



Information request on the availability of NTS exit flexibility capacity **Comments from AEP¹**

The Association of Electricity Producers (AEP) welcomes the publication of the information provided by NG to Ofgem following its information request in November 2007. We consider this provides important transparency of information in connection with this controversial area of reform, it is unfortunate however that this information was not made publicly available in a more timely manner, given that it was provided to Ofgem in mid December. This timing is also relevant given that only two and a half weeks have been given for responses to be provided by 18th February. We recognize that there may be other opportunities to comment on this information but feel that the Authority should be made aware of stakeholders' views in parallel with the information itself. In this respect we are disappointed that requests for more time to compile more comprehensive comments have not been allowed. In this context we provide our initial comments below.

Introduction

The Association has a keen interest in the availability of flexibility on the gas network since this may influence the way in which CCGTs operate and in turn their role in meeting electricity demand and in the Balancing Mechanism and therefore ultimately the efficiency of the interactions of the gas and electricity markets and the electricity market itself. To impose unwarranted constraints on the utilization of gas system flexibility can only have a detrimental effect on both gas and electricity markets.

We understand and accept there are a wide range of factors that influence the availability of flexibility on a particular day and to determine the available flexibility 'bottom up' requires complex network analysis. To date it is the case that only National Grid is in a position to undertake such analysis. Whilst it is entirely logical that it should adopt a cautious approach to the availability of flexibility, we consider that ideally in the interests of transparency of process and information that there should be some third party scrutiny of the processes supporting the analysis and the results of the analysis.

¹ The Association of Electricity Producers (AEP) represents large, medium and small companies accounting for more than 95 per cent of the UK generating capacity, together with a number of businesses that provide equipment and services to the generating industry. Between them, the members embrace all of the generating technologies used commercially in the UK, from coal, gas and nuclear power, to a wide range of renewable energies.

Initially we would like to make a few observations that we will build on later:

- The diversity of utilization should be considered it is improbable that when bookings are made nodally that there are circumstances where maximum flexibility would be used at each node at the same time.
- The probability of flows that significantly reduce the availability of flexibility should be considered e.g. extreme supply / demand scenarios, localized flexibility requirements and back loading on a peak day.
- The impact of entry capacity substitution on the availability of exit flexibility should be considered
- A holistic view should be taken of interactions with other issues such as security of supply and the impacts of demand side response.

1. How much flexibility capacity there will be on the NTS based on NG's current investment plans.

It is not clear what NG's assumptions are about investment beyond 2010 either in this document or the 2007 Ten Year Statement, therefore it is difficult to understand the basis of the calculations for 2016/17.

2. How this level of flexibility would change if there are any changes to these plans

We note the sensitivity to Grain and east coast entry flows under peak conditions and the fact that actually national flexibility increases under more balanced supply conditions. We consider that the probability of such scenarios should be considered.

It is also relevant to explore whether the peak day is the right condition to consider for flexibility. Whilst it is entirely right that the system should be built to provide for 1 in 20 peak day demands, as NG's licence requires. However when flexibility is being considered the likelihood of ever achieving this demand level should be explored.

The diagram in Appendix 5 shows the likely generation mix on a typical cold day in a severe winter. This will be driven by a number of factors including the need to manage supply and demand for both gas and electricity on a national and individual company basis. The diagram shows that coal plant will run in preference to gas but gas will play a significant role in meeting electricity demand. It does however also demonstrate that all CCGT plant does not run baseload, some runs on distillate and some follows a profile such that the peak day gas demand will not in fact be reached, releasing some pipeline and compressor capability for managing linepack depletion. This diagram also shows the marginal gas plant running at minimal levels or not at all during the early hours of the gas day up to midday, at this time gas entering the system for use by CCGTs later in the day will be enhancing the linepack position. From midday to 2200 gas utilization by CCGTs increases, then after 2200 it falls slightly to levels seen during the afternoon or slightly below this. This latter observation is important as consumption does not fall to zero post 2200. All this means that the average gas utilization from 0600 to 2200 is likely to be similar to that across the whole day, i.e. minimal linepack depletion. It may be

slightly positive but may not have such a significant impact on aggregate flexibility utilization as has been reported.

3. NG's assessment of demand for flexibility from Users

NG reports a potential increase in bookings by DNs for flexibility from 2011/12 coincident with the introduction of the new DN interruption arrangements (Mod 90). It seems to suggest that this in conjunction with other requirements could lead to a physical shortage of flexibility at that time. It is unfortunate that this consequence was not explored more fully at the time of the impact assessment for Mod 90 which was itself marginal.

It is a matter for debate whether the potential shortage is contractual or physical. Through the development of the regime it was always anticipated that actual bookings or forecasts would exceed capability on a simple aggregate basis, particularly when bookings are made on a nodal basis and DNs have to make such bookings to meet their safety case requirements. It is therefore probable that this only represents a contractual shortage rather than a physical one, and this in itself is an artificial construct of the regime. Clearly if bookings could be made zonally a different scenario may be presented and it would be helpful to understand from DNs how having this option would affect their OCS bookings.

With respect to generation, there are a number of planned CCGT developments and some that are already being built. In the next few years this will increase the percentage of electricity demand met from gas. At this time it is difficult to predict how the CCGT fleet will operate as companies respond to numerous commercial, environmental and legislative drivers. It would be overly simplistic to say more CCGTs equal more flex usage. More CCGTs may operate baseload and if they do not then capacity would have been installed to provide for that which will provide flexibility as a byproduct when not being used to full capacity.

With regards to wind generation we accept the points that say that to some extent it will need to be backed up by conventional generation sources. What is not so clear is why this might lead to increased daily flexibility utilization by CCGTs. Variations day on day are likely but is it really the case that the wind blows more strongly between 2200 and 0600 than it does between 0600 and 2200?

4. NGT's assessment of what would increase or reduce NTS flexibility capacity

We would like more information to be presented on localized constraints that have occurred.

We would also like to understand the circumstances under which the historic peak utilization occurred and the breakdown between DNs and direct connects, as it is not possible to determine this from the graph presented in appendix 6. Peak utilization appears to have occurred during winter 06/07 when there was significant CCGT demand side response in order to balance

supply and demand. It would also be useful to know what the available flexibility was on those days given the actual prevailing supply and demand conditions. We should be very cautious about focusing on flexibility in isolation from other factors.

In this section NG says that certain events are high probability events, it would be helpful to understand what they mean by high probability, as such terminology could be interpreted in many ways. For example this could mean something that is virtually certain to happen, but does this happen once or frequently and what is the likelihood of this occurring in coincidence with other factors so that it actually gives rise to a problem on the day.

NG presents some analysis of flex usage at entry; it would be informative to understand how much of this may be due to demand changes within day and recovering from unplanned outages as opposed to other 'planned' profiles.

NG also suggests that back loading on a peak day could be problematic. We consider that the drivers for back loading require further consideration as where demand is high it could be expected that both shippers and producers would like to flow gas early in the day to avoid the risk of possible shortfalls later in the day, with the price risk associated with this. Clearly if back loading is a problem then frontloading should be a benefit but this is not considered. In addition we would like more information on the linkage between entry front or back loading and exit flexibility. Any analysis of this should also consider the impact of capacity substitution.

5. Likely development of the availability of flexibility capacity on a regional and zonal basis

This section only seems to focus on investments at entry or changes to entry flows as a source of additional flexibility. No mention is made of investments to serve new CCGTs and the flexibility that will be created simply by there being more pipe in the ground which may not be 100% utilized at all times.

6. The potential causes, if any, of future scarcity of flexibility capacity.

NG's comments in this section are of some concern. They could be seen to imply that Ofgem considers that there are increasing amounts of flexibility available for DNs whilst at the same time it expresses concerns that flexibility will become scarce at some point in the future and potentially could use this to justify the introduction of a flexibility product with wide ranging consequences beyond the gas market.

Ofgem have assessed DNs flexibility requirements as part of their work on the capacity outputs incentive for the transitional period and GDPCR. They also propose introducing a new licence obligation on DNs to explain in advance any request to increase OCS flexibility bookings by more than 10%. Going forward therefore Ofgem will continue to have the ability to scrutinise the appropriateness of DNs flexibility bookings and the extent to which step changes in these are mirrored by observable changes in the use of alternative capacity management options available to DNs on their own networks. This may lead to a different picture emerging of DNs OCS flexibility requests for

2011/12 in 2008 as opposed to last year as DNs will be basing their flexibility requests on a firm view of their price control revenue allowances and the availability of DN interruption (following the DN interruption tender in June 2008), neither of which were available to them when making their OCS flexibility requests in July 2007.

7. The probability, location and potential timing of any such scarcity developing in practice

We are extremely sceptical that there is or will be a real physical shortage of flexibility on the network given the comments in (3) above and particularly the requirement on the DNs to book flexibility separately for each offtake. We think it is vital that a holistic approach is taken to any considerations of the availability of flexibility and commercialization of the product since it is largely an artificial construct to manage linepack. Clearly it is important to consider security of supply, there should be no dis-incentives to providing demand side response, DN requirements to meet their safety case and interaction with issues at entry not least entry profiles but also proposals for substitution of capacity between ASEPs.

8. What actions would NG take under the transitional offtake arrangements were a flexibility constraint to arise

We note that the comments under section h of the NG document and appendix 11 seem to have a slightly different emphasis. Section h omits reference to request DNs to flow swap under section 2.4 of the OAD, which could be the option with least impact on Users and consumers. We would also add that even in a regime where flexibility is allocated in advance that constraints could still occur due to supply loss, large increases in demand or plant failure whereas section h only refers to constraints occurring due to the over allocation or use of flexibility.

18th February 2008