Developing competition in connections services

Enhancement, clarifications and changes to design & construction methodologies to be applied by National Grid

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Introduction

As the connection market evolves, National Grid continues to develop initiatives that will improve the process further.

The new initiatives are still based on the principles that National Grid has applied. They are:

- every Customer should have a choice of Connection Service Provider.
- there must be equality of treatment between Connections Service Providers
- customers should pay market prices, except where a gas transporter has a legal or licence obligation to fund part of the cost and recover the money from transportation customers.

The proposals make modifications and enhancements to design criteria and standard source pressures available from our gas distribution network. This will reduce the number of enquiries requiring individual network analysis and reduce the time taken from request to the obtaining of a connection or self-connecting onto National Grids gas distribution network. National Grid has taken this opportunity to publish some of its design criteria in the attached draft external documents with the aim of improving standardisation and prevent unnecessary design iterations.

National Grid will summarise the responses that are received. The summary paper will be shared with respondents and Ofgem. Customers may indicate if their response is confidential, in which case National Grid will not name them in any subsequent publication.

The consultation document and the technical content will be shared with all Distribution Networks with the hope that similar if not the same proposals will be implemented by them. This will hopefully ensure consistency when both Gas Transporters and Utility Infrastructure Providers deal with Distribution Networks regarding technical and process issues. National Grid will consider the technical comments from the Distribution Networks in addition to customer groups to help to ensure consistent practices.

All documents issued are draft proposals and will be subject to final editorial reviews both internally within National Grid and by addressing any Customer issues raised as part of this consultation. Final versions will be published on National Grids website and distributed once approved by National Grid.

Attachments

With this document you will receive the following documents:

Title	File Name
Service Termination Dimensions and Types of ECV to be installed	Draft Service Term V2.2
Specification for minimum fit for purpose requirements when connecting new mains and services to the below 7 bar network	Connections V0.5
Specification for the design of system extensions, connections and services to below 7 bar National Grid systems	Specification NP14 V0.7

Simplification of Design

Standard Source Pressures and Minimum Supply Pressure (LP systems)

Currently customers are able to utilise standard source pressures to multiple meter point connection requests, connected to low-pressure systems. In response to Customer request, National Grid proposes to extend this principle to single meter points. Further, National Grid proposes to extend the scope of the table for larger loads.

Network analysis for available mains pressure will continue to be provided for loads exceeding 900KWhr(85scmh) fed from low pressure mains >2" nominal diameter, and 1733KWhr(160scmh) for all other low pressure mains sizes.

Loads that fall within the red shaded cells continue to require a network analysis check for security of supply purposes, when any National Grid funded reinforcement lead times will be identified.

Elevated pressure requests will be treated as they are now.

National Grid also proposes to cap the minimum supply pressure to 26mb as it can be demonstrated that when faced with insufficient capacity in the upstream system, overall least cost of reinforcement and system extension construction costs are minimised.

When reinforcement is necessary and, where required, for charging point analysis, the cell pressures represent the minimum pressures to be maintained

Refer to Specification Table A2

National Grid seeks customers views on the removal the network analysis service for available parent mains pressure for all loads less than or equal to 900KWh/85scmh, that fall within the solid (blue) boundary in Table A2. National Grid considers this service is sub optimal as it creates system constraints, often for small loads, that are inefficient to manage in the long term.

Where available pressures for mains extension designs are provided, National Grid wishes to gain confirmation by the customer of the actual mains extension pressure drop utilised, once the customer confirms that the load is to be connected. This provides National Grid with an opportunity to re-negotiate the commitment if deemed necessary. It is proposed to amend the acceptance forms to capture this information.

Standard Source Pressures and Minimum Supply Pressure (MP/IP systems)

Currently National Grid carries out network analysis for all requests.

National Grid has determined that fit for purpose system extension designs can be developed utilising standard design pressures. These have been aligned to the relevant MP pressure tiers in National Grid's Third Party Metering publication 'Procedure for Requesting Gas service Pipe Pressure and Capacity Information from National Grid' and consistent with IGE/GM/8 Part 1 'Non-domestic meter installations, flow rate exceeding 6 m3h-1 and inlet pressure not exceeding 38 bar Design'

For further detail refer to Specification Table A3.

Elevated pressure requests will be treated as they are now.

National Grid seeks customers views on the removal the network analysis service for available parent mains pressure for all loads less than or equal to 900KWh/85scmh as show in Specification Table A2. National Grid considers this service is sub optimal as it creates system constraints, often for small loads, that are inefficient to manage in the long term.

It is proposes that network analysis for available mains pressure will continue to be provided for loads exceeding 900KWhr(85scmh).

Network analysis for security of supply/lead time checks will continue to be provided for loads above the stated thresholds in Specification, Table A1

Design Criteria

MP Service Pressure Drop

Specification Table A3 has been constructed on the basis of providing fit for purpose pressures for use in mains and/or service extensions.

National Grid considers that its current maximum pressure drop design criteria for MP services should be reduced to better balance the construction cost of service v mains extensions, and the overall efficient management of the system. For the majority of service designs the maximum 15m/s velocity is the key design constraint with the outcome being that the current allowable pressure drop is not utilised.

National Grid proposes to adopt the following maximum pressure drops for new and replacement MP services designed by National Grid or its service providers and / or received as designs from UIPs.

Service lengths less than or equal to 500m:

- Design Minimum Pressure less than or equal to 65mb, 15mb
- Design Minimum Pressure greater than 65mb, 25mb

Service lengths greater than 500m will remain as now:

- Design Minimum Pressure less than or equal to 65mb, 35mb
- Design Minimum Pressure greater than 65mb, 70mb

There will be an additional requirement for the customer to inform National Grid of the proposed system extension length when using the Design Criteria for Medium Pressure Service Drop.

Design tables and the specifications for the design of pipes

National Grid has produced an external document that highlights how National Grid would design system and the principles National Grid applies to evaluating designs submitted by UIPs. The document includes the revisions highlighted above. Publishing this document offers standardisation and will avoid any unnecessary design iterations whilst confirming acceptable standards. The document covers a range of design topics including these indicated below, however comments are welcome on the complete document.

1. Minimum Mains and Service Designs

National Grid has standardised on 63mm pipe being the minimum size for any new extensions to the system for a main and 32mm pipe being the minimum size for new services. National Grid proposes to introduce these standards for mains being adopted by National Grid. It is proposed to standardise on these from the 1st March 2006. This should allow all parties sufficient time for issued quotations to expire and / or for materials purchased to be utilised.

Standardising on 32mm service pipe allows the pressure drop to be minimised on new services and therefore offers better utilisation of the pressures across the mains distribution network. It is National Grids view that the cost of this change is minimal and for some it will minimise supply chain costs as 32mm will satisfy all domestic

supplies (32.5 kWh) up to 63m in length and the capacity of a U6 meter (65 kWh) up to 30m in length. Further, this ensures equality of treatment between all Connection Service Providers.

Standardising on 63mm mains ensures the network can be maintained and / or repaired without temporarily isolating consumers during the works, which would be required for pipe diameters of 32mm. From a safety perspective National Grid believe this will ensure other utilities can identify our plant easily and is consistent with their own distinction between what pipe sizes would be considered as mains and / or services.

2. Mains Connections

National Grid has produced a table of standard connection methods for both PE and Metallic mains. This provides clarity of what is expected and avoids any design challenges if the UIP / GT is unclear what method would be suitable to connect to the National Grid system.

Refer to Specification, Tables A9 and A10.

In addition, a Specification has been produced titled 'Minimum fit for purpose requirements when connecting new mains and services to the below 7 bar Network'. This further assists both Gas Transporters and Utility Infrastructure Providers in understanding National Grid's requirements to avoid any design challenges.

3. Standard Service designs

Standard service designs have been included for loads up to and including 1085 kWh (PID) for both LP and MP supplies.

Refer to Specification, Table A5 and A7.

4. Equivalent lengths for standard service components

National Grid has produced a table of standard services components that should be considered when designing bespoke services. These are the same allowances that are used to validate any Utility Infrastructure Design submitted.

Refer to Specification, Table B2 and B3.

5. Riser Designs

National Grid has specified the requirements for the design of risers. Further, a table is included to specify the design of low pressure networks where there are multiple meters at the same location.

Refer to Specification, Section B3 and Table B4.

Simplification of Process

Method Statement Removal

In response to Customer request, National Grid is proposing to remove the need for any Company registered under GIRS to undertake construction to provide a method statement at design stage for each individual job. These method statements form part of the accreditation and are also submitted with the Routine or Non-Routine Operation as part of SCO. Therefore, there is no additional need for National Grid to undertake additional checks at design approval stage for GIRS registered Companies.

For mains that contain non-standard materials such as asbestos, PVC or to mains that have been relined then a request will be made for the Customer to submit the method statement at design stage to allow alternative designs or connection locations to be considered and avoid delays that could occur when the routine or non-routine operation is submitted to National Grid. In these instances the method statement would still remain part of the design authorisation.

Service Termination Guidance

To assist mainly Meter Asset Managers, National Grid has produced a document that specifies:

- the termination positions for Emergency Control Valves; and
- the types of Emergency Control Valves to be fitted to National Grids gas transportation network.

These are the expected terminations that should be installed by the party laying the gas infrastructure and National Grids Service Providers that will facilitate the installation of the meter.