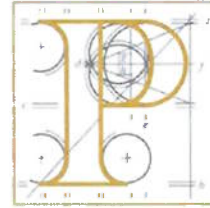


**Our Case Number:** ABP-319023-24



**An  
Bord  
Pleanála**

Health and Safety Authority  
3rd Floor  
1A South Mall  
Cork  
Co. Cork  
T12 R7WC

**Date:** 06 June 2024

**Re:** Combined Cycle Gas Turbine and Open Cycle Gas Turbine Thermal Power Plant, Electricity Grid Connection including 2 no. substations, and associated buildings, plant, site works, service and ancillary development on land within the townlands Knockdrin, Derrygreenagh, Derryarkin, Derryiron, Ballybeg, Coolcor, Barrysbrook, Clonin, Togher and Coole, Co. Offaly. ([www.derrygreenaghpowerplanning.ie](http://www.derrygreenaghpowerplanning.ie))

Dear Sir / Madam,

An Bord Pleanála has received your submission in relation to the above mentioned proposed development and will take it into consideration in its determination of the matter.

The Board will revert to you in due course in respect of this matter.

Please be advised that copies of all submissions / observations received in relation to the application will be made available for public inspection at the offices of the local authority and at the offices of An Bord Pleanála when they have been processed by the Board.

More detailed information in relation to strategic infrastructure development can be viewed on the Board's website: [www.pleanala.ie](http://www.pleanala.ie).

If you have any queries in the meantime please contact the undersigned officer of the Board. Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Ellen Moss  
Executive Officer  
Direct Line: 01-8737285

PA09

**Teil** (01) 858 8100  
**Glaio Áitiúil** 1800 275 175  
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64 Sráid Maoilbhríde 64 Marlborough Street  
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An tÚdarás Sláinte agus Sábháilteachta

Health and Safety Authority

☎ 0818 289 389 ✉ [landuseplanning@hsa.ie](mailto:landuseplanning@hsa.ie) 🌐 [www.hsa.ie](http://www.hsa.ie)

Strategic Infrastructure Development  
An Board Pleanála  
64 Marlborough Street  
Dublin 1

By Email to: [sids@pleanala.ie](mailto:sids@pleanala.ie)

Our Ref: PAR 4351

29<sup>th</sup> May 2024

**Re: Strategic Infrastructure Development ABP – 319023-24; Proposed Combined Cycle Gas Turbine (570MW) and an Open Cycle Gas Turbine (140MW) Thermal Power Plant and electricity grid connection including 2 no substations and associated buildings, plant, site works services and ancillary development on land within the townlands of Knockdrin, Derrygreenagh, Derryarkin, Derryiron, Ballybeg, Coolcor, Barrysbrook, Clonin, Togher and Coole, Co. Offaly.**

Dear Sir / Madam,

I am writing to you in response to a request for technical advice in relation to the above development, received on 23<sup>rd</sup> May 2024.

The Health and Safety Authority, acting as the Central Competent Authority under the Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015 (S.I. 209 of 2015), gives technical advice in response to a notice sent under Article 215 of the Planning and Development Regulations 2001-2021.

Under Regulation 24(2) of S.I. 209 of 2015, the technical advice on the effects of a proposed development on the risk or consequences of a major accident relates to the following types of developments within the consultation distance for an establishment:

- (a) the siting and development of new establishments;
- (b) modifications to establishments of the type described in Regulation 12(1);
- (c) new developments including transport routes, locations of public use and residential areas in the vicinity of establishments, where the siting, modifications or developments may be the source of, or increase the risk or consequences of, a major accident.

The advice given is for the purposes of assessing a new development only. A full explanation of the Authority's Land-use Planning advice system can be found at:

[https://www.hsa.ie/eng/Your Industry/Chemicals/Legislation Enforcement/COMAH/Land Use Planning/](https://www.hsa.ie/eng/Your_Industry/Chemicals/Legislation_Enforcement/COMAH/Land_Use_Planning/)

Appendix 16.3 of the EIAR [document Ref. 237501.0530RR01 dated 22/12/2023] - was reviewed by the Authority. The Health and Safety Authority can confirm, from the details received, that the development will constitute a new lower tier COMAH establishment.

However, further clarifications on the above referenced document are required before the Authority can provide technical advice relating to this proposed development. These clarifications are contained in Appendix 1 to this letter.

If you have any queries, please contact the undersigned.



**Noreen Quinn**  
**Inspector,**  
**COMAH, Chemical Production & Storage (CCPS)**

**Encl:**

**Appendix 1**

**Note on the Approach of the HSA to the Provision of Land-use Planning Advice**

## **Appendix 1**

To note: the following items for clarification are not listed in order of importance.

1. The applicants' letter to ABP refers to the use of Hydrogen in relation to the design & future operation of the site. Ref. Gravis Planning letter dated 08 Feb2024, '*will facilitate a sustainable transition to renewable fuels such as hydrogen, in line with national commitments for blending renewable fuels into the natural gas [NG] network*'. Within the document, there is no discussion on the percentage of hydrogen in a proposed blend, or the consequences and frequency of the major accident hazard scenarios that could occur. Use of hydrogen in site operations has not been considered in Appendix 16.3 of the EIA. Any future change to that of the design/layout/operation set out in this planning application, including the use of hydrogen or a hydrogen blend, will need assessment in advance of the change, in compliance with the requirements of Regulation 12 of the COMAH Regulations.
2. Fig 1 site boundary is different to fig. 2 – accurate COMAH site boundary & COMAH site layout maps are required.
3. Provide a detailed description of the power plant and subsidiary power equipment for OCGT & CCGT and clarify what is the purpose of Liquefied Petroleum Gas [LPG].
4. The site boundary indicated in Appendix 16.3 of EIA is different to that on the proposed development overview plan sheet 1 of 8. Buildings to the south of site, beside quarry – have not been identified or described.
5. Fig. 2 proposed COMAH site layout does not provide sufficient detail. All pipelines, tanks, and buildings onsite are to be identified. For example, LPG pipelines & storage, natural gas pipelines, interceptor shut off point, containment type and boundary, nearest offsite buildings whether industrial or residential, utilities, fire water storage & retention areas.
6. Appendix 16.3 EIA; Table 2 details the quantity of hazardous material proposed to be stored at the Power Plant – dangerous substance inventory held in pipelines also needs to be included.
7. Section 4.3 Overpressure - the probability of occupant vulnerability to overpressure effects – Section 2.4.2 of the HSA's Guidance document on technical land use planning (TLUP) refers to European Industrial Gases Association, 2014 and the Chemical Industry Association [CIA], CIA curve 3 as the value to take for assessing risk of fatality. This is the first approximation in establishing the number of fatalities indoors. Note the fraction of time spent outdoors/indoors needs to be clearly stated, show how this has been applied in the risk calculations i.e. indoor 90/10 outdoor in line with section 2.5.3 of TLUP.
8. It is noted the land use planning risk contours map [not labelled] in the executive summary does not show the individual location-based risk contours applicable to new establishments as per TLUP 1.4 table 1. Revise map and include demonstration of acceptable risk for new establishments in executive summary. Also figure 39 Land Use Planning Risk-based Contour does not show that the individual location-based risk contours for new establishments, or that the risk criteria for new sites as per TLUP table 1, have been met.
9. Section 5.1 of Appendix 16.3 EIA lists a number of major accident scenarios, there is no discussion or reference to elsewhere in the document how this sub-set of scenarios has been determined. Provide a detailed description and include HAZID tables or similar, to demonstrate that a systematic method of hazard identification has been applied. It should also set out what criteria has been used to determine the final sub-set of major hazard accident scenarios that could occur at the site.
10. Section 5.1.1 of Appendix 16.3 EIA does not state the total number of gas turbines – include numbers and make clear in the risk assessment where this value has been considered.

11. Section 5.1.2 of Appendix 16.3 EIAR includes the statement 'For the purposes of this assessment, a 1 second response time on the Slam Shut valve shall be used as a conservative approach'. Mitigation applied here (not explained how it is considered) for pipeline release scenarios to be removed, this is not in line with the approach set out in TLUP for pipeline releases.
12. Section 5.1.3 of Appendix 16.3 EIAR states only MATTE is considered. Refer to TLUP 3.6.4 Category 3 substances. The report needs to robustly justify that instantaneous catastrophic diesel tank failure and bund overtopping will not lead to diesel reaching uncontrolled areas, with the potential for low probability ignition, or else the report should consider the potential pool fire scenario.
13. Section 5.1.3 of Appendix 16.3 EIAR refers to a fuel leak - 'stopped remotely by on-site personnel' provide details how this can be achieved and where the 'attenuation flow controls' are located, refer to the point above. Will the flow controls be automatic, how will this be managed?
14. Section 5.1.4 of Appendix 16.3 EIAR lists the major accident scenarios. However, this list differs to the scenarios modelled, hence it is unclear exactly what has been considered as event scenarios.
15. Section 3.1 of TLUP lists the LPG scenarios that are to be modelled. No description of LPG is included particularly pipelines, the report refers to 'propane cylinders', yet there is no discussion or assessment of storage/filling as applicable. Refer to TLUP table 23, domino LPG BLEVE during loading operation TLUP table 26 and TLUP section 3.10 gas cylinders.
16. Note Section. 6.3.9 Propane Tank Release Frequencies refers to 'blocking measures' but does not state the location or proximity of the inventory from the site boundary. As per TLUP, refer to paragraph below table 25 relating to loading leaks, the report must demonstrate that leaks are short in duration *and* loading location is distant from the boundary.
17. Appendix 16.3 Section 6.3.1 LPG Tank Catastrophic Rupture Model Inputs – include the calculation for flammable mass fraction for LPG, as the calculated value is not included in table 21 propane inputs. Also refer to TLUP table 18 surface emissive power (SEP) for LPG is set at 250, note max SEP to be used for jet fires.
18. Appendix 16.3 Section 6.3 figure 28 LPG Tank Rupture and Fireball: Outdoor Lethality Contours – where is LPG located? – not indicated on contour maps or COMAH site layout figure 2 – include on all maps and site layout drawings in Appendix 16.3.
19. Section 6.1 Appendix 16.3 EIAR refers to a process pipeline leak, it is unclear whether the auxiliary boiler pipeline is Natural Gas or LPG – further explanation required.
20. Figure 31 LPG Tank Rupture and VCE: 1% Fatality Outdoors Overpressure Contour – LPG, it is noted the 50-mbar contour extends offsite - the report states 'does not extend to any off-site receptor' a more specific discussion of the surrounding land use area/zoning is required and include details of the nearest residential/persons at work locations.
21. Appendix 16.3 Section 6.3.5 LPG Tanker Instantaneous Failure Model Inputs – calculations for F2 weather conditions are required. TLUP 2.5.4 doesn't state F2 only applies at night – use of the probability of 20% takes account of less frequent F2 conditions. Report states '*consequences from a Continuous Leak over 10 minutes and 10mm pipe leak over 30 minutes will be included in the risk calculation*'. You are required to include details of all input/output data also the consequence and risk contour curves for loss of containment events representing continuous 10 mins and 10 mm over 30 mins.
22. Appendix 16.3 Section 6.3.5 confirm reference source for actual LPG road tanker pressure and not an estimate based on cylinder pressure.
23. As per earlier comment regarding the flammable mass fraction for LPG, state clearly how this is calculated & include the final flammable mass quantity in table 26. Also, does the quoted 12,000 kg represent the maximum quantity held on the tanker, to be specified in the report.

24. Appendix 16.3 Table 31 LPG Event Frequencies - 10 mm pipe leak over 30 minutes per tank, LOC event flash fire event frequency stated as 1.62E-07 – this is incorrect the correct value of 1.8E-6 per vessel is to be applied as per TLUP table 23. Note table 31 gives the LOC frequencies for pipe jet fire events yet this is not included in the consequence assessment – report to be amended to include this detail.
25. Appendix 16.3 EIA Section 6.3.8 Flash Fire Model Outputs - statement '*this area is not typically occupied, and no fatalities are expected*' requires more specific discussion on surrounding land use.
26. Figs. 5 & 6 Appendix 16.3 EIA does not show the 5D curve - include or provide a separate appropriately scaled graph for 5D. In Table 11 Natural Gas Pipeline Release Scenarios: Jet Flame Parameters, explain how the mass flow rate for pipeline rupture 589 kg/sec has been determined for D5 and F2.
27. Appendix 16.3 EIA table 19; CCGT Enclosure VCE Event Frequency and table 20 OCGT Enclosure VCE Event Frequency; give vapour cloud explosion (VCE) event frequency per turbine – the report does not give total cumulative risk for the site and is unclear with respect to the numbers of turbines proposed? Also relevant in Section 8.0 Risk contours. Further detail required on cumulative site risk.
28. Appendix 16.3 Section 7.7.1 Frequency of MATTE refers to human error – refer to comment above re Section 5.1.3 and 'fuel leak remotely stopped', 'flow controls' – what type of system is proposed? This needs to be clearly set out for accurate calculation of the LOC event and subsequent probability of the MATTE to be determined. Refer to TLUP 3.6.4, 3.6.6 & 3.6.7 requirements for new installations. This sets out the requirement for 'double skinned tanks' to eliminate MATTEs from consideration therefore demonstrating that 'all necessary measures' have been taken. This has not been considered.

### **Note on the Approach of the HSA to the Provision of Land-use Planning advice.**

The Authority, acting as the Central Competent Authority under the Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015 (S.I. 209 of 2015), gives technical advice in response to a notice sent by a planning authority under Part 11 of the Planning and Development Regulations 2001-2015. Under Regulation 24(2) of S.I. 209 of 2015, the technical advice on the effects of a proposed development on the risk or consequences of a major accident relates to the following types of developments within the consultation distance for an establishment:

- (a) the siting and development of new establishments;
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- (c) new developments including transport routes, locations of public use and residential areas in the vicinity of establishments, where the siting, modifications or developments may be the source of, or increase the risk or consequences of, a major accident.

The advice given is for the purposes of assessing new development only. A full explanation of the Authority's Land Use Planning advice system can be found at [https://www.hsa.ie/eng/Your Industry/Chemicals/Legislation Enforcement/COMAH/Land Use Planning/](https://www.hsa.ie/eng/Your_Industry/Chemicals/Legislation_Enforcement/COMAH/Land_Use_Planning/)

Your attention is drawn to Regulation 24(3) of S.I. 209 of 2015:

*(3) The technical advice provided by the Central Competent Authority to a planning authority pursuant to paragraph (2) may be generic or case specific in nature and shall be so formulated that it will assist the planning authority to take into account the need, in the long term—*

- (a) to maintain appropriate safety distances between establishments covered by these Regulations and residential areas, buildings and areas of public use, recreational areas, and, as far as possible, major transport routes;*
- (b) to protect areas of particular natural sensitivity or interest in the vicinity of establishments, where appropriate through appropriate safety distances or other relevant measures; and*
- (c) for the operator to take additional technical measures, in the case of existing establishments, in accordance with Regulation 7, so as not to increase the risks to human health and the environment.*

In giving its advice, the Authority does not deal with routine emissions. Such emissions will be subject to EPA or Local Authority scrutiny and control.

The operator of an establishment covered by S.I. 209 of 2015 is also required to take all necessary measures to prevent major accidents occurring and to limit the consequences of any such major accidents for human health and the environment.