

Appendix 2. Project Description

2.9. Architectural Design Statement (AR, 2026)

AtkinsRéalis



**Architectural
Statement**

BORD GÁIS ENERGY

Design

14/01/2026

0114458-ATK-ZZ-ZZ-RP-AR-000001

CASHLA PEAKER PLANT

Notice

This document and its contents have been prepared and are intended solely as information for BORD GÁIS ENERGY and use in relation to this Planning Application

AtkinsRéalis assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

This document has 16 pages including the cover.

Document history

Document title: Architectural Design Statement

Document reference:						
Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	Planning Issue	AH	JM	JM	AJ	14/01/26

Client signoff

Client	BORD GÁIS ENERGY
Project	Cashla Peaker Plant
Job Number	114458
Client signature/date	



Contents

1.	Introduction.....	4
1.1	Design Statement.....	4
2.	Project Description.....	5
3.	Site Description	7
3.1	Existing Site Description	7
3.2	Site Conditions	8
4.	Proposed Development	9
4.1	Design Strategy – Development Plan 2022-2028.....	9
4.2	Alternatives Considered	9
4.3	Proposed Development.....	10
4.3.1	Schedule of Building Areas	13
4.3.2	Proposed Layout & Design	14
4.3.3	Proposed Materials & Finishes	14
5.	Concluding Statement	15

Figures

Figure 1 - Site Location.....	4
Figure 2 - Proposed Site Location (Application Area in red)	7
Figure 3 - Existing Site Area	8
Figure 4 - View of Site from M18 – East of Site.....	8
Figure 5 - View of Site from the M18 off ramp to the M6 – South/East of Site.....	9
Figure 6 - Proposed Site Plan	12



1. Introduction

AtkinsRéalis have been commissioned by Bord Gáis Energy Ltd. (the applicant) to prepare an Architectural Design Statement for the Cashla Peaker Plant project, hereafter referred to as the 'Proposed Project', as presented in Figure 2 and outlined in Section 2 of this report.

1.1 Design Statement

This Design Statement has been prepared in respect of the proposed built structures relating to the overall project subject of the Environmental Impact Assessment Report. The built structures will be located within Cashla Peaker Plant site which is located on lands between the northern and eastern arms of the M6/M18 interchange. Access to the site will be provided via a newly proposed 1.15-kilometer-long access road connecting to the L3103, 1 kilometre east of the M17 motorway. This site is 19.17 ha in area.



Figure 1 - Site Location

2. Project Description

The following provides a summary description of the project assessed as part of the EIAR. The overall project is subject to two separate planning applications: one for the proposed Cashla Peaker Plant and one for the electricity transmission infrastructure. The project will function as a balancing asset, operating intermittently during periods of low renewable energy generation and high electricity demand. Notwithstanding the dual consenting approach, the developments constitute a single, integrated project, whereby the peaker plant will generate electricity for supply to the national grid. The submission of separate planning applications arises solely from planning legislation requirements, which necessitate distinct applications for Strategic Infrastructure Development.

Each application will seek a 10-year permission and detail on the relevant statutory development description is set out in the planning application form.

The proposed operational life is up to and including the 31st of December 2050, which is tied to Ireland's Climate Action Plan 2025.

The project site is approximately 19.17 hectares. This is broken down into the 'Cashla Peaker Plant Site' which is approximately 11.54 hectares and is located within the townlands of Pollnagroagh and Rathmorrissy, Athenry, Co. Galway. The balance, 7.63 hectares, relates to the grid connection and substation and is located across the townlands of Rathmorrissy, Pollnagroagh, Moanbaun, Castlambert, Knocknacreeva, Caraunduff, Caherbriskaun, Lisheenkyle East, Barrettspark, Cashla, Athenry, Co. Galway. The grid connection route traverses approximately 8.1km including along the L7109, L71093, L7108 and L3103 roads.

The project comprises the following infrastructure:

- a) The construction of an open-cycle gas turbine (OCGT) and generator with ancillary equipment including a 30m high stack and emissions monitoring unit, fuel storage and supply systems, cooling and air systems, compressed air and gas handling skids, a grid step-up transformer within a bund, an auxiliary transformer, a generator circuit breaker and an emergency diesel generator. The construction of ten buildings on-site including one single-storey administration building (approximately 390sqm), one single storey ESB Substation building (approximately 32.5sqm), one single-storey workshop building (approximately 750.5sqm), one single storey water treatment plant building (approximately 104sqm), fuel forwarding and unloading area (approximately 104sqm), one single-storey electrical control building (approximately 243.5sqm), one single storey gas analyser kiosk (approximately 6.25sqm), one single-storey boiler house kiosk (approximately 37sqm), one single-storey ancillary pressure reduction kiosk (approximately 26sqm) and a single-storey electrical and instrumentation kiosk (approximately 19sqm). The installation of five above-ground tanks including two bunded fuel tanks (approximately 11.1m high), one fire and service water tank (approximately 13m high), one demineralised water tank (approximately 15.4m high) and one demineralised waste tank (approximately 5m high).
- b) The construction of a Gas Networks Ireland (GNI) above ground pressure regulating installation, known as an Above Ground Installation (AGI). The AGI (named Rathmorrissy AGI) will connect to the mains transmission gas network which exists within the site. The AGI infrastructure will occupy an enclosed area of approximately 2,500 sq.m. It encompasses five single-storey buildings: the gas analyser kiosk (approximately 6.25 sqm), the boiler house kiosk (approximately 37 sqm) including



10 no boiler flues approximately 5.67 m above ground level and emergency generator, two pressure reduction kiosks – main (approximately 72 sqm) including approximately 5.24 m high vents, and ancillary (approximately 21.7 sqm) including approximately 3.72 m high vents – and the electrical and instrumentation kiosk (approximately 19 sqm). Ancillary infrastructure will include a gas meter, filters, heat exchangers, and above-ground pipework. The compound will include lighting, 3 no.

parking spaces, internal access routes, concrete bases to support the infrastructure, and stone-chipped surfacing. It will be secured by an approximately 2.4 m high fence with an access gate.

It is noted that the connection to the existing mains gas network (Mayo–Galway pipeline (BGE/85)) will be undertaken via a new transmission pipeline (named GNI146). The GNI146 gas pipeline is subject to Section 39A Consent under the Gas Act 1976, as amended.

- c) Ancillary works including the provision of a new gated vehicular entrance off the L3103, the construction of an access road from the proposed Cashla Peaker Plant Site entrance to the new entrance off the L3103, the demolition of one farm outbuilding (in ruin), construction of internal access roads, hardstanding, security fencing (2.4m high), CCTV and gates, provision of a wastewater treatment system and associated underground wastewater storage tanks, drainage (foul and storm), soakaway retention pond, propane tank, construction of underground firewater retention tanks, provision of parking (12 no. spaces including mobility and EV Parking) and laydown area, 20 no. cycle parking spaces, landscaping and all ancillary on-site development works.
- d) The electricity transmission infrastructure comprises the construction of an ESB substation compound within the Cashla Peaker Plant site. The infrastructure will include a 4-bay 220 kV substation incorporating a single-storey Air-Insulated Switchgear (AIS) substation building (approximately 388sqm) and access road; a 36m high telecommunications mast; a shunt reactor, ancillary works including lighting, security fencing (2.4m high), internal tracks, and 4 no. carparking spaces. It also consists of the construction of approximately 8.1 kilometres of an underground grid connection route and laying of cable from the proposed ESB Substation in the Cashla Peaker Plant Site to the Cashla 220kV Substation. The construction methodology includes three horizontal directional drilling (HDD) operations beneath the M6 and M17 motorways to minimise surface disruption.

The Cashla Peaker Plant involves an activity that will require an Industrial Emission Licence from the Environmental Protection Agency (EPA). This ensures that the project meets all necessary environmental standards related to emissions and other factors impacting the surrounding area. This does not apply to the electricity transmission infrastructure.

Additionally, the Cashla Peaker Plant includes the establishment of a facility where safety measures under the Major Accident Directive (Seveso) will apply. These regulations are designed to prevent and limit the consequences of potential industrial accidents, ensuring the project is both safe and compliant with industry best practices. This does not apply to the electricity transmission infrastructure.



3. Site Description

3.1 Existing Site Description

The greenfield site in Pollnagroagh and Rathmorrissy, Athenry, Co. Galway is located approximately 14 kilometres east of Galway City and 2 kilometres west of Athenry. This site, with an area circa. 19.17 hectares, is positioned between the northern and eastern arms of the M6/M18 interchange. Access to the site will be provided via a newly proposed 1.15-kilometer-long access road connecting to the L3103, approximately 1 kilometre east of the M17 motorway.



Figure 2 - Proposed Site Location (Application Area in red)

3.2 Site Conditions

The proposed Cashla Peaker Plant site is currently grassland bounded to the east by the M18, and to the south by the M6.



Figure 3 - Existing Main Project Site Area



Figure 4 - View of Site from the M18 - East of Site.



Figure 5 - View of Site from the M18 off ramp to the M6 – South/ East of Site.

4. Proposed Development

4.1 Design Strategy – Galway County Development Plan 2022-2028

The Development Plan emphasizes the importance of enhancing electricity infrastructure to address future energy demands. The design aims to deliver sustainable and modern solutions.

4.2 Alternatives Considered

The overall layout of these proposed buildings has evolved from an original concept layout based on client requirements for the development of the site. As this concept has evolved the design has progressed through various iterations.

The plan was developed on foot of client feedback from workshops and review meetings where various parameters and requirements were incorporated into the design. In each design development stage, the various needs of the end-users were considered, including analysing various layouts and flow diagrams and consideration of placement of the facilities.

Significant emphasis was placed on the positive impact of contextual landscaping on the overall site, to soften and minimise any visual impact from site operations on the overall adjacent local landscape.

Various measures were considered during the design development to promote a sustainable agenda for the overall development with energy-efficient buildings as part of the overall sustainable strategy.

In summary, at all stages of the design development, the design parameters have been underlined by both the client and design team core strategy to develop a suitable solution that provides the necessary infrastructure and buildings on site while maintaining and protecting the site environment in terms of a high-quality physical, visual and environmentally final proposal.

4.3 Proposed Development

Building Typologies and Functions

- Administration Building Area 390m² and ESB Substation Area 32.5m² - Total area 426.5m²

A dual-function facility providing administrative offices and housing the main electrical substation. Office spaces are designed with open-plan layouts and support rooms, while the substation zone is strictly access-controlled.

- Workshop Building Area 750.5m²

A robust industrial space for routine maintenance, tool storage, and minor fabrication. Designed with high clearances and reinforced flooring for heavy equipment.

- 220kV AIS Substation Control Building – 338m²

A 220kV AIS substation control building is a small secure building that houses the equipment needed to safely monitor and operate the high-voltage substation.

- Electrical Control Building Area 243.5m²

A separate monitoring hub for the Independent Power Producer with similar functional requirements to the main Control Building but operating independently.

- Water Treatment Facility Plant - Area 104m²

Houses filtration and treatment systems ensuring process water quality. Includes chemical storage zones and control panels.

- Fuel Forwarding & Unloading Area - Area 104m²

Designed to accommodate fuel tankers for unloading, with bunded zones and spill containment. Includes pumping equipment for fuel distribution.



- Plant Fuel Tanks

Large-scale storage with structural containment, located adjacent to the forwarding zone for operational efficiency.

- Plant Pump Skids

Supports pumping and pressure regulation. Elevated or plinth-mounted equipment with walkways for inspection and maintenance.

- Demin Water Tank

Stores demineralised water required for plant operation, located within secure perimeter fencing.

- Fire & Service Water Tank

Provides emergency firefighting supply and non-potable service water.

- Main Pressure Reduction Kiosk

Reduces incoming high-pressure gas to the required pressure for the plant's equipment.

- Boiler House Kiosk

Houses water-bath or pre-heating gas boilers used to heat gas via water bath heaters, before pressure reduction to prevent condensate formation and cold temperature material stress.

- Ancillary Pressure Reduction Kiosk

Reduces incoming high-pressure gas pressure for use by the Boiler House Kiosk boilers.

- Electrical and Instrument Kiosk

Contains electrical switchgear, control panels, SCADA interfaces, power distribution, and instrumentation systems for safe AGI operation.

- Gas Analyser Kiosk

Houses equipment that continuously samples and analyses gas composition (e.g., calorific value, Wobbe index, constituents) for billing accuracy and gas turbine combustion control.





Figure 6 - Proposed Project Site Plan



4.3.1 Schedule of Building Areas

The tables below provide a schedule of the proposed building structures.

Table 1 – Proposed Unit Gross Floor Areas of Buildings subject of S.37E Planning Application

Building Types	Ground Floor (m²)
Administration Building and ESB Substation Building	426.5
Workshop Building	750.5
Electrical Control Building	243.5
Water Treatment Plant	104
Fuel Forwarding & Unloading Area	104
Totals	1628.5

Table 2 – Proposed Unit Gross Floor Area for Substation Compound subject of S.182B planning application

Building Types	Ground Floor (m²)
220kV AIS Substation Control Building	388
Totals	388

Table 3 – Schedule of Parking Spaces

Main Plant Site	12 no.
Substation Compound	4 no.
AGI Compound	3 no.
EV Charging Bays	04 no.
Accessible Parking Spaces	01 no.
Bicycle Parking	20 no.

Table 4 – Proposed Unit Gross Floor Area for AGI Compound and Cashla Peaker Plant subject of S.37E planning application

Building Types	Ground Floor (m²)
Main Pressure Reduction Kiosk	72
Boiler House Kiosk (2no.)	37 (total 74)
Ancillary Pressure Reduction Kiosk (2no.)	21.7 (total 43.4)



Electrical and Instrumentation Kiosk (2no.)	19 (38)
Gas Analyser Kiosk (2no.)	6.25 (12.5)
Totals	239.9

4.3.2 Proposed Layout & Design

The proposed Cashla Peaker Plant layout has been carefully designed to ensure operational efficiency, safety, and compliance with regulatory requirements. Each component has been positioned for functional synergy and logistical effectiveness.

To support the operation of the generator and turbine, the site will require fuel oil tanks and demineralized water tanks which are located to the east of the site. This minimizes risk to personnel and administration areas in case of leakage or fire while keeping them within a short pumping distance from the generator. A water treatment system will be installed to produce demineralized water. The 30-meter-high exhaust stack is adjacent to the generator, positioned centrally to reduce the length of exhaust ducts.

Ancillary structures such as pump houses, pipe bridges, kiosks, and internal access roads are distributed to ensure operational connectivity and circulation throughout the site,

A GNI Above Ground Installation (AGI) will be installed along the southern site boundary, directly above the underground high-pressure gas transmission line. This location is dictated by the existing pipeline route and ensures optimal extraction and regulation of gas to supply the plant.

As for parking, the arrangements adhere to the Galway County Development Plan 2022-2028 (GCDP). This plan prescribes a standard of one parking space per 100m² of gross floor area for warehouse developments. With the proposed total floor area being approximately 2016.5 sqm, the parking facilities include 19 spaces for staff and visitor. Of these, 19 spaces 14 are of standard size with 4 EV charging bays and 1 being accessible. There is also a designated bicycle parking area that can hold up to 20 bicycles.

4.3.3 Proposed Materials & Finishes

The architectural character is industrial-modern, prioritising low maintenance, fire resistance, and thermal performance.

- External Walls: Kingspan insulated metal panel system, selected for speed of installation, insulation performance, and durability in harsh environments.
- Windows: Powder-coated aluminium framed units, double-glazed, with security-rated fittings where applicable.
- Doors: Steel security doors with louvred options for plant ventilation and fire-rated doors in compliance with local fire safety regulations.
- Roofs: Insulated panel roofing system with integrated rainwater drainage.
- Floors: Reinforced concrete with appropriate finishes (epoxy-coated in workshops and wet zones; anti-static vinyl in control rooms).

Generally, all finishes will be of high quality to reflect the utility nature of the facility while incorporating efficient, durable materials and rational planning. The final selection of the external finishes, materials



colours etc, can be agreed fully with the Galway County Council Planning Department should this application be successful.

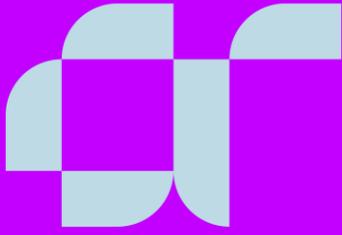
5. Concluding Statement

In conclusion, we confirm that the architectural design for the proposed Buildings has been considered and designed in accordance with the requirements set out in the design brief and in line with the objectives set out in the Galway County Development Plan 2022 – 2028.

The design has been developed to incorporate the requirements of all stakeholders to develop an appropriate solution that provides the necessary infrastructure and buildings on site while maintaining and protecting the site environment in terms of a high-quality physical, visual and environmentally conscious proposal. The architectural proposals reflect the utility nature of the facility while incorporating efficient, durable materials and rational planning along with accommodating the required plant support and maintenance operation and clear safety and security protocols throughout.



AtkinsRéalis



AtkinsRéalis

Atkins
150
Airside
Swords,
Co. Dublin

Lakeside
Business

House,
Drive,
Park,

© AtkinsRéalis except where stated otherwise

**Classification, e.g. AtkinsRéalis - Sensitive
/ Sensible**

0114458-ATK-ZZ-ZZ-RP-AR-000001
14/01/2026

AtkinsRéalis - Baseline / Référence