider*” the Development Plan – not to “*comply*” with it - and, by s.37G(6) PDA 2000, the Commission can grant permission in material contravention of the Development Plan.⁴¹³
- b. There is no material contravention of the Development Plan as to flood risk.
- c. The Commission had regard to the Development Plan as to flooding. The Commission’s Order⁴¹⁴ recites regard to the Development Plan and the Inspector recites the content of submissions as to flooding.⁴¹⁵
- d. ETI bears and has not discharged the onus of proof that the Commission breached s.37G(2)(c) – citing **GK**⁴¹⁶ as recently endorsed in **Save the South Leinster Way**.⁴¹⁷
- e. ETI’s assertions of irrationality and failure to give adequate reasons as to flood risk are refuted by EIAR §10.6.7, the CFRAM maps and the SFRA maps, which addressed the issue of flooding and which support the Inspector’s conclusions at §§10.3.26 to 10.3.31 of her Report.
- f. Objective CAF O20 of the Development Plan requires SSFRA only as to lands in Flood Zones A and B. The Site is not in Flood Zones A and B. As to the Site, SFRA §5.5 required only a flood risk assessment of detail appropriate to the identified flood risks and the Proposed Development.

175. Strikingly, though not I think surprisingly, in oral argument AAL opened and stressed the content of the Development Plan SFRA to which it had made no reference in its application to the Commission.⁴¹⁸

413 AAL cites *Element Power v An Bord Pleanála* [2017] IEHC 550 §68 and *Coolglass Wind Farm Limited v An Coimisiún Pleanála* [2026] IESC 5 §118(xii).
414 P3.

415 Inspector’s report p37.

416 *G.K. v Minister for Justice* [2002] 2 IR 418, [2002] 1 ILRM 401.

417 *Save the South Leinster Way v An Coimisiún Pleanála (No. 2)* [2025] IEHC 541 at §143.

418 Day 2 15:49.

CG4 - FLOODING – DISCUSSION & DECISION

Groundwater Flooding

176. As to groundwater, Ground 4 asserts failure to assess a risk of flooding from groundwater – not a risk posed by flooding to groundwater. Ground 4 relies entirely on the reference in the Development Plan to the need to assess such risks. But, and simply put, there is no evidence, and was none before the Commission, that, as to this Site and this Proposed Development, and other than by the risk of seepage which I address separately, any such risk actually exists such that it requires substantive consideration. There is no evidential basis for or substance to the plea. So I reject it.

Flood-Zoning the Site

177. As to this issue, the starting point, I consider, is that the Site is already flood-zoned, if only residually, as in Flood Zone C. As to the practical implications of flood-zoning a site as in Flood Zone C, I confess to the view that, after 17 years’ experience of their operation, the Flood Risk Guidelines might usefully be revisited, if only as to layout, to more clearly isolate and describe its requirements as to SSFRA in Flood Zone C.

178. Given the dissonance between the SFRA and the Flood Risk Guidelines described above, and as the view taken might affect the prescribed rigour of SSFRA, I have found it difficult to decide whether the Commission materially contravened the SFRA in failing to itself flood-zone the Site – or, more accurately, review the flood-zoning of the Site given it is already flood-zoned as in Flood Zone C.

179. As has been seen, and somewhat contrary to the approach of the Flood Risk Guidelines, the SFRA prescribes, as to planning applications in Zone C, that SSFRA “*of appropriate detail should delineate the Flood Zones and/or suitable mitigation*”⁴¹⁹ In an **XJS** interpretation⁴²⁰ of a development plan SFRA, I frankly dislike parsing “and/or” to its “or” sense. Something similar might be said of the phrase “*main purpose*” in the Flood Risk Guidelines.⁴²¹ However, interpreting the SFRA as a whole and in the context of the Flood Risk Guidelines on which it is undoubtedly and fundamentally based, I think the SFRA does not impose on planning permission applicants a general requirement in SSFRA of Flood Zone C sites to engage in flood zone “rezoning” or reappraisal. Inter alia, flood zoning is done by planning authorities at planning policy level. I think the SFRA reference to delineating the Flood Zones is best understood as a potential part, in a given case, of the more general prescription of SSFRA of Flood Zone C sites of an appropriate rigour comprehensively commensurate to the circumstances of the site in question and the development proposed for it. On that view, the issue of flood zone “rezoning” in the present case falls to be considered as part of the general issue of the adequacy of the SSFRA as to its merit and hence is reviewable only for irrationality. I therefore reject ETI’s plea of failure by the Commission to find into which Flood Zone – A, B or C - the Site fails. So too does

419 SFRA §5.3.

420 In Re XJS Investments Ltd [1986] IR 750 – i.e. interpretation as if by an informed intelligent layperson.

421 See matrix at Flood Risk Guidelines, Appendix A, Table A5, p12.

the plea of material contravention of development Plan Objective CAF O20 – it relates only to Flood Zones A and B.

180. In that light, it follows that, while the “full”⁴²² SSFRA applicable in Flood Zones A and B was not required, the SFRA did require SSFRA of the Site. Rather, what was required was an SSFRA of scope and detail commensurate to the case and to all its circumstances and the exercise of expert judgement as to what was required to that end. Questions of contravention of the SFRA and materiality of any such contravention must be considered in that light and hence as reviewable for merit only for irrationality.

Climate Central Map

181. As, unusually, the Inspector’s Report⁴²³ provided the Commission a live weblink to the Climate Central mapping tool, I felt justified in following it. It reveals that Climate Central is an apparently reputable and expert NGO whose mapping tool covers locations worldwide but to higher accuracy as to the United States. At least in the case of the link provided, one can set the tool to estimate inundation extent at various flood heights. It does not estimate the risk of occurrence a flood of any particular height at a particular location: rather, it estimates flood extent at a particular location assuming a flood of a particular height above the “highest daily local tide level or, technically, the mean higher high water (MHHW) line”. The tool⁴²⁴ itself enters considerable caveats as to local accuracy and explicitly describes its maps as “screening tools to identify places that may require deeper identification of risk”. It does not (at least on the link provided) prescribe the content of such “deeper identification of risk”. It ignores flood defences.⁴²⁵ Clearly, Climate Central maps should not be confused with reliable prediction of actual localised flood risk. Its citation by Futureproof Clare is entirely proper, but its significance should be properly understood.

182. That said, the SFRA explicitly recites that Shannon Estuary locations⁴²⁶ could be at greater than general flood risk due to climate change. In such locations, SSFRA should assess climate change impact of between 0.5m (MRFS⁴²⁷) and 1m (HEFS⁴²⁸) sea level rise (in each case + 50mm for land movement). But, as has been seen, the SFRA recommends⁴²⁹ that the MRFS be applied in planning permission applications for “highly vulnerable” development and the HEFS be applied in planning permission applications for “critical or extremely vulnerable” development. Save for the specific development types the SFRA identifies as such, whether a proposed development is critical or extremely vulnerable is a matter of evaluative expert judgement - remembering that the concept of vulnerability encompasses not merely flood risk to a development but risk of pollution by a flooded development.⁴³⁰

422 ETI’s word.

423 Inspector’s report §10.3.28.

424 Per “Details and Limitations”.

425 Outside the US - Inspector’s report §10.3.28.

426 The reference is to “settlements” but I cannot see that anything turns on that here.

427 Medium Range Future Scenario – OPW.

428 High End Future Scenario – OPW.

429 SFRA §5.9 Climate Change & Table 5-2.

430 Flood Risk Guidelines, Table 3.1 Classification of vulnerability of different types of development – Highly vulnerable development includes “potential significant sources of pollution (SEVESO sites, IPPC sites, etc.) in the event of flooding.”. Table 3.1 does not classify critical or extremely vulnerable” development, which is mentioned only in SFRA Table 5-2.

Irrationality & Material Contravention

183. Given my finding that the SFRA required SSFRA but not the “full” SSFRA applicable in Flood Zones A and B, I dismiss the allegation of irrationality. As the recital above of the content of the material before the Commission demonstrates, there was more than ample material before it on which the Commission was entitled to conclude that any, if any, flood risk was acceptable.

184. As to material contravention of the Development Plan and as I have decided there was no irrationality here, and given the standard of judicial review of an SSFRA which I have identified above, it follows that I cannot quash for irrationality any decision whether there was a material contravention of the Development Plan as to flood risk.

Failure of Regard to 2022 Development Plan

185. Woulfe J in **Sherwin**⁴³¹ pointed out that whatever standard of judicial review should apply to issues of material contravention, a prior question arises. He said:

“... the first question must be the nature of the determination (if any) actually made by the decision-maker, “as to whether or not the proposed application as a matter of law and fact would materially contravene the development plan”, (per Costello J. in SWR⁴³²), in circumstances where there has been the required focus by the decision-maker on the specific provision of the plan allegedly materially contravened. In my opinion that question is the crucial starting point,”

186. Later, Woulfe J said: *“It seems to me that the details of this planning application, and the materials before the Inspector and the Board, also required a focus by the Board on the policy set out in s. 16.10.15 of the development plan ...”*⁴³³ So, Woulfe J considered that the details of a planning application and the materials to hand could require focus on particular development plan content with a view to considering the possibility of its material contravention. I have little difficulty, as to the present planning application, in applying that logic as having required that the Commission focus on 2022 Development Plan provisions as to flood risk – in particular the Development Plan SFRA.

187. One may add reference to **Eglinton**,⁴³⁴ in which Farrell J said:

431 *Sherwin v An Bord Pleanála* [2024] IESC 13.

432 *South-West Regional Shopping Centre Promotion Association Limited v. An Bord Pleanála* [2016] IEHC 84. In that case, Costello J. stated that, in deciding a planning application, “the Board must make its own determination as to whether or not the proposed application as a matter of law and fact would materially contravene the development plan”

433 §116.

434 *Eglinton Residents Association v. An Bord Pleanála & Red Rock Donnybrook* [2025] IEHC 209.

“The fact that the Board may grant permission in material contravention of the Plan⁴³⁵ does not lessen its obligation to have regard to all relevant considerations, which includes relevant policies and objectives in the Plan.”

“Where a policy in a development plan is of importance and is relevant to a proposed development, the Board must consider it. The clearest way of demonstrating that such a policy has been considered is to refer to it and /or to expressly decide whether to comply with or contravene it.”

While the clearest way of doing something may not be the only lawful way, there is an awful lot of good sense in the last sentence above and much time in litigation would be spared were it taken to heart.

188. ETI pleads failure to have regard to the Development Plan, including its SFRA, as to, specifically, flooding. ETI does not explicitly plead failure to have regard to the Flood Risk Guidelines. However, its Grounds repeatedly and explicitly refer to the Guidelines inasmuch as they are invoked in the Development Plan text, which ETI does plead, and failure of regard to which ETI does plead. Also, I am entitled to recognise the Development Plan as to flood risk and the SFRA as, as they undoubtedly are, an implementation of the Flood Risk Guidelines and are to be contextually interpreted accordingly.

189. I must reiterate the caselaw to the effect that a duty of regard to the Development Plan as to flood risk, its SFRA and the Flood Risk Guidelines is a light duty and requires *“no kind of compliance”* with them.⁴³⁶ Nonetheless, regard is not without substance. Further, regard does require

a. that the document to which regard must be had be consulted and interpreted correctly – as is said in **Coyne**,⁴³⁷

“... it is clear that a decision-maker obliged to have regard to something must, for purposes of making its decisions, fully inform itself of that something⁴³⁸ - “consult the document”⁴³⁹ - and interpret it correctly.⁴⁴⁰ This requires a positive engagement by the decision-maker with that something. “Hence if the decision-maker fails to even look at the documents or matters to which it is to have regard, ... a ground for certiorari arises.”⁴⁴¹

435 I omit the words “without complying with section 34(2)(b)” as the proposition applies irrespective whether s.34(2)(b) or s.34(2)(a) PDA 2000 applies.

436 E.g. McDonald v Minister for Housing [2026] IEHC 66 §19, citing Jennings v. An Bord Pleanála [2022] IEHC 61 §12-17; EPUK Investments v. Environmental Protection Agency [2023] IEHC 59 §413; Coyne v. An Bord Pleanála & EngineNode [2023] IEHC 412 §21 and 32; Concerned Residents of Coolkill v. An Bord Pleanála [2025] IEHC 265 §190; Fernleigh Residents Association v. An Coimisiún Pleanála [2025] IEHC 655 §56; Foran v. An Coimisiún Pleanála & Glenveagh [2026] IEHC 23 §34; Duffy v. Minister of Housing, OPR & Clare County Council [2026] IEHC 46 §8.

437 Coyne v. An Bord Pleanála & EngineNode [2023] IEHC 412 §20.

438 Citing McEvoy v Meath County Council [2003] I.R. 208; Board of Management of Temple Carrig Secondary School v An Bord Pleanála [2017] IEHC 452. Pinewood Wind Ltd & Element Power Ltd v The Minister for Housing, [2018] IEHC 697; Merriman & FIE v Fingal County Council [2017] IEHC 695.

439 Citing Higgins v An Bord Pleanála [2020] IEHC 564 §24.

440 Citing Redmond v An Bord Pleanála [2020] IEHC 151 §94. “A decision-maker cannot be said to have properly had regard to objectives or policies which it has misunderstood.”; Killegland Estates Limited v Meath County Council [2022] IEHC 393, regard “presupposes a correct understanding”. Tesco Stores Limited v Dundee City Council [2012] UKSC 13 “a planning authority must proceed upon a proper understanding of the development plan ... the planning authority is required by statute to have regard to the provisions of the development plan: it cannot have regard to the provisions of the plan if it fails to understand them”.

441 Citing Killegland Estates Limited v Meath County Council [2022] IEHC 393.

For the avoidance of doubt, the last sentence of this passage gives an example of disregard. It does not purport to describe or delineate the duty of positive engagement. It does not suggest that merely “looking” at the document suffices as regard.

- b. that, treating the word “consider” – used, as relevant here, in s.37G(2) PDA 2000 - as synonymous with “regard” (see **Coyne and Cork County Council**⁴⁴²), “*thought will be given*” to that to which regard must be had, even if, following such thought, weight is not ascribed to it – **Four Districts**.⁴⁴³ I have cited **Sherwin and Eglinton** above. In similar vein, **Higgins**⁴⁴⁴ holds that the decision-maker must “*apply its mind*” to that to which regard must be had. Importantly, the degree of thought required will vary widely with circumstance and the relevance to the case of the document to which regard must be had. Some such documents will be of little or no relevance in a given case. But, as to a document clearly relevant and important to a main issue in a given case, it seems to me that the Australian case of **Khadgi**⁴⁴⁵ usefully, and consistently with **Four Districts** and **Higgins**, describes regard as “*an active intellectual process*” of “*genuine*” consideration. To put that another way, without increasing the burden of the light duty and recognising a wide discretion in the decisionmaker, as to a document clearly relevant and important to a main issue, regard requires that it be taken seriously to a degree appropriate to the circumstances - even if it is ultimately not complied with. And, remembering that the Commission’s obligation is of regard to a development plan, it seems notable that in considering material contravention Woulfe J in **Sherwin**⁴⁴⁶ identifies as a predicate “*the required focus by the decision-maker on the specific provision of the plan allegedly materially contravened.*” The word “focus” seems notable even though what is “required” may be a question of degree.

190. Adopting the terminology of the law of reasons, flood risk was undoubtedly a “main issue” in making the Impugned Decision – but not merely because of the submissions by objectors on that issue and even in light of LCCC’s view on the issue of flooding. As was recently said in **Doyle**⁴⁴⁷ certain issues are objectively main given the nature of the process or decision at issue. That flood risk was a main issue in this instance seems to me to have been obvious,

- as to the risk of flood occurrence, given the Site’s location on flood-defended lands adjacent the tidal, Atlantic-facing and west-facing⁴⁴⁸ Shannon Estuary.
- as to the possible consequences of flood, given the nature of the development and, for example, the adjacency of European Sites.

191. Flood risk to the Site had been recognised for over 100 years – by the presence of flood defences, the existence of which, as the Flood Risk Guidelines make clear, implies the presence, not the absence, of flood risk. It is improbable that those flood defences, adjacent the Shannon Estuary, were pointlessly constructed in

442 Coyne v. An Bord Pleanála & EngineNode [2023] IEHC 412 §23Cork County Council v Minister for Housing [2021] IEHC 683 §39.

443 Four Districts Woodland Habitat Group v An Bord Pleanála & Romeville [2023] IEHC 335 §40.

444 Higgins v. An Bord Pleanála [2020] IEHC 564.

445 Minister for Immigration and Citizenship v Khadgi [2010] FCAFC 145, citing Tickner v Chapman (1995) 57 FCR 451; 133 ALR 226] at FCR 462; ALR 238 per Black CJ and Minister for Immigration and Multicultural Affairs v Jia (2001) 205 CLR 507; 178 ALR 421; 65 ALD 1; [2001] HCA 17 at [105] per Gleeson CJ and Gummow J. – See also Words & Phrases Legally Defined, LexisNexis: <https://plus.lexis.com/uk/analytical-materials-uk/have-regard-to/?selectedToLevelKey=TAACAAIABN&crd=ebf4aa25-e735-4044-9f4b-3a55a3a678be>.

446 Sherwin v An Bord Pleanála [2024] IESC 13.

447 Doyle & Friends of the Irish Environment v. An Coimisiún Pleanála & Art Data Centres [2026] IEHC 156

448 I can take judicial notice that in Ireland, the weather comes from the west/southwest.

the early 1900s, pointlessly maintained and improved by the OPW since the 1960s (they also drained the lands – again, presumably not pointlessly) and pointlessly maintained and improved by AAL more recently. The applicability to the Site of the principle that flood defences imply flood risk, not its absence (for example, as to a BDRA which will remain forever), is implicitly illustrated by the Inspector’s own account of the 2021 OPW Flood Hazard Mapping in that she discounts whatever may be the depicted flood extents on the basis that the mapping ignores flood defences. And, as has been seen, the SFRA, for reasons stated, requires that SSFRA demonstrate an understanding of the risks of developing behind flood defences. This is particularly so for Arterial Drainage Benefiting lands such as the Site – as opposed to those protected by formal flood relief schemes which have been through a detailed design process and approved by the OPW or LCCC. It is not apparent to me from the papers that anyone drew that distinction in this case and established into which category of flood defence the FTDB falls - though it is clear that the Site is mapped as Arterial Drainage Benefiting lands.

192. That flood risk was a main issue did not necessarily imply refusal of the application or that a significant and unacceptable residual risk would be found. It required that the flood risk be addressed. Which it was - but not explicitly or even apparently by reference to the 2022 Development Plan, its SFRA and the Flood Risk Guidelines.

193. Lest there be doubt in that regard, I have noted that the EIAR cites its regard to the Assessment and Management of Flood Risks Regulations.⁴⁴⁹ However, while they implement the Floods Directive⁴⁵⁰ and require flood hazard mapping and flood risk mapping by the OPR, they relate largely to issues other than the integration of flood risk management into planning policy and development control. Regard to those regulations does not absolve the Commission of, or substitute for, or even imply, regard to the Development Plan as to flood risk (including its SFRA) and to the Flood Risk Guidelines. Nor, in fairness, was that argued.

194. As has been seen, the SFRA had specifically referred to flood risks, and climate change exacerbations of those risks particular to the Shannon Estuary, on the edge of which the Site sits. Futureproof at least had put flood risk, the SFRA and the issue of flood zoning directly to the Commission. The Commission cannot object to being “gaslit” now by ETI on the issue.

195. Not least given the explicit submissions to the Commission on the issue, but in any event as the obvious course since remittal at least, the obvious prisms through which explicitly to address flood risk were the 2022 Development Plan as to flood risk, its SFRA – which is Volume 4 of the 2022 Development Plan – and the Flood Risk Guidelines which, very clearly, 2022 Development Plan and its SFRA seek to implement. By statute, the Commission was required to “consider” all three documents. Indeed, and notably, the Commission itself in these proceedings repeatedly pleads the Flood Risk Guidelines and the SFRA. Yet, as has been seen, AAL and the Commission explicitly referred to neither. The Inspector’s analysis referred to them

449 European Communities (Assessment and Management of Flood Risks) Regulations 2010 as amended.

450 Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks.

only in a very limited way.⁴⁵¹ That the 2022 Development Plan and its SFRA supervened in the process only after the remittal is irrelevant to these observations - **Crofton**.⁴⁵²

196. It is at least surprising and disconcerting (and is unexplained in their many affidavits) that, while they in substance undoubtedly considered, and in the case of the Commission decided on, the question of flood risk, AAL and the Commission each refrained in the process from any mention of the 2022 Development Plan, its SFRA and the Flood Risk Guidelines, as to flood risk. In her analysis, the Inspector refers to the SFRA only to discount Futureproof Clare’s locating the Site in Flood Zones A and B by observing that the SFRA flood mapping “as presented in Figure 8-7 does not extend to the subject site.” As she takes the analysis no further, the Inspector implies that this observation takes her analysis as far as it needs to go. But, as I have said, that fact does not at all exhaust the relevance of the SFRA or exclude the requirement for SSFRA in detail appropriate to the Site, considered as a Flood Zone C site. That the Inspector’s analysis takes the issue no further suggests that she misunderstood the SFRA and Flood Risk Guidelines - that she incorrectly thought that once the Site was not mapped in Flood Zone A or B, she need no longer consider the SFRA and Flood Risk Guidelines. As has been seen, that is not so.

197. Ground 4 would have been far more easily decided – or, likely, would not have been pleaded at all - had AAL, the Inspector and the Commission in terms addressed flood risk through the obvious prism of the 2022 Development Plan, its SFRA and the Flood Risk Guidelines. These observations and the submissions to the Commission on the flood risk issue demonstrate that AAL and the Commission brought Ground 4 on themselves.

198. Essentially, as to this aspect of the case, the Commission and AAL rely on

- the fact that the Commission in the Impugned Decision recited regard to “*the ... local policy support for the proposed development including: Limerick Development Plan 2022-2028*”.
- **G.K.**⁴⁵³ to the effect that “*A person claiming that a decision-making authority has, contrary to its express statement, ignored representations which it has received must produce some evidence, direct or inferential, of that proposition before he can be said to have an arguable case.*”

199. Two things may be said of the principle in **G.K.**:

- In terms, it relates to regard to submissions - not to regard to such as the development plan and statutory guidelines. But I take it as applying to the latter also.
- It is an evidential principle. It relates to the court’s fact-finding process. Whether the Commission did or did not have regard to a particular matter is a question of fact. As with all disputed questions of fact, and

⁴⁵¹ Inspector’s report 10.3.27.

⁴⁵² Crofton Buildings v An Bord Pleanála [2024] IESC 12, [2024] 4 JIC 1003.

⁴⁵³ G.K. v Minister for Justice, Equality and Law Reform [2001] IESC 205, [2002] 2 I.R. 418.

while presumptions and the like assist, onus of proof is decisive only rarely – where the evidence is indecisive. Questions of fact are ultimately determined on a conspectus of the evidence.

200. As to proof of the fact of regard, clearly, the starting presumption, of validity, is that the Commission had regard to that to which it was obliged to have regard. In essence, that presumption assigns the onus of proof to the applicant for judicial review (**Ballyboden**⁴⁵⁴). But as that applicant bears that onus anyway, on the general principle that in adversarial proceedings (s)he who asserts must prove, the significance of the presumption or its particularity to judicial review, should not be overstated. In **Stanberry**,⁴⁵⁵ Murray J cautioned against a “supercharged” view of the presumption and in **Fernleigh**⁴⁵⁶ it was said of such presumptions that

“On occasion they are decisive in upholding an impugned decision. But they are not talismans against invalidity as a result of interpretation of an impugned administrative decision or a warrant for a strained, unreal or unfair interpretation of such a decision or a basis for assuming validity where a decision is inadequately reasoned. Both deployment of expertise and adequacy of reasons are pre-conditions of curial deference. And reliance by a decision-maker on the clarity of its decision is far more attractive than its recourse to the presumption of validity.”

201. Returning to the principle identified in **G.K.**, as mobilised here by the Commission and AAL, its predicate is an “*express statement*” of regard. So, to what did the Commission expressly state its regard? As stated above, the Commission recited regard to the “*local policy support for the Proposed Development including: Limerick Development Plan 2022-2028*”. From the Inspector’s Report, the meaning, and also the scope, of this assertion of regard become clear: the only elements of the Development Plan cited by the Inspector are, indeed, those which state “*support for the Proposed Development*”: Map 5.5, identifying and Objective ECON 057 safeguarding Aughinish Island as a Strategic Development Location and Objective ECON 058(a) for the promotion of the economic and industrial development of the Shannon Estuary. These objectives do recite the need for compliance with relevant environmental directives⁴⁵⁷ (including the Floods Directive). They also cite the conservation objectives of the SAC and envisage detailed botanical, faunal and ornithological surveys as to proposed developments at Strategic Development Locations - to fully consider the potential effects of the development and inform how to best avoid significant ecological effects. But there is, in the Impugned Decision, no express statement of regard to the very substantial content of the 2022 Development Plan as to flood risk, or to its SFRA or, for that matter, to the Flood Risk Guidelines. Absent explicit reference in the Impugned Decision to the Development Plan and the SFRA as to flood risk, or, for that matter, to the Flood Risk Guidelines, **G.K.** does not, in terms, apply as to Ground 4 here.

202. The explicit reference to Objective ECON 057 and in turn its reference to the Floods Directive might be considered an implied, as opposed to an express, statement of regard (if at appreciable remove) to the 2022 Development Plan and its SFRA as to flood risk, or, for that matter, to the Flood Risk Guidelines. In law

454 *Ballyboden Tidy Towns Group v An Bord Pleanála & Ardstone* [2024] IESC 4, [2024] 2 JIC 2201 §48. The presumption does have a further aspect in that, where reasonable, decisions should be interpreted so as to validate rather than invalidate them.

455 *Stanberry Investments Ltd v Commissioner of Valuation* [2020] IECA 33.

456 *Fernleigh v ABP & Ironborn* [2023] IEHC 525.

457 the SEA, Birds and Habitats, Water Framework, Shellfish Waters, Floods and EIA Directives.

and *ceteris paribus*, that which is implicit is just as present as that which is explicit. Whether something is implicit in a document turns on its text and on such matters as its context and the interpretive approach to the document – here, on **XJS**⁴⁵⁸ principles as if by a knowledgeable, intelligent lay reader. In those circumstances, rather than regarding an implicit statement of regard as a predicate for asking, in G.K. terms, whether there is “*evidence, direct or inferential*” of lack of regard, it seems to me correct to ask the simpler overall question whether the **XJS**⁴⁵⁹ reader, interpreting the Impugned Decision in its context would, on a conspectus of the admissible evidence, infer from the Impugned Decision, as a fact and despite the absence of express record of regard, that the Commission had regard to the 2022 Development Plan and its SFRA and the Flood Risk Guidelines as they related to flood risk.

203. In **Eoin Kelly**⁴⁶⁰ Barniville J cited **Evans**⁴⁶¹ to the effect that mere failure by the Board to recite or refer to a particular policy or guidelines “*does not in any way prove a failure on the part of the Board to have kept itself aware of such policy*”, having regard to the rebuttable presumption of validity and the onus of proof. However that view must be understood in context: Barniville J was concerned with issues not raised before the Board and which were not “*main reasons and considerations*” for the Board’s decision and was unsurprisingly concerned not to “*require the Board effectively to recite in a pro forma manner all potentially relevant guidelines, documents and provisions notwithstanding that no issue had been raised in relation to them before the Board.*” I cannot see that in this case flood risk falls into the category of subject-matter at issue in **Eoin Kelly**.

204. Here the issue seems to me to not be a matter of reading the Impugned Decision as valid rather than invalid. It seems to me to be a matter of inferring as to fact, on the evidence and on the balance of probabilities, what the Commission actually did. The concept of plausibility assists - is it plausible that the Commission,

- in considering flood risk in this case, as it undoubtedly did, would have failed, in breach of its statutory obligations, to have regard to the 2022 Development Plan, its SFRA and the Flood Risk Guidelines? At a general level at least, the answer is clearly “no”. After all, it is unlikely that the Commission would have been unaware that those documents provide, in some detail, the policy recommendation of the analytical method for consideration of flood risk.
- having had regard to the 2022 Development Plan, its SFRA and the Flood Risk Guidelines in this case, would have failed to record that it had done so (if via adoption of its Inspector’s Report)? On the facts and in the circumstances of this case, in which flood risk was inevitably a main issue, the answer is also clearly, “no”. After all, those documents provide, in some detail, the policy recommendation of the analytical method for consideration of flood risk. It is difficult to see how, in a practical sense in this case, the Commission/Inspector, having had regard to them, could have avoided express reference to them, even if rejecting their method as they were entitled to do.

458 In re XJS Investments Ltd [1986] IR 750.

459 In re XJS Investments Ltd [1986] IR 750.

460 Kelly v An Bord Pleanála [2019] IEHC 84.

461 Evans v an Bord Pleanála (Unreported, High Court Kearns J., 7th November 2003) [2004] WJSC-HC 4037 §202 – 204.

205. Faced with this conundrum of contradictory implausibilities, I confess that, though it is a fine point, I do not regard these possibilities as equally implausible. As to the first, experience tells us that, however generally unlikely, on occasion important matters are in fact inadvertently overlooked. In contrast and as to the second, it would in my mind and on the facts of this case have required wilfulness or something close to it to have had regard, as to flood risk, to the 2022 Development Plan, its SFRA and the Flood Risk Guidelines and yet, if only in rejecting the flood risk analysis which they recommend, to have avoided mentioning them. In this instance, and as between two implausible scenarios, inadvertence seems to me appreciably more plausible than wilfulness.

206. The context supports that view. The planning application and the Quashed Decision thereon preceded the 2022 Development Plan, which introduced the SFRA. The planning application applied the Limerick County Development Plan 2010 – 2016 (as extended). Both the EIAR and AAL’s planning report,⁴⁶² asserted consideration also of the draft 2022 Development Plan. But neither mentioned its content as to flood risk or, more to the point, the proposed introduction of the SFRA.⁴⁶³ Why neither mentioned the Flood Risk Guidelines, issued in 2009, I cannot say and it seems a notable omission.

207. In any event, by the time of consideration of the planning application on remittal, the 2022 Development Plan had taken effect. As had, of course, its Volume 4 – the SFRA. AAL was “*invited to make any further submission that you wish to make on the application*”⁴⁶⁴ – which it did by its letter of 19 January 2024. That letter recorded the making of the 2022 Limerick Development Plan. It confirmed, in the past tense and by reference to an assessment which could not have been informed by regard to the SFRA, that “*that Flood Risk Assessment for the site and subject proposal have been fully assessed as part of the planning application*” and it essentially repeats EIAR content in that regard. It adds nothing as to flood risk in light of the new 2022 Development Plan and does not mention its SFRA. As has been observed earlier, AAL’s response of 19 January 2024 asserted that the information already before the Commission sufficed for EIA and AA Screening/AA and so did not update the EIAR or NIS – each of which had been finalized in November 2021 – prior to the making of the 2022 Development Plan and its SFRA. This response was given by AAL despite the fact that the 2022 Development Plan and its SFRA had clearly provided the new analytical prism in local planning policy through which to address flood risk.

208. I think it likely in all the circumstances that AAL’s response of 19 January 2024, in its omission of reference to and analysis of the 2022 Development Plan, its SFRA and, for that matter, the Flood Risk Guidelines, in fact influenced the Inspector’s and the Commission’s subsequent assessment of the application as it related to flood risk.

209. I return to the fact that flood risk was a main issue. I do not think it is merely a matter of hindsight or of being dazzled by the spotlight shone on the issue in these proceedings to say that it is, in the end, striking

⁴⁶² Planning Report; Proposed BDRA Raise at Aughinish East, Aughinish West, Island Mac Teige, Glenbane West, and Fawnamore at or adjacent to Aughinish Island, Askeaton, Co. Limerick, TPA, December 2021. §4.4.

⁴⁶³ §10.4.3 Local Policy.

⁴⁶⁴ the Commission to AHL 13 December 2023.

that, in the analysis on that main issue, the vitally important 2022 Development Plan as to flood risk, its SFRA and the Flood Risk Guidelines received, in the Impugned Decision, no express mention whatsoever save one brief reference by the Inspector which fell well short of displaying a proper interpretation of the extent of their requirements

210. In all the circumstances and despite the fact that the Commission considered flood risk – indeed notably because they did so without referring to the policies in question - I think the proper inference is that of omission not wilfulness: that the Commission failed to have regard to the 2022 Development Plan and its SFRA as to flood risk; not that they had regard to them but didn't say so. Though such an omission by the Commission should not have occurred, given the same omission in their response of 19 January 2024, AAL, in truth, have little cause for complaint.

Discretionary Relief

211. I have considered whether I should refuse relief on the flood issue on a discretionary basis. Bearing in mind the presumption of validity, the question nonetheless seems to me to be finely balanced. After all, it is clear that AAL proffered and the Commission considered appreciable evidence on the flood issue. As I have found, it can by no means be said that the Commission's decision was irrational in substance. However, I have come to the view that I should not refuse, on a discretionary basis, relief on the flood issue.

212. First, as Donnelly J said for the Supreme Court recently in **L.A.**⁴⁶⁵

"... the exercise of discretion to refuse to grant a remedy of judicial review which may otherwise be justified is tightly bounded by legal and constitutional considerations. In judicial review, the High Court exercises supervision over administrative bodies and courts of limited jurisdiction and in that way acts as a safeguard to the rule of law. There is a public interest in ensuring that those bodies and courts act in accordance with law."

*"The use of the term discretion, in the sense of judicial discretion, is strictly delineated. As O'Donnell J. (as he then was) said in **Kelly**⁴⁶⁶.... "The fact that the remedies involved are discretionary does not, however, mean that a court is at large, or is free to take into account its views on the underlying merits."⁴⁶⁷ When used in the context of a ground to refuse judicial review it is a vital consideration that "the circumstances which allow the court not to make an order which would otherwise be justified must be such as to derive from an important constitutional or legal value of sufficient weight to warrant not making an order otherwise justified."*

⁴⁶⁵ L.A v The Chief Appeals Officer, [2026] IESC 22, [2026] 3 JIC 2503, [2026] 3 I.C.L.M.D. 55.

⁴⁶⁶ Kelly v Minister for Agriculture [2023] 1 IR 38, [2021] IESC 62.

⁴⁶⁷ Emphasis added.

213. Second, while the Commission is not bound in law to obey the Flood Risk Guidelines or the Development Plan SFRA, or to carry either into effect, there can be no doubt but that they represent a vital, highly systematic, climate-change-influenced, national approach to flood risk, grounded in EU law. As was noted in **Voyage Properties**⁴⁶⁸ NPO 57 of the NPF 2018⁴⁶⁹ (applicable when the Impugned Decision here was made and to which the Commission was obliged to have regard – s.143 PDA 2000), reads in part:

*“Enhance water quality and resource management by:
Ensuring flood risk management informs place-making by avoiding inappropriate development in areas at risk of flooding in accordance with The Planning System and Flood Risk Management Guidelines for Planning Authorities.”⁴⁷⁰*

214. The NPF 2018 also states⁴⁷¹ that *“Of particular importance is the consideration of potential future flood risk in the area of planning and development management, and the planning and design of infrastructure.”* And it cites the Flood Risk Guidelines as the source of core objectives as follows

- avoiding inappropriate development in areas at risk of flooding;
- avoiding new developments increasing flood risk elsewhere, including that which may arise from surface run off;
- ensuring effective management of residual risks for development permitted in floodplains;
- avoiding unnecessary restriction of national regional or local economic and social growth;
- improving the understanding of flood-risk and ensuring flood risk management in accordance with best practice.

215. Since the Impugned Decision, the NPF 2018 has been replaced by the NPF First Revision 2025. It states,⁴⁷² inter alia,

- The EU Floods Directive and the Planning System and Flood Risk Management Guidelines, 2009 have been key drivers in how Ireland manages flood risk.
- The Flood Risk Guidelines are core to the development of the SFRA. This key guidance document sets out comprehensive mechanisms for the integration of land use and infrastructure planning with flood risk management best practice.

It is not anachronistic to refer to the foregoing content – it describes the regime in place since at least 2009 and its importance since that time. NPO 78⁴⁷³ of the NPF 2025 is in similar terms to NPO 57 of the NPF 2018.

216. Third, there is the nature of the Proposed Development – the storage forever of bauxite residue immediately beside the Shannon Estuary and behind flood defences, where it will remain long after the

468 Voyage Property v Limerick City & County Council, Minister for Housing & OPR [2025] IEHC 696, [2025] 12 JIC 1602.

469 National Policy Objective 57 of the National Planning Framework 2018. Since the Impugned Decision it has been replaced by the replaced by National Planning Framework First Revision 2025

470 i.e. the Flood Risk Guidelines.

471 P123 and Figure 9.2 Flood Risk Management Core Objectives.

472 P13.

473 Promote sustainable development by ensuring flooding and flood risk management informs place-making by:

- Avoiding inappropriate development in areas at risk of flooding that do not pass the Justification Test, in accordance with the Guidelines on the Planning System and Flood Risk Management;
- Taking account of the potential impacts of climate change on flooding and flood risk, in line with national policy regarding climate adaptation.

refinery has ceased to operate and to produce the economic means of management of the BRDA and remediation of environmental damage.⁴⁷⁴ That nature is such that public confidence in the Impugned Decision is particularly important. This observation should not be mistaken for a view that the Proposed Development should not be permitted. But public confidence that regard has been had by the Commission to the highly systematic, climate-change-influenced, national approach to flood risk, grounded in EU law and, specifically, to the Development Plan SFRA grounded in that national approach, is of particular importance here.

217. Fourth, as I have said, it is fair to say that AAL has brought this problem on itself. I fail to understand why it ignored the 2022 Development Plan as to flood risk and its SFRA as to flood risk in its submission after remittal of the Quashed Decision. Indeed, a notable feature of the trial was AAL's reliance on the SFRA which it had not cited in its submission after remittal.

218. Fifth, I acknowledge that it is entirely possible – for all I know, likely - that on reviewing flood risk in light of the 2022 Development Plan and its SFRA and, for that matter, the Flood Risk Guidelines, the Commission will come to the same conclusion as to flood risk as that they have already reached. However, I cannot assume that to be so. This is not a case of harmless error. Rather it falls into the category identified by Fennelly J in **Talbot**,⁴⁷⁵ when he said that *“a judge is not entitled to presume in advance what the outcome of an application will be. That is exclusively a matter for the statutory bodies charged with those functions.”*

Decision

219. Accordingly, I will quash the Impugned Decision on Ground 4, but by reference only to the Commission's failure to have regard to the Development Plan and its SFRA as to flood risk.

CG5 – HEAVY METALS IN GROUNDWATER

CG5 – ETI'S PLEA & SUBMISSIONS

220. ETI pleads that the Commission *“acted unlawfully, failed to apply precautionary principle and acted irrationally and without a proper statistical foundation in finding (§11.7.25⁴⁷⁶) that the results for heavy metal concentrations in groundwater, which recorded elevated levels of arsenic, cadmium, iron, magnesium, nickel and zinc, do not form part of a continuing trend which could be attributed to consistent trends in terms of elevated concentrations. Such concentrations ought to have prompted further and rigorous analysis as to whether they were the result of AAL development to date.”*

⁴⁷⁴ I note provision for bonding in this regard.

⁴⁷⁵ *Talbot v An Bord Pleanála* [2008] IESC 46, [2009] 1 IR 375.

⁴⁷⁶ This refers to the Inspector's report as to EIA.

221. ETI pleads, by way of particulars, that,

- the NIS⁴⁷⁷ records that groundwater monitoring at observation wells (“OW”) on the BRDA perimeter and at monitoring wells (“MW, OW, BH & SPW”) at the quarry and surface water monitoring⁴⁷⁸ and marine sediment sampling⁴⁷⁹ showed exceedances of heavy metal threshold values for Arsenic, Cadmium, Iron, Magnesium, Mercury, Nickel and Zinc.⁴⁸⁰
- the NIS⁴⁸¹ does not record numbers or frequency of samples taken from particular wells or statistical sampling analysis thereof.
- the Commission, in concluding that heavy metal exceedances did not form a trend or a continuing trend, failed to have regard to “EPA data published on its website indicating a downward trend for chemical surface water status”.

222. In its written submissions ETI,

- in my view accurately, rewords the essence of Ground 5 as being

“Whether the Commission acted unlawfully, or irrationally in its consideration, or lack thereof, of the significance of heavy metal concentrations in the groundwater and by failing to investigate the cause of the same it vitiated the legality and rationality of its decision.”

- submits that Article 4(1)(b)(i – iii) WFD,⁴⁸² as to environmental objectives for all bodies of groundwater, requires positive measures to:
 - prevent or limit the input of pollutants to groundwater.
 - prevent the deterioration of the status of all bodies of groundwater.
 - protect, enhance and restore groundwater with the aim of achieving good groundwater status.
 - reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order progressively to reduce pollution of groundwater.

223. Accordingly, ETI says,

- a. The Commission’s autonomous obligations (citing an **ETI** case⁴⁸³) as to these positive EU law (in fact, WFD) obligations are such that it is not for ETI to show the Commission’s methodology incorrect.
- b. The Commission should have done further investigations to eliminate, or at least discount on a reasoned basis, potential groundwater contamination. The Commission’s “glib” acceptance of AAL’s assertions

477 Natura Impact Statement for AA Purposes.

478 NIS §6.8.6 Review of Monitoring Results et seq.

479 NIS §6.8.11, p111 et seq.

480 The wells at which exceedances for particular metals were recorded are listed in the particulars.

481 Natura Impact Statement for AA Purposes.

482 The submissions in error cite Article 4(iv) WFD. There is none such. But as the text is laid out in the submissions, the correct reference is clear.

483 ETI v An Bord Pleanála & Cloncaragh [2022] IEHC 540 §241.

that any seepage through the BRDA base was negligible and that metal sediment concentrations in the estuarine deposits north of the Site are comparable to typical background concentrations in the Irish marine environment was not rigorous analysis of this issue as required by EU law.

- c. The Commission's duty in AA and EIA, was to engage with AAL's evidence, ensuring it had the expertise to do so.⁴⁸⁴ The Commission failed to interrogate or engage with the results showing significant heavy metal exceedances and concentrations in circumstances requiring further investigation.
- d. While it is for the Commission to assess the adequacy of the information before it, it must do so in a reasoned manner and consistently with legal requirements to balance the various interests concerned.
- e. **Jennings**,⁴⁸⁵ distinguishes "ordinary judicial review" from judicial review in which EU Law issues of environmental protection arise:

"... at least in EU Environmental law contexts in which a right of judicial review of environmental law permits is afforded (viz. Article 11 of the EIA Directive), judicial review is not an extraneous interference in a system which has already produced a permit: it is, rather, internal and integral to the environmental law permitting system itself. Ceteris paribus, such a view would tend towards the grant of stays on impugned decisions pending trial of judicial review. At a very general level, this would seem consistent with the high level of environmental protection enjoined in Article 191 TFEU 44 and Article 37 CFEU".

ETI does acknowledge that this observation was made in the specific context of an application for a stay of an impugned decision pending trial of judicial review.

CG5 – COMMISSION & AAL POSITION

224. The Commission and AAL say that

- a. The Commission was entitled to consider the information before it (inter alia, EIAR Chapters 10 and 11⁴⁸⁶ and NIS §§6.8 and 6.9⁴⁸⁷) adequate for EIA – the context in which ETI's complaints are made. Such assessment is quintessentially for the Commission and subject to judicial review as to merit only for irrationality - **Coyne**.⁴⁸⁸ As to irrationality and as a matter of law, the information before the Commission sufficed to support the Impugned Decision.
- b. No further investigation was required where;

484 Article 5(3) EIA Directive.

485 Wendy Jennings v an Bord Pleanála, Ireland and The Attorney General [2022] IEHC 11. §85.

486 §§10.7.10 - 10.7.11, 11.5.21 and §§11.7.25 - 11.7.26.

487 NIS §6.8 Emissions to Surface Water, Transitional Water and Marine; §6.9 Groundwater and Geology.

488 Coyne v An Bord Pleanála [2023] IEHC 412.

- AAL’s Conceptual Site Model (“CSM”) appended to the NIS⁴⁸⁹ indicated “*no evidence that heavy metals concentrations are elevated in the marine sediments and consequently no evidence that toxic impacts would occur to the marine benthic biota*” and that there was “*no pathway from the AAL site producing a negative impact on the designated prey species of intertidal feeding birds and other higher fauna in the estuarine Natura 2000 sites*”.
 - no other materials in the process contradicted this material submitted by AAL.
- c. The WFD issue raised in submissions was not pleaded.
- d. There is no evidential basis for ETI’s WFD argument - citing **SWI**⁴⁹⁰ and a **Ryanair** case.⁴⁹¹

CG5 - INSPECTOR’S REPORT

225. The Inspector, in her planning assessment,⁴⁹²

- a. Adverts to a material overlap with her EIA report⁴⁹³ and invokes her assessment in that regard.
- b. Refers to objectors, including An Taisce, as asserting lacunae in the information available as to potential adverse effects of the Proposed Development on groundwater.
- c. Refers to 45 groundwater monitoring wells around the Site (citing EIAR Figure 10.28) and the EIAR presentation of the results, including water quality metal analysis done in 2021.⁴⁹⁴
- d. Describes AAL’s monitoring data and investigations as extensive, site-specific, empirical and providing scientific certainty, such that the conclusion that the Proposed Development will have no impact on groundwater is reasonable.⁴⁹⁵
- e. Accepts AAL’s reasoning that saline intrusion from the adjacent estuary explains high levels of electrical conductivity in groundwater along the northern boundary – seeing this view as supported by lower conductivity in groundwater samples from wells further from the estuary.
- f. States as follows:

“Results for heavy metal concentrations in groundwater are set out in Table 10.7 with elevated levels of arsenic, cadmium, iron, magnesium, nickel and zinc recorded on occasion. However, these exceedances occur in isolation to other parameters and do not form part of a continuing trend which

489 Inspector’s report §§6.4 & 11.5.21. The CSM, prepared by RSK Environmental assisted by the Institute of Environmental Health, is found at Appendix B to the NIS and is explained at §6.3 of the NIA. It is entitled “Aughinish Alumina, Conceptual Site Model, BRDA Waste Facility” and dated November 2021.

490 SWI, IFI, Sweetman & Ors v ALAB et al [2024] IEHC 421.

491 Ryanair DAC v An Bord Pleanála [2025] IEHC 74. Also An Taisce v An Bord Pleanála (No.1) [2021] IEHC 254; and Concerned Residents of Treascon and Clondoolusk v An Bord Pleanála [2022] IEHC 700 in respect of the need to establish such complaints evidentially.

492 Inspector’s report §10.7. Surface and Groundwater.

493 Inspector’s report §11. EIA.

494 EIAR Figures 10.29 to 10.48 and Tables 10.7 and 10.8.

495 Inspector’s Report §§10.7.13.

could be attributed to consistent trends in terms of elevated concentrations. As noted above the [EIAR⁴⁹⁶] concludes that there is negligible seepage through the base of the BRDA either in the lined or unlined phases due to the underlying depth of bauxite residue and the characteristics of the underlying estuarine soils.

The data contained in the EIAR and NIS including the Conceptual Site Model and further confirmatory study on marine sediment data show that metal sediment concentrations in the estuarine deposits to the north of the site are comparable to typical background concentrations in the Irish marine environment.

Having regard to the nature and extent of the proposed development, the proposed mitigation measures as detailed to protect ground and surface waters effectively constitute established working practices and measures on the site. The surface water runoff from the bauxite residue is to continue to percolate through the rock fill stages and discharge to the encompassing PIC with no discharges to groundwater.”⁴⁹⁷

226. The Inspector, in reporting on EIA,⁴⁹⁸

- Repeats verbatim, the text set out above.⁴⁹⁹
- Notes objectors’ concerns as to potential impacts of heavy metals on the marine environment.⁵⁰⁰
- Refers the Commission to AAL’s CSM. It discounted as very unlikely any potential for heavy metal bioaccumulation in the marine environment due to BRDA emissions. The data indicate that there is
 - No evidence of elevated heavy metals concentrations in the marine sediments.
 - Consequently, no evidence that toxic impacts would occur to the marine benthic biota.
 - No pathway from AAL activity negatively impacting invertebrate prey of higher faunal organisms, including intertidal feeding birds.

Conceptual Site Model, NIS & EIAR

227. It is useful here to interpose a brief account of the CSM appended to the NIS and of relevant NIS content.⁵⁰¹ A CSM enables risk assessment by modelling the characteristics of a site to show possible relationships between source contaminants, pathways and receptors. The CSM explains⁵⁰² how a CSM works, by a comprehensive, structured, risk-based,⁵⁰³ source-pathway-receptor modelling of pollutant linkages of

496 EIAR, Appendix A Engineering Design Report, Appendix H Seepage and Water Quality Assessment.

497 Inspector’s Report §§10.7.10 - 10.7.11.

498 Inspector’s report §11 EIA.

499 i.e. Inspector’s Report §§11.7.25 - 11.7.26 repeats verbatim §§10.7.10 - 10.7.11.

500 Inspector’s report §11.5.21.

501 NIS §6.3.

502 CSM §2.1 et seq. The explanation is of some length and only the briefest account is practical or necessary here.

503 CSM §2.4 - Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence (i.e., how likely is the hazard, and how bad would it be if the pathway was realised).

contaminants (heavy metals), via a pathway, with receptors sensitive to adverse effects of such contaminants. In this case, and as the Inspector noted, the CSM was created to assess, in particular, any potential pathways to bioaccumulation of pollutants in the immediate marine environment, due to emissions from the entire manufacturing site (and all associated activities). It specifically considered potential pathways to accumulation of heavy metals in marine sediments and terrestrial soils. It concluded that overall, there is no evidence of exceedance heavy metals in the surrounding marine sediments or soil concentrations.

228. The CSM states that⁵⁰⁴

- Significant effort was made to identify and quantify likely sources of chemicals, elucidate their pathways, and determine their presence in waste waters and/or in other environmental matrices. There are no obvious evidence gaps.
- There is no evidence of heavy metal concentrations exceeding guideline levels in the surrounding marine sediments or soil concentrations.
- From a qualitative and, where determined, quantitative perspective, manufacturing process controls and emissions from the plant indicate that there are no concerns as to likely consequences of widespread environmental contamination.
- The potential for heavy metals emissions from current and future activities to impact on environmental remains very unlikely given the comprehensive qualitative, and often quantitative, review of evidence.

229. Appended to the CSM is a confirmatory study which collected additional data as to marine sediment heavy metals concentrations close to Aughinish in May 2021.⁵⁰⁵ The sediment sampling locations, dates, methods and analytical methods are identified and the findings summarised for each metal. No additional studies were recommended as the data indicated that:

- Metal sediment concentrations were at typical background concentrations for the Irish marine environment.
- No pathways from the plant are being realised that may impact on sediment metal concentrations in the immediate marine environment.
- Manufacturing activities and controlled emissions from the plant appear to have little effect on marine sediment heavy metal concentrations in the vicinity of the site.
- No pathway was negatively impacting the prey of intertidal feeding birds in the SPA.

230. Also appended to the CSM⁵⁰⁶ were similar quantitative studies of metal concentrations in the terrestrial soils near the Aughinish plant, following CSM recognition of a possible pathway of heavy metals to soils from deposition of particles suspended in aerial emissions. These confirmed that quantified levels in the soils were generally typical of Irish soil background heavy metal concentrations and were typical for the area. So activities in and emissions from the plant appear to have little, if any, effect on soil heavy metal concentrations and hence on environmental or human health in the vicinity of the site when compared to the

⁵⁰⁴ CSM §2.5 Pathways for release of pollutants into the environment.

⁵⁰⁵ See also NIS §6.8.11.

⁵⁰⁶ CSM Appendix 2.

widely accepted Dutch Intervention values. No linkage (pathway) between any potential source metals and their deposition into the local terrestrial environment could be discerned.

231. The CSM, especially its two appendices, are highly technical and unsuited to interrogation by a court. In reciting its content I do not personally adopt it – the question for me is whether the Commission was entitled to do so. That said, it may be noted that in reaching its conclusions, described above, the CSM and its Appendices acknowledged that

- Heavy metal pollution can significantly impact marine benthic communities through either direct toxic effects or changes in ecosystem dynamics.
- Heavy metals released into the environment will not degrade. But heavy metal toxicity is dictated largely by its biological availability. Both bioavailability and toxicity are influenced (amongst other things) by the temperature, moisture, pH and ionic strength of the environment and the composition of the receiving environment. In aquatic systems, metal bioavailability depends on local water and sediment characteristics. Therefore, risks are site-specific.
- Very few standards have been derived for environmental monitoring and in particular for marine sediments. Nonetheless, the appendices are extensively referenced to scientific and like materials.

232. Chapter 6 of the NIS records⁵⁰⁷ earlier marine sediment sampling and analysis for heavy metals in 2014,⁵⁰⁸ 2017, 2018, and 2020 and also describes that done in 2021 to inform the CSM. The effort, data and analysis are described in some detail. The NIS states that

“Overall, the range and concentrations of heavy metals detected in the marine sediments sampled from the eight transects during May 2021 are generally low or typical of background levels. This quantitative overview of determined sediment metal concentrations has indicated that the manufacturing activities and controlled emissions from the plant appear to have little effect on sediment heavy metal concentrations in the vicinity of the site.”⁵⁰⁹

There follows a summary overview for individual heavy metals.⁵¹⁰

233. §6.9 of the NIS, as to Groundwater and Geology, describes the groundwater environment (including groundwater vulnerability - generally low to moderate under the BRDA but higher under the eastern section⁵¹¹) and the groundwater monitoring regimes for, distinctly, the refinery plant (33 Plant Observation Wells (“POW”)) and the BRDA (34 Observation Wells (“OW”)).⁵¹² It reviews the resultant data⁵¹³ which, as to some parameters and wells, goes back to at least 2010. Inter alia, it records that in the 2021 monitoring at the BRDA sites most OWs had heavy metals results within groundwater threshold levels. But exceedances are

507 NIS §6.8.8 - 6.8.10.

508 Of the Shannon Estuary – not specific to Aughinish.

509 NIS p111.

510 Cadmium, Cobalt, Copper, Lead, Mercury, Nickel, Chromium, Zinc, Aluminium.

511 NIS Figure 6.7.2: Groundwater Vulnerability at Aughinish Island.

512 NIS §6.9.2.1 Groundwater Monitoring Locations et seq.

513 NIS §6.9.2.2 Review of Groundwater Monitoring Data.

listed – the list is pleaded in the Statement of Grounds. The same is said of the Borrow Pit wells. The conclusions⁵¹⁴ are that

“..... increased aluminium at BHZ⁵¹⁵ is unlikely to be related to the BRDA as it is across a groundwater divide.”

“Analysis of the monitoring data from MW2⁵¹⁶ can be excluded due to saline intrusion influence.

The other exceedances occur in isolation to other parameters i.e. just a single metal exceeding a threshold value in a round of readings (usually zinc or arsenic and sometimes mercury) and then not present for future rounds and hence are considered to be natural.

A detailed assessment of the risks to groundwater arising from the operational and post-closure phases of the proposed development has been carried out. The existing controls mean that the predicted effect on groundwater, in the absence of additional mitigation would be slight adverse. With the implementation of the mitigation measures presented in the EIAR (and CEMP⁵¹⁷) the predicted residual impacts on groundwater are assessed as negligible non-significant/slight in nature.”

234. NIS and EIAR content as to groundwater overlaps. Chapter 10 of the EIAR, as to groundwater, has been described above in my consideration of Ground 4 as to flooding. It duplicates much of the material set out above. IEL-required groundwater monitoring data from 45 OWs around the BRDA⁵¹⁸ in 2008 – 2021 are described⁵¹⁹ - including in April and July 2021 for metals.⁵²⁰ Aluminium results were compliant⁵²¹ save for one anomalous outlier. Magnesium was elevated along the northern and western flanks of the Phase 1 BRDA but is considered likely affected by saline impact. Iron and Zinc were elevated in a number of wells. Some results from 12 groundwater monitoring wells⁵²² near the Borrow Pit and the Borrow Pit Extension for the same parameters are elevated⁵²³ but most metals are not.⁵²⁴ Slightly elevated mercury was thought likely to be naturally occurring. Aluminium and slight Zinc exceedances were thought anomalous. The NIS concludes, inter alia as to the specific exceedances pleaded by ETI – which ETI took from the NIS/EIAR:

“A detailed assessment of the risks to groundwater arising from the operational and post-closure phases of the proposed development has been carried out. The existing controls mean that the predicted effect on groundwater, in the absence of additional mitigation would be slight adverse. With the implementation of the mitigation measures presented in the EIAR (and CEMP) the predicted residual impacts on groundwater are assessed as negligible non-significant/slight ...”⁵²⁵

514 NIS p123.

515 i.e. a Borrow Pit well.

516 i.e. a Borrow Pit well.

517 Construction Environmental Management Plan.

518 EIAR Figure 10.28: Location of Observation Wells (OWs) around the perimeter of the BRDA.

519 EIAR §10.6.10.7 Groundwater Quality.

520 EIAR p10-76. Table 10.7: Water Quality Metal Analysis for the Phase 1 and Phase 2 BRDA (April and July 2021).

521 S.I. No. 366/2016 - European Union Environmental Objectives (Groundwater) Regulations 2010, as amended, effecting the Water Framework Directive 2000/60/EC and the Groundwater Protection Directive 2006/118/EC.

522 MW1- 7, BH1&2, SPW3&4, OW13.

523 §10.6.10.7.2 Borrow Pit Extension Site.

524 Table 10.8: Dissolved Metal Results from Monitoring Wells near the Borrow Pit sites (April to August 2021).

525 NIS §6.9.2.2 Review of Groundwater Monitoring Data, p123.

235. As has been seen, EIAR Tables 10.10 and 10.11 essentially describe the effects of the Proposed Development on groundwater as non-significant/slight. The Inspector concluded that the metallic exceedances occur in isolation⁵²⁶ from other parameters i.e., a single metal exceeding a threshold in a round of readings (usually zinc or arsenic, sometimes mercury) and then not present for future rounds and hence are considered natural. They did *“not form part of a continuing trend which could be attributed to consistent trends in terms of elevated concentrations.”*

236. As I observed at trial⁵²⁷ so all could respond, and while it could have been more clearly expressed, I understood the Inspector’s observation as

- Referring not to the isolation of a particular well but to the isolation within a particular well of a particular metal being found.
- Meaning that, given the characteristics of BRDA content - the bauxite residue - if there were a problem with heavy metals reaching groundwater, one would expect to find, in a given sample, exceedances of a number of heavy metals as opposed simply to one and, I now add, that particular exceedances would be found repeatedly and/or consistently.

237. That this analysis in substance accepts that preferred by the EIAR and NIS does not deprive it of the character of a conclusion drawn by the Inspector.

CG5 – DISCUSSION AND DECISION

Irrationality

238. Stripping back the factual allegations and narrative from the pleaded Ground 5 (which is not to disregard them), the asserted legal bases of illegality are of failure to apply the precautionary principle and of irrationality. And the specific allegation of irrationality is that it was irrational of the Commission to agree with its inspector that the elevated heavy metal concentrations in groundwater did *“not form part of a continuing trend which could be attributed to consistent trends in terms of elevated concentrations.”* This last phrase is a bit over wordy but the Inspector’s general thrust is clear.

239. Failure to apply the precautionary principle, which does not have direct effect in Irish law, is generally not a free-standing basis in law on which a decision may successfully be impugned as illegal – **Croghan**.⁵²⁸ And **SWI**,⁵²⁹

526 For the avoidance of doubt, I clarified at trial that “... isolation as a concept here refers not to the isolation of a particular well but to the isolation within a particular well of a particular metal being found. if there was pollution from the BRDA and given the composition of bauxite residue, you would expect at least a range of metals to the elevated rather than just one, is that the position?” Day 2 .

527 Day 2 12:59. & 14:23.

528 Croghan et al v Collins et al 2024 IEHC 607.

529 SWI, IFI, Sweetman & Ors v ALAB et al [2024] IEHC 421.

- Cites **Scott**⁵³⁰ as suggesting that *“It is very rare, though not unknown, for the precautionary principle to serve as a basis for challenging decisions because they are insufficiently protective”* and cites **Kingston et al**⁵³¹ to similar effect.⁵³²
- Cites Macken J⁵³³ in **Hygeia**⁵³⁴ (and Scott) to the effect that *“the precautionary principle is highly technical in nature and subject to considerable constraints in its application.”*
- Cites the **EU Commission in 2000**⁵³⁵ to the effect that *“The issue of when and how to use the precautionary principle, ... is giving rise to much debate, and to mixed, and sometimes contradictory views”* and its warning that the precautionary principle *“should not be confused with the element of caution that scientists apply in their assessment of scientific data”*. The Commission said: *“It is also necessary to clarify a misunderstanding as regards the distinction between reliance on the precautionary principle and the search for zero risk, which in reality is rarely to be found.”*
- Notes that the principle *“tends to be deployed in judicial review to [attempt to] disguise in legal garb an attempt to appeal the merits of a decision or to [attempt to] lower the hurdle presented by the law on irrationality.”*⁵³⁶

240. Noting the rewording in ETI’s written submissions, which omitted the reference to the precautionary principle, it seems to me that Ground 5 is in substance an irrationality challenge. I have described above the height of the hurdle facing the pleader of irrationality. Notably, Ground 5 alleges irrationality in APC’s assessment and characterisation of the existing environment - the receiving environment for the Proposed Development - and whether the existing BRDA and Borrow Pit have already caused elevated heavy metals in groundwater.

241. ETI, in its submission, misapplies the earlier **ETI** case⁵³⁷ in suggesting, by way of a non-sequitur, that as the Commission’s obligations as to groundwater are autonomous (I assume for sake of argument that they are), it is not for ETI in judicial review to show the Commission’s methodology incorrect. That a decisionmaker’s duty is autonomous does in judicial review enable an applicant to rely on a point not made to the decisionmaker. But it does not shift the onus of proof of compliance with that duty to the decisionmaker. That onus remains on the applicant for judicial review to prove non-compliance to the required standard. The cited passage in the earlier **ETI** case records that *“objectors are not expected to have to retain their own experts in making submissions in the planning process”*. Whatever about the planning process, applicants for judicial review bear the onus of proof. It is true that failure to consider something the decision-maker was autonomously required to consider may, on particular facts, be apparent on the face of the materials before the court, such that discharge of the onus of proof may require little of the applicant for judicial review and

530 Scott, Legal Aspects of the Precautionary Principle, A British Academy Brexit Briefing November 2018.

531 European Environmental Law, 2017, p35.

532 SWI, IFI, Sweetman & Ors v ALAB et al [2024] IEHC 421 §518 & §526.

533 A Judge of the European Court of Justice from 1999 to 2004.

534 Hygeia Chemicals v Irish Medicines Board [2010] IESC 4.

535 Communication from the Commission on the precautionary principle, Brussels, 2.2.2000, COM(2000) 1 final.

536 SWI, IFI, Sweetman & Ors v ALAB et al [2024] IEHC 421 §510.

537 ETI v An Bord Pleanála & Cloncaragh [2022] IEHC 540 §241.

may cast an evidential burden on the decision-maker. But that does not shift the legal onus of proof to the decisionmaker to disprove error. And failing a flaw apparent on the face of the materials before the court satisfaction of the legal onus of proof may well require an applicant for judicial review to adduce expert evidence.

242. ETI's submission confuses,

- onus of proof, with
- issues of issue-specific standing in judicial review (whether an applicant can rely on an issue not raised and/or materials not placed before the decisionmaker) and the general requirement (though it is far from invariable as, as *Humphreys J* has said, there is no one-size-fits-all answer - **ETI**⁵³⁸) to consider judicial review through the lens of the material which was before the decision-maker.

243. Here, as the materials cited above make clear, the Commission did not fail to consider the issue of potential groundwater pollution and the significance of the groundwater monitoring results. Rather, ETI says that consideration and the Commission's conclusion were irrational. On that issue, ETI clearly bears the onus of proof - in the discharge of which, disagreement on the merits will not suffice. That is so even if the Court considers that the decision-maker was "*clearly wrong*" as to those merits - **Holohan**.⁵³⁹ The question for the court is whether, in this respect and in **Keegan**⁵⁴⁰ terms, the Impugned Decision "*plainly and unambiguously flies in the face of fundamental reason and common sense*" by failing to further investigate the cause of the elevated heavy metal results disclosed by AAL. In my view, the foregoing account of the material before the Commission demonstrates that ETI has failed to prove irrationality in this sense in this case. The Commission had before it

- Multiple data sets over many years from multiple observation and monitoring wells and from marine sediments.
- Evidence that, whatever about the operational phase of the Proposed Development, was capable of supporting the conclusion that, to date and as conceivably bearing on historic heavy metal findings, seepage from the BRDA has been negligible.
- An expert explanation of the heavy metal exceedances which had been found.
- No evidence to the contrary.

It may be perfectly possible to disagree – even vehemently, expertly and credibly - with the Commission's conclusion as to the risk of heavy metal pollution of groundwater by the Proposed Development. But that conclusion has not been shown to be in law irrational.

538 *ETI v An Bord Pleanála & Cloncaragh* [2022] IEHC 540 §241 et seq – citing *Humphreys J* in *Hennessy* [2018] IEHC 678, in turn citing, inter alia, *Fordham*, *Judicial Review Handbook* (Oxford, Hart, 2012), §17.2.1, *R(Turgut) v Home Secretary* [2001] 1 All ER 729 at 735 and the House of Lords in *R(Laundry) v Home Secretary* [1997] 1 WLR 839 [at 860H to 861B] to the effect that "[t]he court will not shut out evidence which is relevant to the issues ... [t]he evidence is not strictly limited to evidence which was or should have been before the Secretary of State at the time of the decision."

539 *Holohan v An Bord Pleanála* [2017] IEHC 268. Cited, inter alia, in *Jennings & O'Connor v An Bord Pleanála & Colbeam* 2023 IEHC 14; *Coyne v An Bord Pleanála* [2023] IEHC 412; *Fernleigh v ABP & Ironborn* [2023] IEHC 525; *Duffy v ABP & McDonagh* [2024] IEHC 558; *Grassridge v Dún Laoghaire Rathdown County Council* [2024] IEHC 669; *Ryan v ABP & Analog* [2025] IEHC 111, *Concerned Residents of Coolkill v An Bord Pleanála & Midsal Homes* [2025] IEHC 265.

540 *The State (Keegan) v Stardust Compensation Tribunal* [1986] I.R. 642.

WFD

244. In pleading a downward trend for chemical surface water status, ETI does not explicitly plead the WFD. But that metric - chemical surface water status - is a readily and identifiably characteristic of the WFD. Pleading requirements are strict but pleadings are directed to and read by experts in environmental law and are given a fair and reasonable reading accordingly. Despite the pleading point taken by AAL and the Commission, I consider the plea acceptably clear at least as to raising a WFD issue. However, the question remains – specifically what WFD issue did ETI plead?

245. Here ETI strayed into pleading territory which is at least unhelpful. Having pleaded irrationality in Core Ground 5, ETI in its particulars of that ground introduced a new ground of illegality – failure to have regard to relevant information. It pleaded published EPA data indicating a downward trend for chemical surface water status. I bear in mind that the required pleading standard is of acceptable clarity on a fair and reasonable interpretation of the pleading read as a whole, as to which substance prevails over form (e.g. **Moss**⁵⁴¹), but to which substance the pleading party is strictly confined. Nonetheless, in a pleading regime such as that in the Planning and Environment Court, based on identification of core grounds elaborated by particulars, the introduction of substantially new grounds in particulars is at very least undesirable. The whole point of the use of core grounds is to identify the pith. As was said in **Garryduff**:⁵⁴²

“Unhelpfully, the particulars introduce what are in truth new core grounds - such as regard to irrelevant considerations, prejudgment, bias, irrationality, and breach of fair procedures. I observe as follows.

First, while novelty is possible and they do overlap, there is an established taxonomy of core grounds in judicial review. I have just listed some of the major ones. Where possible – and it all but invariably is possible - core grounds should identify themselves by reference to that taxonomy and particulars should confine themselves to elaborating only the core grounds thus identified. Particulars are not an opportunity for introducing what are in truth new core grounds Pleadings in judicial review must be precise.”

246. Amongst many cases, **100m Tall**⁵⁴³ is authority that

- An applicant in judicial review must precisely plead each ground, giving particulars where appropriate, and identify in respect of each ground the facts or matters relied upon as supporting that ground: Order 84 r. 20(3) RSC.
- Affidavits cannot substitute for proper pleading. (See also **Duffy**⁵⁴⁴ and **Reid**⁵⁴⁵).

541 Moss v An Coimisiún Pleanála & Lightsource [2026] IEHC 62.

542 Garryduff Properties v An Coimisiún Pleanála [2026] IEHC 78.

543 100 Meters Tall Group v An Bord Pleanála [2025] IEHC 42.

544 Duffy v ABP & McDonagh [2024] IEHC 558.

545 Reid V An Bord Pleanála [2021] IEHC 230 §11.

- If on the grounds pleaded there is genuine ‘*doubt, ambiguity or confusion*’ an applicant in judicial review cannot have the benefit of it.⁵⁴⁶

247. ETI submits that where a WFD waterbody shows a downward trend for chemical surface water status Article 4(1)(b)(i – iii) WFD,⁵⁴⁷ as to environmental objectives for all bodies of groundwater, requires positive measures to:

- prevent or limit the input of pollutants to groundwater and to prevent the deterioration of the status of all bodies of groundwater.
- protect, enhance and restore groundwater with the aim of achieving good groundwater status.
- reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order progressively to reduce pollution of groundwater.

248. Whereas Core Ground 5 clearly relates to heavy metal concentrations in groundwater, as has been seen the particulars plead a failure of regard to published EPA data showing a downward trend for chemical surface water status. The plea identifies neither the surface water body in question (though it is readily to be inferred that it is either or both of the Shannon Estuary and the Robertstown River), nor the published EPA data in question, nor the pollutant(s) alleged to be causing the downward trend for chemical surface water status. What can be said is that the published EPA data invoked but not specified is not the 2024 EPA Site Visit Report⁵⁴⁸ on which ETI sought to lay unpleaded stress and which, save for one incidental mention, addressed WFD compliance as to groundwater, not surface water.

249. Nor did the grounding affidavit of Michelle Hayes identify these matters. That of Mr Duffy⁵⁴⁹ for ETI asserts in effect that

- Heavy metals in groundwater end up in the Shannon.
- The Commission failed to properly interrogate the CSM conclusion of no elevated heavy metals concentrations in marine sediments.
- EPA data indicates a downward trend for chemical surface water status, which contradicts the Inspector’s conclusion that the elevated heavy metal results for groundwater do not show a trend.

250. While a link is not implausible, it must first be noted that Mr Duffy relies on chemical surface water status of the estuary in asserting elevated heavy metal in groundwater as if the link were obvious. But instead of exhibiting the data, Mr Duffy supplies a weblink and leaves the reader to find the data, interpret the data and draw his or her own conclusions as to the significance of the data as it relates to a ground of challenge to the Impugned Decision. This is not, at least generally, a satisfactory method of exhibiting documents – which, after all, is a process on oath requiring the witnessed signature, and hence the identification and verification,

546 Ballyboden Tidy Towns Group v An Bord Pleanála, The Minister for Housing, Local Government and Heritage, Ireland and the Attorney General [2022] IEHC 7, [2022] 1 JIC 1001.

547 The Submissions in error cite Article 4(iv) WFD. There is none such. However as the text is laid out in the submissions, the correct reference is clear – and is the obligations with respect to groundwater.

548 See Ground 11 below.

549 Sworn 25 September 2025.

of specific documents and, at least in the case of large documents, the specific relevant content thereof. Use of weblinks may assist as to public documents of which judicial notice may be taken - such as development plans and the like or impugned decisions or, if less readily, where the amount of data involved is very large. It may be useful to provide a weblink to an entire document of which the excerpts relied upon are exhibited. But recourse to weblinks must be explained and justified and the deponent takes any risks of its failure – not least as to the necessity in pleading to describe the route map from complaint to relief. And, importantly, on affidavit, exhibition is no substitute for averment - **Duffy**.⁵⁵⁰ The link supplied led me to documents more or less incomprehensible to me as a layman save to confirm that the Lower Shannon Estuary had had a Benzo(b)fluoranthene Failure for Chemical Status in the period 2016-2021 but not, as far as I could see, in the period 2019-2024. Mr Duffy does not explain what, if any, light such a failure sheds on levels of heavy metals in the groundwater under the BRDA – nor does he assert that Benzo(b)fluoranthene is itself a heavy metal or related to a heavy metal. Mr Duffy attributes this Chemical Status failure to *“the incomplete combustion of organic matter at high temperatures.”* There is no suggestion that the Proposed Development will involve combustion of any kind, whether or not of organic matter, so his point is at best unclear. Perhaps there is a relationship between heavy metal pollution and Benzo(b)fluoranthene pollution – but if so, Mr Duffy has not elucidated it and I cannot infer it. To any extent I have misunderstood his point, ETI must bear that loss.

251. In any event, Mr Corrigan points out that the Lower Shannon Estuary transitional waterbody, the chemical water status of which Mr Duffy invokes, has an area of $\approx 127 \text{ km}^2$ and the two surface water catchments discharging to it, the Shannon Estuary South and the Shannon Estuary North have areas of $\approx 2,037 \text{ km}^2$ and $\approx 1,651 \text{ km}^2$ respectively. Water quality in these large areas is subject to many contributing factors and declining chemical water status in the Lower Shannon Estuary is likely defined by such as nutrient pollution, habitat morphology changes or organic pollution, as identified by the EPA as most common *“significant pressures”* on transitional water quality. These are not causes identified as linked to the Aughinish Site. So, the EIAR focussed on data local to the Site. As I have said, Mr Corrigan’s evidence, where it conflicts with Mr Duffy’s must, as ETI bears to onus of proof, be preferred. Though, I repeat, Mr Duffy’s evidence was inadequate in its own right.

252. Mr Duffy’s second affidavit cited AAL’s application for a *“derogation from TOC (Total Organic Carbon), where TOC is an indicator of incomplete combustion and is a significant pollutant impacting on chemical surface water status.”* It fell to AAL’s Ms Clune to explain this somewhat Delphic averment as a reference to not merely an application for, but the assessment of and grant by the EPA in the IEL of, a Total Organic Carbon emissions limit value derogation in AAL’s treated effluent – though it seems its continuation is sought. More to the point, the relationship of Mr Duffy’s assertion as to Benzo(b)fluoranthene pollution to the pleaded Ground 5 remains elusive. Mr Duffy also asserts that *“The lack of heavy metal deposits where the ambient testing was carried out is not evidence of a lack of pollution or impacts. The strong flow in the river is likely to disperse the heavy metals beyond the sampling locations. As stated, these pollutants do not simply vanish and are most likely to have a significant in combination or cumulative impact on qualifying interests in the connected Natura 2000 sites.”* I regard this as a highly speculative averment – not least as Mr Duffy has no ecological expertise made known to me.

550 Duffy v ABP & McDonagh [2024] IEHC 558.

253. As recorded above, and ignoring the infelicity of pleading as to the WFD, the Commission cite **SWI**⁵⁵¹ and a **Ryanair** case⁵⁵² to the effect that there is no evidential basis for ETI's WFD argument. Ryanair challenged a permission for an airport underpass for alleged failure to refuse permission for a project which may cause deterioration of the WFD status of a surface water body - the already-polluted Cuckoo Stream - or jeopardise its attainment of good status or good ecological potential and good chemical status. Humphreys J accepted that the Commission's duty in the decision-making process to consider WFD issues was autonomous. But he held that before a decision can be quashed in judicial review for failure to address that duty, there must be something in the particular circumstances of the case making such a duty relevant – the onus of proof of which lies, as always, on an applicant for judicial review. The Board had recognised the bad WFD ecological status of the Cuckoo Stream and had been satisfied that the underpass would not cause its further deterioration. Humphreys J said: *“Even in the case of autonomous obligations, the board can't do all the work – an applicant still has an onus to overcome to show that there was something needing express treatment.”* In particular, the applicant hadn't shown anything specific to suggest anything about the particular project that could have jeopardised the attainment of good water status. Humphreys J agreed with the view taken in that regard in SWI. In **SWI**⁵⁵³ a WFD plea had been rejected *“as entirely abstract and theoretical”*. While the pleader had correctly identified *“matters not considered by [the decision-maker], they do not state any basis for the implied premise that those matters required consideration. They do not lay any basis in particulars or facts for any case for certiorari.”*

254. Humphreys J also observed that Ryanair had confused the State's Article 4 WFD duties with the duties of a planning applicant. Whatever about a duty to prevent or limit pollutant input to groundwater which might contribute to deterioration in WFD waterbody status, a private planning applicant bears no other duty to prevent the deterioration of groundwater status or to protect, enhance or restore groundwater with the aim of achieving good groundwater status or to reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order progressively to reduce groundwater pollution. A similar point may be made as to surface water status insofar as ETI's submissions may, in citing Article 4(1)(b) WFD as to groundwater not Article 4(1)(a) WFD as to surface waters, have confused the pathway (groundwater) with the receptor waterbody.

255. Ground 5 as to the WFD is dismissed as inadequately pleaded by reference to the question specifically what WFD issue did ETI plead? If I am wrong in that regard, I dismiss Ground 5 as to the WFD as I see no evidence of appreciable risk of breach of WFD requirements by reason of the Proposed Development. Alternatively, I see no irrationality of the Impugned Decision by reference to such requirements.

Heavy Metals - Conclusion

256. For the foregoing reasons Ground 5 is dismissed in all its aspects.

⁵⁵¹ SWI, IFI, Sweetman & Ors v ALAB et al [2024] IEHC 421.

⁵⁵² Ryanair DAC v An Bord Pleanála [2025] IEHC 74. Also An Taisce v An Bord Pleanála (No.1) [2021] IEHC 254; and Concerned Residents of Treascon and Clondoolusk v An Bord Pleanála [2022] IEHC 700 in respect of the need to establish such complaints evidentially.

⁵⁵³ SWI §1097.

CG6 – NO ECOLOGICAL IMPACT ASSESSMENT - MATERIAL CONTRAVENTION OF DEVELOPMENT PLAN - FLORA

CG6 – ETI’S PLEA & SUBMISSIONS

257. ETI pleads that the Commission granted permission in material contravention of 2022 Development Plan Objective EH O3 in failing to require an ecological impact assessment. Specifically, there was no ecological assessment or survey of protected plant species such as Triangular Club Rush, Opposite-Leaved Pond Weed and Flora Protection Order species generally. ETI pleads that the Impugned Decision is vitiated by failure to:

- (a) have regard to Development Plan Objective EH O3
- (b) have regard to the question whether the Proposed Development was in material contravention of Development Plan Objective EH O3 and/or
- (c) give reasons explaining either that Proposed Development was not in material contravention (and why) or was in material contravention but merited permission in any event.

258. ETI’s particulars do not add to the plea save to record that Objective EH O3 is as follows

“Ecological Impact Assessment

It is an objective of the Council to require all developments where there are species of conservation concern, to submit an ecological assessment of the effects of the development on the site and nearby designated sites, suggesting appropriate mitigation measures and establishing, in particular, the presence or absence of the following species: Otter, badger, bats, lamprey and protected plant species such as the Triangular Club Rush, Opposite Leaved Pond Weed and Flora Protection Order Species generally.”

CG6 - COMMISSION & AAL POSITION

259. The Commission and AAL plead and submit that

- a. By s.37G(2)(c) PDA 2000 the Commission “*shall consider*” the Development Plan. But it need not to comply with it and, by s.37G(6) PDA 2000, the Commission can grant permission in material contravention of the Development Plan.
- b. ETI plead material contravention in that the 2022 Development Plan requires an ecological impact assessment and one was not provided, but ETI fails to plead any,
 - evidential basis for the assertion that such assessment was required as to Triangular Club Rush and Opposite-Leaved Pond Weed.
 - particulars of the alleged failure to survey flora protection order species generally.
- c. What Objective EH O3 required was assessment of the Proposed Development’s effects on ecology. That was done. EIAR Chapter 6 addresses Biodiversity, complies with Objective EHO3 and is informed by

recognised ecological databases and ecological surveys. The AA Screening Report and NIS addressed relevant sites, including the SAC, and their qualifying interests (see also the Commission's EIA and AA).

- d. CG6 lacks factual substance and is mere assertion devoid of evidential foundation. ETI has not discharged its onus of proof. ETI did not put appropriate evidence to the Commission, nor has it put it to the Court, to demonstrate a flaw in AAL's evidence to the Commission in this respect. ETI adduced no evidence of impact on Triangular Club Rush or Opposite Leaved Pond Weed - that those flora are potentially affected by the Proposed Development.
- e. The allegation of failure to survey for Triangular Club Rush, Opposite Leaved Pondweed and flora protection order species generally is denied for the reasons set out in the two affidavits of Dr Gavin Fennessy,⁵⁵⁴ ecologist and author of EIAR Chapter 6. His evidence, which was also before the Commission, is that neither the Triangular Club Rush nor the Opposite-Leaved Pond Weed are present on the Site or in its vicinity.

CG6 – EVIDENCE

260. ETI's evidence is that

- a. EIAR Chapter 6⁵⁵⁵ identifies the Inner Shannon - South Shore pNHA as overlapping the existing Phase 2 BRDA and the SAC. Its site synopsis describes this pNHA as "*a stronghold for ... triangular rush*".
- b. Triangular Club Rush is a very rare species unique, in Ireland, to the Shannon Estuary.
- c. The Inspector noted that ETI had submitted that AAL's habitat survey was deficient as to flora protection order species including, specifically, Triangular Club Rush. But she did not respond to or make findings on that submission.
- d. AAL's failure to consider Triangular Club Rush as a priority habitat sub-type⁵⁵⁶ within the Habitats Directive and/or to consider it as a species characteristic of the habitat, is a data lacuna which invalidates the Commission's AA of the SAC. However observe that this is an inadmissible inexpert opinion of Michelle Hayes.
- e. If these species are present and if contaminated by heavy metals, these species would be adversely impacted. ETI's evidence in this regard was of a chemical engineer and food chemist, which I am prepared to take as expert.

But beyond the pNHA Site Synopsis, ETI adduced no evidence of actual presence of these species within harm's reach of the Site.

⁵⁵⁴ Affidavit, sworn on 22 December 2025. In particular §§13-14 of his First Affidavit.

⁵⁵⁵ EIAR §6.3.2 Nationally Designated Sites, Table 6.1b NHA and pNHA designated conservation sites within 15km of the application site.

⁵⁵⁶ Of the Habitats Directive Annex I habitat, Watercourses of Plain to Montane Levels.

261. In contrast, for AAL, Dr Fennessy deposes that
- a. EIAR Chapter 6, entitled “Biodiversity” and prepared by his firm, Ecology Ireland,
 - in substance satisfies the requirements of Development Plan Objective EH 03 - even though the EIAR preceded the Development Plan.
 - records the presence of Triangular Club Rush in the Inner Shannon Estuary – South Shore pNHA.⁵⁵⁷
 - b. The pNHA covers 3,296 ha from Foynes to Limerick City. Materials demonstrating that the Triangular Club Rush occurs within the wider region/pNHA do not establish its presence on the Site or in the Proposed Development’s zone of influence. That the Site borders this pNHA does not mean that every species found in this pNHA is present near the Site.
 - c. Triangular Club Rush is not believed to occur in areas of high saline influence. An exhibited NPWS map shows the known distribution of the Triangular Club Rush as more than 30km from the Proposed Development – in the upper tidal reaches of the River Shannon and some of its tributaries. A peer-reviewed paper⁵⁵⁸ records that *“Triangular club-rush is found only in the upper part of the Shannon Estuary below Limerick City.”*
 - d. The position as to the Opposite-Leaved Pondweed is similar. There is no evidence that it is found anywhere where it could potentially be affected by the Proposed Development. An exhibited NPWS map shows its known distribution as not including the lower parts of the Shannon Estuary near the Site. Records concentrate it in freshwater/tidal-fresh reaches around Limerick City - more than 30km from the Site - rather than in the brackish estuary near Aughinish/Foynes.
 - e. Given their habitat requirements, there is no likelihood that either species occurs locally to the Site.
 - f. EIAR Chapter 6 describes, and contains the results of, detailed field and desktop surveys, records the presence/absence of species of conservation concern and considers the potential for impacts of the Proposed Development on the immediate and wider environment and there are no lacunae in those regards.⁵⁵⁹ The botanical survey work done by Ecology Ireland for the EIAR and NIS, including detailed walkover studies, were appropriate and sufficient.
 - It employed the desktop study baseline appropriate for flora protection species. It included the use of statutory and national biodiversity datasets, including the National Biodiversity Data Centre and NPWS Flora (Protection) Order mapping resources.
 - The botanical surveys at the Site and surrounding lands, including the shoreline/ estuary edge, were not dedicated surveys for Triangular Club Rush, Opposite-Leaved Pondweed or other flora protection order species. But the surveyors were named, specialist, highly experienced and professional botanists, skilled in the identification of such species. Had they been discovered, such species would have been recorded.

557 EIAR Table 6.1b NHA and pNHA designated conservation sites within 15km of the application site.

558 Deegan, B. M. & Harrington, T. J. (2004). The distribution and ecology of *Schoenoplectus triquetus* in the Shannon Estuary. *Biology and Environment: Proceedings of the Royal Irish Academy*, 104B(2): 107–117. doi: 10.3318/BIOE.2004.104.2.107.

559 EIAR §6.2.4 describes the desktop and field surveys habitat and botanical surveys. EIAR §6.3.3 details their results.

- g. Triangular Club Rush has never been recorded in the Site nor in surrounding areas. Neither species is present in the Site and surrounding areas or in any location where they could potentially be affected by the Proposed Development. Dr Fennessy observes that this averment stands uncontradicted by contrary expert evidence.
- h. ETI's assertion of "*at least significant doubt*" is not made out as a scientific criticism of the assessment approach.

CG6 – FLORA - DECISION

262. Assuming all else in ETI's favour for the sake of argument, it has adduced no evidence that its concern for the species in question is anything other than a theoretical front in its wider war against the Proposed Development. An evidential basis which would render certiorari proportionate on this account is entirely lacking. Dr Fennessy's evidence is uncontradicted as to the absence of the species in question within harm's reach of the Site and it is independently supported by the NPWS mapping. ETI has failed to discharge its onus of proof. There is no evidence of any reality of an issue of environmental protection in this regard. So, I refuse relief on Ground 6.

CG7 – CUMULATIVE EFFECT OF QUARRYING

CG7 – ETI'S PLEADINGS & SUBMISSIONS

263. ETI pleads that the Commission failed to perform lawful EIA, AA Screening and AA⁵⁶⁰ in that they failed to assess (save as to dust⁵⁶¹) the cumulative impact and/or in-combination effects of that part of the Proposed Development to consist in expanding the Borrow Pit by quarrying, taken with quarrying at other nearby quarries. The particulars assert that

- a. The Commission erred in law in agreeing with the Inspector that "*There are no nearby sources with significant emissions of noise or vibration to overlap with site emissions from the BRDA and borrow pit. Therefore no offsite cumulative impacts are relevant.*"
- b. The Commission failed to have regard to the extent of permitted and/or actual quarry blasting at the nearby Roadstone Barrigone quarry and Roadstone Hogan quarry.⁵⁶² The Barrigone Quarry is adjacent the Barrigone SAC (which was screened in for AA) and near other sites – the Askeaton Fen Complex SAC and the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA are closer to other local quarries than is the Proposed Borrow Pit Extension.

⁵⁶⁰ Respectively, pursuant to the EIA Directive, Part X PDA 2000 and Part 10 PDR 2001 and pursuant to Article 6(3) of the Habitats Directive, Part XAB PDA 2000 and the EC (Birds and Natural Habitats) Regulations 2011.

⁵⁶¹ Inspector's report §10.5.13.

⁵⁶² The particulars refer also to "other local Quarries". I ignore this plea as insufficiently particular.

- c. In this regard, the Impugned Decision is irrational as the Commission accepted that noise and vibration from blasting at the Proposed Borrow Pit Extension will disturb fauna, including birds.
- d. The Commission erred in law in failing to engage with, or give adequate reasons for rejecting, ETI's submission that cumulative impacts of quarrying were not assessed.

264. The "Factual Grounds" pleaded include that AAL's AA Screening report and NIS note that

- the Proposed Borrow Pit Extension, by "occasional blasting to remove rock", creates a likelihood, absent mitigation, of significant disturbance of fauna.
- absent adequate mitigation, blasting noise and vibration from the extended borrow pit could potentially disturb fauna listed among the QIs/SCIs of nearby Natura 2000 sites.⁵⁶³ Most qualifying interests of the SPA are overwintering birds. Uncontrolled noise and vibration during the winter would potentially disturb such species in SPA areas close to the borrow pit extension.
- It has been objectively concluded that the proposed project will not adversely affect the integrity of any Natura 2000 site and there is no reasonable scientific doubt in relation to this conclusion.

265. ETI's "Factual Grounds" also plead that

- ETI had raised, in submissions to the Commission, concerns as to the failure to assess the cumulative effects of quarrying.
- AAL's EIAR, AA Screening Report and NIS, in assessing cumulative/in-combination effects, (notably AA Screening Report Table 5.1⁵⁶⁴ and NIS §6.12⁵⁶⁵) ignore the Roadstone Quarry.
- The Commission did not advert to the level of activity permitted at the Roadstone quarry or other local quarries.

266. ETI submits that

- the Commission can point to no reasoned analysis or consideration by it, for EIA or AA purposes, of cumulative impact and/or in-combination noise and vibration effects of blasting at the Proposed Borrow Pit Extension, taken with quarrying at other nearby quarries. The Inspector failed to identify the other nearby quarries as possible sources of such cumulative effects. She said there were "*no nearby sources with significant emissions of noise or vibration to overlap with site emissions from the ... borrow pit*".

⁵⁶³ The plea gives the example of the Otter but effect on otters was not pursued by ETI.

⁵⁶⁴ Table 5.1 Projects considered as part of the cumulative and in-combination assessment.

⁵⁶⁵ NIS §6.12 Cumulative & In Combination Effects.

- As to the Commission's and AAL's argument that the emissions of the existing quarries were considered in both EIA and AA as part of the "baseline environment", this is by no means clear from the data referenced in the relevant report and amounts to a lacuna.

CG7 - COMMISSION & AAL POSITION

267. Beyond traverses, the Commission and AAL plead and submit, inter alia, that

a. ETI's

- plea is insufficiently particular⁵⁶⁶ - it identifies no particular cumulative/in-combination effect and no particular species allegedly affected.
- complaint is an impermissible merits-based complaint.
- complaint is unsupported by expert evidence and it has not discharged its onus of proof.
- complaint fails to demonstrate that a reasonable expert, considering the materials before the Commission, would have a reasonable scientific doubt as to the Commission's conclusions regarding cumulative/in-combination effects.

b. The EIAR as to Noise and Vibration⁵⁶⁷ show that AAL and the Commission, in EIA and AA, considered the existing other quarries including the Roadstone Barrigone Quarry. Their noise and vibration were considered as part of the baseline environment. The EIAR concluded that the cumulative impact of the Proposed Borrow Pit Extension with the existing baseline, which included the Roadstone Barrigone Quarry, is of no significant noise impact or change to the existing soundscape.⁵⁶⁸ The EIAR concluded that noise, air overpressure and vibration levels due to blasting are well below the threshold of significance.⁵⁶⁹ The noise and vibration cumulative impact assessment concluded that there were "*no nearby sources with significant emissions of noise or vibration to overlap with site emissions from the BRDA and borrow pit and thus therefore no offsite cumulative impacts are relevant.*"⁵⁷⁰ In any event, as the Roadstone Barrigone Quarry is 2km from the Proposed Borrow Pit Extension, the potential for cumulative impact due to noise, vibration or air overpressure is negligible due to the attenuation over distance of each emission.

c. ETI has not evidentially discharged its onus of proof and has failed to demonstrate error by reference to the materials before the Commission. Though a civil engineer, Mr Duffy is not an acoustics expert.

d. The evidence before the Court is that the existing quarries formed part of the baseline environment assessed in the EIAR and NIS such that, in effect, assessment of the effects of the Proposed Borrow Pit Extension was of those effects cumulatively with the effects of those existing quarries. **Power**⁵⁷¹ is authority that a decision-maker's assessment of the adequacy of information before it as to the baseline/receiving environment is reviewable only for irrationality – not on merely its merits.

566 contrary to Order 84 Rule 20 and/or Order 103 Rule 14 RSC.

567 EIAR Chapter 12.

568 EIAR Tables 12.9 & 12.10.

569 EIAR §12.4.2.2.

570 EIAR §12.6.

571 Power v An Bord Pleanála [2024] IEHC 108 §133.

CG7 – APPLICATION FOR PERMISSION, NIS, EIAR

268. AAL’s permission application was for operation of the Proposed Borrow Pit Extension in April to September only and for a maximum of 7 blasts annually and no more than once-weekly.

269. Relevant NIS content, as pleaded by ETI, has been described above. In addition, in considering “Impact of Noise & Vibration on Biodiversity”⁵⁷² the NIS states that:

- a. The main sources of noise generated at the site are traffic, industry and shipping operations. The Shannon Estuary and Shannon Airport also contribute to background noise in the area.
- b. Noise as a singular disturbance factor for fauna species in the vicinity of the licensed facility is difficult to assess, as noise is very rarely the only cause of disturbance of wildlife.
- c. The AAL site has been in operation for over 30 years and has developed and expanded over this period. Birds and mammals become accustomed (habituate) to noise and vibration and, as the recent bird and bat surveys carried out at the site demonstrate, they continue to use the site.
- d. The Proposed Development will see little change in the scale or type of activity in the Site. The Proposed Borrow Pit Extension will operate in line with the commitments provided for the permitted borrow pit.
- e. The best practical approach is a scheme to reduce vibration levels at source and monitor vibration at receivers. Control of the timing and extent of blasting will effectively minimise potential significant disturbance of sensitive species. Up to 7 blasts per year will occur at the site – none in October through March. Blasting technology is controlled to reduce the air overpressure values and vibrations.
- f. The 2020 MMRA⁵⁷³ – as to which, see below – is cited to its conclusion that borrow pit blasting posed no risk of death, injury or disturbance to any marine mammal individuals. Also cited is the opinion of the MMRA’s joint author that the same conclusion applies to the Proposed Borrow Pit Extension.
- g. The 2020 MMRA is cited, specifically as to the Bottlenose Dolphin, to the effect that *“There is no concern of adverse impacts upon the conservation objectives from the proposed development. No significant potential for cumulative or in combination effects with other plans or projects on this QI⁵⁷⁴ arising from the proposed development was identified.”*⁵⁷⁵
- h. The low level of blasting, in April to September, is unlikely to have significant adverse impact on bird species of nearby designated sites. There is no predicted significant impact on key faunal species as a result of noise and vibration from blasting or extraction operations associated with the Proposed Borrow Pit Extension.

572 NIS §6.10.3.

573 Marine Mammal Risk Assessment.

574 Qualifying Interest – i.e. the Bottlenose Dolphin.

575 NIS p147 – 148.

270. The foregoing content ultimately informs the conclusion of the NIS that *“It has been objectively concluded that the proposed project will not adversely affect the integrity of any Natura 2000 site, and there is no reasonable scientific doubt in relation to this conclusion.”*⁵⁷⁶

271. The EIAR considers the Roadstone Barrigone Quarry, about 2.5km from the Site. Previously worked full-time, it was unworked for a long period and was recently intermittently worked for short periods to provide rockfill for the BRDA. It was considered as an alternative source of rockfill for the Proposed Development but the expansion of the already-permitted on-site borrow pit is more beneficial as minimising traffic impacts (including traffic dust/noise) and providing security of supply.⁵⁷⁷

CG7 – 2 MMRA

272. Dr Fennessy records, inter alia, that ETI cites two distinct Marine Mammal Risk Assessments (“MMRA”):

- An MMRA of 2020, produced for the IEL review and appended to the EIAR for the Proposed Development,⁵⁷⁸ assessed the possibility of effect of blasting in the existing Borrow Pit on the Bottlenose Dolphin. Ms Hayes impermissibly opines that it is out of date. The EIAR recorded its author, Dr. Daphne Roycroft, as having confirmed its applicability to blasting in the Borrow Pit extension.⁵⁷⁹
- An MMRA of 2023, by the Irish Whale and Dolphin Group, was submitted to MARA⁵⁸⁰ with AAL’s application for a Marine Usage Licence (“MUL”) for maintenance berth and access dredging near its jetty and for dumping dredge spoil further down the estuary. It related to possible effects on dolphins of vessel presence and passage and not of borrow pit blasting. Ms Hayes impermissibly opines that AAL was obliged to put it before the Commission to inform its Impugned Decision. I will return to it when considering Grounds 10 and 11.

2020 MMRA

273. The 2020 MMRA of the possibility of noise and vibration effect of blasting in the existing Borrow Pit on the Bottlenose Dolphin concludes, *“following a detailed risk assessment”*, that as the blasting will occur on land (at least 560m from the nearest coastline), not underwater, it poses no risk of adverse effect, death, injury or disturbance to marine mammals and no mitigation beyond that stipulated in the EIAR⁵⁸¹ is necessary.

576 NIS §6.17 Conclusion.

577 EIAR §§4.3.1, 8.6.7, 8.7.

578 EIAR Appendix 6.4: Marine Mammal Risk Assessment in relation to blasting operation of a Borrow Pit (2020).

579 EIAR p6-65.

580 Maritime Area Regulatory Authority.

581 i.e. the EIAR produced for the IEL review.

274. The 2020 MMRA records that:

- a. Dr Fennessy was a co-author of the MMRA. Dr Roycroft was lead author. Her PhD focused on seabird and marine mammal monitoring in the high-risk inshore environments of Bantry Bay and the Lower River Shannon Estuary. She has studied the distribution of marine mammals in the Shannon Estuary and their interactions with anthropogenic activities, including aquaculture and shipping. She was Cork County Council’s Marine Mammal Observer for the remediation of the East Tip at Haulbowline (2015-2018)⁵⁸² and in that capacity advised on construction works (including piling) in and adjacent to the marine environment. She was involved in marine mammal monitoring of the Arklow Bank Wind Farm.⁵⁸³ She is experienced in the preparation of EIARs, AA Screening reports and NISs.
- b. As stipulated by the EPA, the MMRA⁵⁸⁴ was completed in accordance with the “*Guidance to manage the risk to marine mammals from man-made sound sources in Irish waters’ (NPWS, 2014).*”
 - o I note, inter alia, that
 - the European Commission cites that Guidance as “*comprehensive*” and as part of Ireland’s “*robust regulatory and management regime for seismic exploration in order to avoid potentially significant impacts on all marine mammal species both within and outside Natura 2000 sites.*”⁵⁸⁵
 - That Guidance recognises that sound measurements A-weighted to mimic human hearing may be unsuited to analysis of risk to marine mammals and suggests “*M-weighting*”.⁵⁸⁶
- c. The Bottlenose Dolphin is listed in Annex II of the Habitats Directive. The SAC is one of two Irish SACs designated for it. The SAC provides critical habitat for a resident population – the size of which is stable.
- d. As shallower intertidal areas closer to the coast are unsuitable habitat for Bottlenose Dolphin, its nearest estuarine habitat is over 1.3km from the Borrow Pit.
- e. Bottlenose Dolphin range widely in the SAC – occasionally as far upstream as Limerick. All suitable aquatic habitat in the SAC is relevant to the species’ range and ecological requirements.⁵⁸⁷ However their important locations have been identified and are downstream – the nearest is 18 km downstream of the Site. Though some Bottlenose Dolphins occur in the waters adjacent Foynes and Aughinish Island and adjacent shipping berths, the estuary close to the site is believed to be of much lesser importance for the dolphin population. Frequency of 31% of days surveyed at Aughinish and 41% of days surveyed at Foynes port nearby has been recorded, although there was a trend of declining detection rates the further up-river monitoring was done and there was a significant seasonal effect - more detections in winter at Aughinish and more in spring at Foynes. But the duration of detections is low - suggesting that the dolphins transit the area and with little evidence of prolonged occurrence, or the presence of regularly used foraging areas.⁵⁸⁸

582 I take judicial notice that the East Tip project was a major and high-profile remediation of reclaimed land formed by waste deposition associated with the former Haulbowline Steel mill in Cork Harbour.

583 I take judicial notice that this is, as yet, Ireland’s only offshore wind farm.

584 MMRA §1.1 Legislation and Guidance.

585 Commission notice - Guidance document on the strict protection of animal species of Community interest under the Habitats Directive. Brussels, 12.10.2021 C(2021) 7301 final p24,

586 Citing, Southall, et al. (2007). Marine mammal noise exposure criteria: Initial scientific recommendations. *Aquatic Mammals* 33(4): 411-521.

587 Citing Berrow, S.D., Whooley, P., O’Connell, M. and Wall, D. 2010. Irish Cetacean Review (2000-2009). Irish Whale and Dolphin Group, and Lower River Shannon SAC 002165. Conservation objectives supporting document marine habitats and species Version 1.0. NPWS 2012; MMRA Figure 3 Study Site and Bottlenose Dolphin Habitat (after NPWS Conservation Objectives: Lower River Shannon SAC 002165 2012).

588 The studies cited are from 2012 and 2013.

- f. Blast “energy attenuates rapidly from the blast site due to geometric spreading and natural damping. Given that the nearest coastline is >550m from the borrow pit boundary, the residual ground vibration within the estuary is considered to be imperceptible.”⁵⁸⁹
- g. “It is important to reiterate that the blasting will take place on land and is not associated with the marine environment. Blasting activity in the marine environment has the potential to introduce pulsed sounds at levels that may impact very significantly upon marine mammal individuals and/or populations Therefore, it commonly requires the implementation of very stringent mitigation measures for the protection of these species ... This is not the case for terrestrial/airborne blasting, where the sound/energy attenuates rapidly from the blast site due to geometric spreading and natural damping and where any residual noise would be expected to reduce greatly when meeting the air-water interface. It is also important to note that the development site is located within a highly disturbed environment where anthropogenic noise levels are already elevated due to presence of industrial activities and shipping (i.e. Foynes Port). Noise-monitoring results show that the Lower Shannon Estuary is a noisy place It is likely that Bottlenose Dolphins are habituated to the existing levels of anthropogenic noise within this busy shipping channel. Indeed, results from static acoustic monitoring show that Bottlenose Dolphins regularly use deepwater channels that are the main shipping routes used in the estuary In this context, there is no likelihood that the infrequent (6-7 times per year) blasting associated with the borrow pit operations (located over 1km from the nearest Bottlenose Dolphin habitat) is likely to impact upon the Bottlenose Dolphin population of the wider SAC.”⁵⁹⁰
- h. “.... this project is not considered to pose any risk of death, injury or disturbance to any marine mammal individuals noise and vibration levels of the blast will attenuate quickly such that they pose no risk to sensitive receptors in the vicinity of the site, and where the nearest Bottlenose Dolphin habitat is located over 1.3km from the development site.⁵⁹¹ the infrequent (6-7 times per year) blasting associated with the borrow pit operations located over 1km from the nearest Bottlenose Dolphin habitat is likely to be imperceptible to the resident Bottlenose Dolphin population.”⁵⁹²

275. Notably, the 2020 MMRA states as to acoustic analysis of blast noise:⁵⁹³

- Assuming a very high blast noise level of 120dB(A) at 1m from the blast, the noise generated is expected to be attenuated by ≈60dB in the air at a distance of 1km from the blast source.
- This is a worst-case scenario as that reduction is due to distance alone. It excludes any natural screening/absorption due to ground contours, the screening berm and other topography between the blast site and the sensitive receptor – which, in the case of Bottlenose Dolphins, is the estuarine habitat

589 MRRA §2.1.2 Blast Vibration.

590 MRRA §4 Risk Assessment.

591 The content omitted here essentially repeats text of MRRA §4 Risk Assessment.

592 MRRA §5 Summary and Conclusions.

593 2.1.1 Blast Noise and Air Overpressure.

over 1.3km from the Site. Also the blast creates airborne sound. The noise will reduce significantly when transferred from air to water.⁵⁹⁴

276. I observe that it is regrettable that, in a process in which the public participate, and on an issue predictably likely to be controversial, the MMRA did not explain in lay terms the practical significance of attenuation from 120dB(A) by ≈ 60 dB to ≈ 60 dB. However, some sense of it can be gleaned from the NIS⁵⁹⁵ which states that “A 3dB increase in background noise levels means a doubling in sound energy and about a 23% increase in loudness. A 10dB increase in background noise levels would equate to a doubling of noise.” The decibel scale is logarithmic not arithmetic. However, a very rough calculation, halving the noise by successive 10db reductions, suggests that a ≈ 60 dB reduction would reduce the perceptible noise by about 98%⁵⁹⁶ at 1km from the blast site - ignoring topographical and like attenuation and attenuation at the air/water boundary. To put the remaining ≈ 60 dB in at least some context, the IEL imposes a daytime noise limit of 55 dB measured at sensitive human receptors.⁵⁹⁷ Beyond noting that A-weighted noise data, which seeks to reflect human sensitivity to noise, seems unlikely to directly apply to dolphins, it is not possible for a lay judge to take the analysis any further. However, the foregoing suffices to conclude that the opinion of a dolphin expert of considerable expertise cannot be found irrational when the MMRA states that

- ≈ 60 dB “is well below the levels known to cause a significant behavioural response in dolphin species”.⁵⁹⁸
- blast noise from the Proposed Borrow Pit Extension would be “imperceptible” to and “pose no risk” to dolphins in their nearest suitable habitat.⁵⁹⁹

277. For the avoidance of doubt, though the IEL imposes limits in terms of vibration and air overpressure, and the EIAR in the IEL review did not assess blast noise, at the request of the EPA in the IEL review the 2020 MMRA assessed the possibility of both vibration and noise effect of blasting in the existing Borrow Pit on the Bottlenose Dolphin. And Dr Fennessy confirms that the EIAR in the Impugned Decision, Chapter 12, Noise and Vibration, identifies borrow pit blasting as a potential noise source, predicts air overpressure and vibration levels at off-site receptors using standard methodologies, and compares those predictions with accepted guideline values.

CG7 - IEL

278. The present, revised, IEL issued in September 2021. It licensed noise and vibration emissions from the present borrow pit on the basis that they will be mitigated by daytime and seasonal restriction on borrow pit blasting, vibration limits at noise-sensitive locations and monitoring and control measures. It concluded that

594 The MMRA contains a footnote as follows. “In simple terms, water is denser than air, so it takes more energy to generate a sound wave, such that and a faint sound in air wouldn’t be transmitted in water as the wave wouldn’t have enough energy to force the water particles to move.”

595 NIS §6.10.3 Impact of Noise & Vibration on Biodiversity.

596 100% - 10db = 50% - 10db = 25% - 10db = 17.5% - 10db = 8.75% - 10db = 4.4% - 10db = 2.2%.

597 EIAR §12.3.

598 MMRA The authors cite “Appendix 2” of the MMRA. This is clearly a reference to tables in “Appendix B Marine Mammal Noise Exposure Criteria After NPWS 2014”.

599 2020 MMRA §4.1 NPWS Assessment Criteria p12 & 13, §5 Summary and Conclusions.

compliance with the licence will enable operation without causing environmental pollution. The licence had as subjected to AA as to effects on the Natura 2000 Sites identified by ETI in these proceedings as of concern.⁶⁰⁰ The IEL records and provides that

“The borrow pit blasts, which will occur no more than once a week, will attenuate quickly such that it will pose no risk to sensitive receptors including to the nearest potential Bottlenose Dolphin habitat, over 1 km away, and to the nearest important habitat for the Bottlenose Dolphin, 18km away.”

“Limitations and control on noise, vibration and air overpressure are specified in Conditions 4 and 5, and Schedule B⁶⁰¹ of this licence.”

“... no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of those European Sites.”

“4.5 Noise

Noise from the installation shall not give rise to sound pressure levels (L_{AeqT}) measured at the specified noise sensitive locations ... which exceed the limit value(s).

4.6 Off-site vibration & overpressure

4.6.1 Vibration levels measured at the specified noise-sensitive locations shall not exceed the specified limit values.

4.6.2 95% of all air over pressure levels measured at the specified noise-sensitive locations shall conform to the specified limit value, No individual air over pressure value shall exceed the limit value by more than 5 dB (lin).”⁶⁰²

279. IEL Condition 5, as to emissions,

- Prohibits both emissions other than those licensed and interference by emissions with the environment beyond the AAL site.
- Provides, at §5.12, inter alia, as follows as to Borrow Pit operations:

“(i) There shall be no more than one blast per week at the borrow pit.

(ii) There shall be no blasting outside the hours 08.00 to 18.00 and no blasting from 1st October to 31st March inclusive.

(v) A method statement for blasting operations shall be submitted to the Agency for approval prior to commencement of blasting. The method statement shall include:

- *Standard Operating Procedures;*
- *Public information programme and channels of communication for residents;*
- *Noise, vibration and air overpressure control methods;*
- *Monitoring plan;*

600 Inter alia, the Lower River Shannon SAC, River Shannon and River Fergus Estuaries SPA, Barrigone SAC, and Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and the Askeaton Fen Complex SAC.

601 Schedule B.4 and B.5 stipulates limit values and identifies monitoring locations for Noise, Vibration and Air Overpressure.

602 Condition 4.

- *Pre-blasting checks for fauna for each blast;*
- *Security and safety protocols; and*
- *Protocol for transport and handling of explosives.*

Any amendments to the method statement shall be submitted to the Agency for approval.

(vi) There shall be no storage of explosives at the installation.

(vii) Records of the day and time of any blasting including amount and type of explosive used shall be maintained by the licensee.

(viii) The licensee shall submit to the Agency a report on any amendments to the vibration model following the initial blast within one month.

An annual blasting report including a summary of information required under (v) and (vii) above shall be submitted as part of the AER.

(ix) The recommendations of Section 8.0 of the report by Golder Associates Ireland Ltd entitled 'Borrow Pit: Phase 1 BRDA Blast Vibration Assessment' dated July 2017 received with review application shall be implemented for each blast or as otherwise approved by the Agency."

In addition IEL Schedules B.5 and C.5.1 set monitoring requirements and limit values for vibration and air overpressure from blasting

280. The Proposed Development's emissions will be regulated by a further revised IEL to encompass the borrow pit extension. AAL, on 28 January 2022, applied for an IEL review accordingly and its determination by the EPA awaits completion of the planning process.⁶⁰³

CG7 - SUBMISSIONS TO COMMISSION, INSPECTOR'S REPORT/IMPUGNED DECISION

281. Futureproof, Dolphinwatch (Ms Bolger) and ETI submitted that the effects of blasting had been underestimated. ETI submitted that dolphins are susceptible to the impact of blasting from the quarry and that cumulative and [in] combination effects of quarrying or of the impact of other quarries on the quarrying operation had not been assessed.⁶⁰⁴

282. In EIA, the Commission agreed with its Inspector that Proposed Borrow Pit Extension blasting will give rise to noise and vibration disturbing fauna and avifauna. Condition 8 stipulated that blast events will be limited to 7 per annum between April and September, avoiding overwintering avifauna and will be controlled and monitored in accordance with an IEL. However Conditions 2 and 3 require implementation also of the mitigation submitted in the EIAR and NIS. These included the additional limit of 1 blast event per week and local notification of blasts.⁶⁰⁵ For clarity, as I understand, a blast event typically consists of a series of explosions in very quick succession such that they can be considered a single event.

⁶⁰³ Inspector's report §10.1.1.

⁶⁰⁴ Submission 29 March 2024 §3 and 19.

⁶⁰⁵ See e.g. Inspector's report p77.

283. The Inspector had noted⁶⁰⁶

- a. Futureproof's, Dolphinwatch's and ETI's observations that
 - The estuary has a resident group of 131-150 Bottlenose Dolphins which are both a qualifying interest of the SAC and protected under Annex II of the Habitats Directive.
 - AAL's assertion that dolphins are not common upstream of Glin is contradicted in its report which states that static acoustic monitoring data gathered at Aughinish in 2011-2014 found dolphin on 29% of the days monitored.
 - Blasting effects had been underestimated,
 - Dolphins, primarily acoustic beings and reliant on echolocation, are susceptible to blasting. They are already exposed to noise from shipping and other marine traffic.
 - Noise travels faster in water and, due to the bathymetry of the estuary, sound will reverberate off the seabed and be amplified causing extreme stress and physiological damage to dolphins. Any hearing damage would be detrimental to their survival, reducing their hunting ability and societal participation.
 - Cumulative and [in] combination effects of the quarrying with other quarries had not been assessed.

- b. AAL's response,⁶⁰⁷ largely in terms of the 2020 MMRA,⁶⁰⁸ to the effect that:
 - The Shannon Estuary dolphin population has been intensively studied over 30 years and has remained relatively stable. A 2021 long-term study of the population⁶⁰⁹ had found that the overall adult survival rate is comparable to that of other populations in temperate regions.
 - The NIS records that Bottlenose Dolphin are largely concentrated near the mouth of the Shannon estuary and are infrequently present upstream of Glin, c.15km west of the Site. The nearest Bottlenose Dolphin habitat is over 1.3km from the borrow pit.
 - Blast noise and vibrations will attenuate quickly such that they pose no risk to sensitive receptors. There is no risk of likely significant effects on the species due to borrow pit noise and vibration impacts.
 - 4 blasts from April to September 2022 (in the already permitted borrow pit) had been IEL-compliant⁶¹⁰ and compliant with the relevant EIAR for the IEL.

284. In her assessments – Planning, EIA and AA⁶¹¹ – the Inspector,

- a. Noted that
 - emissions are already strictly controlled by the IEL. Blasting emissions are and will be addressed by the IEL – including the quantified noise and vibration limits and reporting requirements.
 - The refinery has been operational for about 40 years and has developed and expanded over this time. It is not unreasonable to suggest that birds and mammals have habituated to its noise and vibration.

606 Inspector's report §6.3.4, 6.4 & 8.3.

607 Dated 6 July 2022 – circulated by the Commission for comment in 2024.

608 Appendix 6.4 of the EIAR) prepared as part of the EPA IE Licence review.

609 Ludwig, K.E., Daly, M., Levesque, S. & Berrow, S.D. (2021) Survival Rates and Capture Heterogeneity of Bottlenose Dolphins (*Tursiops truncatus*) in the Shannon Estuary, Ireland. *Frontiers of Marine Science* 8, 611219. doi: 10.3389/fmars.2021.611219.

610 Citing Borrow Pit: Phase 1 BRDA, Blast Vibration Assessment (Golder 2017).

611 §§10, 11 & 12 respectively.

- There is no evidence that the activities at, or emissions from, AAL negatively impact the conservation objectives of the Bottlenose Dolphin. The Shannon Estuary is a busy waterway.
- The most recent study⁶¹² of Bottlenose Dolphin there concluded that the population is stable and it is not unreasonable to suggest that the species has habituated to the nature and extent of activity on the busy waterway that is the Shannon Estuary.

The Inspector explained her acceptance of these propositions.⁶¹³

- b. In AA, accepted the content of the 2020 MMRA as to the original borrow pit – that blasting “*would not pose any risk (death/injury) or disturbance to marine mammals*”. And she considers it “*entirely reasonable*” to submit in the NIS, as its author has confirmed, “*that the same conclusion applies to the proposed borrow pit extension.*”⁶¹⁴ And “*There is no concern of adverse impacts on the conservation objectives of the qualifying interest from the proposed development.*”⁶¹⁵
- c. Responded to observers’ concerns as to borrow pit blast impacts on ecology, including dolphins, by referring to the 2020 MMRA and, implicitly accepting the latter, concludes: “*As the Borrow Pit Extension is at a further remove from the estuary than the permitted borrow pit footprint, it is reasonable to conclude that its blasting requirements would also not pose a risk.*”⁶¹⁶
- d. Noted, in her reasoned conclusion in EIAR, risk of blast noise and vibration disturbance of fauna and avifauna and the blast timing restrictions – including those avoiding the avifauna overwintering period – and that blasting will remain subject to an IEL.⁶¹⁷ She makes a similar observation in AA.⁶¹⁸
- e. Concluded in EIA that there are no nearby sources with significant emissions of noise or vibration to overlap with site emissions from the BRDA and Borrow Pit. Therefore no off-site cumulative impact is relevant.⁶¹⁹
- f. In AA, noted again that observers had raised “*impact of activities including blasting on avifauna and marine mammals*”⁶²⁰ and that AA Screening, in screening them in, had noted that “*Borrow pit activities may result in disturbance and displacement of qualifying interests*” of the SAC, one of which she listed as the Bottlenose Dolphin, and the SPA.⁶²¹ In AA, she identified for examination “*Disturbance and displacement of key species from borrow pit activity including blasting*”. She again cited the IEL and the AA in its most recent review, which had concluded that “*no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of those European Sites*”.⁶²² She considered that the significant body of available site-specific scientific evidence on the operation of the existing AAL facility and its emissions provides for scientific certainty.⁶²³

612 Bottlenose dolphin survey in the Lower River Shannon SAC, 2018.

613 Inspector’s report §10.8.7.

614 Inspector’s report §12.3.41.

615 Inspector’s report §12.3.42.

616 Inspector’s report §10.8.6.

617 Inspector’s report p121.

618 Inspector’s report §12.3.48 et seq.

619 Inspector’s report §11.4.14.

620 Inspector’s report §12.2.7.

621 Inspector’s report §12.2.8.

622 Inspector’s report §12.3.10.

623 Inspector’s report §12.3.11.

In this regard, given that they will be quarried only for rock for the BRDA and the number of annual blasts will remain the same, such that overall activity will remain broadly comparable, and given activity in the Proposed Borrow Pit Extension will progressively replace activity in the original borrow pit, it seems to me notable and sensible that the Inspector observed that *“Activity in the Borrow Pit Extension will be comparable to that carried out in the permitted borrow pit area.”* And she again cites the blasting limits the conditioning of which in the Impugned Permission she later recommends.⁶²⁴

- g. In her consideration in AA of in combination effects,⁶²⁵ cited the list of other projects considered in the NIS.⁶²⁶ ETI point out that this list does not include other quarries. However, the NIS⁶²⁷ explained, as did AAL’s expert evidence in these proceedings, that the types of application excluded from the list included *“Developments that have become operational by the time of writing (as they have been considered in the baseline)”*.
- h. In her assessment in AA,⁶²⁸ recognised that emissions are already strictly controlled by the IEL repeats her view, expressed in EIA, that effects on dolphins are unlikely, cites the 2020 MMRA and the IEL and concluded, specifically as to dolphins, that there is no

- evidence that AAL’s existing activities or emissions negatively impact on the SAC conservation objectives.

(To any extent ETI criticises this observation as irrelevant or as setting an incorrect test, I reject the criticism. The observation was certainly not dispositive of, but was equally certainly relevant to, a proper consideration of the effect of the Proposed Development which is intended for the site of AAL’s existing activities and in considerable degree will consist in extending those activities.)

- concern of adverse impacts on those conservation objectives from the Proposed Development.⁶²⁹
- i. In her AA as to the SAC, concludes that, subject to implementation of mitigation, she is satisfied that that the Proposed Development, individually or in combination with other plans or projects, would not adversely affect the integrity of this European site in light of its conservation objectives and that no uncertainty remains.⁶³⁰

285. The Impugned Decision essentially grants permission in accordance with the Inspector’s recommendation that permission be granted for reasons and on conditions she suggests. It includes Condition 8 as follows:

624 Inspector’s report §12.3.25 & 12.3.28.

625 Inspector’s report §12.3.29.

626 NIS Table 5.1.

627 NIS §5.2.8 In-combination Effects.

628 Inspector’s report §12.3.31 et seq.

629 Inspector’s report §12.3.38 - 42.

630 Inspector’s report §12.3.47 & 48.

“Blasting at the borrow pit shall not take place outside the period between the 1st day of April and the 30th day of September in any year and shall be limited to a maximum of 7 number blasting events annually.”

As will have been seen, Condition 8 does not prohibit blasting more than once-weekly – which may be considered odd as AAL had proffered such a restriction. However, in my view, Conditions 2 and 3 have that effect.

CG7 – EVIDENCE

Duffy

286. Mr Duffy, civil engineer for ETI, deposes that,

- a. The sound from blasting at the Proposed Borrow Pit Extension will transmit through the bedrock to the estuary. Noise travels faster in denser media - faster through water than through air and faster through bedrock than through water. Blast sound energy will travel at different speeds through the different densities of bedrock identified in the EIAR. There is a further issue with energy/noise transiting the air/water interface.
 - In general terms, I do not understand this to be significantly disputed.
- b. AAL’s claim that blast noise and vibration will attenuate quickly with no risk to sensitive receptors in the vicinity is incorrect. The noise will travel at speed through bedrock directly to the Bottlenose Dolphin habitat.
 - I observe here Mr Duffy’s segue from attenuation to speed. Counsel for ETI described the countervailing phenomena of speed and attenuation as a “skirmish” in the case which had been “resolved”.⁶³¹ I take that to have been a wise withdrawal from reliance on the speed issue in the absence of consideration of the attenuation issue.
- c. The direct connectivity between noise from quarry blasts and the dolphin habitat via bedrock - transmission through bedrock - was not assessed.
- d. The sudden impact and intensity of blast noise is significantly different to the noise of motorised vessels.
 - I confess to the view that I know enough to know this observation correct – at least in general terms.
- e. The complex interaction from blast sound through rock, silt, water and air will generate noise confusion disorientating to dolphins and have potential for significant impact on dolphins.
 - I am unaware of Mr Duffy’s expertise in dolphins.

⁶³¹ Day 1 14:37 et seq. Counsel reserved the right to take further instructions and revert to me but did not.

- f. Potential cumulative effects on dolphins of blast sound from combined blasting in the borrow pit and the nearby Roadstone quarry was not assessed. Mr Duffy contemplated both simultaneous blasts and *“repetitive effects where the blasts are not simultaneous.”*

Smyth & Corrigan

287. Dr Smyth’s expert acoustics evidence essentially verifies AAL’s pleadings as to noise assessment (set out above) and states that

- a. The quarries referred to by ETI - in particular the Roadstone Barrigone Quarry - are existing quarries and were assessed in EIA and AA as part of the baseline environment for the purpose of both.
- b. Extensive baseline noise data⁶³² was available from AAL - inclusive of all current activity at both the AAL site and the existing quarries, including the Roadstone Barrigone Quarry. It was collected over several years from 2017 to 2020 at the noise-sensitive locations specified in the IEL.⁶³³
- c. The assessment compared the noise from the Proposed Development to the existing baseline to determine the impact of the Proposed Development. The assessment is inherently cumulative.
- d. The baseline data did not include the existing Borrow Pit activity as it had not started operations when the baseline data was collected. The Proposed Development will expand the Borrow Pit - which will move the noise-generating activity to a new area adjacent the existing Borrow Pit. So the impact assessment of the Proposed Development takes account of the new location of these noise sources.
- e. He professes no expertise in and defers to Dr Fennessy as to blasting effects on species other than humans.

288. Mr Corrigan, tailings engineer for AAL, observes that blast vibrations last only for seconds - typically less than 2 seconds. For blasts from both the Proposed Borrow Pit Extension and the Roadstone Barrigone Quarry to cumulate they would have to occur within about 2 seconds of each other. Each blasting requires prior notification to all nearby residences and businesses – including the Roadstone Barrigone Quarry. AAL is similarly notified before any blast at the Barrigone Quarry. An Garda Síochána must be present at any blast. Accordingly, there is no potential for cumulative or in-combination effects from blasting at both locations occurring within two seconds of each other. While he doesn’t say so expressly, the clear implication is that it is inconceivable that AAL and Roadstone will deliberately blast simultaneously and extremely unlikely that they will do so accidentally.

632 EIA Table 12.1 summarises the baseline/measured data.

633 EIA §12.3 Receiving Environment, identifies the locations along and the noise monitoring dates.

Bolger

289. Ms Bolger, deponent for ETI, is an expert zoologist and marine biologist, whose BSc and MSc theses in UCC were on Bottlenose Dolphins – the latter on their Shannon Estuary population. She holds a certificate in “Monitoring Coastal Populations of Bottlenose Dolphins” and has studied dolphins in Spain and Australia. She is the owner, operator and skipper of the vessel “Dolphinwatch” of Carrigaholt Co. Clare – which runs tours to see dolphins. She made a submission⁶³⁴ in the planning process objecting to the Proposed Development – which submission she verifies. Incorporating those submissions, she deposes that:

- a. The Shannon Estuary is home to about 131-150 Bottlenose Dolphins – a species listed (for strict protection⁶³⁵) under Annex II of the Habitats Directive.
- b. While the Shannon Estuary population is stable, as Bottlenose Dolphins are a long-lived, slow developing species, as numbers are small⁶³⁶ and monitoring infrequent,
 - it is difficult to discern if birth-rate changes are natural or pollution-induced.
 - present monitoring frequency is insufficient to detect population decline in time to intervene.
 - so mortality alone is not a sufficient measure of population health. Conclusions as to the impacts of developments in the estuary based on mortality alone are unreliable.
- c. Dr Fennessy’s conclusions as to presence of dolphins close to the Site, based on static acoustic monitoring, are unreliable as dolphins do not constantly vocalise.
- d. Dolphins are social animals and cooperative hunters. They rely on acoustic echolocation to “see” and on acoustic communication. Hearing damage would be detrimental to ability to hunt and participate in their society and so to their survival. Anthropogenic noise – such as from marine vessels – degrades their acoustic faculties and psychological condition. Blast noise is like a gunshot.
- e. Noise, including blast noise, travels four times faster in water than on land and in a confined space, like an estuary, reverberates creating a significantly louder and more echoed sound. Buckstaff⁶³⁷ found that when blasting near Bottlenose Dolphins it needs to be considered that in-air blasts are louder in the water than a contained in-water blast and have been observed to change their behaviour. Therefore, Ms Bolger says, quarry blasting is a realistic threat.
- f. Certain depositions of Ms Hayes as to Bottlenose Dolphins are correct. I consider this below.
- g. The proposed quarrying poses a real and significant risk to the Bottlenose Dolphin population in the estuary.

634 Entitled “The potential impact of the expansion of the Aughinish Alumina refinery, Co. Limerick, on a protected population of bottlenose dolphins in the Shannon Estuary” and dated February 2022. It includes content entitled “Potential Impacts of Noise Pollution from Rock-Blasting”.

635 Habitats Directive Art. 12.

636 Presumably the point is that variations are not necessarily statistically significant.

637 Buckstaff et al. (2013), Responses of Bottlenose Dolphins (*Tursiops truncatus*) to Construction and Demolition of Coastal Marine Structures. *Aquatic Mammals* 2013, 39(2), 174-186. DOI 10.1578/AM.39.2.2013.174.

290. I observe that Ms Bolger’s observation that “conclusions as to the impacts of developments in the estuary based on mortality alone are unreliable.”, though I assume it correct in its own terms, is incorrectly premised. AAL’s experts drew no conclusions “based on mortality alone”. And Ms Bolger, unsurprisingly, does not depose that mortality - or population stability - is irrelevant to conclusions drawn on a consideration of various relevant circumstances and material. Courts respectfully expect that expert witnesses will not set up straw men.

Bolger-Adopted Hayes Averments

291. As has been seen, Ms Bolger, whose expertise I accept, verifies certain, otherwise inadmissible, averments by Ms Hayes. As relevant to the blast noise issue and editing them somewhat, I set them out below and make some comment thereon.

Bolger-Adopted Hayes Averment ⁶³⁸	Comment
<p>Blast impacts on dolphins “have simply been dismissed by a statement that Bottlenose Dolphins are not common upstream of Glin which is 15 km downstream of the subject site.”</p>	<p>The word “simply” is entirely unjustified. AAL’s consideration of the issue was multi-factorial. I refer to the 2020 MMRA appended to the EIAR – content of which I have set out above. Also, this averment seems a selective deployment of NIS content⁶³⁹ which, in listing potential impacts, reads as to the Bottlenose Dolphin: “<u>Yes - not common upstream of Glin but may occur locally</u>” – i.e. far from dismissing it, the NIS explicitly acknowledged potential for impact and explains why.</p>
<p>This is contradicted by AAL’s own reports that Aughinish SAM⁶⁴⁰ data from 2011-2014 found dolphins locally not infrequently - on 29% of days monitored.</p>	<p>Dr Fennessy deposes a contrary view of the significance of the SAM data – which the NIS itself reports. The population’s core range is in the mid- and outer- estuary, where encounter rates are substantially higher. Acoustic detections on 29% of days within a detection range of some distance from a single fixed location are consistent with only occasional use of this area compared to use of core habitat. I observe that Dr Fennessy’s is not incredible evidence. I imagine frequency and numbers were in fact greater, but this 29% figure is consistent with the brief presence of 1 dolphin on each of the days comprising that 29%.</p>

638 First Hayes Affidavit §31 et seq. I have edited them without changing meaning.

639 NIS p112, 145 & 147 - It cites Rogan, E., Garagouni, M., Nykänen, M., Whitaker, A. & Ingram, S. (2018). Bottlenose dolphin survey in the Lower River Shannon SAC, 2018. Report to the National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, University College Cork.

640 Static Acoustic Monitoring.

Bolger-Adopted Hayes Averment ⁶³⁸	Comment
<p>AAL’s report states as to EIAR on the Proposed Borrow Pit Extension: <i>“It should be noted that blast noise was not specifically assessed in the EIAR, as the EPA requirements for blasts are only in relation to vibration and air overpressure (air blast).”</i></p> <p>EPA requirements are less than those of the Habitats Directive and the EIA Directive. If blast noise is not specifically assessed, then it is not possible to establish whether or not there is an adverse impact on dolphins and whether or not that impact is significant. This is a data lacuna.</p>	<p>It is difficult to understand how this averment was made. The quotation is taken quite out of its context and its deployment without explanation is to be deprecated – particularly in a deposition by a solicitor.</p> <p>The quotation appears in the 2020 MMRA submitted in the IEL review as to the original borrow pit. It refers, not to the EIAR in the present matter, but to the EIAR in that IEL review. That MMRA was a response to a specific request by the EPA to consider possible quarry blast effect on Bottlenose Dolphins in accordance with NPWS guidance on noise risk to marine mammals⁶⁴¹ – which the MMRA proceeded to do.</p> <p>As later deployed as an appendix⁶⁴² to the present EIAR, the MMRA clearly incorporates in that EIAR an assessment of possible quarry blast effect on Bottlenose Dolphins.</p> <p>In short, the quotation does not, as alleged, signify a lacuna in the present process. It does the very opposite. It is a precursor to filling, in the IEL Review and at the EPA’s explicit request, what might otherwise have been such a lacuna.</p>
<p>The speed at which sound travels is material to quarry blasting noise impact on dolphins. Ms Bolger’s submission pointed out that sound travels faster in water than in air.</p> <p>There is a complete conflict between Dr. Fennessy’s assertions that sound travels more slowly in water than in air and that it attenuates much faster in water than in air, on which he bases his conclusions that dolphins would not be affected.</p>	<p>Dr. Fennessy never asserted that sound <u>travels</u> more slowly in water than in air. Indeed he agrees <i>“as a matter of physics that the speed of sound is greater in water than in air.”</i></p> <p>Rather, he asserted that sound <u>attenuates</u> faster in ground and in water, and at the ground/water interface, than in air. Inter alia, he says:</p> <ul style="list-style-type: none"> • <i>“In simple terms, water is denser than air, so it takes more energy to generate a sound wave, such that a faint sound in air wouldn’t be transmitted in</i>

641 §1 of the 2020 MMRA records: This MMRA was requested by the Environmental Protection Agency (EPA) as part of the Industrial Emissions Licensing review for Aughinish Alumina Ltd. (Reg. No.: P0035-07, letter dated 6th May 2020), as follows: ‘In view of the proximity of the activity to the Lower River Shannon SAC (Site Code 002165) and the potential for impact on the Shannon Estuary’s Bottlenose Dolphin population, particularly due to noise and vibration as a result of blasting at the borrow pit, please submit a marine mammal risk assessment (MMRA), completed by a suitably qualified marine ecologist, evaluating the risk to marine mammals from the proposed activities. The risk assessment should be completed in accordance with the approach outlined in Guidance to Manage Risk to Marine Mammals from Man-made Sound Sources in Irish Waters published in January 2014 by the Department of Heritage, Culture and the Gaeltacht (available at <https://www.npws.ie/marine/bestpractice-guidelines>). The MMRA shall clearly outline any additional mitigation measures required to protect marine mammals, as necessary.’

642 EIAR Appendix 6.4: Marine Mammal Risk Assessment in relation to blasting operation of a Borrow Pit (2020).

<p>Bolger-Adopted Hayes Averment⁶³⁸</p>	<p>Comment</p>
<p>In finding no evidence that AAL’s activities negatively impact the SAC’s conservation objectives as to the Bottlenose Dolphin, the Inspector simply ignored/ rejected Ms Bolger’s submission, simply preferred Dr. Fennessy’s assertions and failed to give reasons for her preference.</p>	<p><i>water as the wave wouldn’t have enough energy to force the water particles to move.”</i></p> <ul style="list-style-type: none"> • The key determinants of risk to Bottlenose Dolphins from a land-based blast are not the relative speeds of sound in different media, but rather the magnitude and frequency of the source, the efficiency with which acoustic energy couples from rock and air into the water column, the attenuation of energy with distance through the atmosphere, ground and water, and the very low number and short duration of blasting events per year. <p>Dr Fennessy’s are quite different assertions</p> <ul style="list-style-type: none"> • to that which Ms Hayes incorrectly attributes to him. • which Ms Bolger does not contradict. <p>Indeed, Ms Bolger’s submission, while explaining the possible detrimental effect of blast noise on dolphins, addresses its pathway from the quarry to the dolphins only by noting that sound travels faster in water than in air. She did not address any other issue relevant to pathway – including issues of blast frequency, distance transmissions frequency through different media and attenuation.</p> <p>The 2020 MMRA explained in some detail why, for a number of reasons and in the expert view of Drs Fennessy and Roycroft, quarry blasts would not affect the estuary’s Bottlenose Dolphins. The Commission was entitled to accept that explanation. The Commission’s reasons for doing so are obvious in context – whether or not one agrees with them as to merit.</p>
<p>The Commission accept that Bottlenose Dolphins have "habituated" to their surroundings. Habituation implicitly suggests disturbance has occurred and that it is for the Annex IV protected species to adapt or habituate to their new surroundings rather than accommodating these strictly protected species.</p>	<p>This observation misconstrues the concept of “disturbance” in the Birds and Habitats Directives. It is a technical, not a colloquial concept. The concept is of disturbance significant having regard to the Directives’ objectives. I cite the caselaw in this regard later in this judgment. Habituation may, but does not per se, imply disturbance. It may imply the opposite. The environment is inherently dynamic and changeable.</p>

Bolger-Adopted Hayes Averment ⁶³⁸	Comment
	<p>For a particular species, such changes may range on a spectrum and in degree from negative to neutral to positive. Changes may present challenges or opportunities, or neither. All organisms adapt – habituate – to their surroundings and to changes in their surroundings. Indeed, that is foundational to evolution. Some do so successfully, others not so and in the latter case they leave or decline.</p> <p>None of this is to be sanguine as to disturbance of strictly protected species or the prohibition of such disturbance. But it is why the concept of disturbance incorporates a concept of harm to the species allegedly disturbed – and harm at a population level.</p>
<p>The 2023 MMRA states⁶⁴³ that Bottlenose Dolphins were present on 21% of days monitored at Aughinish. Occasionally, Bottlenose Dolphins are seen in Limerick city and in 2024 a humpback whale was seen in the estuary between Tarbert and Killimer.</p>	<p>The monitoring described in the 2023 MMRA does not add to or subtract from the information in the 2020 MMRA which was before the Commission as it relates to blast noise impact on dolphins.</p> <p>As has been seen, the 2020 MMRA recorded</p> <ul style="list-style-type: none"> • A higher dolphin frequency at Aughinish - 31% of days surveyed and, indeed, 41% at Foynes. • That all suitable aquatic habitat in the SAC is relevant to the species’ range and ecological requirements. Bottlenose Dolphin range widely in the SAC – occasionally as far upstream as Limerick. <p>Other than as to frequency of their occurrence at Aughinish, the 2023 MMRA has nothing to say relevant to borrow pit blast noise impacts on dolphins. It considers only vessel and dredging noise – clearly very different to blast nose. It concludes that, assuming recommended mitigation, it is unlikely to present a risk to Bottlenose Dolphins.</p> <p>The reference to the humpback whale seems incidental. Certainly, Ms Hayes does not elaborate its significance – much less that it has an implication as to lawfulness of the Impugned Decision. I note that a report to the NPWS in 2022⁶⁴⁴ identified the Bottlenose Dolphin as the only cetacean species regularly and frequently recorded in the estuary.</p>

643§4.5.

644 See below.

Bolger-Adopted Hayes Averment ⁶³⁸	Comment
<p>The 2023 MMRA also states: <i>"A significant change in the acoustic repertoire is cause for concern and proves the need for assessments of potential sources of disturbance, especially given results on other species have proven foraging disruption by boat presence."</i></p>	<p>Dr Fennessy observes⁶⁴⁵ that this quotation is taken out of its context. That MMRA was considering effect on dolphins by noise associated with in-water dredging and marine vessels - not noise associated with onshore blasting. In any event, Ms Hayes invokes the premise of significant change in the acoustic repertoire for the conclusion that assessments of potential sources of disturbance is required. As Dr Fennessy correctly observes, the quotation is framed in the NPWS study, not as a finding of injury, population effect or blasting impact but as a general rationale for undertaking assessments. That is in fact what occurred, as to blast noise, via the 2020 MMRA.</p>
<p>As the Commission was not in a position to do AA in light of the best scientific knowledge or on the basis of up-to-date reports that there is no evidence <i>"that the activities at, or emissions from the licensed AAL facility are negatively impacting upon the conservation objectives of the qualifying interest in the area."</i> The evidence was there but the Commission failed to seek it or closed their mind to it. So, its AA did not meet the <i>Kelly</i> or <i>Connolly</i>⁶⁴⁶ criteria and it lacked jurisdiction to grant permission.</p>	<p>In summary, Ms Hayes cites no respect in which the 2023 MMRA contained information relevant to any issue of blast noise impact on dolphins which was not already in the 2020 MMRA.</p>

292. Ms Hayes also refers⁶⁴⁷ to what a report to the NPWS in 2022⁶⁴⁸ described as the *"permanent emigration"* of some dolphins from the estuary to Tralee and Brandon Bays. In a non-sequitur of some daring and on no apparent basis other than the mere fact of migration, she describes this as *"clearly evidence of disturbance contrary to Article 12."* In fact, the 2022 study records, inter alia, that

- a. The abundance estimate *"is very robust"* and suggests the Bottlenose Dolphin population in the SAC is stable *"within the ability of the current sampling strategy to detect change"*.
- b. *"Recent evidence suggests that Shannon dolphins are frequently recorded in Brandon and Tralee Bays and off Kilkee and Doonbeg, Co Clare It is likely that the Shannon dolphins have always used these*

645 Fennessy Affidavit 14 February 2026, §20.

646 I infer, *Kelly v An Bord Pleanála* [2014] IEHC 400 and *Connolly v An Bord Pleanála, Clare County Council & McMahon Finn Wind* [2018] IESC 31, [2021] 2 IR 752.

647 Affidavit 5 February 2026.

648 Berrow, S., Daly, M., Dudley, R., Levesque, S., Regan, S. & O'Brien, J. (2022) Bottlenose dolphins in the Lower River Shannon SAC, 2022. (Irish Whale & Dolphin Group report to National Parks and Wildlife Service) 41pp.

areas outside the Lower River Shannon SAC but that it was not recorded until 2009. However there is more recent evidence that some dolphins have “emigrated” outside the survey area.”⁶⁴⁹

- c. Brandon Bay is a good foraging area for Bottlenose Dolphins.
- d. Evidence *“supported the hypothesis of range expansion. This is important if the population in the estuary was declining as the decline could be attributed to emigration rather than increased mortality.”*

293. I emphasise that, as a layperson in this regard, I draw no conclusions from the foregoing. The study is complex. No doubt, content could be deployed in diminution of any impression gleaned from the foregoing. The point for present purposes is that it is clear, even to the lay reader, that the 2022 study provides no support whatever for the inference to which Ms Hayes illogically leapt: that permanent emigration of some dolphins from the estuary to Tralee and Brandon Bays is *“clearly evidence of disturbance contrary to Article 12.”* Far from being based on clear evidence, on the evidence before me, Ms Hayes’ inference of disturbance is nothing beyond speculation. And it is at least a pity that she did not include in her affidavit the reference in the 2022 paper to the possibility of range expansion.

294. By way of general observation on these averments by Ms Hayes, and while I in no way question her bona fides, they seem to me to be opportunistic and impressionistic rather than rigorous or disciplined. They are regrettable but perhaps understandable in an advocate. But not so in an expert – from whom independent, non-partisan scientific rigour and self-discipline in the expression of opinions are expected. These averments seem to me to illustrate the law’s wisdom of deeming inadmissible in evidence the opinion of a litigant on matters of expertise.

Fennessy

295. I have already cited certain aspects of Dr Fennessy’s evidence on the blast noise issue. He also deposes that,

- a. The best information to hand is that *“the decline in dolphins in the estuary is attributed to range expansion or permanent emigration rather than a decline in overall numbers”*.⁶⁵⁰ Ms Bolger does not address range expansion and there is no evidence that such range expansion is due to species disturbance⁶⁵¹ - much less, as Ms Hayes asserts, *“clear evidence”* of Article 12 disturbance. Dr Fennessy says *“A strict protection allegation needs a defensible causal pathway: an identified act, a plausible exposure mechanism and evidence that the act is likely to cause deliberate disturbance at a biologically meaningful level. This is not established here.”*

649 i.e. the estuary.

650 Citing the Shannon (Sionna) Approaches IMMA Factsheet (IUCN-MMPATF 2024) prepared by the IUCN Joint SSC/WCPA Marine Mammal Protected Areas Task Force 2024. IMMA stands for Important Marine Mammal Area. The IUCN is the International Union for the Conservation of Nature. The WCPA is the World Commission on Protected Areas. The SSC is the Species Survival Commission. Exhibit GF2 Tab2.

651 Dr Fennessy cites the Irish Whale and Dolphin Group and the Shannon (Sionna) Approaches IMMA Factsheet.

- b. However, the estuary population is stable – as Ms Bolger agrees. Dr Fennessy cites the Irish Whale and Dolphin Group’s Shannon Dolphin Project in support, to the effect that abundance estimates done in 2003, 2006, 2008, 2010, 2015, 2018 and 2022 show a population stable within the limits of the ability of the technique to manage change.⁶⁵²
- c. Dr Fennessy agrees with Ms Bolger that SAM studies may not identify all dolphins present, given variation in their vocalisation patterns relative to location and the activity in which they are engaged. Nonetheless, their distribution pattern in the estuary is well-known. It has been repeatedly established through multiple scientific studies, observation and acoustic studies that most of the population spend most of their time closer to the mouth of the estuary.
- d. While Ms Hayes criticises AAL’s reliance on the 2020 MMRA as reliance on “*an old report*” Dr Roycroft, its author, has confirmed its continuing applicability - that the “*same conclusion applies to the proposed borrow pit extension*”. Ms Hayes has identified no specific, more recent, site-specific scientific dataset which contradicts the baseline and rationale underpinning Dr Fennessy’s conclusions.
- e. As to acoustic effect - direct, indirect or in-combination - on Bottlenose Dolphins from the Proposed Borrow Pit Extension alone, there will be a very low blasting frequency – a maximum of 7 annually. Blasts are very short. Ground vibration from quarry blasting attenuates rapidly with distance and is assessed against recognised human/structural criteria at much shorter ranges than those to the estuary. The EIAR applies standard sound propagation modelling to predict blast-related sound levels and attenuation with distance. There is no efficient noise or vibration transmission pathway from the Proposed Borrow Pit Extension to the nearest dolphin location, at least 1km away. For Bottlenose Dolphins to be affected, the energy of a blast would need to propagate through the bedrock over hundreds of metres to kilometres, transmit efficiently across the rock–water interface (a highly inefficient transmitter of acoustic energy) into the water column, and then still be of sufficient magnitude at dolphin locations to exceed established underwater noise thresholds. This is unrealistic. Any residual signal at these distances will be many orders of magnitude below levels associated with disturbance of or injury to Bottlenose Dolphins. As to cumulative effect, the Roadstone Barrigone quarry is several kilometres further to the south. Any blasting there is also land-based and temporally independent.
- f. The visual and acoustic detection datasets support, rather than undermine, the conclusions that
 - dolphins use the estuary near Aughinish less intensively than they use their core range.
 - when that is considered with the limited magnitude, short duration and low frequency of blasting, the risk of significant disturbance to dolphins in this part of the estuary is very low.
- g. There is no credible potential for significant acoustic effect - direct, indirect or in-combination - on Bottlenose Dolphins.
- h. Ms Bolger’s reliance on Buckstaff as to the effect of “*in-air*” blasts on dolphins is misplaced. That paper
 - describes circumstances very different from occasional blasting at a quarry many hundreds of metres from any suitable Bottlenose Dolphin habitat.

652 Exhibit GF2 Tab1.

- reports on a bridge demolition comprising two “in-air” detonations about 2m and 4.5m above the water surface and an underwater detonation about 4.7m below the surface.
 - supports the narrow proposition that near-surface detonations can be measurable underwater.⁶⁵³
 - notes key limitations as to transferability of its conclusions, including that charge weights were not available, peak pressures could not be measured, source level estimation was constrained by propagation uncertainty, and behavioural observations during the underwater detonation were based on a small sample.
 - does not support Ms. Bolger’s inference that inland quarry blasting presents a “realistic threat” to Bottlenose Dolphins.
- i. There is no credible scientific evidence of, or potential for, significant direct, indirect or in-combination acoustic effects on Bottlenose Dolphins. Dr Fennessy confirms that, as the NIS concludes, based on the best scientific knowledge there is no reasonable scientific doubt but that the integrity of the European sites will not be adversely affected by the Proposed Development - either as to the conservation objectives for the Bottlenose Dolphin or more generally.

CG7 – DISCUSSION & DECISION

The Plea

296. Ground 7 does not plead complaint of

- a. Quarrying noise and vibration generally – it pleads only noise and vibration by blasting. I observe that blast effects are instantaneous/short term/impulsive rather than continuous. That makes a big difference in acoustic analysis. For present purposes, assessment of quarrying noise and vibration generally is nihil ad rem. What matters is the blasting.
- b. Blast effects of the extended borrow pit considered by itself. The plea is limited to failure to consider such blasting cumulatively⁶⁵⁴ with blasting in other quarries. What matters is the cumulation of blasting.
- c. Any specific effect of such cumulative blasting noise or vibration on any specific species. Specifically, ETI does not plead that quarry blasting will disturb the Bottlenose Dolphin or any identified birds.

297. Also, ETI is simply wrong in pleading that uncontrolled noise and vibration in the winter would potentially disturb the overwintering birds which comprise most of the qualifying interests of the SPA. In light of Condition 8 of the Impugned Decision, it is difficult to understand why this plea was made. There will be no blasting in the winter. As the EIA says in this regard: *“The limiting of the blasting events to outside of the wintering period will effectively minimise the potential disturbance of the SCI species.”*⁶⁵⁵

⁶⁵³ The relevant text reads: “... in-air explosions occurring close to water level (< 5 m) should be considered for the potential to adversely affect marine life.”

⁶⁵⁴ For reasons unclear to me the EIA Directive employs the concept of “cumulative” effect whereas the Habitats Directive speaks of “in-combination” effects. I am unaware of any difference and will use the concepts interchangeably.

⁶⁵⁵ EIA p6-65. Also EIA §§6.4.1, 6.4.5, 6.5 and Chapter 18.

298. Very arguably, I should dismiss Ground 7 for inadequacy of pleading. Simply put and as I have said, Ground 7 fails to identify, with any specificity, any potential environmental effect on a sensitive receptor not adequately considered. The plea as to birds is entirely general. In any event and as I have said, such plea as there is – as to unidentified overwintering birds – is factually unsustainable given Condition 8. I dismiss Ground 7 as to birds.

299. Ground 7 does not mention the Bottlenose Dolphin. However lest dismissal on a pleading ground would be unfair and as other grounds as to the Bottlenose Dolphin are pleaded and a consideration of the Grounds overall in the context of the evidence might justify a conclusion that a plea of blast effects on the Bottlenose Dolphin is adequately clear, I will consider that issue under the rubric of Ground 7. For that reason I have set out above certain of the evidence relevant to that issue.

Onus of Proof/RAS Medical & Choice of Baseline

300. Next, I dismiss Ground 7 on the simple basis that ETI bears and fails to discharge the onus of proof of error. On **RAS Medical** principles and as between the expert evidence on either side – Ms Bolger (including her adoption of Ms Hayes’ averments) on the one hand and Drs Smyth and Fennessy on the other – as to the adequacy of the evidence before the Commission on blast noise impact of the Proposed Borrow Pit Extension considered cumulatively with noise impact of the other quarries, the latter prevails absent cross-examination.

301. Inclusion of the existing quarries in the baseline environment rather than in a distinct cumulative assessment is approved by the Commission Guidance on AA⁶⁵⁶ and by **Toole #3**⁶⁵⁷ as a generally permissible approach – though I would not go as far as AAL’s submission that including existing projects in the baseline is “the” correct approach. It may or may not be depending on circumstance.

302. Also, it is not necessarily apparent that Dr Smyth’s evidence establishes that specifically blast noise from existing quarries – which is instantaneous and infrequent – shows up in the “measured” baseline noise environment with which Proposed Borrow Pit Extension noise is, I accept, accumulated. I know enough to know that whether blast noise shows up in the baseline measurements would depend on the particular types of noise averaging measurements – in this case, L_{Aeq} and L_{A90} - deployed.⁶⁵⁸ The question may arise whether, in average measurements, instantaneous and infrequent noise may tend to disappear. If so, Dr Smyth’s statement that “*The assessment concluded that the general operation of the Proposed Development will not change the existing soundscape and no significant noise impact is expected from the Proposed Development*” could be interpreted as not encompassing infrequent blasting events. However, the issue is certainly for an expert decisionmaker – not for a judge. This could be an issue or a non-issue. In any event, no contrary expert evidence was adduced. As to the content of the noise baseline and its depiction of blast noise and more generally as between the experts and absent cross-examination, AAL’s expert evidence prevails. In short, ETI

656 “Managing Natura 2000 sites, The provisions of Article 6 of the Habitats Directive 92/43/EEC” (2019/C 33/01 §5.4.3.

657 Toole v Minister for Housing, Local Government and Heritage (No. 3) [2023] IEHC 378 §131.

658 See EIAR Chapter 12 Table 12.1: Summary of Baseline Data.

lacked an acoustician and failed to meet its onus of proof. I do not quash the Impugned Decision on this account. However, as I will quash and remit for other reasons, whether this issue will be revisited on remittal, with a view to proofing against a potentially different challenge and in virtue of the necessity of comprehensive EIA and/or AA, only time will tell.

Blast Noise Cumulation Mechanisms

303. However, some further consideration may assist. I observe that, at least in principle – I emphasise, theoretically - cumulative effect of blasting could occur by at least three quite different mechanisms. ETI’s pleadings are not adequately precise in this regard.

- First, blasts in the Proposed Borrow Pit Extension and in another quarry might coincide in point of time such that their noise and vibration could accumulate - perhaps even resonate – and hence amplify instantaneous or brief effects. Mr Corrigan’s evidence that such cumulation is highly unlikely is both convincing and uncontradicted. In fairness, counsel for ETI accepted that the likelihood of coincidence of 2-second blasts in point of time is “*pretty remote*” - such that he wasn’t making that point.⁶⁵⁹ Even AA requires no more than reasonable scientific certainty. Pleadings apart, this possible iteration of Ground 7 can be discounted on this basis alone. However, it may be wise to expressly provide that simultaneous blasting events in quarries in the vicinity must not occur.
- Second, as has been seen, Mr Duffy briefly contemplated “*repetitive effects where the blasts are not simultaneous*”. That is the case ETI sought to make.⁶⁶⁰ Clearly, non-simultaneous blasts could accumulate to raise the frequency of occurrence of blast noise and vibration - even if not its severity in any given instance. Possibly, an increase in frequency of blast occurrence could have a significant effect on species. Condition 8, in limiting the Proposed Development to 7 blasts annually, recognised the significance of frequency of blast occurrence. The IEL did likewise in limiting blasts to 1 weekly – as did Conditions 2 and 3 of the Impugned Permission. It must also be considered that the Borrow Pit is already in operation and licensed blasting already occurs without known impact on the dolphins. In some degree, it is in the nature of quarrying that, as blasting occurs in the Proposed Borrow Pit Extension, its occurrence will decrease in the original borrow pit which has already been quarried. Dr Smyth says as much – that blasting will in effect move from the existing to the extended borrow pit – and thereby further from the estuary. However, any case that non-simultaneous blasts could accumulate to raise the frequency of blast occurrence and of noise and vibration accordingly was entirely undeveloped in both ETI’s pleadings and evidence – the entirety of which is found in my quotation of Mr Duffy above. Not least, such a case was not elucidated as to the Roadstone Barrigone Quarry which lies not merely about 2km from the proposed Borrow Pit extension but 2km south of it – i.e. over double the distance from the nearest dolphin habitat to the north than is the Proposed Borrow Pit Extension. ETI have failed to discharge their onus of proving a risk beyond the hypothetical. EIAR and AA are not concerned with merely hypothetical risks. See in this regard the brief consideration of the caselaw in **Foran**,⁶⁶¹ to the effect that even in AA,

659 Day 2 10:50.

660 Day 2 10:52.

661 Foran v An Coimisiún Pleanála & Glenveagh [2026] IEHC 23 citing Monkstown Road Residents Association v An Bord Pleanála & Lulani [2022] IEHC 318, Eoin Kelly v An Bord Pleanála [2019] IEHC 84, Eco Advocacy CLG v An Bord Pleanála [2025] IEHC 15 §96(vii), Heather Hill Management v An Bord

in which permission may not be granted absent reasonable scientific certainty of absence of adverse effect, merely hypothetical risks do not weigh, the effect must be appreciable and “legislative overkill” is to be avoided. As noted in Foran, it was said in **Sliabh Luachra**⁶⁶² that “*decisions should not be made on a purely hypothetical approach to risk founded on mere suppositions which are not scientifically verified.*”

- Third, blast effects from the Borrow Pit extension might cumulate with non-blast noise from the Roadstone Barrigone Quarry. At risk of illogicality, this is an even more hypothetical risk.

304. It follows that, viewing the pleaded Ground 7 through the prism of these three possible modalities of cumulation of effect, Ground 7 fails. Viewing the pleaded Ground 7 through the prism of AA, and applying **Toole II**.⁶⁶³

- claims of inadequacy of consideration of cumulative or in-combination impacts have to be made out evidentially by an applicant for judicial review - who bears the burden of proof - by reference to possible damage to the integrity of European sites caused thereby.
- ETI has not shown reasonable scientific doubt as to adverse effect on the integrity of European Sites having regard to their conservation objectives either by adducing substantive evidence of potential adverse effect or by showing that that a reasonable expert decision-maker would have seen the material before the Commission as flawed on its face.

305. As a layperson with a poor understanding of acoustics, I am aware that it is a highly complex science. It is not to be ruled out that evidence might be presented to the Commission on remittal, by either side, requiring some reconsideration of these issues in accordance with law. But, on the evidence before me, Ground 7 is not made out and I will not quash the Impugned Decision on this account.

Habitat Directives – Disturbance

306. I indicated above that I would cite the caselaw on the meaning of disturbance within Article 12 of the Habitats Directive. **Shadowmill**⁶⁶⁴ notes the view taken in **Namur Est**⁶⁶⁵ that any effect prohibited by Article 12 of the Habitats Directive is, for EIA purposes, likely significant by its very nature. Article 12 prohibits deliberate disturbance of protected species. The analysis in **Shadowmill** of the Article 12 prohibition on disturbance need not be repeated here. Suffice it to note that

Pleanála #2, [2022] IEHC 146 §257, Sliabh Luachra Against Ballydesmond Windfarm Committee v An Bord Pleanála [2019] IEHC 888, Case C-236/01 Monsanto [2003] ECR I-8166.

662 Sliabh Luachra Against Ballydesmond Windfarm Committee v An Bord Pleanála [2019] IEHC 888, citing Case C-236/01 Monsanto [2003] ECR I-8166.

663 Toole & Anor v Minister for Housing, [2024] IEHC 610.

664 Shadowmill v ABP & Lilacstone [2023] IEHC 157.

665 Case C-463/20 Namur-Est Environnement ASBL v Région Wallonne & Cimenteries CBR SA (AG Opinion 21 October 2021 §47) (Judgment 24 February 2022).

- a. The concept of “disturbance” for the purpose of the Birds and Habitats Directives is limited to disturbance which would be significant having regard to the Directives’ objectives - **Voor Mets**.⁶⁶⁶
- b. Not every disturbance colloquially so-called will breach the Article 12(1)(b) prohibition of disturbance.
- c. Not every disturbance, no matter how minimal in degree, will breach the Article 12(1)(b) prohibition of disturbance.
- d. A harm criterion applies, taking into account the specific characteristics of the species concerned and the situation.
- e. That said, the precautionary principle applies.
- f. The prohibition of disturbance relates to the protection of species, not specimens of species. So disturbance may properly be considered in terms of effect on “*local populations*” of the species concerned.
- g. However, disturbance of individuals may impact at the population level. Individuals of rare species are more important to a local population than individuals of more abundant species and disturbance to species declining in numbers is likely to be more harmful than disturbance to species increasing in numbers. The relevant European Commission Guidance⁶⁶⁷ states that,

“Considering their specific life histories (in particular their reproductive strategy or mobility) and the often complex social interactions of some animals, disturbance of individuals can often have impacts on population levels. For example, this would be the case if disturbing a pregnant female or separating a mother from calf of large, long-living and highly mobile animals with low fecundity, such as marine mammals.”

- h. The Guidance⁶⁶⁸ advises a case-by-case approach to disturbance:
 - *“Generally, the intensity, duration and frequency of repetition of disturbances are important parameters when assessing their impact on a species. Different species will have different sensitivities or responses ...”*
 - *“The competent authorities will have to reflect carefully on the level of disturbance that is to be considered harmful, taking into account the specific characteristics of the species concerned and the situation”*
 - *“Sporadic disturbances without any likely negative impact on the individual animal or local population should not be considered as disturbance under Article 12.”*

666 OU Voore Mets v Keskkonnaamet (C-784/23), [2026] 1 C.M.L.R. 14 (2025).

667 Commission notice - Guidance document on the strict protection of animal species of Community interest under the Habitats Directive. Brussels, 12.10.2021 C(2021) 7301 final §2-38.

668 §2-39 et seq.

307. Again, beyond hypothesis, I see no evidence on ETI's case of risk of harm to dolphins by blast noise. Neither Mr Duffy nor Ms Bolger is expert in acoustics and their postulations of risk of harm are vague to the point of mere assertion. If I am wrong, on a RAS Medical Basis, the countervailing expert evidence prevails.

G7 - Irrationality & Decision

308. It follows clearly from the foregoing account of the materials before it the Commission, evidence on which it was entitled to find as it did. There is no irrationality here.

309. For all the foregoing reasons, Ground 7 fails.

310. By way of postscript, I accept the Commission's submission, citing **O'Sullivan**,⁶⁶⁹ that a failure to name-check a specific other project does not imply failure of cumulative assessment and that, in that regard, one must look at the totality of the evidence. So, for example and depending on circumstance and assessment methods and criteria, quarrying noise may be captured in background noise assessments without identifying particular quarries. However, the principle of looking at the totality of the evidence has a corollary: it implies not merely that name-checking a specific other project may not be required – equally, mere name-checking may not, per se, suffice.

CG8&9 BOTTLENOSE DOLPHIN – STRICT PROTECTION & HABITUATION

CG8&9 – CONSIDERATION TOGETHER

311. ETI emphasised the Bottlenose Dolphin as a species of the greatest concern to it⁶⁷⁰ and a key feature in the case.⁶⁷¹ All parties were, it seems, content not to consider Ground 8 discretely. All written submissions addressed it with Ground 9. In effect, Ground 9 was considered both in its own right and as a particular of Ground 8. In my view this was sensible on a contextual, fair and reasonable reading of what was acceptably clear from the statement of grounds: see e.g. **St Audoen's, 100m Tall, Croft, and Foran**.⁶⁷² I will therefore consider CG8 discretely in the first instance and in the second with CG9.

669 O'Sullivan v An Bord Pleanála [2017] IEHC 716.

670 Day 2 10:39.

671 Day 11:39 & 14:24.

672 Board of Management of St. Audoen's National School v An Bord Pleanála [2021] IEHC 453, 100 Meters Tall Group v An Bord Pleanála [2025] IEHC 42, Croft v Dublin City Council [2025] IEHC 656, Foran v An Coimisiún Pleanála & Glenveagh [2026] IEHC 23.

CG8 – STRICT PROTECTION OF BOTTLENOSE DOLPHINS

312. ETI submits that the Commission “failed to have regard to the correct degree of legal protection” of the Bottlenose Dolphin from “deliberate disturbance”. It pleads that

- The Bottlenose Dolphin is both a qualifying interest of the SAC and a species listed in the Habitats Directive Annex IV as entitled to strict protection under Article 12 of the Habitats Directive.⁶⁷³
- Though the Impugned Decision and the materials on which it is based identified the Bottlenose Dolphin as a qualifying interest of the SAC, they did not explicitly identify it as a Habitats Directive Annex IV species entitled to such strict protection.

Both these pleas are factually accurate. The question is whether they require certiorari.

313. Species are designated under Article 12 for strict protection because they need protection in their own right independently of their presence in, or association with, a particular European Site – they are protected wherever they are found, within or without a European Site. They may need a higher level of protection than that which their designation as a qualifying interest of an SAC may confer. However, the difference may or may not matter in a given case and in part Article 12 reflects the need to protect species found outside an SAC. As the relevant Commission Guidance says:

“..... the Directive has two main sets of provisions. The first set relates to the conservation of natural habitats and habitats of species (Articles 3–11) and the second to the protection of species (Articles 12–16).

The provisions on the protection of species (Articles 12–16) apply across the entire natural range of species within the Member States, both within and beyond Natura 2000 sites. These provisions are complementary to those governing Natura 2000 sites, which focus on protecting natural habitats and core areas of habitats of protected species listed in Annex II of the Directive.”⁶⁷⁴

314. I may as well say that it is at least disconcerting and to be deprecated that neither the materials proffered by AAL to the Commission, including expert reports, nor the Commission itself, explicitly identified the Bottlenose Dolphin as an Annex IV species entitled to strict protection under Article 12. It is also disconcerting that the Commission, in the papers in these proceedings, did not acknowledge that the omission was at least undesirable and skipped instead directly to the assertion that in substance it didn’t matter. (I should, in fairness, mention that counsel for the Commission broadly and sensibly accepted the point.⁶⁷⁵) Clearly, in considering the possibility of adverse effect on a species, that it is a Habitats Directive

⁶⁷³ Article 12 – effected by Regulation 51 of the EC (Birds and Natural Habitats) Regulations 2011 - reads:

“1. Member States shall take the requisite measures to establish a system of strict protection for the animal species listed in Annex IV (a) in their natural range, prohibiting:

(a) all forms of deliberate capture or killing of specimens of these species in the wild;
 (b) deliberate disturbance of these species, particularly during the period of breeding, rearing, hibernation and migration;
 (c) deliberate destruction or taking of eggs from the wild;
 (d) deterioration or destruction of breeding sites or resting places.”

⁶⁷⁴ Guidance document on the strict protection of animal species of Community interest under the Habitats Directive (2021/C 496/01).

⁶⁷⁵ Day 2 14:55 & 14:58.

Annex IV species entitled to strict protection is salient – at least in narrative terms by way of giving a complete and proper description of the legal status of the species in question. In a particular case, that could have serious consequences.

315. That said, the question for me is whether in law the omission mattered in this case – or whether it, as the Commission puts it “*has no legal consequence.*” In that regard, ETI’s plea is that the Commission acted irrationally, failed to have regard to a relevant factor and failed to carry out a lawful AA or EIA in

- failing to have regard to the fact that the Bottlenose Dolphin is an Annex IV species entitled to strict protection under Article 12 of the Habitats Directive. In this case, the relevant Article 12 protection is against “*deliberate disturbance of these species, particularly during the period of breeding, rearing, hibernation and migration.*”
- confining their consideration to the Bottlenose Dolphin qua Habitats Directive Annex II species (i.e. a species whose conservation requires designation of SACs.)

316. Notably, ETI provides no particulars of Ground 8. The plea is entirely formal. There is no plea in Ground 8 that the omission to refer to strict protection of dolphins made, or may have made, any substantive, real and/or practical difference to the Impugned Decision in terms of the standard to which AA and/or EIA was done or to the protection of the dolphins. Importantly, given the mutually complementary character of Article 12 protection and protection by way of habitat designation, the dolphins in question are not outside an SAC. They are a qualifying interest of the SAC and, as to activities such as the Proposed Development, have the resulting benefit of protection by AA. AA, that is, to a “*very strict standard*” – **Toole**.⁶⁷⁶ That standard requires refusal of development consent failing proof beyond reasonable scientific doubt of absence of adverse effect on the integrity of the SAC having regard to its conservation objectives for its qualifying interests, including, in the SAC with which this case is concerned, the Bottlenose Dolphin. Just as Article 12 enjoins their “*disturbance*”, the SAC’s conservation objectives for the Bottlenose Dolphin state, explicitly as to “*Disturbance*”, that “*Human activities should occur at levels that do not adversely affect the Bottlenose Dolphin population at the site.*” Further, by Article 27(3) of the Habitats Regulations 2011,⁶⁷⁷ the Commission, in the exercise of its consent functions – including AA – “*insofar as the requirements of the Habitats Directive are relevant to those functions, shall take the appropriate steps to avoid, in European Sites, disturbance of the species for which the areas have been designated in so far as such disturbance could be significant in relation to the objectives of the Habitats Directive.*” So, just as Article 12 enjoins disturbance of a protected species inside or outside an SAC, AA under Article 6(3) of the Habitats Directive must prohibit (by requiring refusal of development consent) its disturbance inside an SAC of which it is a qualifying interest. And the European Commission recommends that, where the effects of a project on strictly protected species are at issue, Article 12 analysis be incorporated in AA and/or EIA as “*the best way forward as it facilitates coordination in decision-making.*”⁶⁷⁸

⁶⁷⁶ Toole v Minister for Housing [2024] IEHC 610.

⁶⁷⁷ Communities (Birds and Natural Habitats) Regulations 2011 as amended.

⁶⁷⁸ Commission notice - Guidance document on the strict protection of animal species of Community interest under the Habitats Directive. Brussels, 12.10.2021 C(2021) 7301 final §3-82.

317. It seems to me that inasmuch as both AA under Article 6(3) and Article 12 enjoin “disturbance”, a coherent interpretation of the Habitats Directive implies, as to these complementary protection regimes and at least absent argument to the contrary which was not made in these proceedings, a conception of disturbance common to both regimes. I have, earlier in this judgment, set out my understanding of that concept as encompassing risk of harm. Its application here is that, for the Commission’s omission to explicitly invoke Article 12 protection from disturbance to have made any difference in practical terms, that omission must have carried a risk of exposing the dolphins to a type or degree of harm not considered in the consideration of disturbance which occurred under the rubric of AA, remembering that the dolphins are a qualifying interest of the SAC in question and so are a constituent of the integrity of the site the protection of which AA strictly requires to a standard of reasonable scientific certainty. In my view, while not in theory impossible, that is both inherently highly unlikely and an issue on which an applicant for certiorari bears the onus of proof.

318. In light of the view that the concept of disturbance will be common to AA and Article 12, at least as it relates to strictly protected species, it is particularly notable that the following appears in the 2020 MMRA⁶⁷⁹ in response to NPWS assessment criteria:

2020 MMRA ⁶⁸⁰
<u>Is the plan or project likely to result in death, injury or disturbance of individuals?</u>
<p>Given the terrestrial location of the development site and the fact that all blasting activities will take place on land and not in the underwater environment this project is not considered to pose any risk of death, injury or disturbance to individuals.</p> <p>As described in Section 2.1 the noise and vibration levels of the blast will attenuate quickly such that they pose no risk to sensitive receptors in the vicinity of the site, and where the nearest Bottlenose Dolphin habitat is located over 1.3km for the development site.</p> <p>The worst-case scenario airborne noise levels associated with the blast activity would be of the order of 60dB(A) at a distance of 1km from the blast site and this would be reduced greatly when transferred to the water environment. This is well below the levels known to cause significant behavioural response in dolphin species (see Appendix 2⁶⁸¹).</p> <p>Similarly the PPV levels associated with the blast will attenuate rapidly from the blast site due to geometric spreading and natural damping (see Appendix A). The residual ground vibration within the estuary at a distance of 1km from the blast site is considered to be imperceptible and will not result in any disturbance impacts to marine mammals.</p>
<u>Will individuals be disturbed at a sensitive location or sensitive time during their life cycle?</u>
<p>While the Lower River Shannon is an important breeding habitat for Bottlenose Dolphin, the development site is located c.1.3km from the nearest suitable Bottlenose Dolphin habitat and c. 18km from the nearest critical habitat (see Figure 3). Therefore the blasting activities will not result in disturbance of any individuals occurring within sensitive locations.</p>

679 MMRA 2020 §4.1 NPWS Assessment Criteria.

680 MMRA 2020 §4.1 NPWS Assessment Criteria. (I have added this heading to the excerpt from the table. I have also changes layout slightly.)

681 In fact Appendix B, it is entitled “Marine Mammal Noise Exposure Criteria After NPWS 2014” It sets out Appendix 3 of the 2014 Guidance – “Transcription of marine mammal noise exposure criteria given by Southall et al”.

319. The 2020 MMRA concludes:

“Following the detailed risk assessment presented in Section 4.1 above, the risk of any adverse effects on marine mammals (specifically Bottlenose Dolphins) has been ruled out”⁶⁸²

CG8 - CONSIDERED DISCRETELY - STRICT PROTECTION - DECISION

320. In the foregoing light, given the concept of disturbance common to Article 12 of the Habitats Directive and AA and given the very strict standard applicable in AA, certiorari of an Impugned Decision in which AA has been properly done save to the extent of any incremental degree of protection said to derive from Article 12, on the basis that the “incorrect test” was applied, would be entirely formalistic, merely technical and disproportionate absent an evidential basis for the view that substantive protection of the species in question may thereby have been lacking.

321. Judicial review – even of decisions under the rubric of the Habitats Directive - is not an exercise in pointless formalism. I must make a balanced and reasonable assessment of the overall sustainability of a decision, even if there is an argument for saying that limited parts of it are sub-optimal – **Doyle**.⁶⁸³ Taking Ground 8 alone, ETI has not shown anything beyond a formalistic complaint and so I would dismiss it.

322. Further, the Commission makes the worthwhile observation that even an AA enabling development consent does not immunise a developer from compliance with Article 12 as to a species entitled to strict protection – on pain, indeed, of committing a criminal offence absent an Article 16 derogation.⁶⁸⁴ Though it must be said that that factor does not absolve a developer of competent authority of considering potential effects on a strictly protected species in AA (if the species is a qualifying interest of a European Site) and/or in EIA.

323. However, in three respects, that is not the end of the matter. I have already referred to the first – the disconcerting feature of failure to advert to the Article 12 protection of the Bottlenose Dolphin.

CG8 – ARTICLE 12, HABITATS DIRECTIVE & DEVELOPMENT CONSENT

324. Second, though it too does not affect the outcome of the case, it is appropriate to address a submission that

⁶⁸² MMRA 2020 §4.2.

⁶⁸³ Doyle v An Coimisiún Pleanála & On Tower [2025] IEHC 725.

⁶⁸⁴ European Communities (Birds and Natural Habitats) Regulations 2011 Art 51.

- CG8 erroneously conflates the planning development consent process, to which Article 6 of the Habitats Directive applies, with the strict protection process required of Member States by Article 12 of the Habitats Directive.
- As relevant here, Article 12 is effected in Irish law in that Article 51 of the Habitats Regulations 2011 makes it a criminal offence to deliberately disturb Annex IV species. This is independent from the planning code - **Redmond**⁶⁸⁵ and **Ballyboden**.⁶⁸⁶

325. It seems to me that the Commission and AAL, in asserting ETI’s erroneous conflation, overread Redmond and Ballyboden. Redmond relates primarily to the question whether a planning permission must, in certain circumstances, impose a condition requiring a derogation licence under Article 16 of the Habitats Directive permitting acts prohibited by Article 12 of the Habitats Directive⁶⁸⁷ when, on any view, a planning permission does not obviate the requirement to comply with other statutory codes. In Ballyboden, which cited Redmond, the precise relationship of the two regimes did not require decision and the decision is correct in stating that the Article 12 obligation to create a “system” of strict protection lies on the State, not on the Commission.⁶⁸⁸

326. But those decisions must be considered in light of later developments in EU law. In Ballyboden, it was recognised that the decision in **Namur-Est**,⁶⁸⁹ in which Kokott AG had already emphasised that EIA must comprehensively consider all significant effects of a project, was awaited. It is since to hand – as is that in **Hellfire Massy**.⁶⁹⁰ In the latter case, the CJEU held, citing its decision in Namur Est, that

- in EIA, particular attention to species and habitats protected under the Habitats and Birds Directives is required. See EIA Directive Recital 11** and Article 3.
- EIA must make it possible to determine whether the project concerned was likely to have effects prohibited by Article 12 of the Habitats Directive. To put that another way, an assertion in EIA that it is impossible to yet predict whether an Article 16 derogation is likely required must be justified in the EIA bearing in mind that EIA must be comprehensive.

327. Remembering that EIA is, where required, a pre-condition to development consent and must be comprehensive, it appears to me to follow logically from Hellfire Massy that development consent for a project subjected to EIA can only be granted where it has been determined, either

- whether the project concerned is likely to have effects prohibited by Article 12 of the Habitats Directive.
- or that it is not possible in that regard, at the time the competent authority completes EIA and despite proper investigation in that regard, to determine whether the project concerned is likely to have such effects.

685 Redmond v An Bord Pleanála [2020] IEHC 151.

686 Ballyboden Tidy Towns Group v An Bord Pleanála & Shannon Homes [2022] IEHC 7 §312 et seq.

687 See Article 54 of the Habitats Regulations 2011.

688 §313.

689 Namur-Est Environnement ASBL v Region wallonne (C-463/20), [2023] Env L.R. 1 (2022).

690 Hellfire Massy Residents Association v An Bord Pleanála, [2024] Env L.R. 10, C-166/22, EU:C:2023:545 §39.

328. Logic apart, this conclusion appears consistent with the observation of the CJEU in Hellfire Massy

*“that effects on the environment should be taken into account at the earliest possible stage in all the technical planning and decision-making processes, in accordance with the precautionary principle and the principles that preventive action should be taken, that environmental damage should, as a priority, be rectified at source and that the polluter should pay”.*⁶⁹¹

Hellfire Massy is clear that an Article 16 derogation need not precede development consent given at a point in time at which the need to obtain a derogation has not been identified. However that observation must not be misunderstood. It is not licence in EIA to kick the Article 12⁶⁹²/Article 16⁶⁹³ can down the road or ignore in EIA and pro tem any worms it may contain. The situation that finding in Hellfire Massy describes, it seems to me, is expected to be the exception. That is because the observation presupposes comprehensive EIA in accordance with law - in which it has been determined whether the project concerned was likely to have effects prohibited by Article 12. Investigation and assessment of that issue cannot be deferred until after EIA or development consent. While the EIA Directive is not to be applied in *“the most onerous manner possible”* (Ó Grianna⁶⁹⁴), neither are its requirements to be diluted or evaded. As was said last year in **Eco Advocacy**⁶⁹⁵ *“EIA must be as complete as possible”*. To repeat, and as Kokott AG said in **Namur-Est**,

- the starting point in EIA is the objective of a comprehensive assessment of all environmental effects.
- EIA covers all significant environmental effects, including, where relevant, significant effects on protected species.
- Member States may not exclude certain environmental effects and, in particular, adverse effects on species protected under EU law, from EIA.

329. Further, it would appear that where the strictly protected species is a qualifying interest of a Natura 2000 Site, AA is likely to have to determine any prospect of effects prohibited by Article 12 if it is to conclude beyond reasonable scientific doubt that a proposed development will not adversely affect the integrity of such site having regard to its conservation objectives.

330. This view, derived from Namur-Est and Hellfire Massy was, in fact, presaged by the European Commission’s 2021 Guidance.⁶⁹⁶ It bears recitation in extenso. Inter alia, it states as follows:

“(3-78) The specific provisions and procedures under Article 16 need to be complied also in case of a plan or project, that might affect a EU protected species and is subject to the assessment procedures under Article 6(3) of the Habitats Directive or under the EIA or SEA Directives. In this case, the impact

691 §38.

692 Strict Protection.

693 Derogation from Strict Protection.

694 Ó Grianna -v- An Bord Pleanála [2017] IEHC 7.

695 Eco Advocacy CLG v An Bord Pleanála [2025] IEHC 15 §96(i).

696 Commission notice - Guidance document on the strict protection of animal species of Community interest under the Habitats Directive. Brussels, 12.10.2021 C(2021) 7301 final § 3.3.2. Impact assessment for plans/projects and species protection

assessment procedures carried out for plans and projects can be used to assess the impact on the requirements under Article 12 and to verify whether the conditions for a derogation under Article 16 are fulfilled.

This would be relevant, for example, when the construction and/or operation of a project is likely to cause the deterioration or destruction of breeding sites or resting places or the disturbance of any species listed in Annex IV(a) and occurring in the project area.

In those circumstances, it is necessary to assess:

- if any of the species listed in Annex IV(a) to the Habitats Directive is present in the project area,*
- if any of the breeding sites or resting places of the species listed in Annex IV(a) to the Habitats Directive are present in the project area,*
- if any of these species and/or their breeding sites or resting places will be “impacted” (killed, disturbed, damaged, etc.) by the construction and/or operation of the project and, if so – if the conditions set out in Article 16 are fulfilled.*

(3-79) Only after the above checks are carried out may a derogation under Article 16 be granted and project be lawfully carried out (after having obtained development consent). If, for example, a breeding site of an Annex IV(a) species is present and will be destroyed by the project construction or operation, authorisation of the project would constitute a breach of Article 12, unless a derogation under Article 16 is granted and that⁶⁹⁷ the conditions for issuing a derogation are fulfilled.

(3-80) When projects are likely to have a significant effects on Natura 2000 sites, either individually or in combination with other plans or projects, they are subject to an appropriate assessment under Article 6(3) of the Directive, which would also carry out the checks in the abovementioned list and follow up as appropriate.

.....

The underlying purpose is to correctly and promptly identify the impacts of a project, including the impact on protected species listed in Annex IV(a) to the Habitats Directive and their habitats, before the project is carried out. The EIA procedure is a possible vehicle for this.

(3-81) Coordinating legal procedures may avoid legal complications. Ideally, after receipt of the request for development consent on a project falling within the scope of the EIA Directive, an EIA (at least the screening stage) is started so that all potential impacts can be identified. Thus, the need for derogation can be identified without delay and it can be assessed whether the requirements of Article 16 Habitats Directive can be met. If so, the development consent could then be given together with the derogation. If the project needs to be modified due to the findings of the EIA, the derogation can be based on the modified project.

Ideally, the EIA carried out following the application for the single permit will cover all relevant impacts on the environment (including the impact on species listed in Annex IV(a) to the Habitats Directive and their breeding sites or resting places) which can be dealt with when granting the permit. For example, this can be done by setting conditions mitigating the negative impacts and/or by granting derogations to certain prohibitions set in law, if they fulfil the conditions for the derogations.

697 Sic.

(3-82) Although it is not obligatory under Articles 12 and 16 of the Habitats Directive to carry out the abovementioned checks within an appropriate assessment under Article 6(3) of the Habitats Directive or as part of the EIA procedure, this is the best way to ensure compliance with Articles 12 and 16 of the Habitats Directive. The EIA procedure can identify the impact on species listed in Annex IV to the Habitats Directive associated to a project as well as the potential consequences of the project in terms of breaching any of the prohibitions in Article 12 of the Habitats Directive. Carrying out the impact assessment including the multiple consultations required before issuing a derogation and the development is the best way forward as it facilitates coordination in decision-making.”

I should, however, say that I do not read this as requiring that derogations be decided in the EIA/development consent process or as impugning the Irish system of ministerial derogation.

331. As concerns any prospect of derogation and as was said in **Fernleigh** and repeated in **SWI**,⁶⁹⁸ *“the Board and the Courts must be alert to any possibility of an approach of not, turning over stones for fear of what might be found under them and have to be put before the Board when, otherwise, it might not reach the Board”*. I would add that that proposition is amplified to whatever extent judicial review is confined to considering the legality of an impugned decision through the lens of the material before the Commission. I hasten to say that I do not suggest that there was such avoidance of investigation and assessment in this case. But it is important to state that the submission of the Commission and AAL, insofar as predicated on dissociation of the development consent process from Article 12 strict protection, is appreciably misconceived.

CG9 - HABITUATION OF BOTTLENOSE DOLPHINS – INTRODUCTION & INSPECTOR’S REPORT

332. The third respect in which discrete dismissal of CG8 is not the end of consideration of CG8 derives from the consideration together, as I have said, correctly, of CG8 as to strict protection of dolphins and CG9 as to their habituation to the activities of AAL.

333. In EIA⁶⁹⁹ and AA,⁷⁰⁰ the Inspector noted that the alumina refinery had operated on site for about 40 years and had developed and expanded over time. The Proposed Development will facilitate an extension of the life of the overall facility and therefore increase the period during which, by its operation, there will be a high level of anthropogenic activity in and emissions from the facility. Noise from the Proposed Development is anticipated to be comparable to that currently arising - to which birds and mammals in the vicinity are likely to be habituated, as they continue to use the site.

698 *Fernleigh Residents Association v An Bord Pleanála* [2023] IEHC 525, *SWI, IFI, Sweetman & Ors v ALAB et al* [2024] IEHC 421. §1036.

699 Inspector’s report §11.5.17.

700 Inspector’s report §12.3.32.

334. In her general assessment as to the Bottlenose Dolphin, and in AA as to the Bottlenose Dolphin, the Inspector noted that

- the Shannon Estuary is a busy waterway, providing access to and from Limerick and Foynes Ports and to vessels bringing raw materials to AAL and shipping out alumina. Also, there are smaller craft movements, including by tourism-related enterprises.
- the most recent (2018) study⁷⁰¹ concluded that the Bottlenose Dolphin population is stable.

Accordingly, the Inspector considered it not unreasonable to suggest that the species has habituated to the nature and extent of AAL activity.⁷⁰²

335. It is useful to identify the source and context of the expert evidence as to habituation and of the Inspector's report as to habituation. It comes from the 2020 MMRA, written primarily by a dolphin expert, Dr Roycroft. I have set out the relevant text earlier and repetition of a short and edited excerpt suffices here:

*"It is likely that Bottlenose Dolphins are habituated to the existing levels of anthropogenic noise within this busy shipping channel. ... Dolphins regularly use ... the main shipping routes In this context, there is no likelihood that the infrequent ... blasting associated with the borrow pit operations ... over 1km from the nearest Bottlenose Dolphin habitat ... is likely to impact upon the Bottlenose Dolphin population of the wider SAC."*⁷⁰³

336. This was said of the existing borrow pit. As is apparent, the number of annual blasts will not increase in the Proposed Borrow Pit Extension and it will be at least as far – in fact further - from the dolphin habitat as is the existing borrow pit. And Drs Roycroft and Fennessy confirm that the 2020 MMRA applies to the Proposed Borrow Pit Extension.

CG9 - HABITUATION OF BOTTLENOSE DOLPHINS – ETI'S POSITION

337. ETI pleads that the Commission erred in law, acted irrationally and failed to have regard to a relevant factor in finding, assuming and/or concluding that the Bottlenose Dolphin had "habituated" to AAL's activities and earlier development at the Aughinish site. That was irrational supposition, unsupported by adequate evidence. And the Commission failed to give reasons for discounting evidence to the contrary.

338. By way of particulars to CG9, ETI pleads that

- a. The NIS asserted that Bottlenose Dolphins have habituated to development at the Site. It did so without evidence, or evidence objectively sufficient and/or recent.

701 Rogan et al Bottlenose dolphin survey in the Lower River Shannon SAC, 2018, report to NPWS.

https://www.npws.ie/sites/default/files/publications/pdf/Bottlenose%20dolphin%20survey%20in%20the%20Lower%20River%20Shannon%20SAC%20018_Final.pdf

702 Inspector's report §10.8.7 &12.3.39.

703 MMRA §4 Risk Assessment.

- b. The Inspector cited an outdated - 2018 - "*Bottlenose Dolphin survey in the Lower River Shannon SAC*", to the effect that "*the most recent study of Bottlenose Dolphin concluded that the population is stable.*" It provides no evidence that, and could not rationally sustain the conclusion that, Bottlenose Dolphins have habituated to development at the Site.
- c. Alternatively, any evidence capable of supporting such a conclusion was contradicted by other submissions and material before the Commission - including Ms Bolger's submission.
- d. The Commission failed to provide sufficient reasons for their conclusion that the Bottlenose Dolphin had so habituated despite the evidence to the contrary.
- e. That a species, being a qualifying interest of a European Site, has "habituated" to development does not imply that
 - o the development has no significant effect on it.
 - o it is not being "disturbed" within the meaning of Article 12 of the Habitats Directive.In this respect, the Commission asked the wrong question and failed to apply the appropriate legal tests.

339. ETI submits that

- A finding of habituation is not an adequate substitute for reasoned assessment by reference to the requirements of Article 12, honed to the specific species, its habits and characteristics.
- The Inspector did not consider the strict protection of the Bottlenose Dolphin required by Article 12 – including to its provision as to the "*period of breeding, rearing, hibernation and migration*".

CG9 - HABITUATION OF BOTTLENOSE DOLPHINS - COMMISSION & AAL POSITION

340. The Commission and AAL assert that there is no substance to CG9 and, particularly, no irrationality in the Commission's decision in this regard.

- a. CG9 misunderstands Article 12.
- b. ETI has failed to identify any risk not assessed and has not discharged its onus of proof on this issue.
- c. CG9 fails to engage with the evidence before the Commission as to the dolphins. Specifically, there was no evidence to suggest any risk of harm to the dolphins within the Article 12 meaning of disturbance or that the Commission was incorrect in law in concluding, as to the dolphins, that there is "*no concern of adverse impacts on the conservation objectives of the qualifying interest from the proposed development.*"

- d. The 2020 MMRA appended to the EIAR, the NIS⁷⁰⁴ and the Inspector's Report⁷⁰⁵ considered and excluded risk of disturbance to the Bottlenose Dolphin.
- e. CG9 attributes to the Inspector a conclusion which she did not draw - that the Bottlenose Dolphin was "*habituated to activities and development at the site and/or had likely done so*". She in fact concluded that it is "*not unreasonable to suggest that the species has habituated to the nature and extent of*" activity in the Shannon Estuary more generally - including vessels travelling to and from the AAL jetty and other port facilities as well as smaller craft movements including of tourism-related craft.

CG9 – HABITUATION OF BOTTLENOSE DOLPHINS - DISCUSSION & DECISION

341. I reject AAL's submission that CG9 attributes to the Inspector a conclusion which she did not draw. If correct, it is so only in a narrow, literal and unimportant sense. The clear gravamen, even if implicit, of the Inspector's conclusion is that the dolphins' habituation to anthropogenic activity, of whatever kind, informs her view that the Proposed Development will not disturb the dolphins.

342. I reject ETI's submission that, as to any conflict between Ms Bolger's and Dr Fennessy's evidence, I should prefer Ms Bolger's having regard to her particular experience and expertise. Both are expert, if on somewhat different bases, as is not unusual. Dr Fennessy is an expert zoologist and is a co-author of the 2020 MMRA and has his co-author's confirmation of its applicability to the Proposed Development. Dr Roycroft's particular expertise as to dolphins is not apparently lesser than Ms Bolger's. It may be greater but I need not so decide. It is no disrespect to Ms Bolger that I hold that, as ETI bear the onus of proof, absent cross-examination, given **RAS Medical** and for reasons I have explained earlier, Dr Fennessy's evidence prevails over Ms Bolger's. As was said in **Eco-Advocacy**⁷⁰⁶ as to judicial review of AA and in general, if admissible evidence of scientific doubt is contradicted by contrary admissible evidence then, absent cross-examination, such a conflict must be resolved against the applicant for judicial review.

343. I reject ETI's submission that there is a general data deficit as to the Bottlenose Dolphin such as to invalidate the environmental assessments in this case. No doubt experts will often and perfectly properly, as the Irish Whale and Dolphin Group did in late 2022⁷⁰⁷ as to the Bottlenose Dolphin, recommend to the NPWS greater data-gathering effort as to a particular habitat or species. In the real world of resource allocation, competition for resources and advocacy it would be at least mildly surprising were it otherwise. The papers make it very clear that the Shannon Estuary Bottlenose Dolphins have been closely studied for many years and that the Commission's assessment of the adequacy of the information available to it was well within the scope of its expert discretion. The Irish Whale and Dolphin Group's 2022 study recorded that "*Research on this population has been ongoing since 1993 making it the best studied cetacean populations in Ireland and one of the best studied dolphin populations in Europe.*" Only a year later the Group, as authors of the 2023

704 §6.10.3 Impact of Noise & Vibration on Biodiversity, § 6.14 and in particular pages 147-8.

705 §10.8 et seq. §12.3.34 et seq and §12.3.38 et seq

706 Eco Advocacy CLG v An Bord Pleanála [2025] IEHC 15 §96(vi).

707 Berrow, S., Daly, M., Dudley, R., Levesque, S., Regan, S. & O'Brien, J. (2022) Bottlenose dolphins in the Lower River Shannon SAC, 2022. (Irish Whale & Dolphin Group report to National Parks and Wildlife Service) 41pp.

MMRA for the dredging applications (the omission of which from the present process ETI criticises), concluded that, with mitigation, those works were unlikely to present a risk to the Bottlenose Dolphin. That, of course, is a different project. But it is to take place in the estuary itself, near Aughinish and the Group did not consider the data to hand inadequate to their conclusion.

344. There can be no doubt that if it remained current, ETI's assertion that it was outdated apart, the 2018 survey report⁷⁰⁸ to the NPWS on the Bottlenose Dolphin in the SAC in substance provided an expert evidential basis on which the Commission could properly conclude that the dolphin population in the estuary SAC was stable. It concludes *"This estimate lies within the range of previous estimates calculated since 1997 indicating a stable population size"* and, on data back to 1997, that *"this population's status appears to be stable"*.

345. As said, ETI pleads that the 2018 survey report is "outdated". But it pleads no particulars of any specific respect in which it is outdated. It is for the expert Commission to decide the adequacy of the information before it to inform its decision. That the 2018 survey report is outdated merely because the Inspector reported in 2025 is unstateable without pleas of changed circumstances, events overtaking the report, later scholarship or some other substantive basis relevantly undermining continued currency of the 2018 survey report. ETI makes no such pleas. Other than AAL-produced documents pleaded as to Ground 10, and pleadings apart, the later scholarship mobilised by ETI in the proceedings is the equivalent 2022 survey report by the Irish Whale and Dolphin Group to NPWS.⁷⁰⁹ It was not mobilised in ETI's 2024 submissions to the Commission or in Futureproof's – even though both asserted risk to dolphins. In short, the 2022 survey report to NPWS was not before the Commission. In fact, it was first mobilised by Dr Fennessy for AAL in his replying affidavit of 22 December 2025 to the effect that *"the conclusion that the population is stable is supported by most recently available data"* and it is he who first exhibited it. Only thereafter did Ms Bolger cite its content for a contrary view.⁷¹⁰ While the 2022 survey enters caveats as to data adequacy and recommends increased monitoring, its conclusion nonetheless is that *"the overall estimate from 2022 was consistent with previous abundance estimates from the Lower River Shannon SAC suggesting the population is stable, within the power of the monitoring strategy to detect change."*

346. It can be said in a general sense that it was desirable that the Commission would have had the 2022 Survey before it. But I am far from convinced that the 2022 Survey, though it certainly "updated" the content of the 2018 Survey report, in any degree undermined it or rendered it "outdated" in any relevant sense. In any event, ETI did not plead the point and, as importantly, neither ETI nor any other participant of whom I have been made aware, deployed it in its submissions to the Commission in 2024. Nor has anyone explained why they, or, in fairness, AAL, did not do so. But even assuming it could have made a difference, of which I am unconvinced, and remembering that generally, *"the legality of a decision is viewed through the lens of the material before the decision-taker at the time of the decision, and not with the benefit of further evidence in hindsight"* – **Reilly**⁷¹¹ - I would dismiss the allegation of reliance on outdated materials both on a pleading

708 Rogan et al, Bottlenose dolphin survey in the Lower River Shannon SAC, 2018, Report to the NPWS.

709 Berrow et al, Bottlenose dolphin survey in the Lower River Shannon SAC, 2022, Report to the NPWS. It is not more precisely stated but is partly based on survey work done in September 2022.

710 Affidavit sworn 12 February 2026.

711 Reilly v An Coimisiún Pleanála & Lark Finance [2025] IEHC 659.

ground and as based on materials which, for reasons not explained, had not been put before the Commission by those seeking later, in judicial review, to impugn its decision.

347. Looking at the matter very simply, I cannot accept that it is mere supposition or irrational for such as Drs Fennessy and Roycroft to conclude as a matter of expert judgement, from the stability of the dolphin population in coexistence with an alumina refinery which has been in operation for about 40 years, that the former has habituated to the latter, at least in the sense that its anthropogenic activities - traffic, noise and vibration and associated activities - are not disturbing the dolphins in the Article 12 sense involving risk of harm. The papers identify dolphins as highly mobile. *Ceteris paribus*, if they were being harmed, they would tend to leave or avoid the estuary in which they were being harmed. I hasten to state that this observation is not at all to suggest that, by reference to Article 12 of the Habitats Directive, it would be acceptable were disturbance to result in their leaving. It is merely to observe that a stable population is sensibly capable of interpretation by experts as justifying a conclusion that they have not left and that disturbance is not occurring. It follows that it is, equally, not mere supposition or irrational for the Commission to accept that conclusion.

348. As to the Proposed Development and other than blasting in the Proposed Borrow Pit Extension, what is intended, as the Inspector recognises, is essentially an extension of the duration of what is already occurring on the Aughinish site generally and on the Site of the Proposed Development in particular. And, as it is not disturbing the dolphins at present, it is reasonable to conclude that the Proposed Development will not do so. When the Inspector's report is considered with the materials before the Commission, including the MMRA, it is easy to see the reasons for the view taken by the Commission in this regard. There is neither irrationality nor lack of reasons here.

349. As to blasting in the Proposed Borrow Pit Extension, I accept in general terms and in the abstract that

- it may well not follow that dolphins' habituation to the like of vessel noise and vibration is prophylactic against disturbance by impulsive and loud blast noise and vibration. The respective acoustic characteristics and effects of each may differ.
- impulsive and loud blast noise may disturb dolphins in the Article 12 sense of disturbance as including harm.

I also accept that, before the Commission, it was for AAL to exclude such a risk of harm rather than for objectors to prove it. AAL did so – principally by the 2020 MMRA. Whatever about the abstract view and even if, as a layman, I might not be convinced of the relevance of habituation to vessel noise and vibration to any risk posed by blasting, where the expert MMRA concluded, as it did for reasons given, that both blast vibration and blast noise are likely to be "*imperceptible*" to the resident Bottlenose Dolphin population and explained, as it did, why it took that view, I cannot see irrationality or other legal flaw in the Commission's accepting that view.

350. For the foregoing reasons, I dismiss Ground 9 and Ground 8 to the extent it may be considered with Ground 9.

351. On remittal of the Impugned Decision for other reasons, the Commission will be bound to decide the remitted decision in all respects in accordance with law and to conduct environmental assessments comprehensive at the date of its remitted decision. Whether that will require updating of the information before it, as it relates to the Bottlenose Dolphin, will be for it to consider.

CG10 - ENVIRONMENTAL REPORTS OUT OF DATE

CG11 – EIA & AA - INFORMATION INCOMPLETE

352. CG10 and CG11 may conveniently be considered together. ETI's submissions amalgamate them. In what follows, I will refer to the AA Screening report, NIS and EIAR submitted with the planning application collectively as the "2021 Environmental Reports".

CG10 – ETI'S PLEADINGS - IRRATIONALITY

353. ETI pleads that

- a. AAL, after remittal of the Quashed Decision to the Commission, did not update its 2021 Environmental Reports.⁷¹²
- b. In making its Impugned Decision in March 2025, the Commission was not entitled to rely on AAL's 2021 Environmental Reports absent a finding that since 2021 there had been no changes in the relevant environmental and scientific data or to the project and that no additional plans or projects to be taken into account.
- c. Such changes, or the likelihood of such changes, may trigger a need for updated environmental reports.
- d. The Commission irrationally found that

"Whilst changes to the environment can and are likely occurring⁷¹³ they are unlikely to be material or at a scale that would materially change the conclusions of any assessment in this report or require further mitigations or monitoring to be introduced. On the basis of the foregoing it is reasonable to assume that there would be no substantive change in the baseline environment or the mitigation measures set out."⁷¹⁴

- e. That finding is irrational where the Commission had, by letter of 13 December 2023 to AAL, stated *inter alia*:

712 That AAL did not update its Environmental Reports is not explicitly pleaded but is adequately clearly implicit in the pleading of Ground 10.

713 Sic.

714 Inspector's report §10.1.6.

“... having regard to the passage of time since the application was lodged, hereby requires you to furnish the following information ... in accordance with S37F(1) [PDA 2000] you are invited to make any further submission that you wish to make on the application, including any updates to the Environmental Impact Assessment Report and Appropriate Assessment Screening Report/Natura Impact Statement.”

CG11 - CONTEXT

354. North-east of the Site, a causeway protrudes north of the Refinery Plant about 900m into the estuary to the deep-water jetty which, as recorded above, is used for unloading ships delivering bauxite ore to the refinery and loading refined alumina for export. As the Site lies south west of the Refinery Plant, the jetty is at some distance from the BRDA. Unsurprisingly, AAL needs to periodically dredge the estuary in the vicinity of the jetty and its approaches to keep it fit for use. From 2016 at least it had a Foreshore Licence and a Dumping at Sea (“DaS”) Permit from the EPA⁷¹⁵ allowing such dredging. It expired in August 2024. To continue dredging (albeit by different methods and at somewhat different locations) AAL required

- An MUL from MARA for the dredging and to dump the dredged spoil at a downriver site west of Foynes Island (i.e. on the other side of that island from the Site).⁷¹⁶
- A new DaS Permit.⁷¹⁷

355. For the purposes of those dredging applications, and insofar as ETI invoke them, AAL commissioned,

- The 2023 MMRA – to which I have referred above.
- A 2023 NIS. It considered only the possibility of effects on the integrity of the SAC (inter alia for the Bottlenose Dolphin) and the SPA.⁷¹⁸
- An updated NIS of 2024 – at the EPA’s and MARA’s screening requests, expanding the scope of the NIS to consider effects on a greater number of Natura 2000 Sites.

As has been seen, the 2022 dolphin survey for the NPWS was not put to the Commission by any party. I have taken the view that that does not invalidate the Impugned Decision.

356. After the remittal of the Quashed Decision, various submissions were made to the Commission – including AAL’s of 19 January 2024, to which I will refer below.

357. Also, in December 2024, the EPA as IEL licensor recorded a Site Visit Report of its visit to the AAL site in November 2024 *“to assess the licensee’s progress in taking corrective action related to the”* WFD as to contaminated groundwater - in particular beneath the Catchment 5 and Catchment 7 process areas - described in AAL’s annual Hydrogeological Review Reports to the EPA. Additional monitoring wells had been

⁷¹⁵ Pursuant to the Dumping at Sea Act 1996 as amended.

⁷¹⁶ The dredge and dump sites are depicted in Figure 1 of MARA’s AA Screening of the MUL Application.

⁷¹⁷ On expiry in August 2024 of a previous such licence granted in 2016 – albeit using different dredging methods, of different duration and in somewhat different locations. See MMRA 2023 §1. Introduction and Figure 1. Location of the 4 proposed dredge/dump sites at Aughinish Alumina LTD’s Jetty and surrounding areas and Figure 2. Location of the proposed dumpsite NW of Foynes Island.

⁷¹⁸ 2023 NIS, Table 3-1: Natura 2000 sites with QI/SCI for which each is selected.

drilled in these areas to provide improved delineation of contamination plumes. The EPA recorded AAL as progressing corrective action and required continued monitoring. More specifically the report records that

- a. The AAL site is identified for WFD purposes as a significant pressure on the groundwater body.
- b. Key contaminants include Aluminium and Caustic Soda.
- c. The highest and/or increasing contaminant concentrations have been observed in process area wells. Many concentrations exceed 1,000 times the relevant Groundwater Threshold Values (“GTV”).
- d. Groundwater contamination levels at downgradient Estuarine Springs (“ES”) are considerably lower and more stable than the wells in process areas.
- e. A corrective action plan (CAP) is updated quarterly. It should prioritise areas where groundwater contamination is highest and propose specific remedial works.
- f. Annual Hydrogeological Review Reports to the EPA assess groundwater status for the site. To date they have not provided sufficient data to estimate appropriate timelines towards achieving WFD objectives. Additional monitoring wells were installed on site in 2023-2024 to overcome data gaps.
- g. Results for three quarry blasts in June, July and August 2024 were IEL-compliant.

CG11 - ETI’S PLEADINGS & SUBMISSIONS

358. ETI pleads as Core Ground 11 that the Impugned Decision was made without access to the best scientific evidence as relevant environmental reports, obtained by AAL after the remittal by the High Court of the first decision to grant permission, were not put before the Commission to inform the Impugned Decision. In not considering those reports in its EIA, the Commission breached Article 5(1)⁷¹⁹ and Annex IV⁷²⁰ of the EIA Directive, section 177 PDA, 2000 and Article 94 PDR 2001⁷²¹ - all of which require that EIA have regard to current knowledge and methods of assessment.

359. ETI pleads as particulars of Core Ground 11 that:

- a. In November 2023 AAL applied to the EPA for a DaS Permit and to MARA for an MUL for dredging and dumping dredged spoil – submitting an AA Screening report, NIS and its 2023 MMRA. The EPA and MARA screened in additional Natural 2000 Sites⁷²² for AA. (I note that MARA’s letter dated 4 October

719 Article 5(1) requires that an EIAR “include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment.”

720 Annex IV requires that an EIAR include:

“3. A description of the relevant aspects of the current state of the environment (baseline scenario)”

“5. A description of the likely significant effects of the project on the environment resulting from, inter alia: (e) the cumulation of effects with other existing and/or approved projects.

721 Planning and Development Regulations 2001 as amended.

722 The EPA Screened in the Basket Islands SAC and Kilkieran Bay and Islands SAC.

2024 asked in general terms for an “updated NIS” but “*in particular updated to reflect the Natura 2000 sites*” screened in for AA). So AAL updated its NIS in November 2024.

- b. The 2023 MMRA in particular stated:⁷²³
- Shannon Estuary noise levels have been described. Acoustic assessment of effects of vessel activity on Bottlenose Dolphins showed a significant increase in the inter-click-interval of dolphin echolocation clicks in the presence of vessels. It was uncertain if this was a negative response or a coping mechanism for managing increased ambient noise.⁷²⁴
 - A significant change in acoustic repertoire is cause for concern and proves the need for assessments of potential sources of disturbance, especially as results on other species, such as killer whales and common dolphins, have proven foraging disruption due to boat presence.⁷²⁵
 - Information on Bottlenose Dolphin site usage at Aughinish cannot be established as very few sightings exist upriver.
 - Dedicated research is carried out in the middle of the estuary, from Tarbert⁷²⁶ west to Ballybunion Bank. Berrow⁷²⁷ looked at the winter distribution of Bottlenose Dolphins in upriver areas not previously surveyed, but no sightings were recorded upriver of Foynes Island. So, on current data, very little could be concluded on the occurrence of dolphins at Aughinish.
- c. The above information was relevant (in particular to the finding that Bottlenose Dolphins had likely habituated to activity at the Site) and was not put before the Commission. It contained material which contradicted that placed before the Inspector and screened in for assessment by her. Those findings constituted a change in the environmental/scientific data since that in the 2021 environmental reports. So, the Impugned Decision was made without regard to all relevant considerations – additional and up-to-date data and information - and/or contained lacunae.
- d. Thereby the Commission was disabled from doing a fully informed, lawful and up-to-date AA⁷²⁸ and/or EIA⁷²⁹ in light of up-to- date environmental and scientific information.

360. ETI submits that

- A planning permission applicant has a duty of “fair presentation” of its application to the decision-maker. Its EIAR must convey the “*appropriate information*” (EIA Directive Recital 7) – which requires that it be prepared using the best available scientific evidence – and all such information where it conflicts. This implies updating it where new reliable, correct, and up-to-date information comes into the possession of the applicant for permission. The Impugned Decision was made on inadequate information and without access to the best scientific evidence, in breach of the EIA Directive, as relevant environmental reports obtained by AAL after the making of the Quashed Decision, for the DaS Permit application to the EPA and the MUL application to MARA, were not put before Commission on remittal.

⁷²³ I have edited what follows here.

⁷²⁴ O’Brien et al. 2015.

⁷²⁵ Williams et al. 2006; Stockin et al. 2008.

⁷²⁶ I take judicial notice that Tarbert is about 20km west and downstream of the Site.

⁷²⁷ 2009.

⁷²⁸ pursuant to Article 6(3) of the Habitats Directive and Part XAB PDA 2000 and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

⁷²⁹ pursuant to the EIA Directive, Part X PDA and Part 10 PDR 2001.

- This new information was, in particular, material to risks to Bottlenose Dolphins.
- Beyond the recent environmental reports to the EPA and MARA which ETI identifies, and citing **Belize Alliance and Jennings**,⁷³⁰ I should infer breach by AAL of its general duty in judicial review of candour as to and disclosure of relevant information as yet unknown to ETI which has, ETI supposes, come into AAL's possession since the Quashed Decision of August 2022.

CG10&11 – COMMISSION & AAL POSITION

361. The Commission and AAL submit that

- a. In reality, CG10 is a claim that the 2021 Environmental Reports were inadequate. ETI's plea is based only on the age of AAL's 2021 Environmental Reports. It is a merits-based, unsubstantiated, non-expert, mere assertion. It is not based on any substantive flaw in the 2021 Environmental Reports or on any substantive more up-to-date information. ETI has not discharged its onus of proof. It has not shown anything irrational in the Commission's reasoning on the evidence before the Commission.
- b. ETI fails to identify any "express" duty on the developer "*where there has been a delay in the competent authority completing the required assessment, to update the information supplied, where required, and presenting all relevant information to the authority*".
- c. More fundamentally, ETI's submission to the Court⁷³¹ that AAL had, but did not provide to the Commission "*more recent, relevant reports and information relating to the interests which the EIA Directive*" specifies was merely speculative. ETI fails to identify by expert or other evidence, any specific substantive respect in which the information before the Commission was not comprehensive.
- d. Dr Fennessy is uncontradicted in his expert assertions, as to the data used in the EIAR and its continuing adequacy to the date of the Impugned Decision, that,
 - o Professional standards in ecology are that decisions whether data remain fit for purpose should be made on a case-by-case basis, taking into account whether habitats, their management, or the distribution of key species have changed materially since the surveys were done.
 - o His firm have been monitoring ecology on and around the Site since 2014 and deployed a multi-annual ecological dataset in the planning application. A multi-annual dataset is recognised as a robust means of representing natural inter-annual variation. They also relied on desktop information collected over decades. The value of longitudinal data in examining trends in ecology is accepted. He has "*no doubt that the data we collected was robust and representative.*"
 - o "*There is nothing to suggest that anything has changed at the Aughinish site and surrounding lands to such an extent that it might not reasonably be contained within the pattern of multi-year variation which we have considered.*"

⁷³⁰Belize Alliance of Conservation Non-Governmental Organisations v Department of the Environment [2004] UKPC 6 [2009] 1 WLR 1988, and Wendy Jennings v An Bord Pleanála, Ireland & Attorney General [2022] IEHC 11 §22.
⁷³¹ §4.38.

- *“The habitats in question (and land use) have not changed substantially in the intervening period” (i.e. between the gathering of the data and the EIA for the Impugned Decision) and it is “reasonable to expect that the habitats and their extent will not have changed significantly and also that the species present will be very similar”.*
 - No evidence otherwise was before the Commission.
- e. AAL had provided additional information to the Commission by letter dated 19 January 2024.
- f. The Inspector’s reasons⁷³² for considering that the information to hand remained adequate for EIA were in terms more expansive than ETI had pleaded – I will address this below. And the issue was one for the expert, evaluative, planning judgement of the Commission, which had recorded its satisfaction that the information before it sufficed to permit EIA And AA.
- g. ETI fails to identify, in its pleadings, or even in its submissions, any specific content of the documents AAL put to the EPA and to MARA which was required to be, but was not, before the Commission. This is a pleading deficit.
- h. The documents AAL put to the EPA and to MARA relate to different projects at different locations to the Proposed Development. They were irrelevant to EIA and/or AA of the Proposed Development or to the making of the Impugned Decision. Nor has ETI shown the contrary.

362. AAL notes that ETI’s submissions do not discretely address CG10. Nonetheless AAL’s position is that

- The Commission concluded that the information before them, and in particular the 2021 Environmental Reports, sufficed to permit proper EIA and AA.⁷³³ These conclusions are reviewable as to merit only for rationality and were not irrational.
- CG10 should be dismissed as inadequately particularised.⁷³⁴ The particulars identify nothing specific in the 2021 Environmental Reports rendered inadequate, out of date or inaccurate by the passage of time since their preparation.
- ETI has failed to discharge its onus of proof to demonstrate by evidence – or expert evidence – any flaw in the Commission’s environmental assessments (which in any event is not adequately pleaded, as set out above).

⁷³² Inspector’s report §10.1.6.

⁷³³ Commission Order pages 4 & 5; Inspector’s Report, §10.1.6, 11.1.12 and §12.3.5.

⁷³⁴ Citing RSC, Order 84, Rule 20(3) and/or Order 103, Rule 14(3).

CG10 & 11 – DISCUSSION & DECISION**CG10 - Legal Character of the Plea**

363. As to legal infirmity, it is legitimate to plead as a consequence or illustration of illegality, but it does not per se invoke any legal requirement to plead merely, that AAL “*was not entitled to rely*” on the environmental reports or that they were over 3 years old at the date of the Impugned Decision. The passage of time, in greater or lesser degree, between the finalising of an EIAR or an NIS and an impugned decision is inevitable. Change of relevant circumstance in that interim is invariably at least a possibility. In legal substance and as pleaded, CG10 is a plea of irrationality.

Law - Information required for EIA – Comprehensive & Up-to-Date

364. If, as is the law, in EIA Screening a decision-maker “*must have at its disposal the most comprehensive information possible*” (**Waltham Abbey**⁷³⁵), it follows, a fortiori, that in EIA (where, ex hypothesi, a risk of significant environmental effects has been confirmed) a decision-maker must have at its disposal the most comprehensive information possible. Of this requirement, the following may be said:

- a. While the requirement is highly demanding and emphatic, it should not be construed in an absolutely literal sense.
- b. What is required of the developer in an EIAR is “*the information that may reasonably be required for reaching a reasoned conclusion*” (EIA Directive, Article 5(1) and **Coolkill**⁷³⁶). It follows from Article 5(1) and Annex IV of the EIA Directive that the developer’s EIAR must supply in an appropriate form the information specified, “*inasmuch as*” that information is relevant in order to assess the effects of a given project, and within the limits of what may reasonably be required of a private operator - **Abraham, IL v Land Nordrhein-Westfalen, Coyne, and SWI**.⁷³⁷
- c. The words “*inasmuch as*” imply a requirement consistent with the requirement that EIA be “*comprehensive*”- **Namur-Est**⁷³⁸ and **Hellfire Massy**.⁷³⁹
- d. The concept of relevance must be firmly tethered to the effects of the project itself - **Kilkenny Cheese**.⁷⁴⁰
- e. The word “*relevant*”, taken with the requirement of objectivity in EIA - **Waddenzee**⁷⁴¹ and the requirement that an EIAR describe the “*positive and negative effects of the project*”- EIA Directive Annex IV §5 - encompasses, and so requires provision of, comprehensive information which diminishes as well as enhances the prospect of development consent – i.e. an EIAR must be “*warts and all*”.

735 Waltham Abbey Residents Association v An Bord Pleanála, (Case C-41/24) EU:C:2025:140 [2025] P.T.S.R. 1538.

736 Concerned Residents of Coolkill v An Bord Pleanála & Midsal Homes [2025] IEHC 265 §284.

737 Case C-2/07 Abraham v Wallonia, Opinion of Kokott AG of 29 November 2007, [2008] ECR I-1197, Case C-535/18 Land Nordrhein-Westfalen, Judgment of 28 May 2020, §82, Coyne v An Bord Pleanála & EngineNode [2023] IEHC 412, §129, SWI, IFI, Sweetman & Ors v ALAB et al [2024] IEHC 421 §459.

738 Namur-Est Environnement ASBL v Region wallonne (C-463/20), [2023] Env L.R. 1 (2022).

739 Hellfire Massy Residents Association v An Bord Pleanála, [2024] Env L.R. 10, C-166/22, EU:C:2023:545.

740 An Taisce v An Bord Pleanála et al, including Kilkenny Cheese Limited [2022] 1 I.L.R.M. 281.

741 Case C-127/02 Waddenzee, EIA Directive recital 25** and Article 9a.

365. In **Križan**,⁷⁴² Kokott AG, in considering whether the duration of an EIA could be extended, but in terms which seem to me logically applicable to a question of updating an EIAR, said that EIA “cannot be restricted to the effects which would have been caused if the project had been proceeded with at some time in the past. On the contrary, it must include all the effects which may actually be likely at the time of the consent.” Kokott AG said that if, since the EIA and by the time development consent is being considered,⁷⁴³ environmental conditions, the project or applicable planning policy have changed so that other significant effects on the environment are possible, the EIA must be supplemented or even repeated. So, it may in a given case become necessary to examine whether, at the time of the later development consent decision, an EIA done earlier still correctly represents the likely significant effects of the project on the environment.⁷⁴⁴ If so, an updating assessment (effectively a form of screening) must be done to determine whether supplementary EIA is necessary. I would add that it seems to me that even where environmental conditions themselves have not changed but new information – for example, scientific data and/or analysis – is available which might illuminate the identification of the project’s significant effects or the possibility of their mitigation or the acceptability of the effects, supplementary EIA may be necessary. Though Kokott AG’s opinion was not echoed by the CJEU in **Križan** (on the Court’s analysis the issue did not arise), the logic of her opinion is, at least in abstract and general terms, impeccable.

366. Kokott AG repeated herself in **Nomarchiaki**⁷⁴⁵ to the effect that the information on which EIA is done must be “sufficiently updated and comprehensive” and “a project’s environmental effects can be accurately assessed only on the basis of the best available information at the time when consent is given”. She said that Art.5(1) of the EIA Directive, in particular, indicates that recent information must be submitted where the circumstances of the case require. If, after the EIAR is submitted - later in the development consent procedure - it transpires that updated information is necessary to accurate assessment of a project’s environmental effects, that information must be requested by the decision-maker.⁷⁴⁶ On the facts of **Nomarchiaki**, Kokott AG considered that the court was required to examine whether the information sufficient in 2003 to assess the project’s environmental effects remained sufficient in 2006. Necessarily that implies that the competent authority doing EIA is similarly required. I accept her opinion as good law. And, significantly, in **Nomarchiaki**, the CJEU in agreed that it was a proviso to valid EIA that it be based on information and knowledge that are not out of date – which implies consideration of the expediency of supplementing it.⁷⁴⁷

367. All that said, some pragmatism must also apply. The EIA Directive is not to be interpreted in the most onerous manner possible - it must be workable – e.g. **Coyne**.⁷⁴⁸ As was noted in **Coolkill**,⁷⁴⁹ the UKSC in

742 *Križan v Slovenska inspekcia zivotneho prostredia* (C-416/10), [2013] Env L.R. 28 (2013). Slovak law required three consecutive procedures, each of which led to the adoption of a decision, as to permitting a landfill. EIA was a stand-alone process not incorporated, as in Ireland, into the development consent process.

743 i.e. on the facts of that case in the interim between the original EIA and the decision to prolong the development consent.

744 Citing Case C-201/02 *Wells* [2004] ECR I-723, §47; Case C-290/03 *Barker* [2006] ECR I-3949, §47; Case C-508/03 *Commission v United Kingdom* [2006] ECR I-3969 §103 to 106; Opinion of Kokott AG in Case C-43/10 *Nomarchiaki Aftodioikisi Aitolokarnanias* [2012] ECR I-0000, §140.

745 *Nomarchiaki Aftodioikisi Aitolokarnanias v Ipourgou*, (Case C-43/10) [2013] Env L.R. 21.

746 Citing *Commission v Ireland* (C-50/09) [2011] ECR I-873, [40].

747 Citing *Commission v Ireland* (C-50/09) [2011] ECR I-837, [40].

748 *Coyne v ABP, Ireland & EngineNode* [2023] IEHC 412, citing *Ó Grianna v An Bord Pleanála* [2017] IEHC 7 and the *Kilkenny Cheese* case - *An Taisce - National Trust for Ireland v An Bord Pleanála*, et al incl. *Kilkenny Cheese Limited* [2022] IESC 8; [2022] 1 I.L.R.M. 281.

749 *Concerned Residents of Coolkill v An Bord Pleanála & Midsal Homes* [2025] IEHC 265 §284.

the **Heathrow Airport** case⁷⁵⁰ said that the requirement in EIA of “*full information*” is not to be understood as an unrealistic counsel of perfection in an imperfect world. EIA cannot be an endlessly morphing target or utopian concept. Passage of time between EIAR and development consent is inevitable. As is reflected in the phenomenon of sub-threshold EIA, the object of the Directive is not, per se, large-scale projects. Its object is significant/major⁷⁵¹ environmental effects. But the practical, if provisional, assumption of a broad correlation between large-scale projects and significant/major environmental effects is very evident in the Directive. As the CJEU said in **Križan**, the EIA Directive is primarily designed for large-scale projects which will often require a long time to complete. So the Directive should not make relevant procedures, already complex at national level, even more cumbersome and time-consuming. In every case, the Commission must consider as a matter of evaluative judgement, on the basis of all the information before it when coming to conclude its EIA and (if different⁷⁵²) at the time of its development consent decision, whether the information before it remains comprehensive and up-to-date. In many – perhaps most - cases, that will be a relatively simple decision requiring little by way of reasoning. In some, depending on circumstance, reasoning of that question may be more demanding. Importantly, while updating information may be required, the new information must be actually new – not just a new document repeating or repackaging information already to hand.

368. As to the court’s obligation, identified in **Nomarchiaki**, to examine whether the information before the Commission remained, at the time of the development consent decision, adequate to assess the project’s environmental effects, **Coyne**⁷⁵³ and **Coolkill**⁷⁵⁴ are authority that the merits of the Commission’s decision as to the adequacy of the information before it to permit EIA are judicially reviewable only to a standard of irrationality. And **Eco Advocacy (Case C-721/21)**⁷⁵⁵ is clear that the court’s obligation is legitimately subject to Irish law preconditions of adequacy of pleading and onus of proof.

G10 - Letter of 13 December 2023

369. ETI pleads in Ground 10 that the Commission’s finding it reasonable to rely on the 2021 Environmental Reports to hand from the pre-remittal process is irrational given the content of its letter of 13 December 2023 to AAL inviting it “*to make any further submission that you wish to make on the application, including any updates*” to the EIAR and AA Screening Report/NIS.

370. Of course, the Commission cannot, by its letter of 13 December 2023, cast on AAL its own duty to decide, when completing its EIA and deciding the issue of development consent, whether the information before it remained comprehensive and up-to-date. Nor, in fairness, did the Commission purport to do so or

750 Friends of the Earth v Heathrow Airport Ltd [2020] UKSC 52, §143 citing R (Blewett) v Derbyshire County Council [2003] EWHC 2775 (Admin), [2004] Env LR 29, in turn citing Lord Hoffmann in R v North Yorkshire County Council Ex parte Brown [2000] 1 AC 397 p404.

751 EIA Directive recital 6*.

752 In Irish law procedures they usually coincide.

753 Coyne v ABP, Ireland & EngineNode [2023] IEHC 412 §414 – citing Simons on Planning Law, 3rd Ed’n (Browne) §14-791. People Over Wind v An Bord Pleanála [2015] IEHC 271, M28 Steering Group v An Bord Pleanála [2019] IEHC 929. & Kemper v An Bord Pleanála [2020] IEHC 601. See also

754 Concerned Residents of Coolkill v An Bord Pleanála & Midsal Homes [2025] IEHC 265 §284, citing Abbotskerswell Parish Council v Secretary of State for Housing, Communities and Local Government [2021] EWHC 555 (Admin) §103 and Friends of the Earth v Heathrow Airport Ltd [2020] UKSC 52.

755 Eco Advocacy CLG v An Bord Pleanála (C-721/21), [2024] Env L.R. 8 (2023) EU:C:2023:477.

argue at trial that it had done so. It is clear from the Inspector’s Report⁷⁵⁶ that the Commission purported to decide whether the information before it remained comprehensive and up-to-date. That decision is reviewable as to merit only for irrationality. The only pleaded particular of such irrationality is the content of the Commission’s letter of 13 December 2023. As a particular of irrationality it is a non-sequitur which overreads the letter by ignoring the words “any” and “wish”. The letter was clearly an invitation – not an instruction. Nor was it the expression of a view that updating was required. It was just the kind of properly precautionary invitation one would have expected in the circumstances following the remittal. It was no more than that.

371. While AAL’s Reply, of 19 January 2024 did not formally update its 2021 Environmental Reports, that fact is properly considered in the context of the additional information at that time to hand in the process and also of any additional environmental information provided in that reply. Inter alia AAL’s Reply noted:

- a. Annual IEL reports to the EPA to March 2023, publicly available on the EPA website – which included data as to emissions to air and water.
- b. Commencement in June 2022 of permitted borrow pit operations⁷⁵⁷ - including 4 blasts between June and September 2022 – the monitoring data of which blasts, accessible at a given weblink as submitted to the EPA, illustrates compliance with the mitigation outlined in the EIARs for both the permitted borrow pit and the Proposed Borrow Pit Extension.
- c. That the possibility of cumulative effect of the Proposed Development with other projects recently existing/newly approved had been considered and discounted, as no such projects were identified.
- d. The Commission’s duty under s.15 of the Climate Action and Low Carbon Development Act 2015 as applicable to the Climate Action Plan 2024.
- e. The absence of material variations, since the Quashed Decision of August 2022, to the Proposed Development or to the Development Plan.

372. That AAL Reply elaborated,

- A “Planning and Climate Policy Update” in light of, inter alia the Development Plan, s.15 of the Climate Act 2015, the Climate Action Plans to 2024 – though it must be observed that it was not very project-specific.
- A “Response to An Taisce Observation” as to, inter alia, “Potential Impacts to Water Quality and the Shannon Estuary and WFD Compliance”, “Disaster Risks and Climate Change”, AA/Habitats issues and Post-Closure issues – though in substance the response consisted all but entirely of reiterated EIAR and NIS content and other information already before the Commission.

⁷⁵⁶ Inspector’s report §10.1.6.

⁷⁵⁷ under ABP-301011-18.

373. That AAL Reply submitted

- That the scientific data presented in the EIAR and NIS as to the environmental background and impact remained fully relevant to enable ABP to consider the proposal.
- That, on foot of the EIAR and NIS, AAL’s response, before the Quashed Decision of August 2022, to the third party and statutory consultee submissions, the Reply of 19 January 2024 and the state of relevant scientific knowledge, the Commission now had the information to enable complete, precise and definitive conclusions as to the effects of the project on the environment and on the relevant European Sites.

374. As stated, the merits of the Inspector’s reasoning as to the absence of a need to update, for EIA purposes, the information before the Commission is judicially reviewable only for irrationality. That reasoning is to be considered in light of all the information before the Commission – not just in light of the EIAR and the NIS. I cannot quash the Impugned Decision even if I think those merits “*clearly wrong*”, unless I can conclude that in this respect the Impugned Decision “*plainly and unambiguously flies in the face of fundamental reason and common sense*” – which requires “*something overwhelming*.”⁷⁵⁸

375. ETI pleaded only part of the Inspector’s reasoning:⁷⁵⁹ It pleaded that the Inspector had found that

“Whilst changes to the environment can and are likely occurring they are unlikely to be material or at a scale that would materially change the conclusions of any assessment in this report or require further mitigations or monitoring to be introduced. On the basis of the foregoing it is reasonable to assume that there would be no substantive change in the baseline environment or the mitigation measures set out”

In fact, the Inspector stated:

“The EIAR and NIS accompanying the application were prepared in 2021, with the applicant in its section 37F(1) response,⁷⁶⁰ providing details on the current policy context including the Limerick City and County Development Plan 2022 and Climate Action Plan, IE licence updates and blasting at the permitted borrow pit. It also provided a summary of its review in terms of projects and plans for consideration in terms of cumulative impacts. Whilst a period of over 3 years has elapsed since the receipt of the application and survey works which have informed the EIAR, I have regard to the fact that the AAL facility is long established, that operational procedures have not altered and continue as

758 The State (Keegan) v Stardust Compensation Tribunal [1986] I.R. 642; Associated Provincial Picture Houses Limited v Wednesbury Corporation [1948] 1 K.B. 223. Holohan v An Bord Pleanála [2017] IEHC 268. Cited, inter alia, in Jennings & O’Connor v An Bord Pleanála & Colbeam 2023 IEHC 14; Coyne v An Bord Pleanála [2023] IEHC 412; Fernleigh v ABP & Ironborn [2023] IEHC 525; Duffy v ABP & McDonagh [2024] IEHC 558; Grassridge v Dún Laoghaire Rathdown County Council [2024] IEHC 669; Ryan v ABP & Analog [2025] IEHC 111, Concerned Residents of Coolkill v An Bord Pleanála & Midsal Homes [2025] IEHC 265.

759 Inspector’s report §10.1.6.

760 i.e. AAL’s letter of 19 January 2024.

is and the extent of scientific evidence available arising from monitoring on site which show consistency in results. Whilst changes to the environment can and are likely occurring they are unlikely to be material or at a scale that would materially change the conclusions of any assessment in this report or require further mitigations or monitoring to be introduced. On the basis of the foregoing it is reasonable to assume that there would be no substantive change in the baseline environment or the mitigation measures set out. I do not consider that there would be any material benefit in seeking further survey work. I therefore conclude that the detail as provided is sufficient on which a proper assessment can be carried out including EIA and AA".⁷⁶¹

376. Of the foregoing passage, the following can be said:

- a. First, it is clear that the Inspector was conscious of, and specifically addressed, the passage of time since the EIAR and NIS were generated and the possibility that they might need updating – i.e. she considered whether the information before the Commission remained up-to-date and comprehensive for purposes of EIA and AA.
- b. Second, and in that respect, she thought AAL’s letter of 19 January 2024 a significant update of information.
- c. Third, she had regard to
 - the fact that the facility is long-established, that operational procedures have not altered and continue,
 - the extent of the scientific evidence available, arising from monitoring on site and that it shows consistency in results.
- d. Fourth, only after the foregoing observations did she observe, as ETI pleads, that whilst changes to the environment can and are likely occurring, they are unlikely to be material or at a scale that would materially change the conclusions of any assessment in this report or require further mitigations or monitoring to be introduced.
- e. Fifth, as I have already said of the 2018 survey report, that the 2021 Environmental Reports are outdated merely because the Impugned Decision was made in 2025 is unstateable without
 - consideration of the other and supplementary information at that time before the Commission.
 - pleas and evidence of changed circumstances, events overtaking the report, later scholarship or some other substantive basis relevantly undermining the continuing currency of the 2021 Environmental Reports.
- f. Sixth, I cannot conclude, as to the view taken by the inspector, when considered in full, that the Impugned Decision “*plainly and unambiguously flies in the face of fundamental reason and common sense*” – which requires “*something overwhelming.*”⁷⁶²

⁷⁶¹ Inspector’s report §10.1.6.

⁷⁶² The State (Keegan) v Stardust Compensation Tribunal [1986] I.R. 642; Associated Provincial Picture Houses Limited v Wednesbury Corporation [1948] 1 K.B. 223. Holohan v An Bord Pleanála [2017] IEHC 268. Cited, inter alia, in Jennings & O’Connor v An Bord Pleanála & Colbeam 2023 IEHC 14; Coyne v An Bord Pleanála [2023] IEHC 412; Fernleigh v ABP & Ironborn [2023] IEHC 525; Duffy v ABP & McDonagh [2024] IEHC 558; Grassridge v Dún

- g. Seventh, the only pleaded particular of irrationality – the Commission’s letter of 13 December 2023 – will clearly not bear that weight.

377. On the foregoing basis and as it is pleaded, Ground 10, considered discretely, fails.

CG11 - As Pleaded

378. Core Ground 11 is pleaded as breach of EIA law only – it is not pleaded as breach of AA law. Yet the particulars of Core Ground 11 plead that neither the Board nor its Inspector were able to carry out a fully informed, lawful and up-to-date AA and/or EIA. This is at least unhelpful. A Core Ground must set out in full, if briefly, the essential complaint in law. It is that complaint, and that complaint only, which the particulars may elaborate. Particulars should not introduce new complaints in law not made in the Core Ground.

CG11 - Undisclosed Information & Duty to Update

379. I reject as speculative – as lacking an evidence-base - ETI’s submission that I should infer breach by AAL of its general duty in judicial review of candour as to disclosure of relevant information as yet unknown to ETI which has, ETI supposes, come into AAL’s possession since the Quashed Decision of August 2022.

380. The Commission submits that ETI fails to identify any “*express*” duty on the developer “*where there has been a delay in the competent authority completing the required assessment, to update the information supplied, where required, and presenting all relevant information to the authority*”. That is strange – or at least an incomplete submission. An implied duty is just as binding as an express duty and the Commission does not address that possibility. Two observations may be made in this regard.

- It is clear that the overarching duty is on the Commission to ensure that, at the date of its EIA and also at the date (if different) of its development consent decision, the information before it for EIA purposes is comprehensive and up-to-date for purposes of completing an EIA. No doubt if, for any reason – delay in making its decision or otherwise - it sees a lacuna in that information or that it may have been overtaken by time, events, data or scholarship, it must exercise its statutory powers, including by requirement of the developer, to remedy the position. Whether such a necessity exists is for its expert judgement – which is reviewable as to merit only for irrationality.
- If the Commission has not issued such a request for further information to the developer, but the developer has come into possession of relevant information such that, objectively, the information

Laoghaire Rathdown County Council [2024] IEHC 669; Ryan v ABP & Analog [2025] IEHC 111, Concerned Residents of Coolkill v An Bord Pleanála & Midsal Homes [2025] IEHC 265.

before the Commission is no longer comprehensive and up-to-date, I am inclined to think that, though the decision-maker itself is not at fault and its decision would be rational on the information before it, the integrity of the EIA process, the precautionary and preventive principles and the high level of environmental protection prioritised by Articles 114 and 191 TFEU (**Planree**⁷⁶³), and the necessity of effective judicial remedy, might require that the development consent decision informed by the EIA be quashed. For example, would it not be intolerable were a developer to suppress information highly relevant to the assessment in EIA? However, that issue does not arise here in my view and I can leave it to another day.

CG11 – Decision

381. Contextually it is reasonable for the Commission and AAL to observe that the documents AAL put to the EPA and to MARA and their screening determinations relate to different projects at different locations to the Proposed Development. That may suggest, but no more, that those documents are irrelevant to EIA and/or AA of the Proposed Development. The Commission and AAL err if they say that the observation demonstrates their irrelevance. What ultimately matters in law is not that those documents relate to different projects at different locations. What matters is whether, which is a distinct matter, they contain information relevant to EIA of and/or AA of the Proposed Development – that is to say, relevant to significant effects of the Proposed Development. For example, they could contain better information as to the presence of dolphins in the estuary near Aughinish, as the dredging and spoil dumping will occur in that vicinity.

382. However, the Commission and AAL are on firmer ground in pointing out that neither in pleading, nor in evidence, nor even in submission, has ETI identified such information. So, Ground 11 fails for want of pleading and of discharge of ETI's onus of proof. And, Ground 11 having failed, it does not require revisiting of the decision I have made as to Ground 10.

CG11 – MRRAs 2023 & EPA Site Visit Report 2024

383. Against the possibility I am wrong in the decision I have just stated, I will briefly refer to two documents on which ETI sought to lay unpleaded stress.

384. I have, above, referred to two MRRAs: that of 2020 by Drs Roycroft & Fennessy⁷⁶⁴ submitted to the Commission to inform the Impugned Decision; that of 2023 by Irish Whale and Dolphin Group Consulting⁷⁶⁵ submitted to the EPA and MARA to inform their decisions as to AAL's proposed dredging activity. I have

763 Donegal County Council v Planree & Mid-Cork Electrical [2024] IEHC 194, citing C-215/06 European Commission v Ireland, judgment of 3 July 2008 §58 & C-261/18 European Commission v Ireland, opinion of Pitruzzella AG of 13 June 2019 §31, C-261/18 European Commission v Ireland, judgment of 12 November 2019 §§72 & 73, citing judgment of 7 January 2004, Wells, C-201/02, EU:C:2004:12, §42 and judgments of 3 July 2008, Commission v Ireland, C-215/06, EU:C:2008:380, §58, and of 26 July 2017, Comune di Corridonia and Others, C-196/16 and C-197/16, EU:C:2017:589, §33.

764 Sub Nom Croft Ecology/Ecology Ireland.

765 Dr. Joanne O'Brien.

already made certain observations as to the 2023 MMRA. As I have also said, Ms Hayes impermissibly opines that AAL was obliged to put the 2023 MMRA before the Commission to inform, as to alleged risk to the Bottlenose Dolphin, its Impugned Decision. Beyond formalism, to be in any degree weighty such a submission would have to be based on expert evidence and appreciation of any extent to which the content of the 2023 MMRA as to Bottlenose Dolphins adds substantively to the content of the 2020 MMRA as to, specifically, any prospective effect on Bottlenose Dolphins of blast noise and vibration from the Borrow Pit Extension. ETI adduces no admissible expert evidence in that regard and so fails in the discharge of its onus of proof.

385. As has been seen, the 2024 EPA Site Visit Report identified heavy metal exceedances in groundwater. Certainly, at 1,000 times permitted levels, the report is prima facie urgent and alarming to a layperson – apart altogether from issues as to the Proposed Development. Remedy apart, the prior and natural general question would seem to be how such a situation arose, and was allowed to arise, in the first place – though it is not for me in this case to speculate on possible inculpatory and exculpatory explanations. But for present purposes the true substantive significance of those heavy metal exceedances would require expert appreciation and explanation – not least as to any proper inferences to be drawn regarding the likely environmental effects of, specifically, the Proposed Development.

386. Though the proceedings commenced in May 2025, the 2024 EPA Site Visit Report was first deployed in the proceedings in Ms Hayes' third affidavit, of February 2026 – after all Statements of Grounds and of Opposition had been filed. That affidavit made no attempt to explain on oath why the 2024 EPA Site Visit Report had not been deployed earlier – for that matter, at the commencement of the proceedings. Nor was it deposed on oath that the Report had not, as is usual, been made publicly available in a timely manner on the EPA's Licence & Enforcement Access Portal ("LEAP") website. So I must assume that the Site Visit Report was available to ETI when it commenced the proceedings. I am conscious that an NGO may have limited resources. But I confess to thinking that where ETI has a particular, local and long-standing interest in the Aughinish facility, which it must have known to operate subject to an IEL, monitoring the EPA's LEAP website (which is publicly available free-of-charge) and consulting it specifically when commencing proceedings alleging risk by emissions, should be standard operating procedure for ETI. That would, one must presume, have resulted in deployment of the 2024 EPA Site Visit Report in the proceedings when commenced. Such considerations apart, even on the belated deployment of the 2024 EPA Site Visit Report, no attempt was made to further amend the Statements of Grounds to plead reliance on it. It suffices to observe that, in judicial review, pleadings rules are strictly applied, particulars must be detailed, applications to amend are not granted as of right or as of course and affidavits cannot substitute for pleadings. For the avoidance of doubt, the plea of EPA data as to a WFD issue of "*a downward trend for chemical surface water status*" cannot, without more and bearing in mind the requirement of precision in pleadings, encompass a Site Visit Report as to issues related to groundwater. On pleadings grounds alone, ETI's reliance on the 2024 EPA Site Visit Report is impermissible.

387. Pleading issues apart and for reasons previously stated, Ms Hayes cannot admissibly supply the required expert appreciation and explanation of the 2024 EPA Site Visit Report as its content might bear on the environmental effects of the Proposed Development. Dr Zabetakis, in his second affidavit, briefly refers to the 2024 "*EPA site visit report which I understand is to be exhibited to the Third Affidavit of Michelle Hayes*

states that in many cases the concentrations present are greater than 1,000 times the relevant Groundwater Threshold Values.” But he does so

- as if the significance of that observation for the planning permission application for specifically the Proposed Development were self-evident. It is not.
- without confirmation that he had himself examined the report.
- without any analysis of its significance as to the environmental effects of, specifically the Proposed Development.

One might fairly describe his affidavit in this regard as thin – in the nature of an ipse dixit as contemplated in **Duffy v McGee**.

388. Ms Clune, AAL Environmental Manager, replied on affidavit as to the content of the 2024 EPA Site Visit Report. But she did so merely to confirm compliance with the required corrective actions and to the effect that,

“It is important to note that the site visit was in respect of the entire Aughinish Alumina Facility which is the subject of the IE Licence and which includes the refinery plant, the BRDA and the Borrow Pit. It was not restricted to the area of the BRDA and the Borrow pit extension which is the subject of the Proposed Development at issue in these proceedings.”

This averment falls short of utility. First, without further explanation, that the site visit was not restricted to the area of the BRDA and the Borrow Pit Extension, is hardly the point. The point, at least generally, is that the site visit included the area of the BRDA and the Borrow Pit Extension. Second, she does not say why, in substance and in her view, the scope of the site visit is “important to note”.

389. Unsatisfactorily, it seems to me, the Commission and AAL attempted at trial to elaborate by submission on the important issue to which Ms Clune merely alluded. I was referred to materials⁷⁶⁶ identifying the groundwater monitoring wells in which heavy metal levels are elevated as being distinctly in the vicinity of the Refinery Plant (identified as “POW”s) rather than those in the vicinity of the BRDA (identified as “OW”s) and to materials⁷⁶⁷ illustrating groundwater flows. Both, it was said, combine to suggest that, first, the heavy metal elevations were not caused by the existing BRDA, second, they will not affect groundwater in the vicinity of the BRDA as groundwater beneath the Refinery Plant area discharges to the estuary via discrete, monitored,⁷⁶⁸ estuarine streams and, so, third, they are irrelevant to EIA of specifically the Proposed Development. Further, as ETI accept, the 2024 EPA Site Visit Report does not identify the BRDA as causative of the problems it addresses.

390. From a lay perspective, I see some sense in these submissions. It is easy to see that, spatially, the POWs at the plant and the OWs at the BRDA form two generally identifiable groups.⁷⁶⁹ But I am clear that, as

766 EIAR Figure 10.28: Location of Observation Wells (OWs) around the perimeter of the BRDA. NIS §6.9.2.1 Groundwater Monitoring Locations, Figure 6.7.3 Groundwater Observation Wells around perimeter of the BRDA (Golder 2021), NIS Appendix A NIS for IEL Review §5.5.3 Groundwater Monitoring Locations, Figure §5.5.4 Groundwater Observation Wells.

767 EIAR §10.6.10.2 Groundwater Flow Direction and Figures 10.18, 10.19 and 10.20. NIS §5.5.2 Geology, Groundwater, p.97.

768 As required by the IEL – NIS §6.9.2.1 Groundwater Monitoring Locations.

769 NIS Figure 5.5.4 Groundwater Observation Wells.

to the complex subject of groundwater (perhaps especially in Karstified areas underlying the Refinery Plant site and an appreciable part of the BRDA⁷⁷⁰ and a “ ... hydrogeological system that includes preferential flow paths comprising fractures, karstic features and valley infill, (in which) a more tortuous path may be taken ... ”⁷⁷¹), a lay perspective is, and legal submissions are, quite inadequate as a basis for conclusions useful in law – on which expert clarity is required. All that said, the Commission and AAL were on firm ground in asserting, pleading issues apart, that ETI bore a burden of proof on this issue which it had not satisfied.

391. Ultimately, ETI fails on Ground 11 as to the 2024 EPA Site Visit Report from a pleading point of view - the Site Visit Report simply isn't in the case. That apart, ETI fails also as it has failed to discharge its onus of proof, by expert evidence, that the content of that Report is relevant to EIA or AA of, specifically, the Proposed Development, such that the information before the Commission was incomplete. However, for the reasons I have just given, that dismissal of Ground 11 as to the 2024 EPA Site Visit Report, which Report post-dated the EIA and the NIS, should not be interpreted as an acceptance that AAL's response on the substance of this issue was convincing. Though that does not affect the result on this issue, it may require further consideration on remittal.

CONCLUSION

392. For the foregoing reasons, all grounds of challenge are dismissed save that,

- a. On Grounds 1 and 2, I will grant relief declaratory of breaches of ss.111 and 146. I invite ETI and the Commission to agree the terms of such declaration and I will hear them on that issue if needs be.
- b. I will quash the Impugned Decision
 - o On Ground 3, as irrational for want of an evidential basis for the conclusion that basal seepage through the base of the BRDA will continue to be negligible during the construction/operational phase of the Proposed Development, before its closure in or about 2039.
 - o On Ground 4, for the Commission's failure to have regard to the Development Plan, in particular its SFRA, as to flood risk.

393. For the avoidance of doubt, this judgment does not find that the Proposed Development poses unacceptable risk - as to either flood risk or risk of seepage of alkaline effluent through its base. Those are issues for the Commission to decide, not the courts. It is, rather, a decision that, as a matter of law, further and better consideration of those issues is required to inform a lawful decision whether the Proposed Development should be permitted.

⁷⁷⁰ See EIAR Figure 10.18: Bedrock Aquifer details beneath the Site and wider Study Area.

⁷⁷¹ EIAR §10.6.10.2 Groundwater Flow Direction.

394. I provisionally consider that the Impugned Decision, as quashed, should be remitted to the re-decision of the Commission and that ETI should have costs. I will hear the parties in both respects.

395. As ever in EIA and AA cases it will, of course, fall to the Commission on remittal, in deciding the matter in accordance with law, to again consider and decide whether the information before it remains comprehensive and up-to-date for EIA and AA purposes. As that is a general obligation arising immediately prior to all development consent decisions in EIA and AA cases, the scope of the Commission’s consideration will not be limited to the adequacy of the information before it as to the issues on which I quash the Impugned Decision. It may perhaps be thought by the Commission that, even as to the dismissed grounds (perhaps especially those dismissed on technical legal grounds), elements of this judgment will assist its consideration of the remitted decision.

396. I will list the case for mention on 6 July 2026.



David Holland
19/6/2026

GLOSSARY OF ACRONYMS

Acronym	Meaning
AA	Appropriate Assessment for purposes of the Habitats Directive
AEP	Annual Exceedance Probability (OPW and Flood Risk Guidelines)
AER	Annual Environmental Report. By IEL licensees to the EPA regarding emissions
AI	Artificial Intelligence software
BH	Groundwater monitoring well at the quarry/borrow pit
BRDA	Bauxite Residue Disposal Area
CAP	Corrective Action Plan
CAP24	Climate Action Plan 2024
CDA Guidelines	Canadian Dam Association Guidelines: Dam Safety Guidelines, 2013; Application of Dam Safety Guidelines to Mining Dams, 2014.
CEMP	Construction Environmental Management Plan
CFRAMS	Catchment Flood Risk Assessment and Management Studies by the OPW – a highly iterative process

Acronym	Meaning
CHP	Combined Heat & Power Plant
CSM	Conceptual Site Model - appended to the NIS
DaS Permit	Dumping at Sea Permit
ECS	Effluent Clarification System
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
ES	Estuarine Springs
FRA	Flood Risk Assessment, within the meaning of the Flood Risk Guidelines
FRA	Flood Risk Assessment, within the meaning of the Flood Risk Guidelines – it may be SSFRA or SFRA
FRRR	Flood Risk Review Report
FTDB	Flood Tidal Defence Berm
GTV	Groundwater Threshold Values
HEFS	High End Future Scenario (climate change - 1m sea level rise [OPW])
HPC	Hazard Potential Classification, CDA Guidelines. Incremental consequence of failure of facility.
ICPSS	Irish Coastal Protection Strategy Study, OPW 2013
ICWWS	Irish Coastal Wave and Water Level Modelling Study, Phase 1, OPW 2018
IDF	Inflow Design Flood, CDA Guidelines
IEL	Industrial Emissions Licence
IPW	Inner Perimeter Wall of BRDA
LCCC	Limerick City and County Council
LEAP	EPA's Licence & Enforcement Access Portal
LWP	Liquid Waste Pond
MARA	Maritime Area Regulatory Authority
MMRA	Marine Mammal Risk Assessment
mOD	Metres over Ordnance Datum
MRFS	Medium Range Future Scenario (climate change - 0.5m sea level rise [OPW])
MUL	Marine Usage Licence
MW	Groundwater Monitoring Well at the quarry/borrow pit
NIS	Natura Impact Statement for purposes of Appropriate Assessment
OPW	Outer Perimeter Wall of BRDA
OPW	Office of Public Works
OW	Groundwater monitoring Observation Well on BRDA perimeter or at quarry/borrow pit
PDA 2000	Planning and Development Act 2000 as amended

Acronym	Meaning
PFRA	Preliminary Flood Risk Assessment. The first stage of the CFRAMs process. It produces Preliminary Flood Risk Flood Extent maps as the basis for further iteration.
PIC	Perimeter Interceptor Channel
PMF	Probable Maximum Flood, CDA Guidelines. As applicable to the BRDA, the PMF is the runoff generated during the PMP event.
PMP	Probable Maximum Precipitation, CDA Guidelines
POW	Groundwater monitoring Observation Well in the vicinity of the refinery plant. (Apparently, "Process Observation Well" ⁷⁷²)
RSESSR	Regional Spatial and Economic Strategy for the Southern Region
SAC	Special Area of Conservation - within the meaning of the Habitats Directive In this case, the Lower River Shannon SAC
SAM	Static Acoustic Monitoring
SCDC	Salt Cake Disposal Cell
SFRA	Strategic Flood Risk Assessment in Development Plan, within the meaning of the Flood Risk Guidelines
SID	Strategic Infrastructure Development within the meaning of the PDA 2000
SIFP	Strategic Integrated Framework for the Shannon Estuary 2013
SPA	Special Protection Area - within the meaning of the Birds Directive In this case, the River Shannon and River Fergus Estuaries SPA
SPW	Groundwater monitoring well at the quarry/borrow pit
SSFRA	Site-Specific Flood Risk Assessment, within the meaning of the Flood Risk Guidelines
SWP	Storm Water Pond
TFEU	Treaty on the Functioning of the European Union
WFD	Water Framework Directive