

NEW LARGE LOAD CONNECTIONS RE-OPENER (NLLR) EXECUTIVE SUMMARY

January 2024



Large Load Connections Re-opener (NLLR)

Document Control	
Document Reference	Special Condition 3.22 – Summary
Document Title	New Large Load Connections Re-opener (NLLR)
Version	3.0
Owner	Gareth Robinson
Document Classification	Confidential

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Version Control			
Version	Date	Author	Summary of changes
1.0	12/12/2023	AF/GR	First draft
2.0	08/01/2024	AF/GR	Second draft including stakeholder review comments
3.0	12/01/2024	AF/GR	Final draft for internal circulation

Document Security

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Parts of the summary document have been redacted due commercial sensitivity, appendix A has been redacted due to commercial sensitivity and appendix B due to confidentiality.

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2. Introduction

This document and the associated appendices are WWU's (Wales & West Utilities) submission to Ofgem, requesting an adjustment to our RIIO-GD2 allowances related to Special Condition 3.22 – Appendix A - New Large Load Connections Re-opener (NLLR).

This request reflects expenditure required where the connection of New Large Load Connections triggers specific reinforcement that cannot be recovered through the Connection Charge and that were not known at the time of the RIIO2-GD2 Business Plan submission, but which are required now to meet the needs of stakeholders.

3. Core narrative

The following projects were not included in our RIIO-GD2 Business Plan because of a number of factors with the key reasons being the projects were known at the time and if the projects were known there was uncertainty over the timing and costs to be included in a 'Large Load' Re-opener seeking to recover the spend for the reinforcement, the connection request needs to pass the following criteria:

1. $>1,500\text{scmh}^{-1}$
2. Not included and funded in our RIIO-GD2 Business Plan
3. All options to make the capacity available are considered.
4. The new load and associated reinforcement have been assessed using the Economic Test. The Economic Test is a financial assessment tool to ensure that Wales & West Utilities meet their obligations under the Gas Act to develop an efficient and economic system and comply with reasonable requests to connect to our system. The model is used to identify new requests for capacity where the required investment would be considered uneconomic and avoids the need for existing customers to subsidise the new load.
5. Proof that any costs incurred were efficient.
6. Total spend (£3.5m actuals and £7.2m forecast for the remainder of RIIO-GD2) on large loads is greater than £3.85m trigger threshold (aggregated) in RIIO-GD2

All projects included within this summary paper and within supporting appendices (available upon request) and meet the eligibility criteria set out within the scope of this re-opener.

This summary paper includes high level details for the projects listed in the table 1 below:

Large Load Connections Re-opener (NLLR)

Project	Actual / Forecast Cost for re-opener £000's ¹	Load (scmh ⁻¹)	Connected / Completed Year
1	■	4,154	2022
2	■	2,077	2023
3	■	7,000	2023
4	■	3,600	2024
5	■	10,569	2025
6a	■	12,900	2025
6b		6,998	2025
7	■	91,386	2025
8	■	6,125	2025
9	■	18,462	2026
10	■	3,900	2026
11	■	5,077	2026
12	■	4,195	2026
13	■	9,812	2026
	10,658		

Table 1

4. Consumer Benefit

Operating under the Gas Act, we have an obligation to develop and maintain an efficient and economic pipeline system and, subject to that, to comply with any reasonable request to connect premises.

For certain projects, there is insufficient capacity in our existing network to allow connection of new gas demands and specific system reinforcement is required before any connections are made. If connections were made without reinforcement, network pressure would drop below the safe limits for appliances to operate, resulting in un-planned gas interruptions and potentially unsafe situations in consumer properties.

We consider many options to resolve any capacity constraints and will normally select the one that meets customer requirements and our statutory obligations and is anticipated to have the lowest overall whole life cost of construction and maintenance.

The requirement for reinforcement is identified using Network Analysis (NA) models that predict gas flows and pressures and can simulate the impact of any change, such as connecting additional gas demands. If, when assessing the impact of new connections, the models predict pressures that fall below statutory minimum requirements, this triggers an optioneering process to find solutions that resolve the capacity issue. This is required as, in addition to our own safety and reliability commitments to our consumers, we have a licence condition (Standard Special Condition A9: Pipe-Line System

¹ All costs provided above and included in this summary are 18/19 prices.

Security Standards) to ensure security of supply in peak 1 in 20 conditions i.e. the highest demand conditions we'd expect to see on any one day over a 20 year period.

Therefore, the consequences of the do-nothing option and not processing these projects is we would be in breach of our licence obligations under section 10 of the Gas Act for offering a new connection service and its obligation for developing and maintaining an efficient and economic pipeline system and maintain statutory network pressures.

The development sites itemised in this submission are all known to provide new employment for the area with gas connections being one of the cleanest available sources of power and heat.

Successful completion of projects 1 - 12 results in improving the reliability of the gas network should a critical damage occur on the network and provide resilience to the Electrical Grid (EG) during times of peak demand and provide firm generation capacity when needed to support decarbonisation of electricity generation. Project 13 is a large load connection project for a commercial process load.

For power generation sites the projects will meet stakeholder requirement allowing them to either enter capacity auctions or secure contracts the local DNO's. If successful sites can develop in the timescales required and provide firm generation capacity when needed to support decarbonisation of electricity generation.

5. Options Selection

For each project, we conducted an options analysis using NA modelling tools to identify the least cost option for connecting the required load. Each option is subject to a comprehensive challenge and review session to identify engineering difficulties both internally and externally from independent design houses we engage with to complete Feasibility and Detail Design Studies. The guidance asks for a do minimum option and an option to delay the proposed capital expenditure, please see footnotes below for further comment.²³

Detail for each project is included in the appendices. The following options are considered before arriving at the final and optimum solution to provide the required capacity:

- i. Pressure elevation of network(s). This is where network pressures are elevated to enable greater flows. This needs to be balanced with the level of metallic mains present and anticipated increases in emissions and leakage.
- ii. Connect to other pressure tiers. This is where higher-pressure tiers are available and near the source of new demand.
- iii. Linking areas of demand. This is to balance the network and provide capacity for the new demand.
- iv. Interruption of eligible supply points
- v. Pipe / Above Ground Installations (AGI reinforcement of the network to supply the load.

² The guidance document 3.23 asks for a 'do minimum' option to function as a counterfactual to demonstrate the fiscal impact of no additional investment or programme expenditure taking place. For connections this is not feasible as the options are connect and risk a breach of SSpc A9 or not to connect and breach Gas Act section 9.

³ The guidance document paragraph 3.23 asks for an option to delay proposed capital expenditure recognising the option value of such delay. Clearly this is not feasible as it would mean reinforcing after the connection is made risking a breach of SSpc A9.

6. Preferred Option

See Appendix 1 and 2 for a detailed summary of each project and our planning documents that supports the NA Policy and Management Procedures.

Not all schemes require approval via our Executive Committee. However, each project listed in this paper would have been subject to our internal investment governance process due to the level of investment required on the network and will be approved via the WWU Executive Committee Meeting.

For the completed projects, we tender the preferred engineering solution via our internal procurement processes to select the preferred delivery partner(s) from our Pipelines Services Construction Framework. This competitive tender process ensures that we achieve best value for consumers considering safety, quality, and commercial aspects.

These schemes are managed by our Capital Delivery Team, a team of specialists with experience in managing these types of complex works. Each scheme is reviewed monthly at our Asset Management Major Projects Meeting which provides oversight and governance on the behalf of the Executive to monitor cost, safety, performance, commercials, and delivery against programme for each of our major projects.

Details for the option selected for every project are included in the appendices.

7. Stakeholder engagement

Our progress in RIIO-GD2 to date and our plan for the remainder of the period is driven by the needs and requirements of stakeholders and our customers. We are an industry leader in hosting Gas Distribution Network Forums and workshops with our key stakeholders. We have regular meetings with our 3rd Party Connection customers to discuss their needs and ensure we are meeting their expectations. We intend to continue for the remainder of RIIO-GD2 and beyond.

The growth of gas fired flexible generation has been primarily driven by a continuing increase in renewable generation capacity, which is more intermittent than the historic/traditional coal generated electricity capacity it has primarily replaced. To support solar and wind power generation, fast response power generation is needed to balance the intermittency of renewable energy. The gas network is acting as a virtual 'energy battery' and allowing more green electricity to be connected to the grid by taking up the role of balancing for this intermittency.

In order to protect our investment and receive firm commitment from customers we have also agreed a reduction to the threshold at which we can require an Advanced Reservation Capacity Agreement (ARCA) and agree common terms for an ARCA. Where an ARCA is required we will not make any investment until customers have signed up to the ARCA and its Terms and Conditions. In addition, we track the key milestones for each of the development sites with our customers as well as reviewing these sites out our internal Major Projects meetings to ensure the projects are on track and to assist in forecasting the expenditure and anticipated completion dates.

8. Cost information

Project	Actual / Forecast Cost for re-opener £000's	Status	Purpose	Start (Actual / Forecast)	Completion (Actual / Forecast)
1	■	Completed – site now operational	Power Generation	Jan 2021	Oct 2022
2	■	Completed - site now operational	Power Generation	Aug 2022	Dec 2023
3	■	Completed - site now operational	Power Generation	Jun 2021	Nov 2023
4	■	Ongoing – works started Dec 2022	Power Generation	Dec 2023	April 2025
5	■	Planned – site to be operational from Apr 2025	Power Generation	Oct 2023	Apr 2025
6a	■	Quoted – confirmed gas on as Apr 2025	Power Generation	Oct 2024	April 2025
6b		Quoted – confirmed gas on as Apr 2025	Bio-CNG Filling Station	Oct 2024	April 2025
7	■	Quoted - confirmed gas on as Apr 2025	Power Generation	Jan 2025	Apr 2025
8	■	Quoted - confirmed gas on as Apr 2025	Power Generation	Jan 2025	Apr 2025
9	■	Accepted - confirmed gas on as Jan 2026	Power Generation	Jan 2025	Jan 2026
10	■	Quoted – confirmed gas on as Apr 2026	Power Generation	Jan 2025	Apr 2026
11	■	Request – existing diesel site. Conversion to gas Apr 2026	Power Generation	Jan 2025	Apr 2026
12	■	Request – Design study to confirm solution & costs	Power Generation	Aug 2025	Apr 2026
13	■	Request – Design study accepted by customer. Gas on required 26/27	Combined Heating Power	Oct 2025	Apr 2026
Sub Total	10,658				

Table 2

Each scheme has had a Feasibility Study conducted that has been accepted and paid for by the customer and due diligence checks are being continually conducted by WWU in the form of tracking the project via a milestone document for each site. This is supporting by regular update meetings with the customer for each scheme. A milestone document tracks progress of the site to ensure that they are on track to be delivered in RIIO-GD2.

We therefore propose a new Price Control Deliverable and true up mechanism whereby the costs of the completed schemes in RII0-GD2 will be confirmed against the total £10.7m being requested as part of the NLLR submission.

9. Appendices

Please note that the appendices listed below are available upon requests from the WWU regulation manager and will provide the additional supporting detailed information for the schemes listed in the NLLR summary paper. The same applies to the supporting WWU Policy and Management Procedures.

Appendix A - Projects Summaries

- Project 1
- Project 2
- Project 3
- Project 4
- Project 5
- Project 6a / 6b
- Project 7
- Project 8
- Project 9
- Project 10
- Project 11
- Project 12
- Project 13

Appendix B - Relevant WWU Policy and Management Procedures for Network Analysis

WWU Policy

Policy Name	Policy Title
T/PL/NP/4	Policy for Above 7 bar Network Analysis
T/PL/NP/16	Policy for Below 7 bar Network Analysis

WWU Management Procedures

Policy Name	Policy Title
T/PM/NP/3	Procedure for Network Analysis for Assessment of New Load
T/PM/NP/14	Management Procedure for the Design of 3rd party System Extensions & W&WU Systems
T/PM/NP/15	Management Procedure for Planning and Network Analysis Requirements Evaluation of Security of Supply
T/PM/NP/25	Management Procedure for the Assessment of the Impact of Non-Typical Demands on the Wales & West Utilities Network