National Grid Gas Transmission Response to Project PE2GAS

National Grid welcomes the opportunity to respond to Sumicsid's Project PE2GAS: An approach for benchmarking European gas transmission system operators – *interim report R1*.

Background
National Grid Gas Transmission (NGGT) is the sole owner and operator of the high pressure gas transmission system in Great Britain. This system consists of over 7600km of pipelines and 24 compressor stations, providing capacity to the GB energy market and transportation of gas to downstream recipients.

We embrace the opportunity to benchmark with other European TSOs, providing the opportunity to enhance our ability to meet the needs of our customers, communities and investors through the identification and adoption of better practices.

NGGT is a founder member of the Gas Transmission Benchmarking Initiative (GTBI). Activities in this group include cost and output benchmarking of operations and maintenance activities using a variety of normalisation methods.

Based on our experience of benchmarking we have developed some key principles, which we use to assess our participation in benchmarking studies. These are as follows:

1) A range of models and specifications should be used
2) A range of assumptions and methods should be used
3) Data collected should be independently audited to ensure consistency
4) The model used should be replicable to ensure its robustness
5) The process should be transparent and all relevant information disclosed
6) The outputs of the study should allow the subjects to learn, improve and innovate

We will use these principles as we discuss our thoughts on the PE2GAS project.

PE2GAS
NGGT have received a copy of the aforementioned Sumicsid feasibility study commissioned by the CEER and we appreciate the invitation to respond to its content. We understand the desire to undertake this benchmarking project and support the ambition.

In order to aid our understanding of the econometric principles and study approach, we commissioned an independent report from Professor Tom Weyman-Jones, who is a recognised expert within this field. This report is attached to our response and has been used to inform our assessment.

In this response we set out our key concern and then respond to each question in turn.

Our assessment
At the highest level, when we compare the proposed approach against our benchmarking principles there are numerous shortcomings. A study of this nature is highly complex and requires an in depth understanding of the Gas Transmission sector, including regulatory regimes, operational characteristics and the underlying assets. In order to achieve this level of understanding and design an appropriate study we believe there needed to be engagement with TSOs. The proposal unfortunately was not developed in this manner and therefore simplifies many key factors and does not recognise the significant heterogeneity that exists within the small sample of TSOs. In our answers to the questions, we bring out a number of points that have not been adequately considered, however in this section we focus solely on

output definition which is the cornerstone of the proposal and in our opinion fundamentally flawed.

Paragraph 6.07 repeated below discusses output definition. The comments are highly subjective with no evidence to substantiate the assertion that using assets as outputs, i.e. the normalised grid approach, is an effective efficiency measure. It does however recognise that this approach would be less suitable in more advanced regulatory regimes.

> 6.07 The outputs Y are made of exogenous indicators for the results of the regulated task, such as typically variables related to the transportation work (volume of gas delivered etc.), capacity provision (storage volume, peakload, coverage in area etc.) and service provision (number of connections, customers etc.). Ideally, the output measures the services directly. In practice, however, outputs are often substituted by proxies constructed as functions of the assets base, like km of pipes, number of meters, number of compressors etc. One hereby runs the risk that a TSO could play the benchmarking based regulation by installing unnecessary assets. In practice, however, we have found that this is not a major risk in the early stages of the regulation and that the advantages of using such output indicators outweigh the risk. We shall therefore think more generally of the outputs as the cost drivers.

The "normalised grid" approach determines a unit cost, based on totex divided by the normalised cost of the grid. This means that if a TSO's totex increases relative to the normalised grid, the TSO would be considered as operating less efficiently. The assumption made is that in order to increase outputs, a TSO must install more assets to provide this service.

However, in Great Britain a number of methods can be used to produce outputs for customers. If a customer requests more capacity than is currently available at (for example) an exit point, we can use:

a) Rules - e.g. substituting capacity from another location
b) Tools – e.g. contracting another customer to reduce their consumption
c) Assets – e.g. building new assets (pipelines and compressors)

This approach has been in place for well over 10 years and is designed to ensure we maximise the use of existing assets before investing in new assets. Unfortunately the proposed study only takes into account the asset approach and compounds this by using the asset as the output. Our customers and stakeholders are not interested in the size of our asset base, the outputs they require are, for example, capacity and gas transportation. Therefore the proposed methodology is not suitable for the GB regime, which in part is recognised by the authors.

Questions Responses

P8 2.14 The current analysis focuses at TSOs rather than regional transmission operators (RTOs) – do you agree with this limitation?

NG: As presently drafted the study focuses on TSOs, but these have a mix of activities, some of which would be defined as RTO. Therefore in the first instance there needs to be a clear definition of what activities are in and out of scope e.g. on pressure range. Once this is in place the decision to include or not include RTOs should be more apparent.

P8 2.15 Do what extent are the European more or less similar than operators outside of EU- 28?

NG Due to the heterogeneity within the EU-28, there will be European companies that will have very similar characteristics to some TSOs within the EU-28. However, from a GB perspective, where we have numerous offshore entry points, LNG terminals and interconnectors combined with a large internal demand we do not think there are any similar European TSOs outside of the EU-28.

P12 3.07 Are there other asset dimensions that are relevant here?

NG NGGT recognises pipelines, compressors, entry points, exit points, Multi-junctions as primary assets. We think that, as an island network, consideration should be given to the additional complexity of the multiple entry terminals regulating offshore high pressure gas as it lands onshore. These entry terminals e.g. Bacton and St Fergus are very large and complex installations. This is a very different situation to some other TSOs that will share a border with an upstream shipper and use less complicated assets and operations regimes to regulate the gas entering their systems.

P14 Do you agree with the statements regarding the access to data for pipelines, stations, LNG terminals and storage installations?

NG We think that the explanations provide a very simplified version of the functions of the assets. However, in terms of data availability, high level data on length of pipelines, number and power of compressors etc. is readily available. Where more granular data is required we would need to assess the specific requests. We are unable to provide information on third party underground storage and LNG facilities.

P19 3.52 The Chapter argues that the initial scope should be limited to a subset in order to assure comparability. Do you agree with this assessment?

NG The principle of limiting the scope to core and comparable TSO activities is sound, as this could help remove some heterogeneous data. However, where costs need to be allocated to included and excluded activities there needs to be robust processes and auditing to ensure this is done on a consistent and equitable basis.

P19 3.53 The Chapter is negative with respect to the feasibility of comparing system operations among GTSOs. Do you agree with this assessment? If not, what information should be used to achieve comparability in this regard?

NG We agree that SO activities should be excluded as the requirements are very country specific. However, where costs need to be allocated to included and excluded

activities there needs to be robust processes and auditing to ensure this is done on a consistent and equitable basis.

22 4.08 Is it feasible for you to provide information corresponding to that presented in the table above for your corresponding assets?

NG Some of this information will be readily available, however the exact requirements are quite unclear (particularly for pipelines) and providing this information for 7600 kms of pipeline would be a major activity. Before embarking on such an extensive data request we would like to understand the relevance of each piece of information requested. We have been involved in detailed benchmarking for numerous years and we cannot see the value in providing the majority of the data requested, particularly considering some of the other broad brush assumptions.

We would also like to understand who will hold the data, have access to the data and what will happen to the data when the study is completed.

P23 4.11 Is it feasible for you to provide information corresponding to that presented in the table above for your corresponding assets?

NG Some of this information will be readily available, however the exact requirements are quite unclear e.g. "Annual gas" is this for the last 30 years? the last year? will weather correction be required? etc. Before embarking on such an extensive data request we would like to understand the relevance of each piece of information requested. We have been involved in detailed benchmarking for numerous years and we cannot see the value in providing the majority of the data requested, particularly considering some of the other broad brush assumptions.

We would also like to understand who will hold the data, have access to the data and what will happen to the data when the study is completed.

P24 4.15 Is it feasible for you to provide information corresponding to that presented in the table above for your corresponding assets?

NG Some of this information will be readily available, however the exact requirements are quite unclear e.g. "Total Annual Gas Delivery" is this for the last 30 years? the last year? will weather correction be required? etc. Before embarking on such an extensive data request we would like to understand the relevance of each piece of information requested. We have been involved in detailed benchmarking for numerous years and we cannot see the value in providing the majority of the data requested, particularly considering some of the other broad brush assumptions.

We would also like to understand who will hold the data, have access to the data and what will happen to the data when the study is completed.

P25 4.17 Is it feasible for you to provide information corresponding to that presented in the table above for your corresponding assets?

NG This information is not held by NGGT

P26 4.19 Is it feasible for you to provide information corresponding to that presented in the table above for your corresponding assets?

NG This information is not held by NGGT

P27 Is it feasible for you to provide information corresponding to that presented in the table above for your assets?

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P27 4.25 Is it feasible for you to provide information corresponding to that presented in the table below for your assets? Is it pertinent to adequately describe cost differences?

NG Some of this information will be readily available, however the exact requirements are quite unclear, and we are unsure why the location of our control facilities and back up facilities is required this is security sensitive information. Before embarking on such an extensive data request we would like to understand the relevance of each piece of information requested. We have been involved in detailed benchmarking for numerous years and we cannot see the value in providing the majority of the data requested, particularly considering some of the other broad brush assumptions.

We would also like to understand who will hold the data, have access to the data and what will happen to the data when the study is completed.

P33 5.26 Is there any aspect (cost driving) of grid construction that you believe is not represented in the approach in this chapter?

NG Pipeline projects can vary in cost due to a wide range of factors that can be different for each particular project. Understanding these would require speaking with experts from each participating company. However some examples are:

- weather e.g. we built a large proportion of our most recent pipelines during a period of the wettest weather in history
- contractor market conditions
- steel commodity price
- time constraints e.g. some TSOs can centrally plan whereas we have to respond to market signals and have penalties for late delivery
- planning consent conditions
- protestor activity

The proposed study focuses largely on engineering dimensions, which do play a part and are easy to measure, but ignores the majority of the issues above which are more difficult to assess, but can impact construction costs by at least 5%.

P33 5.27 Is it feasible for you to provide information corresponding to that presented in Table 11 for your pipelines?

NG We do not think it is feasible to provide this information for 7600kms of pipelines dating back to the 1960s. In a number of cases the information is likely to be subjective and therefore of questionable value. It is also very unclear how this information could be used, without detailed engineering assessment of the impact of each factor e.g. “Temporary fencing” on the cost of building a pipeline.

P33 5.28 Is heterogeneity primarily an issue for CAPEX or OPEX differences in your opinion?

NG Both – as described in more specific answers to the questions posed and as commented upon by Tom Weyman-Jones in his appended report.

P44 6.59 The Chapter argues that frontier analysis is more suited for regulatory benchmarking than other methods, such as unit-cost analysis. Do you agree with this statement?

NG We believe that a range of models should be tested and presented in order to understand how data is treated and the sensitivities of each model. We have sought expert opinion on this technical topic which is provided in the appended commentary by Tom Weyman-Jones.

P44 6.60 DEA is advocated to be a good alternative for a frontier model, provided an activity model is developed. Do you agree with this position?

NG We have sought expert opinion on this technical topic which is provided in the appended commentary by Tom Weyman-Jones.

P44 6.61 The last section argues that a set of comparable non-European TSOs could be used to estimate dynamic effects, e.g. productivity improvement rate. Is this a feasible and sound approach in you view?

NG We believe that there is already significant difficulty with dealing with the heterogeneity in EU data, the introduction of FERC data would enhance this risk. Our experience with FERC data is that the pressure tier and diameter data is not always available. Also, US companies are often vertically integrated, which makes accurate identification of common costs more difficult.

P46 7.06 Are the requirements above all necessary and complete for the project organization?

NG Process transparency is imperative. There should be further discussions between Consultants, TSOs and NRAs to develop a process that is fit for purpose, which is auditable and provides TSOs the ability to replicate and challenge the results and assumptions used by the consultants – without this there is no benefit for TSO participation. The process of interaction also needs to be transparent, with full responses to all points raised.

At present the process is not sufficient to deliver this fundamental requirement.

P47 7.16 The section assumes that transparency is important and feasible using a combination of workshops and project platforms. Do you agree with the assumption and the assessment?

NG We agree with the assumption, but are unconvinced of its feasibility based on the information provided.

P47 7.19 A full project is estimated to a year, based on other observations. Do you agree with this assessment? Is it an objective to shorten the time, even if that would require more resources mobilized at the NRA and/or TSOs respectively?

NG We have raised numerous concerns many of them fundamental in nature. Without answers to these we cannot judge the length of the time the project would take. However this is the first time a study of this nature may be attempted, and based on the heterogeneity, the complexity of the analysis and the extensive data request we would consider a year to complete the study in a robust and meaningful manner extremely challenging.

P49 7.32 The section outlines a procedure with two rounds of calculations, both providing feedback to TSOs. Is this a good approach?

NG As discussed we have fundamental concerns about the overall approach therefore until these issues are addressed, it is not appropriate to comment on its form of implementation.

P50 7.37 To what extent is auditing a prerequisite for you to assign credibility to the results?

NG This is essential to ensure that the data collected are comparable.

P50 7.38 Is there a better way of organizing the data validation of the incoming data?

NG As discussed we have fundamental concerns about the overall approach therefore until these issues are addressed, it is not appropriate to comment on its form of implementation. However please refer to the appended commentary from Tom Weyman Jones.

P53 8.21 Do you share this assessment? In particular, is it likely that you would retain valuable information from a benchmark performed along the lines in Chapter 6?

NG Unfortunately not. As stated in our introduction we welcome the initiative and share the ambition, but the approach is fundamentally flawed from a GB perspective. The outputs that we deliver and our customers expect cannot be adequately represented by a normalised grid, therefore the efficiency measure will not provide any valuable information.

P54 8.27 Do you share this assessment on the risks identified?

NG Please refer to previous answers which highlight a variety of risks.

P54 8.28 Are there other risks or contingencies that should be mentioned and addressed here?

NG The main risk from a GB perspective is that the results from this study are not meaningful and are misleading. However if the consultants, NRAs and TSOs work collaboratively together this risk could be minimised, but this will require a fundamental change in approach from the current feasibility study.

Summary

In summary, we welcome and seek to participate in well designed benchmarking initiatives and have done so with the GTBI since 2005. We have identified a number of benchmarking principles and, with the help of Professor Tom Weyman-Jones, have assessed the PE2GAS feasibility study against these. Our findings are that the study falls short in meeting these criteria.

The key fundamental concern for NGGT is that the study does not recognise the outputs that we deliver and within the British regime would reward inefficiency.

To undertake this proposed benchmarking study we would require significant resources and incur additional costs for no perceived value, therefore this is not in the interest of GB consumers.

However, we share the ambition to improve benchmarking across European TSOs and therefore would welcome further discussions with CEER and their consultants to design a study that would provide value to all participants.