

RIIO-GD1, RIIO-T1 Capacity Working Group NTS/DN interactions



3 December, 2010

Ofgem asked NTS/GDNs ...

- To consider the NTS/GDN interactions and in particular:
 - *Commercial arrangements for GDNs booking NTS exit capacity*
 - *Arrangements for providing assured pressures to GDNs*
 - *Substitutability of flat capacity and pressure*
 - *Substitutability of capacity between Offtakes*
 - *Booking of flex capacity*
- Also asked both to consider differences in Long term Demand Forecasting
- And consider wider definitions of “flex capacity”
- The next slides cover these, with Ofgem comments in quotes

Commercial arrangements for GDNs booking NTS exit capacity

- *“The treatment of GDN capacity rights in the enduring NTS exit regime encourages GDNs to book exit capacity conservatively to preserve their rights to existing capacity”*
- GDNs are concerned with the User Commitment rules under Enduring Exit
 - Believe that the rules discourage Users from releasing capacity in investment timescales
 - But User commitment is important to the NTS to underpin its investment decisions
 - Currently ExCR states that in general User Commitment is applicable on all increases, but NTS may look at revising the rules regarding bookings under obligated level?

Arrangements for providing assured pressures to GDNs

- *“Current arrangements make GDNs reluctant to signal to NTS that assured pressure can be reduced as they have no guarantees that the pressure can be restored should it be needed. Further the NTS is cautious in its approach to agreeing increases in assured pressures because it has to commit to them for the long term”*
- Current arrangements entail agreeing a 06:00 and 22:00 Assured Pressure figure for each offtake
 - NTS may not be able to meet these all demand levels
 - GDNs may not need these all demand levels
 - Modify the booking process to allow NTS/GDNs to determine appropriate pressures to apply at certain demand levels?
 - Include process for increases and for decreases
 - Potential investment would need revenue provision underpinned by user commitment

Substitutability of flat capacity and pressure

- *“Flat capacity and pressure are to some degree interchangeable in practice. However only flat capacity is chargeable so there is no incentive to efficiently trade off between the two”*
 - Whilst there is a potential for such a trade off on the NTS, it is not clear whether there is for the GDNs

Substitutability of capacity between offtakes

- *“GDNs are limited in their ability to substitute existing capacity rights between offtakes”*
- GDNs stated that they wanted to be able to transfer capacity between their offtakes
 - What about current bookings via OPNs, flow swapping and deemed increase from overrun?
 - NTS to consider whether the introduction of some form of Transfer and Trade process (potentially similar to Entry?) would be possible
 - But what about the level of complexity (i.e. some form of zonal restrictions)?
 - Should it be only restricted to the DN in question or should it apply to all Users?

Booking of flex capacity (1)

- *“There are issues around the information on the availability of flex, particularly over the longer term and where requests are refused. Further where flex requests are refused opportunities for provision of incremental capacity are unexplored. Preference for overall reliability assessment/risk metric to be pursued in the long-term - but acknowledge may not be possible for TPCR5”*
- Currently GDNs signal their flex requirements via the OCS process
- This may result in NTS refusing their requests:
 - Due to consideration and interactions of other commitments
 - But there is currently dialogue via the process to see if such requests could be met by either changing other offtakes or by adjusting pressure requirements

Booking of flex capacity (2)

- But GDNs have indicated that they want more transparency
 - NTS does not believe it can provide meaningful figures as they are highly dependent on the supply/demand assumptions
 - Currently the year-on-year changes between OCS bookings for both flat and flex are included in the TYS
 - NTS could include the publication of OCS bookings, but what about commercial confidentiality?
 - NTS' exposure would need to be considered
- And the cost of providing incremental flex
 - Could this be done?
 - It is dependent on pressure requirements to determine the economic level
- But process would need to change?
 - Connection application process?
 - Some form of User Commitment to underpin this?
- Would this need to apply to all Users?

Demand Forecasting

- Several reviews done as part of TPCR4:
 - October 2006 - TPA - “Technical Advice on Supply & Demand Forecasting & Forecast Capex”, for details see:
<http://www.ofgem.gov.uk/Networks/Trans/Archive/TPCR4/ConsultantReports/Documents1/16101-TPCR%20Report%20-%20F%5b1%5d.pdf>
 - June 2006 - Frontier - “NG’s gas demand forecasting methodology”, for details see:
<http://www.ofgem.gov.uk/Markets/WhIMkts/CustandIndustry/WO2006/Documents1/14619-117e.pdf>
- NTS already:
 - provides demand forecasting information to DNs under OAD obligations
 - performs benchmarking of the demand forecasts
 - publishes both the forecasts and the methodology used to derive them, for details see:
 - <http://www.nationalgrid.com/uk/Gas/TYS>
 - <http://www.nationalgrid.com/uk/Gas/OperationalInfo/operationaldocuments/Gas+Demand+and+Supply+Forecasting+Methodology>

Flexibility definition (1)

- NTS is currently working on definitions of “Flexibility” on the System
 - *It is clear that drivers of investment on the system are changing such that the system will need to be more versatile going forwards.*
 - *Whilst the system was previously primarily planned to meet the requirements on the 1-in-20 peak day (as this was assumed to be the most onerous) based on a fairly well understood set of credible entry supply scenarios, this is no longer valid.*
- These changing requirements may lead to additional drivers of investment (above the current load-related, asset health, emissions and safety ones). These can be categorised as being driven by two different (but inter-related) considerations:
 - Changing flow patterns on the system;
 - Future planning assumptions.

Flexibility definition (2)

- Changing flow patterns on the system due to:
 - Diurnal storage requirement of the DNs;
 - Entry and exit flow pattern variation (including Storage and CCGTs).
 - But these are highly dependent on:
- Future planning assumptions. There is a need for NTS to have more information than is currently available via the planning/commercial regime in order to be able to design the network to meet Users' needs in the most economic and efficient manner:
 - Not just about 1-in-20, but need to look for most onerous conditions anywhere down the demand curve - it may be that Users could provide the relevant information via an administered process?
 - Need to be able to understand the seasonal usage – Should regime be amended to link the Users' signals of their seasonal requirements to NTS' obligations?
 - Need to consider and enforce all Users' behaviour with regards to the notice periods etc within their contracts
 - Also their pressure requirements



WALES&WEST
UTILITIES



Capacity Outputs Working Group

3 December 2010

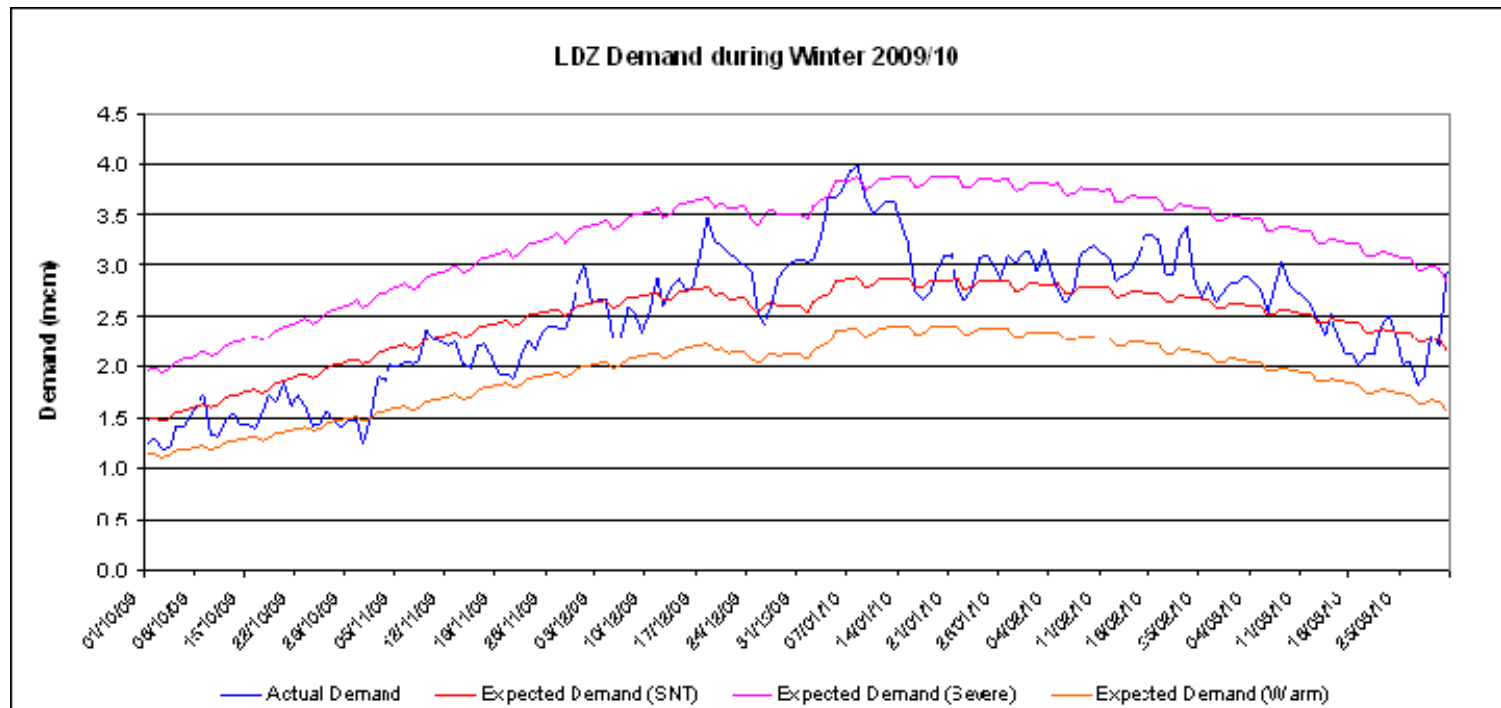
Approach

- Ensure Outputs are MAR
 - Measurable
 - Achievable
 - Relevant
- Cross Network savings
 - Shared NTS – GDN and/or GDN-GDN measures (e.g. collaborative Network(s) approach to optimum capacity realisation)
- UNC rules to accommodate required behaviour , and measurable outputs
 - i.e. – zonal capacity transfers / demand led pressure provision
 - Demand side response outputs (inc interruption)

Potential Revisions to existing regime

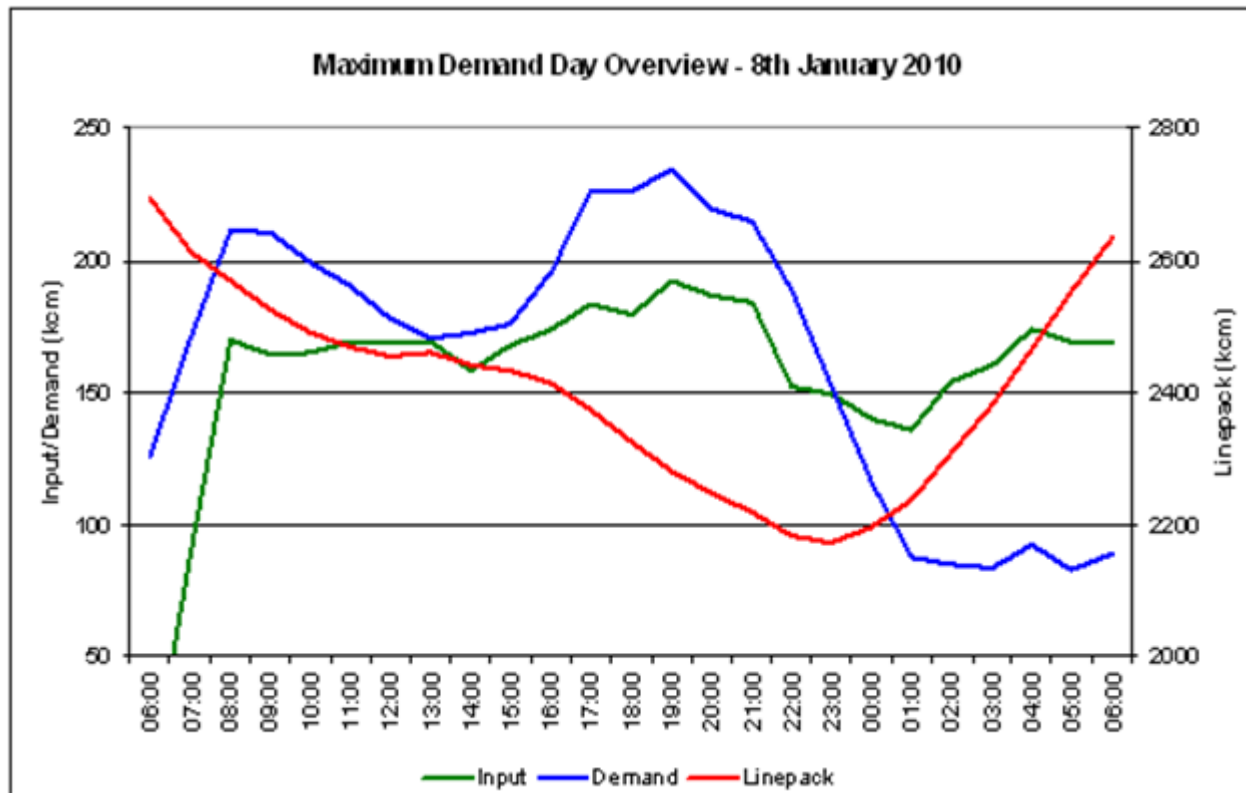
- Network Single v Multi issue incentive
- All Network pot (taking account of any collaborative efforts)?
- Timeline
 - Identify key capacity outputs (MAR) by mid January
 - Propose definitive outputs / scheme detail(s) by mid February
- Ensure alignment with any other output measures from other Ofgem working groups

What metrics we use to measure capacity utilisation (overview of winter demands)





What metrics we use to measure capacity utilisation (max demand day - summaries)





How recent customer behaviour validated companies (Networks) peak demand forecasts

- NG carried out some validation and as a result their models were corrected which from memory increased peak demands by 3% (before other factors were considered)

Capacity Working Group



- **Framework for capacity management: GDN**
- **Developing Output Measures**
- **Demand Forecasts**

Capacity Management Framework: GDNs



Ofgem's GDPCR2 proposals

- Expert challenge to need for and cost of capacity related expenditure projects
- Interruption allowances set on basis of cost of supporting existing interruptible customers
- Exit allowance based on GDN's Demand Forecast of required offtake
- Emphasis on achieving most efficient solution across all types of capacity (Network, Storage, interruptible, NTS)
 - Revenue dependent on demonstrating solution is most efficient
- Equalise incentives for capacity expenditure at the margin
- Single expenditure pot
- Link expenditure to output measure(s)
- Look to include revenue triggers for large capacity investment projects

Developing Output Measures



What indicators are used to signal need for provision of additional capacity?

- Insufficient storage to meet 1 in 20 Peak day requirement.
 - Flex from NTS, reinforce network and create storage at the same time.
- Pressures on system unable to support downstream network.
 - Purchase interruption, invest in pipe or reduce differential across PRS through investment
- Insufficient Offtake or PRS Capacity
 - Manage upstream network to increase inlet pressure, increase assured pressure, purchase interruption, invest to provide capacity.

Developing Output Measures



Planned capacity and capacity utilisation

- The capacity of the network is made up of, the ability of the pipe network, the NTS offtakes and PRS's to deliver gas to its customers at a rate and time at which the customers want to use gas.
- The rate at which customers take gas and the diurnal swing in gas usage is an important driver in networks ability to deliver as this drives storage volumes
 - The baseline is our commitment to supply the capacity booked by customers at the start of the next PCR?
 - System capability is the capacity booked on the system on the 1st October each subsequent year and how we manage the network to deliver any change in capacity?
 - (Secondary Measure) Utilisation is the actual throughput for the year when it has been weather corrected?

Demand Forecasts



- Changes in Long Term Demand Forecasts has been caused by the recession and the assumptions used for environmental impact
- Divergence between DN's and NTS forecasts is within statistical probability
- Any alternative demand scenarios to be used in the Business Plans need to be defined in 2010 to enable preparation of Business Plans in early 2011