

Equinix DB8 Data Centre

Response to Planner's
Comments Relating to the
On- Site Power Generation Plant

Client

Equinix

Kilcarbery Park New Nangor Road Dublin 22

Ireland

Date

20 October 2022

File Ref

RED Response to FI OSPG Report 20.10.22

Revision

001

Classification

 \square Public | \square Internal | \square Restricted | \boxtimes Confidential





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Revision

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20 October 2022
Revision:001

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1.0 Introduction

1.1 Purpose of this Document

The purpose of this document is to provide an overview of why the Client has decided to propose the construction of an onsite power generation plant (OSPG) and also to provide a response to the request for further information Items 2 and 4, where it relates directly to the OSPG.

1.2 Overview

The Client applied for power over 22 months ago on 04/11/20200 and obtained planning approval for the data centre under SDCC Reg. Ref. SD21A/0186, on 05/05/2022. The Client has employed a consultant team who have completed detailed design documentation and the project has been competitively tendered. The Client is in the process of procuring major capital plant and equipment and has agreed terms with a General Contractor who is awaiting to commence construction.

To date there has been no confirmation from ESB regarding the technical and commercial details of power supply connection for the data centre development. In line with the project business plan, the Client is now in discussions with prospective customers and tenants who wish to lease space in the data centre. The Client needs to commence construction as soon as possible to meet the commitments being made to tenants and investors.

In order to progress with the project without an ESB power supply, the Client has taken the decision to propose the construction of an On-Site Power Generation Plant (OSPG), at the Client's expense. The purpose of the plant is to generate power until such time that ESB can make a formal technical and commercial proposal to supply power to the site.

It is the intention to provide a power plant that can operate off grid on day one and in the future, be connected and embedded into the ESB grid. The power plant will be supplied by energy provided by Gas Networks Ireland (GNI) and the plant can also run on Hydrogen/Natural Gas mix or pure Hydrogen when GNI commence distribution.

The Client and Consultant Team have met with the Commission for Regulation of Utilities (CRU) and presented the case for consideration. The CRU advised that due to the fact the development does not have a utility power connection they are unable to assess compliance with the CRU Directives for Data Centres. However, they advised that in order to build a power plant, the Client would first need planning approval and then the CRU could assess for compliance to construct and operate a power plant and issue the appropriate licenses.

2.0 Response to Further Information Request No 2

2.1 Comment from Planner's Report

Furthermore, the applicant is advised that the Planning Authority remains concerned with regard to the number and extent of large demand connections in this area and the demand for future grid reinforcements. The absence of power via Eirgrid and the use of gas-powered generators conflicts with the macro policies in the Development Plan around Energy.

- The appropriateness of the proposal for an on-site gas plant based on national, regional and local policy in terms of energy requirements and climate change, including the Government Policy Statement on Security of Electricity Supply and CRU Direction to the System Operators related to Data Centre grid connection processing;

2.2 Response to Comment

Based on the government Statement on the Role of Data Centres in Ireland's Enterprise Strategy published in July 2022, Equinix proposal for an off-grid power solution in this constrained area has been designed and foreseen while maintaining the objective to connect to the national grid as soon as possible. Once connected to the grid, the power plant will be able to contribute to the security of the national grid and the overall network de-carbonisation strategy.

2.3 Comment from Planner's Report

- provide more detail regarding the alternative sources of power generating assessed as part of the alternatives

2.4 Response to Comment

There were a number of solutions assessed before selecting Option 1 natural gas engine generators as the most suitable solution for this application. The table below details the issues and benefits with each option.

Option	Description	Summary of Assessment	
1	Natural Gas Generators, reciprocating engines	 Fuel efficiency is high and NOX and CO emissions are low compared to diesel alternatives Fuel efficiency is much better compared to turbines Smaller machine capacities (1MW) are available which helps with load acceptance and load matching Smaller plant Best suited to off grid power generation application Hydrogen ready 	
2	Natural Gas Generators, Turbines (Single Cycle)	 Best performance is seen at higher loads of >30MW and is not efficient at low loads of <10MW which this project requires Typical machine sizes are >3MW and this does not suit the small load build up for this project or provide the required resilience with a small number of machines. Start up times for turbines is extremely slow and the data centre requires quick start up times from the power plant. 	

Option	Description	Summary of Assessment		
		 Electrical efficiency of turbines is 30% lower than gas engines Hydrogen ready 		
3	Diesel Generators, reciprocating Engines	 High noise and emissions output SCR and Urea treatment required for exhaust gases Low levels of efficiency and high rate of fuel consumption Extremely large volumes of fuel to be stored on site and re-fuelling with many tankers (powered by diesel fuel) required on a weekly basis 		
4	Natural Gas Fuel Cells	 Insufficient space to accommodate the plant High cost compared to reciprocating engines Lack of proven track record for resilient operation and to availability of service. Hydrogen ready 		

2.5 Comment from Planner's Report

- consider incorporating a portion of renewable energy generation.

2.6 Response to Planners Report

The best use of renewable energy is made at the utility level by utilising wind, solar and hydrogen. Whilst the use of on-site renewable energy was assessed for this project, it is the intent of the Client to provide a power plant solution that is ready to interface, operate and support Ireland's de-carbonised utilities when they start to come online from 2030 onwards.

By building an on-site power plant this has the biggest impact in supporting the use of renewable energy. Once the project receives a utility power supply, this will directly allow the wider transmission electrical grid to take on more input power from wind and solar sources knowing that projects like this one, can self-support power during times when the sun and wind sources are not at full levels of production.

A high-level assessment was made of the following renewable sources of energy and fuel to serve the OSPG.

Solar & Wind

Due to the lack of spare land on the site it is not possible to generate substantial power from renewable sources of power such as PV and Wind. PV cells are installed on the project to provide power to the front of house office building in the data centre, which has been recognised and accepted in the planning approval received for the data centre building.

The best use of solar and wind power is at a utility level, and once EirGrid achieve the de-carbonisation goals for the power grid, as a consumer, the Client hopes to benefit from using utility power from renewable sources, once the project receives a permanent power supply.

Bio-diesel

Bio-diesel was considered for the project, but the volume to be stored on site is in excess of 1,000,000litres and there is not sufficient space to accommodate a fuel storage facility of this scale. Also, the re-fuelling

process is problematic, and relies on multiple diesel powered tankers to deliver fuel for 2-3 times every week.

This particular option is also heavily reliant on the fuel supply chain network and any shortages in stock or problems with delivery could cause the data centre to be without power for extended periods of time which i

2.7 Comment from Planner's Report

- Details of the future proofing of the data centre and the gas power plant to adapt to an alternative energy supply

2.8 Response to Comments

The proposed power plant will be connected to the Gas Networks Ireland (GNI) low pressure network. The GNI network currently provides a natural gas supply with the sustainable decarbonising objective of blending natural gas with green Hydrogen before the end of the decade.

The power plant generators are reciprocating machines are designed to run on natural gas or any blended Natural Gas/Hydrogen mix supplied by the network. Ultimately, the power plant can operate on 100% Hydrogen which is in line wot GNI future development plans.

Once the development is connected to the Grid, it is Equinix corporate policy to purchase green energy through Corporate PPAs wherever these are available.

2.9 Comment from Planners Report

- Long term plan for the gas powered generation plant when data centre is connected to grid?

2.10 Response to comments

In the future, when the data center is connected to the ESB Network Grid, the main source of energy will be sourced Corporate PPA's for Green Energy.

The On Site Power Generation plant can still be utilised to provide full flexibility to the Grid while the plant is operating on the GNI network. The flexibility and part load capability of natural gas power plant embedded in the ESB electricity supply network will further assist in the maximisation of the countrywide renewable generation capacity and contribute to the security of supply.

2.11 Comment from Planner's Report

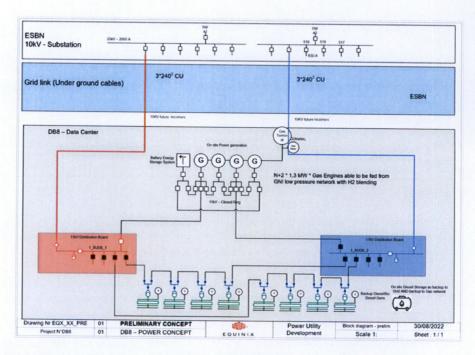
- Details of any connection agreements with Eirgrid / ESB, existing or pending, as well as details of any consultation undertaken with Eirgrid / ESB.

2.12 Response to Comments

Currently, there is no technical or commercial offer received from ESB but we have had discussions with their representatives to understand in principle the likely supply arrangements and optimum entry points to the site.

Please find below a summary of discussions and correspondence issued to date.

October 2020 – Preliminary discussions held with ESB Distribution Engineers which led to the following Energy Concept being prepared for the development which shows direct 10kV feeders terminating into a metering station located on the site.



4 November 2020 – Power supply application lodged with ESB.

15 February 2021 – Email received from ESB that application for supply was now live in their system and that they would seek approval from EirGrid for this application and the process would likely exceed 90 days.

17 May 2021 – Following the 90 day period we contacted ESB for an update and were advised that Eirgird would need to undertake a network study and this could take several more months.

26 May 2022 – Received update from ESB advising all applications are paused and ESB will advise all applicants how to move forward with applications once direction has been received from EirGRid and CRU.

3 August 2022 - Received email from ESB confirming that discussions with CRU have concluded but they need to finalise some further points with EirGrid and CRU. On this basis, a more detailed update will be provided in a few weeks

20 September 2022 – No further updates or information received from ESB regrading the application for power.

2.13 Comment from Planner's Report

- Details of any consultation undertaken with Gas Networks Ireland

2.14 Response to Planner's Comments

Equinix has already a signed connection agreement with GNI and has paid the fees associated with this service; please refer to Annexures.

The Consultant team has met with GNI representatives on site a number of times to discuss utility landing points and has coordinated the location of gas skid/pressure station on the site.

2.15 Comment from Planner's Report

- Information on whether the existing site is serviced in terms of utilities and if not the proposals for undertaking the development required to facilitate servicing.

2.16 Response to Comment

There are no existing utilities serving the site so new utility landing points will be required and status of each are listed as follows:

- Power: Application made, await ESB response.
- Gas: Application made, agreed and payment for connection has been made.
- Water: Application will be made once planning application is complete.
- Drainage: Infrastructure has been assessed and connections agreed.
- Telecoms: Equinix to advise Status

2.17 Comment from Planner's Report

Provide details of the connection to the surrounding area and national gas grid.

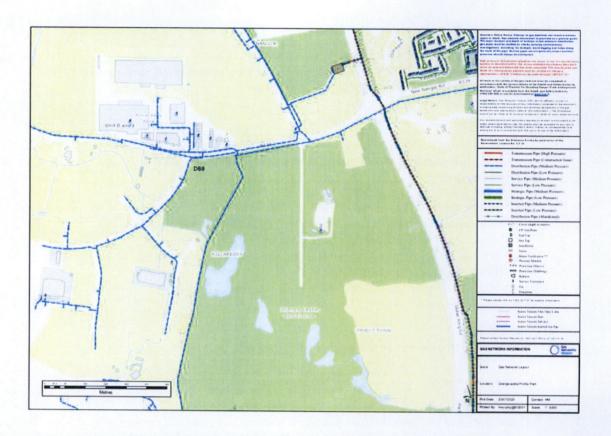
2.18 Response to Comment

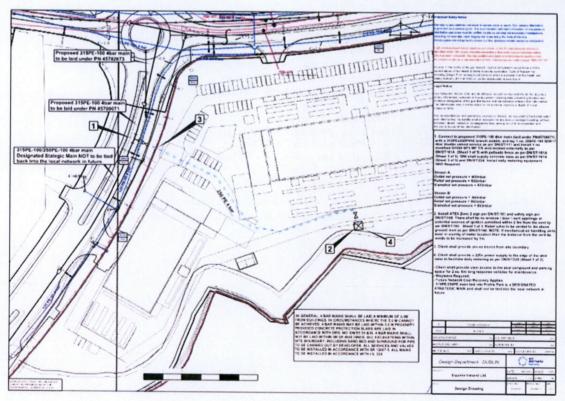
GNI have confirmed that the permitted development will received a 45MW Connection @400mbar. This low pressure gas supply will be served through two streams at the following rated pressures and incoming service routes are shown in the following GNI network plans.

Stream A:
Outlet set pressure = 400mbar.
Relief set pressure = 592mbar.
Slamshut set pressure = 643mbar

Stream B:
Outlet set pressure = 360mbar.
Relief set pressure = 592mbar.
Slamshut set pressure = 693mbar

Please see the following site plans which show the local distribution network and proposed connection points for the development. The blue dotted lines are the GNI low pressure network to which the development will be connected.





2.19 ESB Flex Agreement

Flex power will be subject to the ESB Supply Terms and conditions, which is currently unknown and is therefore not considered to be a planning condition relevant for this application.

3.0 Response to Further Information Request No 4

3.1 Comment from Planner's Report

The applicant is requested to provide correspondence from the Commission for Regulation of Utilities/Eirgrid that connection is feasible and the timeline for the connection, as well as details of any consultation undertaken with these bodies. The applicant is also requested to provide any details of discussions with the EPA.

3.2 Response to Comment

The Client and Consultant Team have met with the Commission for Regulation of Utilities (CRU) and presented the case for consideration. The meeting took place on 7 September 2022 and the following people were present:

- Liz Kavanagh, CRU
- Lucy Cradden, CRU
- Maurice Mortell, Equinix
- Neil Clarke, RED Engineering

The CRU advised that due to the fact the development does not have a utility power connection they are unable to assess compliance with the CRU Directives for Data Centres. But in this particular case, the CRU advised that if the site does not have a power supply, then the Client can apply for a license authorising the power plant to be constructed and to generate power.

In order to obtain these licenses and this CRU approval, planning approval from SDCC is required.

We have had no direct discussions with EPA, but the Emissions and Air Quality Consultant has advised that the on-site CO₂ emissions will occur as a result of the proposed development. But whilst the operation of the proposed development would result in direct GHG emissions, these will be regulated under the Emission Trading Scheme (ETS) and thus impact to climate is deemed direct, negative, long-term and slight. Please refer to the Air Quality and Climate Assessment Report included within this response for further information regarding the Emissions Trading scheme and approach to achieving EPA compliance.

esbnetworks.ie



SINGLE COMMERCIAL/INDUSTRIAL PREMISES

ESB Networks DAC requires the information requested on this application form to enable us to set up and manage your electricity supply connection. As the Distribution System Operator, this information is also required to enable ESB Networks DAC to manage the electricity network. The data controller is ESB Networks DAC. Please refer to our privacy policy at https://esbnetworks.ie/privacy

APPLICATION FOR:	FOR OFFICIAL USE ONLY
Commercial/Industrial Connection X	Job no:
Increased Capacity (MIC)	Distance:R/U
Reduced Capacity (MIC)	MIC:MCC
Please fill in ALL sections in BLOCK CAPITALS	Contacted on:
1. APPLICANTS FULL NAME & SITE ADDRESS FOR CONNECTING (if a company or a partnership give full COMPANY OR TRADING	DN/MIC CHANGE
Moffash Ltd.	
Lisgrew, Emyvale	
Co. Monaghan	
VAT No 3260001JH Please ensure that	the correct title - Ltd. company / partnership / sole
trader is entered ab For MIC changes the applicants name and address must be as is reg	ove as the Final VAT invoice will icous in that
2. CONTACT NAME & ADDRESS FOR CORRESPONDENCE (if d	
Title: Mr X Mrs Ms Company / Other Moffash L	
Michaell Treanor	
Lli sgrew, Emyvalle	
Co. Monaghan	
Mobile number: 0 8 7 7 6 2 8 8 5 5 Landline:	
You will receive an SMS text to the mobile number provided above regard	ing your application
Email: Michaell@mtadvissorysegad	
3. OTHER CONTACTS	
Engineering Consultant: Mot t MacDonald I	r e a n d L t d .
Address: R o c k f i e I d , Du n d r u m , D u b	
0 4 0 0 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	an ryan@Mottinac.com
Electrical Contractor: Phor	ne Number:
4. NEW CONNECTION	
X New Stand Alone Commercial / Industrial Premises (Please see Note	1 on Posse 4)
Part of a Multi Unit Development (Please see Note 2 on Page 4)	i on Page 4)
A terminated MPRN is an installation that is disconnected greater that have the MPRN for this premises please insert here	1 two years and will be treated as a new connection. If you
Other (Please explain)	
EASTINGS: 3 0 4 0 2 4 NORTHINGS: 2 3	0 8 2 2 FOR NEW CONNECTIONS
Eastings and Northings refer to the Geographical location of your site from figures is not obligatory but it will help us to locate your site.	an Ordnance Survey mapping perspective. Filling in these
5. SITE LOCATION AND SITE PLAN	
New Connection / Terminated MPRN Please attach an Ordinance Sur	yey map (Scale 1:2500 1:10560) showing the leasting of
your site and a site plan (scale 1:100-1:500) showing the premises. Note: these maps.	We will not be able to process your application without
Name of local Authority and Planning Application Number	
S o u t h D u b I i n C o u n t y C o u n c	di

6. EXISTING CONNECTION		
INCREASE IN MIC REDUCTION IN MIC DU₀S GROUP CHAN	NGE ONLY	
Disease and the second		
MPRN must be registered in Applicant's Name for existing connection. If not please con	rage 4)	change
7. NATURE OF BUSINESS	nact your supplier to	Grange.
Dalt a Centre IIII		
eg. manufacturing, retail, heavy industry, etc.		
Expected energy usage Watts/m² 2 0 0 (Please consult your electrical contractor.)		
Production Hours 24 hours a day 7 days a week	52	weeks every year
8. LOAD DETAILS (Please complete as this is essential to the completion of your a		_ weeks every year
General Summary	Total Kilowatts	(FIAN)
Lighting	297	(Kee)
Heat Pumps	0	
Unrestricted Space Heating	0	
Night Storage Heating	0	
Water Heating	0	
Air Conditioned & Forced Ventilation	3762	
Refrigeration	0	
Cookers	0	
Other (Power System & IT loads)	1485 & 4356	3
Are you planning to install Electric Vehicle Charging Facilities? Yes No X		
Maximum Demand of EV Charging facilities (kW)		
Motive Power List the largest motor first followed by the smaller motor		
Motor Rating (More than 10kW) Starting Demand Amps Type of Starter (direct on line, slip ring, star-delta or soft electronic start) Type of Starter (direct on line, slip ring, star-delta or soft electronic start) Number of Starts Each Purpose or Compressor		Total kW
None	0	0
Notors less than 10kW		
None	0	0
Disturbing Loads		
Details of any welders, DC load, Thyristor controlled load or any load likely to cause voltage dis	sturbance	
Description kVA IT Loads	Quantity	Total kVA
11 Loads		4356
MAXIMUM IMPORT CAPACITY (MANDATORY: Applications cannot be processed)	d until this area is c	ompleted)
laximum Import Capacity (MIC) Required 9900 kVA		
ingle Phase X		
his figure should be based on the load details with diversity applied. Customers seeking an In- IIC required. A change in MIC may result in a tariff change from your supplier.	crease/Reduction shou	ıld state the new
O. MAXIMUM EXPORT CAPACITY (Please visit website esbnetworks.ie)		
	The second second	
laximum Export Capacity (MEC) Required kVA		
his is required if you intend to export electricity and or install embedded generation capacity		

Do you intend to have your own Standby Generation Yes X No Are you installing any other types of generation? Yes No X 13. ELECTRICITY SUPPLIER New Connections/Reconnections. This application is for an electricity connection only. When you receive your 11 digit MPRN from ESB Networks DAC you need to register with an electricity supplier. A list of electricity suppliers is available on CRU.ie
Are you installing any other types of generation? Yes No X 13. ELECTRICITY SUPPLIER New Connections/Reconnections. This application is for an electricity connection only. When you receive your 11 digit MPRN from ESB Networks DAC you need to register with an electricity supplier. A list of electricity suppliers is available on CRU.ie
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A list of electricity suppliers is available on CRU.ie
14. COMPLETION CERTIFICATE
TO TON CENTIFICATE
In the interest of Safety and good practice, your electrical installation must comply with the relevant standards approved by the Electro-Technical Council of Ireland (ETCI). All new connections to the Distribution System Operator system will require the submission of a Completion Certificate, recognised by ETCI, in respect of the installation. This certificate should be signed by either a contractor who is registered for this purpose by a licensed regulatory body or an inspector of such a body. ESB Networks DAC will not complete your connection until we are in receipt of a valid Completion Certificate. The occupier or owner of the premises is responsible for its safety.
15. ADDITIONAL INFORMATION (Please supply any additional information that may help us process this application)
16. SIGNATURE OF OWNER / AUTHORIZED SIGNATORY
Signed: Michael Treasor Full Name (BLOCK CAPITALS): MICHAEL TREASON
Position Held: COMPANY SECRETARY Date: 4/1/2078
You agree to let ESB Networks DAC connect the network to your equipment. You acknowledge that we are entitled to connect other customers to the network.
We may need evidence that you have the authority to sign this form. In relation to MIC changes, if you are a third party making this application please attach a letter of authority from the registered account holder.
DATA PROTECTION
ESB Networks DAC may use your personal data to the extent necessary (a) to set up and manage your connection agreement (b) for compliance with its licence and other legal obligations; and/or (c) for its legitimate interests (provided those interests do not conflict with your fundamental rights and freedoms) Personal data provided by you in this application form may be disclosed to other parties in the following
 In performing its functions, ESB Networks DAC may utilise the services of contractors or other suppliers. ESB Networks DAC may disclose your data to these parties to the extent necessary to perform their functions and provided they are only permitted to use your data as instructed by ESB Networks DAC. They are also required to keep your data safe and secure.
ESB Networks DAC may make available the existence, location and/or technical aspects of your connection to licensed electricity supply companies and other parties involved in your electricity supply. In the case of new connections, ESB Networks DAC will make available your telephone contact number to licensed electricity supply companies in order to facilitate expressions of the contact number.
 ESB Networks DAC may be required by law, or our license obligations, to provide data that ESB Networks DAC holds about you, your electricity supply or connection, to government agencies or departments, the Commission for Regulation of Utilities or other third parties.
 Contact details may also be provided to a professional third party market research company for the purposes of researching your satisfaction with the services provided by ESB Networks DAC. This information may also be used to enhance our services as the Distribution System Operator.
NB PLEASE REMEMBER TO:
Sign and Date the Application Form Include your O.S. map and site plan for New Connection / Terminated MPRN Include your MPRN if it is a terminated installation or an increase/decrease in connection Fill in Load details in Section 8 Fill in your MIC in Section 9 Fill in all contact details (a valid telephone number is essential)

PLEASE RETURN FORM TO:

ESB NETWORKS DAC, NEW CONNECTION APPLICATIONS, SARSFIELD ROAD, WILTON, CORK. T12E 367
Thank you for taking the time to fill out this application in full.

Incomplete applications will be returned. If applying for a new connection be sure to enclose maps as stated in section 5.

Business Application General Notes

NB: These notes are intended as a general guide. Please refer to the ESB Networks DAC website for a more detailed description of the application process: esbnetworks.ie

NOTE 1

- In the instance of a green field/stand alone application for a new connection where the MIC (Maximum Import Capacity) exceeds 150kVA, the
 customer will be required to provide a substation building on site.
- In the instance of a request for new/increased MIC in an existing development a substation building may be required. Please check with local office prior to making application.
- Where a substation building is required, electronic maps and paper copies of same should accompany all new applications.

 Email: developmentmaps@esb.ie

NOTE 2

- Applicants for a unit in an existing development should contact the developer/builder/management company for the relevant MPRN for the premises.
- The MPRN details contain the MIC and DUoS group for the premises.
- You will need to contact ESB Networks DAC if the MIC for the premise concerned differs from your requirements, and complete this
 application form (NC3) for any change required.
- Please contact your supplier of choice for registration of the MPRN, if the details on your MPRN are correct. The list of suppliers is available on CRU.ie
- Splitting existing units into further units requires completion of this application form (NC3) in total, including electronic/paper maps.
 Email: developmentmaps@esb.ie

NOTE 3

- ESB Networks DAC assigns a DUoS charge which is dependant on the MIC requested. Please see our website for further info: esbnetworks.ie
- 15kVA to 49kVA connections receive DUoS group DG5.
- Connections in excess of 49kVA Low Voltage receive DUoS group DG6.
- All MV Connections receive DUoS group DG7/DG8

MAXIMUM IMPORT CAPACITY (MIC)

What is it?

We offer customers a Connection designed around a specified capacity. The capacity of your connection is the total electrical loading for which your connection is designed. Capacity is measured in kilovolt-amps (kVA). A kilovolt-amp is similar to a kilowatt. The capacity level for customers is described as the Maximum Import Capacity (MIC).

Business customers agree a level with ESB Networks DAC according to their specific requirements.

Why is it important?

When applying for a connection, the most important decision is the capacity level you require. The capacity of your connection – Maximum Import Capacity – is an important figure for several reasons:

- This is the capacity that ESB Networks DAC commits itself to maintain to your premises at the connection point.
- The MIC places an upper limit on the total electrical load you can use in your premises.
- The chosen MIC is a factor in determining the cost of a connection and also ongoing DUoS (use of system) charges.
 These charges are published in our Statement of Charges document which is available for download from esbnetworks.ie.

How to estimate your capacity requirement

Ultimately each customer must choose the capacity which meets his/her needs. It will most likely be a much lower quantity than the sum of kilowatt ratings of all the equipment you plan to install. You may wish to discuss your required MIC further with your electrical contractor/consultant.

NOTE 4

Safety Message

- If there are any overhead electricity lines on the site these may need to be diverted or put underground before any construction works commence. Requests for line alterations should be made to ESB Networks DAC at an early stage - see esbnetworks.ie for advice on how to initiate such requests.
- Refer to the HSA Approved "ESB Networks Code of Practice for Avoiding Danger from Overhead Electricity Lines" for safety guidance
 in relation work in the vicinity of overhead lines available on the HSA and ESB Networks DAC websites or order free printed copies from
 ESB Networks DAC. Tel. 1850 372 757.
- Refer to "HSA Code of Practice for Avoiding Danger from Buried Services" for safety guidance in relation to underground electricity cables available on the HSA website.
- ESB lines/cables map records are available from ESB Networks Central Site at Fax. 01-6388169 or by email to: dig@esb.ie.

PLEASE REMEMBER!

DON'T BUILD UNDER OR NEAR ELECTRICITY WIRES

STAY SAFE STAY CLEAR

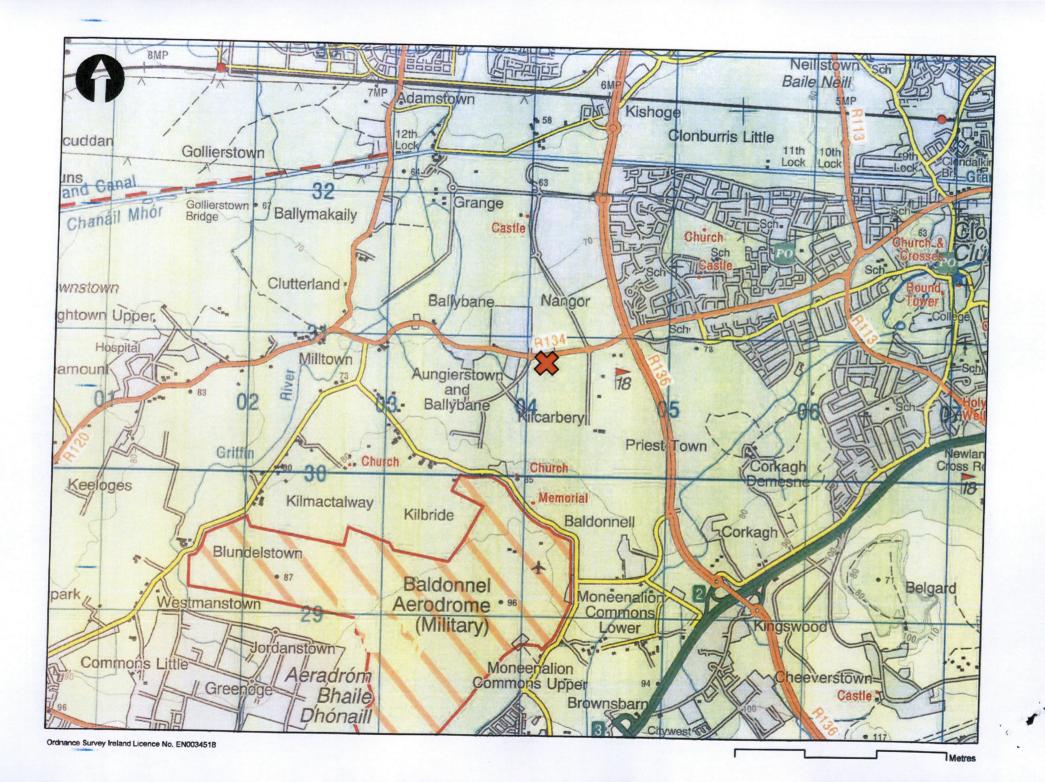
OF ELECTRICITY WIRES

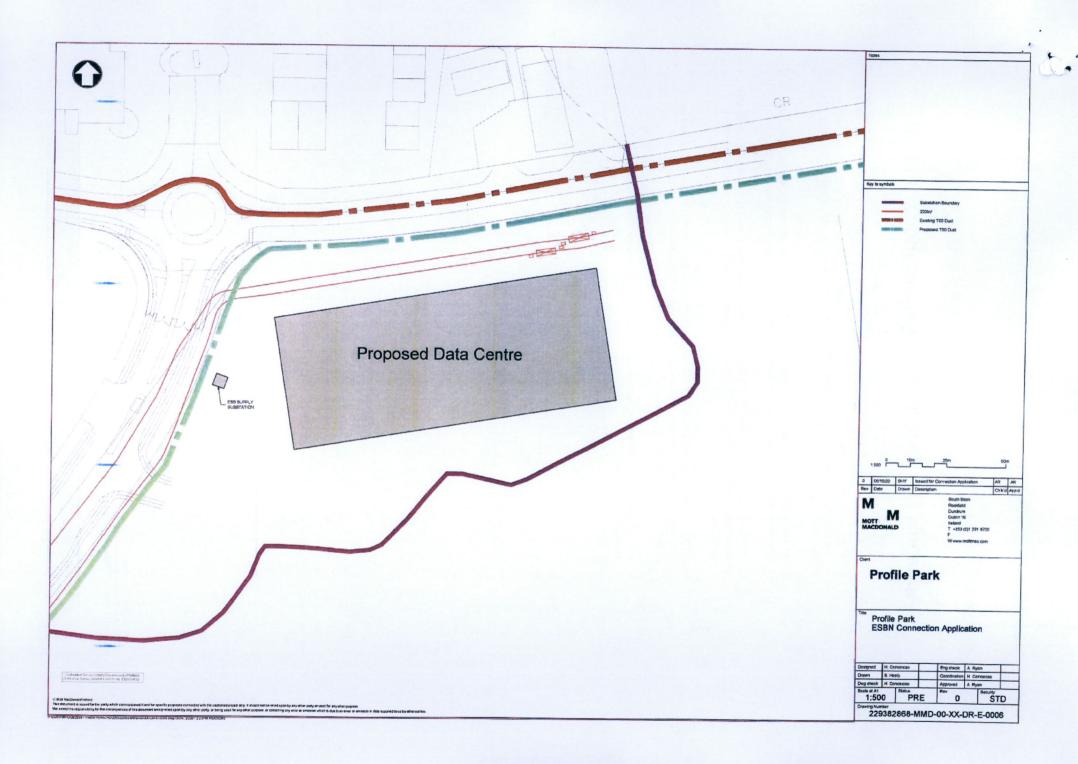
ESB Networks DAC

DIRECTORS: Jerry O'Sullivan (Chairman), Paddy Hayes, Paul Mulvaney, Caroline Spillane, Ian Talbot.

Registered Office: Clanwilliam House, Clanwilliam Court, Dublin 2, Do2 CV61, Ireland

Registered In Ireland No. 465172





Appendix B – History of Communication with ESB

- 15 February 2021 Email received from ESB that application for supply was now live in their system
 and that they would seek approval from EirGrid for this application and the process would likely
 exceed 90 days.
- 17 May 2021 Following the 90 day period we contacted ESB for an update and were advised that Eirgird would need to undertake a network study and this could take several more months.
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- 20 September 2022 No further updates or information received from ESB regrading the application for power.

CLARKE Neil (RED)

From:

Melissa Hynes <melissa.hynes@calleng.ie>

Sent: To: 01 April 2021 13:07 CLARKE Neil (RED)

Cc:

Shane Byrne

Subject:

Planning Application No.?

From SDCC, planning reference number is PP013/21.

From: David Byrnes <david.byrnes@esb.ie>

Sent: 15 February 2021 15:15

To: Melissa Hynes <melissa.hynes@calleng.ie> **Cc:** Pauric McEvoy <pauric.mcevoy@esb.ie>

Subject: RE: Equinix Datacentre

Thanks Melissa,

We will now set this application up on our system and will revert with a connection method. As discussed with Maurice recently this application will require a connection agreement from EirGrid so we would expect the process to exceed the 90 days.

Regards

Dave Byrnes | New Business | T: +353 87 2543441 | www.esbnetworks.ie

From: Melissa Hynes < melissa.hynes@calleng.ie >

Sent: Friday 12 February 2021 14:16

To: Byrnes. David (ESB Networks) < <u>david.byrnes@esb.ie</u>> **Cc:** McEvoy. Pauric (ESB Networks) < <u>pauric.mcevoy@esb.ie</u>>

Subject: Equinix Datacentre

CAUTION: This email is from an external sender. If you are unsure about any links or attachments, please forward it to ESB Cybersecurity Operations at spammonitor@esb.ie

Hi David,

Please see attached planning acknowledgement for the Equinix datacentre as discussed previously.

Would you be able to address Sarah's query below?

Thanking you.

Kind Regards, Melissa

From: Sarah Davey

Sent: 11 February 2021 11:43

To: Melissa Hynes; Suzanne McClure; Jim Sulliyan

Cc: michael.swann@red-eng.com; Declan Hughes; thomas.cumming@red-eng.com; Hilton.McAvinchey; Maurice

Mortell; Johan Veulemans; Paul Wright; Cristina Alonso; Wayne Aston **Subject:** FW: Acknowledgement of request for Pre-Planning Consultation

Hi Melissa,

Please could you pass the planning acknowledgement to ESB so we can continue with the power application Moffash started. Can I confirm that this should start their 90 days review of the actual power request?

Please let me know what feedback you get from them/any questions.

Thanks @Suzanne/@Jim for progressing to this stage.

Thanks, Sarah

Sarah Davey

d: +44 191 238 7491 ex: 87491

m: +44 7973 797 207

From: Suzanne McClure < suzanne@brockmcclure.ie>

Sent: 11 February 2021 11:27

To: Sarah Davey < Sarah. Davey@arup.com >

Cc: Jim Sullivan < jsullivan@rkd.ie>

Subject: [External] FW: Acknowledgement of request for Pre-Planning Consultation

Hi Sarah,

Please see attached acknowledgement from SDCC of our Pre Planning Submission.

We have a reference number - PP013/21.

Kind regards

Suzanne

Suzanne McClure

Brock McClure
Planning & Development Consultants
63 York Road
Dún Laoghaire
Co. Dublin

Suzanne@brockmcclure.ie

+353 86 233 6112

+353 1 559 3859

Please note we have implemented a remote working policy until further advised.

We are available on our mobiles, and can continue to respond to all queries as required.

From: Planning - Pre-Planning < preplanning@SDUBLINCOCO.ie preplanning@SDUBLINCOCO.ie

Date: Thursday 11 February 2021 at 11:22

To: Suzanne McClure < suzanne@brockmcclure.ie >

Subject: Acknowledgement of request for Pre-Planning Consultation

Please see attachment.

Kind Regards
Julie Cummins



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Is tuairimí nó dearcthaí an údair amháin aon tuairimí nó dearcthaí ann, agus ní gá gurb ionann iad agus tuairimí nó dearcthaí ESB.

Má bhfuair tú an ríomhphost seo trí earráid, ar mhiste leat é sin a chur in iúl don seoltóir.

Scanann ESB ríomhphoist agus ceangaltáin le haghaidh víreas, ach ní ráthaíonn sé go bhfuil ceachtar díobh saor ó víreas agus ní glacann dliteanas ar bith as aon damáiste de dhroim víreas.

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CLARKE Neil (RED)

From: Byrnes. David (ESB Networks) <david.byrnes@esb.ie>

 Sent:
 17 May 2021 11:51

 To:
 CLARKE Neil (RED)

Cc: Sarah.Davey@eu.equinix.com; MILLWARD Jeff (RED); Shane Byrne; McEvoy. Pauric

(ESB Networks); Graham. Peter (ESB Networks)

Subject: A RE: DB8 Equinix Data Centre - Power supply Application

Neil,

All well thanks. Hope you are too.

In order to complete the DSO (ESB Networks) network study a TSO (Eirgrid) planning study will be required in order to confirm the appropriate connection method and the conditions of connection may be amended by the TSO study. While we do not currently have a definitive timeline for the TSO study to be completed, it is likely that it will not be completed for a period of up to several months. For the avoidance of doubt, the DSO connection offer can only issue following completion of the TSO study and the details of the study are made known to the DSO.

I hope this helps and please feel free to contact me directly if you have any further queries.

Regards

Dave Byrnes | New Business | T: +353 87 2543441 | www.esbnetworks.ie

From: neil.clarke@red-eng.com <neil.clarke@red-eng.com>

Sent: Monday 17 May 2021 06:50

To: Byrnes. David (ESB Networks) <david.byrnes@esb.ie>

Cc: Sarah.Davey@eu.equinix.com; jeff.millward@red-eng.com; shane.byrne@calleng.ie

Subject: DB8 Equinix Data Centre - Power supply Application

Good morning David,

Trust you are well.

We have now just passed the 90 day period since we made our application. Could you please advise the status of the application and if there is any further information required from our side to complete the process?

Kind Regards

Neil Clarke

Regional Director - EMEA

RED

m: +44 7435 924 822

CLARKE Neil (RED)

From: McEvoy. Pauric (ESB Networks) <pauric.mcevoy@esb.ie>

 Sent:
 26 May 2022 09:22

 To:
 CLARKE Neil (RED)

 Cc:
 MILLWARD Jeff (RED)

Subject: ⚠ RE: DB8 Equinix Data Centre - Power supply Application

Neil,

At this point in time all Data Centre applications to the DSO Network are paused to allow discussing between ESB Networks, EirGrid and the CRU to take place, following the publication of the CRU direction on Data Centres. ESB Networks will write to all our Data Centre applications and explain how to move forward with each application once these discussions are concluded. The Equinix Data Centre application will be one of these applications that we will respond on. We hope to be in a position to issue a more detailed response in a couple of weeks.

Regards, Pauric.

From: neil.clarke@red-eng.com <neil.clarke@red-eng.com>

Sent: Wednesday 25 May 2022 15:24

To: McEvoy. Pauric (ESB Networks) pauric.mcevoy@esb.ie>

Cc: jeff.millward@red-eng.com

Subject: FW: DB8 Equinix Data Centre - Power supply Application

Pauric,

Further to our Client's email to you below, can you please advise the status of the application for power supply?

Kind Regards

Neil Clarke

Regional Director - EMEA



m: +44 7435 924 822

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From: Johnny Saliba < Johnny. SALIBA@eu.equinix.com>

Sent: 13 April 2022 13:29 To: david.byrnes@esb.ie

Cc: Sarah Davey <<u>Sarah.Davey@eu.equinix.com</u>>; MILLWARD Jeff (RED) <<u>jeff.millward@red-eng.com</u>>; BYRNE Shane (Callaghan RED) <<u>shane.byrne@calleng.ie</u>>; <u>pauric.mcevoy@esb.ie</u>; <u>peter.graham@esb.ie</u>; CLARKE Neil (RED) <<u>neil.clarke@red-eng.com</u>>; Maurice Mortell <<u>Maurice.Mortell@eu.equinix.com</u>>; Cristina Alonso <<u>Cristina.Alonso@eu.equinix.com</u>>; Graham Kelly <<u>graham.kelly@eu.equinix.com</u>>

Subject: A RE: DB8 Equinix Data Centre - Power supply Application

Dear Mr Byrnes

EQUINIX would like to receive from ESB a final statement on this Power Supply Application.

As a matter of fact, Irish press including RTE and the Business Post are reporting that EirGrid has confirmed that it will not connect new data centers in Dublin for 'the foreseeable future' and possibly until 2028. Data center applications already in the pipeline will be progressed.

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EQUINX is submitting a permit for the construction of an On Site Power Generation Plant off grid to bridge the gap until EIRGRID/ESB can propose grid connections.

In order to proceed to our permitting submittal, we would like to have final statement from ESB on our Power Supply Application for DB8

Looking forward to receiving your statement at your earliest convenience. And will be happy to organize a call

Best Regards

Johnny SALIBA

Senior Director, MCE CM & Grid Solutions

EQUINIX | 114 Rue Ambroise Croizat, 93200 St. Denis, Paris, France

E johnny.saliba@eu.equinix.com | M+33 6 30 14 14 22



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From: CLARKE Neil (RED) < neil.clarke@red-eng.com>

Sent: Monday, May 17, 2021 12:52 PM

To: david.byrnes@esb.ie

Cc: Sarah Davey < Sarah. Davey@eu.equinix.com >; MILLWARD Jeff (RED) < Jeff.millward@red-eng.com >; Shane Byrne

<shane.byrne@calleng.ie>; pauric.mcevoy@esb.ie; peter.graham@esb.ie
Subject: [EXTERNAL] RE: DB8 Equinix Data Centre - Power supply Application

Thanks for the update David.

Kind Regards

Neil Clarke

Regional Director - EMEA



m: +44 7435 924 822

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From: Byrnes. David (ESB Networks) < david.byrnes@esb.ie>

Sent: 17 May 2021 11:51

To: CLARKE Neil (RED) <neil.clarke@red-eng.com>

Cc: Sarah.Davey@eu.equinix.com; MILLWARD Jeff (RED) < jeff.millward@red-eng.com >; Shane Byrne

<shane.byrne@calleng.ie>; McEvoy. Pauric (ESB Networks) pauric.mcevoy@esb.ie>; Graham. Peter (ESB Networks)

<peter.graham@esb.ie>

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I hope this helps and please feel free to contact me directly if you have any further queries.

Regards

Dave Byrnes | New Business | T: +353 87 2543441 | www.esbnetworks.ie

From: neil.clarke@red-eng.com <neil.clarke@red-eng.com>

Sent: Monday 17 May 2021 06:50

To: Byrnes. David (ESB Networks) < david.byrnes@esb.ie>

Cc: Sarah.Davey@eu.equinix.com; jeff.millward@red-eng.com; shane.byrne@calleng.ie

Subject: DB8 Equinix Data Centre - Power supply Application

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Kind Regards

Neil Clarke

Regional Director - EMEA



m: +44 7435 924 822

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CLARKE Neil (RED)

From: McEvoy. Pauric (ESB Networks) <pauric.mcevoy@esb.ie>

 Sent:
 03 August 2022 11:43

 To:
 CLARKE Neil (RED)

Cc: MILLWARD Jeff (RED); Daragh.Campbell@eu.equinix.com; Kelly. Mark (ESB

Networks)

Subject: A RE: DB8 Equinix Data Centre - Power supply Application

Morning Neil,

Apologies I missed your call.

Per previous communications on this issue, you will be aware that we are required to obtain an agreement from EirGrid in order to connect Datacentres to the distribution system. We have had discussions with EirGrid over the last number of months as to how the process for managing DC applications would need to be revised in light of the CRU DC Direction. These discussions have now concluded and we are meeting CRU later this month to clarify a final number of points raised in discussions with EirGrid. We therefore should be in position to provide a more detailed update in a few weeks explain what this direction means all affected sites/applications.

Regards, Pauric.

From: neil.clarke@red-eng.com <neil.clarke@red-eng.com>

Sent: Tuesday 2 August 2022 11:56

To: McEvoy. Pauric (ESB Networks) <pauric.mcevoy@esb.ie>
Cc: jeff.millward@red-eng.com; Daragh.Campbell@eu.equinix.com
Subject: RE: DB8 Equinix Data Centre - Power supply Application

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Pauric,

Trust you are well.

I just left a message on your cell phone, could you please provide an update on the current status of our power supply application.

Kind Regards

Neil Clarke

Regional Director - EMEA

RED

m: +44 7435 924 822

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From: McEvoy. Pauric (ESB Networks) < pauric.mcevoy@esb.ie>

Sent: 26 May 2022 09:22

To: CLARKE Neil (RED) < neil.clarke@red-eng.com Cc: MILLWARD Jeff (RED) < jeff.millward@red-eng.com

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Kind Regards

Neil Clarke

Regional Director - EMEA



m: +44 7435 924 822

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From: Johnny Saliba < Johnny.SALIBA@eu.equinix.com >

Sent: 13 April 2022 13:29 To: david.byrnes@esb.ie

Cc: Sarah Davey < Sarah. Davey@eu.equinix.com >; MILLWARD Jeff (RED) < jeff.millward@red-eng.com >; BYRNE Shane

(Callaghan RED) <shane.byrne@calleng.ie>; pauric.mcevoy@esb.ie; peter.graham@esb.ie; CLARKE Neil (RED)

<neil.clarke@red-eng.com>; Maurice Mortell <Maurice.Mortell@eu.equinix.com>; Cristina Alonso

<<u>Cristina.Alonso@eu.equinix.com</u>>; Graham Kelly <<u>graham.kelly@eu.equinix.com</u>>

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Best Regards

Johnny SALIBA

Senior Director, MCE CM & Grid Solutions

EQUINIX | 114 Rue Ambroise Croizat, 93200 St. Denis, Paris, France E johnny.saliba@eu.equinix.com | M+33 6 30 14 14 22



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<shane.byrne@calleng.ie>; pauric.mcevoy@esb.ie; peter.graham@esb.ie

Subject: [EXTERNAL] RE: DB8 Equinix Data Centre - Power supply Application

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Kind Regards

Neil Clarke

Regional Director - EMEA



m: +44 7435 924 822

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Appendix C – GNI Application Form and Connection Details



Agreement for the installation of natural gas pipeline and apparatus in respect of industrial and commercial connection(s)



Agreement for the installation of natural gas pipeline and apparatus in respect of industrial and commercial connection(s)

	Block capitals only
Project Number	45489517 - (DB08 - Natural Gas Supply to Equinix Ireland Limited)
Applicant(s) Name	Equinix Ireland Ltd
Registered Office	Equinix Ireland Ltd, Units 6 & 7 Kilcarbery Business Park, Nangor Road, Dublin 22.
Address for Gas Installation	DB08: Plot 100, Profile Park, Nangor Road, Baldonnell, Dublin 22, Ireland
Number of Units	Connecting to the existing 4 bar distribution network, as per attached proposal letter and Plan
Specification, a co	te to the installation of a gas supply to the above site in accordance with the Plan and copy of which is attached hereto on the terms and conditions herein and agree to pay 4.64 € (inclusive of VAT @ 13.5 %) ("the Contract Sum") as a non-refundable the capital cost to be incurred by Gas Networks Ireland in relation to the installation.
Signed for and on behof the Applicant I	Maurice Mortell /1000 100 1101 000
	Authorised Official/Company Secretary/Director
Witnessed b	oy Cristina Alonso
Address of Witnes	Equinix Ireland Ltd, Units 6 & 7 Kilcarbery Business Park, Nangor Road, Dublin 22.
Da	te 23 November 2021

Conditions



- 1 The applicant warrants that it is the freehold owner of the site, which it wishes to have supplied with gas and shall on request execute a deed of easement in the format laid down by Gas Networks Ireland from time to time and preserve the title of Gas Networks Ireland to any mains or pipes installed on the property of other persons.
- 2. The applicant agrees to comply with all applicable statutes, directions, byelaws or other lawful requirements or instruction, whether of government or of any local or other lawful authority and agrees to obtain all necessary licences, permits or authorities that may be required for the installation.
- 3 The connected unit(s) will commence using gas within 6 months of the completion of the installation otherwise any discount will become payable.
- 4 Gas/installation downstream of meter shall be the sole responsibility of the applicant.
 - (a) Downstream installation must conform to I.S. 820 & I.S. 813.
 - (b) A declaration of conformance to I.S. 820 & I.S. 813 must be obtained and provided to Gas Networks Ireland by the applicant.
- 5 The position of the gas main in relation to other services to be agreed before pipe laying commences.
- 6 Only meter compartments approved by Gas Networks Ireland can be used on the development.
- 7 The applicant will not deviate from the plans and specification without the prior consent of Gas Networks Ireland.
- **8** Prior to construction commencing on site, a meeting to be held with Gas Networks Ireland sales and construction staff to agree construction procedures and programme.
- 9 (a) The applicant will be solely responsible at all times for maintaining and keeping excavations and reinstatements in a safe and secure condition and will indemnify and keep indemnified Gas Networks Ireland, its servants, agents and contractors against all claims, demands, proceedings, damages and expenses whatsoever in respect thereof.
 - (b) Gas Networks Ireland shall not be liable for any claim, whether brought against the applicant or against Gas Networks Ireland, either under any statute or common law by any person arising from any cause other than Gas Networks Ireland negligence or that of its employees and the applicant shall indemnify Gas Networks Ireland against any such claim and the costs of any legal proceedings.
 - (c) The applicant will effect insurance to cover the liability undertaken by the applicant under this clause and will, upon the request of Gas Networks Ireland at any time, produce for inspection the relevant policy and the receipt for premium paid.
- 10 Payment of all sums due to Gas Networks Ireland shall be made on the due date and any overdue accounts shall be subject to an interest payment at the rate of 2% per month or part thereof until payment.
- 11* The gas meter (meters) will only be fitted on completion of a gas supply agreement with the applicants gas supplier. The gas supplier will agree the meter fit date with Gas Networks Ireland
- 12 Gas Networks Ireland shall make all reasonable efforts to complete the installation in accordance with the agreed programme but Gas Networks Ireland shall not be liable for any loss or damage suffered by the applicant in respect of delays resulting from any cause whatsoever.
- **13** (a) The contract sum shall be adjusted by the amount of any increase in the cost to Gas Networks Ireland of performing this connection due to increases after the date of this agreement.
 - (b) The contract sum shall be adjusted by the amount of any increase to the cost to Gas Networks Ireland of performing this agreement due to any alteration after the date of this agreement in the rate of VAT.
 - (c) The applicant shall indemnify Gas Networks Ireland against any costs, expenses, fees or charges under any enactment or any instrument, rule or order made under any enactment and any regulations and bye-laws of any local authority in connection with the installation.
 - (d) The applicant shall indemnify Gas Networks Ireland against all costs, expenses, fees or charges arising in connection with any archaeological investigation of the installation work.
- 14 The contract sum covers the items of the specification only and unless otherwise expressly stated, does not include any of the following ancillary works required to be carried out by other trades, supply and use of access of or lifting equipment, fuel, water, gas or electric current, lighting, fees of surveyor, insurance inspectors or any other inspecting authority, excavation, reinstatement or maintenance of any trench.
- 15 Gas Networks Ireland reserves the right to employ sub-contractors to carry out the whole or part of the work.
- All apparatus, pipelines and materials delivered to the site shall be at the risk of the applicant. In the event of any loss or damage from any cause whatsoever to the said apparatus, pipelines or materials (other than arising from the negligent act or omission of Gas Networks Ireland) the applicant shall indemnify Gas Networks Ireland in respect thereof.
- 17 Gas Networks Ireland will repair, or at its option, replace free of charge any materials or work found to be defective, if the defect is due to faulty manufacture or workmanship and is brought to its attention within 12 months of the completion of the work provided nevertheless that Gas Networks Ireland:
 - (a) Shall not be liable for any consequential loss or damage caused directly or indirectly by any defect or otherwise,
 - (b) Shall not be liable for loss or damage direct or indirect from any extra work entailed due to the apparatus being put into operation by the applicant or by Gas Networks Ireland at its request before it is handed over for beneficial use;
 - (c) Accepts no responsibility for any drawing, design or specification not prepared by Gas Networks Ireland.
- 18 Unless expressly stated the plans and specifications shall not be binding as to detail.
- 19 (a) The title to and ownership of all apparatus and pipelines installed or to be installed at the site will at all times remain and vest in Gas Networks Ireland.
 - (b) The applicant shall not do or cause or permit to be done anything which causes damage or destruction to any apparatus or pipeline, interferes with its operation or materially interferes with Gas Networks Ireland access to same.
 - (c) Gas Networks Ireland shall have the right to install and keep installed, maintained, operate and repair the apparatus and pipeline and carry out work relating to the installation, maintenance, inspection, alteration, removal, extension and replacement of the apparatus and pipeline.
- 20 Gas Networks Ireland shall be entitled to terminate this agreement without liability by written notice to the applicant if in the opinion of Gas Networks Ireland it is not practicable or economic to provide the gas installation. In the event that Gas Networks Ireland exercises its right to terminate, then Gas Networks Ireland shall return the contract sum to the applicant.
- Gas Networks Ireland a designated activity company, limited by shares, incorporated in Ireland with registered number 555744 and having its registered office at Gasworks Road, Cork T12 RX96. The rights and obligations of Gas Networks Ireland under this agreement are exercised and carried out by Gas Networks Ireland pursuant to and in accordance with law and approved by the Commission for Energy Regulation. Once the installation has been completed and you have been connected to natural gas the Gas Networks Ireland Conditions for Gas Users at Non-Daily Metered (NDM) Offtake Points, attached to these Conditions, will supersede these Conditions and will govern our relationship for so long as the Premises remains connected to the gas network. If you are a Local Authority you will ensure that the resident at the Premises is furnished with a copy of the Gas Networks Ireland Terms and Conditions for Gas Users at Non-Daily Metered (NDM) Offtake Points, attached to these Conditions, and that the resident is advised that those conditions will supersede these Conditions and will govern our relationship with the resident for so long as the Premises remains connected to the gas network.

The demand information provided by Equinix Ireland Limited in year 7 is shown below:

Estimated Annual Consumption (EAC): 9,000,000 kWh
 Peak Day (Exit Capacity): 675,000 kWh
 Maximum Hourly Quantity (MHQ): 45,000 kWh

Should you wish to advance with the connection, Gas Networks Ireland will require:

- Equinix Ireland Limited to return a completed "Agreement for the installation of natural gas pipeline and apparatus in respect of industrial and commercial connections"
- Payment in full of the estimated cost of €57,466.64 ex VAT (13.5%)

The estimated programme for the project, from conclusion of the contractual arrangements to commissioning of the supply on site, is expected to be approximately 10 months.

This offer is valid for 3 months from the date outlined above.

If you have any queries in relation to this or wish to discuss further, please do not hesitate to contact me.

Kind Regards,

Sean Crowley, LIC Sales Manager, Gas Networks Ireland



EQUINIX (IRELAND) LIMITED 7 Kilcarbery Park Nangor Road Dublin 22

Ireland Tel: +353 (0)1 461 1200 Email: www.equinix.com IE6343301G

GAS NETWORKS IRELAND NA NA NA IE

REMITTANCE ADVICE				
Contact Email <u>emea.vendor.support@eu.equinix.com</u>				
Payment Number	2301005932			
Payment Date	06/12/2021			
Bank Account Detai	ls			
Bank Name AIB BANK				
Account#	XXXX1658			
IBAN#	XXXXXXXXXXXXXXXXXX1658			
SWIFT/BIC#	AIBKIE2D			

Invoice Number	Invoice Date		Amount
45489517	23/11/2021		65,224.64
		EUR Total	65,224.64

Please allow at least three working days for the cleared funds to reach your account