

**Impact of UNC Modification 0432
(Project Nexus) on GB gas market**

**A report for I&C Shippers & Suppliers
(ICoSS)**

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Ltd**

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1. Background

Project Nexus is the collective term given to the project to replace central industry systems. To take advantage of the lower implementations costs this technology replacement has afforded, a series of market improvements have been identified by shippers. The foremost of these are reforms to the current settlement processes used by the industry. These changes are collectively set out in UNC Modification 0432: Project Nexus – gas settlement reform.

New processes

The most significant of these improvements is the replacement of current settlement classifications of DM, LSP NDM & SSP NDM with four new settlement products as summarised below:

<i>Process Description</i>	<i>Basis of energy Allocation</i>	<i>Basis of Energy Balancing</i>	<i>Shipper Read Submission</i>	<i>Missing read arrangements for energy allocation</i>
Product 1: Daily Metered Time Critical Readings	Daily Read	Daily Read	Daily by 10 am on GFD+1	D-7 estimate
Product 2: Daily Metered not Time Critical Readings	Daily Read	Daily Read	Daily by end of GFD+1	D-7 estimate
Product 3: Batched Daily Readings	Allocation Profiles	Allocation Profiles	Periodically in batches of daily readings	Not applicable – not used in allocation
Product 4: Periodic Readings	Allocation Profiles	Allocation Profiles	Periodically	Not applicable – not used in allocation

Source: Xoserve

The movement to these new products has three main impacts on the settlement framework:

- Significant increase in the number of daily settled sites, coupled with removal of restrictions on what sites can be daily settled.
- All sites, as a minimum, will be individually settled and reconciled, i.e. treated as current LSP NDM.
- The RbD process will no longer exist and so Unidentified Gas will be allocated evenly on a portfolio basis.

In addition it is proposed to move from the current static AQ calculation process and instead re-calculate AQ for each site on a monthly basis if sufficient meter readings exist.

Cost Benefit Analysis

It is widely expected that this new settlement framework will bring significant improvements in the operation and efficiency of the market, not least a significant reduction in the costs that shippers incur through inaccurate allocation up to and on the Gas Day. This report attempts to quantify some of those benefits to enable Ofgem to weigh up the value to the customer.

2. Data Analysis

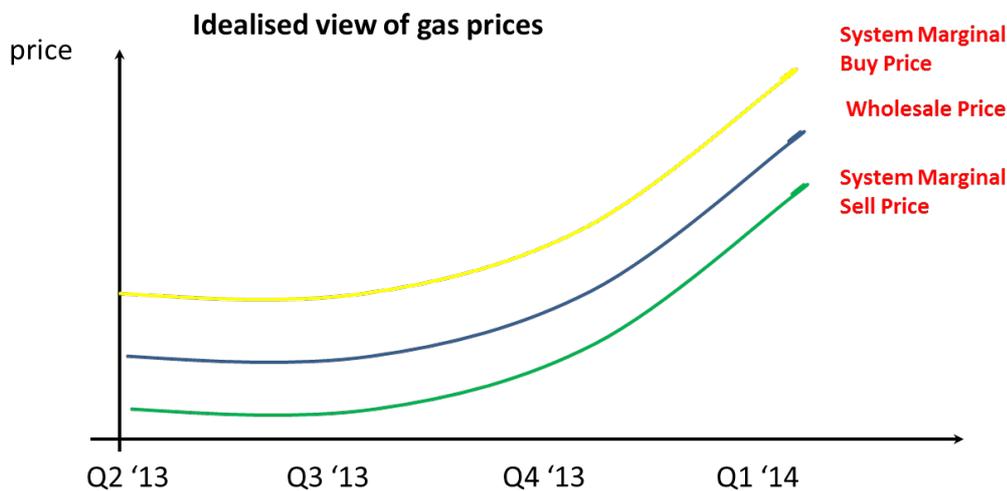
There is general agreement that the new settlement process will improve the efficiency of the market. The total identified costs of the market improvements requested by shipper has an estimated total cost of £20m, approximately an additional £1 on every household bill. This report sets out the benefits that these changes will bring by reducing the volatility between initial allocation for a site and its final reconciled position.

Scope

This report looks at the impact that allocation adjustment has on shippers, focussing on their wholesale gas costs. A series of other factors (such as time value of money) are not examined.

System Price of Gas

The underlying principle behind the wholesale allocation process is to ensure that shippers seek to purchase the gas that their suppliers' customers will use. This should mean the System Marginal Buy Price and the System Marginal Sell Price should always be higher and lower respectively of wholesale market prices. An idealised representation of this process is shown below:

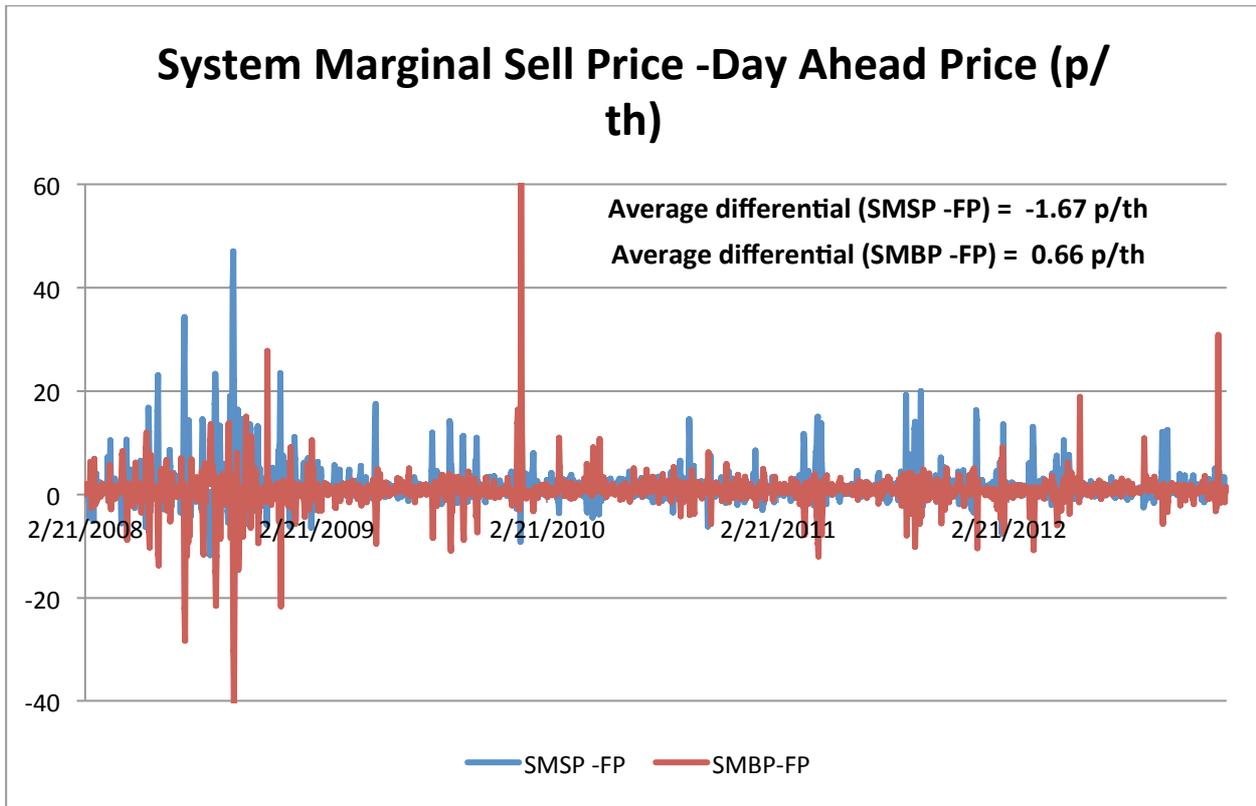


Note: This does not reflect actual market prices

Reflecting this underlying principle, the System Marginal Sell Price (SMSP) is defined as the lesser of the lowest Balancing Action Offer Price on a Day or System Average Price¹ - 0.0324 p/kWh. System Marginal Buy Price (SMBP) is the higher of the highest Balancing Action Offer Price on a Day or SAP + 0.0287 p/kWh.

This unpredictable price divergence has financial implications for shipper as they will be either be charged SMBP or be paid the uneconomical SMSP for any imbalance between what they were allocated and the gas they put into the system.

In reality the system marginal prices not always align with market prices. As can be seen below historically² the System Marginal Buy Price can be lower than the market price and the System Marginal Sell Price can be higher than the market price:

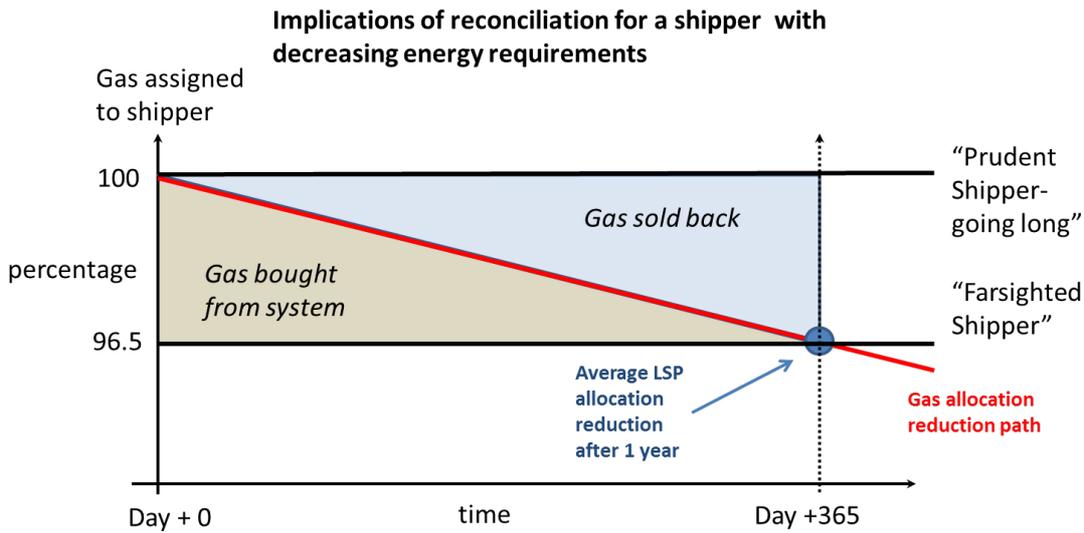


Reconciliation Process

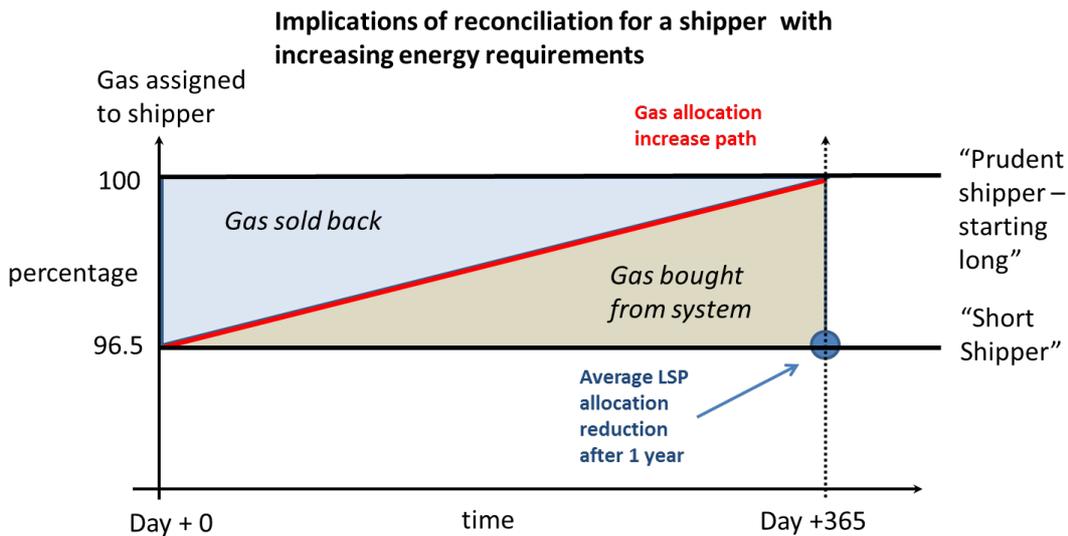
In Project Nexus all sites will be individually reconciled and so be effectively treated as LSP NDM sites are currently. For LSP NDM customers a shipper will be assigned an amount of gas using an estimation process based on the site’s AQ. As meter reads are received then the site’s consumption will be adjusted (reconciled) to allocate to the shipper the correct gas use for that site. This means that over time the view of the site’s consumption will shift. The aggregate impact of these changes will mean that a shipper will potentially be liable for SMBP or eligible to receive SMSP as their total allocation shifts towards the final volume. It has been communicated by Xoserve that generally their energy allocated to LSP NDM sites reduces as the sites are reconciled and so there is a downward trend.

For a shipper whose total volume requirements there can either meet of their gas requirements on the day and then be reimbursed for the gas their customers did not use over a period of time (termed here “Prudent Shipper –going long”), or they attempt to determine their customer’s true gas consumption. In this latter scenario the shipper pays for their short position at SMBP, but this is gradually returned to that shipper as their position is corrected over time, so being at zero position if they are accurate in their estimation (termed “Farsighted Shipper”).

²Using System Prices February 2008 – January 2013 and Platts day-ahead price for the same period



The other scenario is that the shipper experiences an increase in gas requirements. Again the two possible approaches are either to buy the gas allocated on the day and so be exposed to buying gas at SMBP as the allocation increases (“Short Shipper”), or attempt to determine final demand and purchase gas in the market to meet it (“Prudent Shipper – starting long”)



The impact of these possible scenarios, ranked in descending order of unit cost are:

	Differential	Average Cost (p/th) ³
Short Shipper	SMBP	50.36
Prudent Shipper – going long	Market Price -SMSP	1.67
Prudent Shipper – starting long		
Farsighted Shipper	SMBP	50.36

The last scenario requires the shipper to predict its final gas use on any given day and so demand a level of forecasting (or luck) that is very difficult to achieve in practice with NDM

³ Using System Prices February 2008 – January 2013 and Platts day-ahead price for the same period

customers and be effectively discounted. In reality a shipper will either ultimately end up short or long depending on the accuracy of their predictions and the position initially taken. Owing to the fact that the SMBP price is penal, the incentive would be for shippers to go long as the cost is much lower and so most shippers would follow the prudent shipper route to some degree, through probably not for their whole portfolio.

3. Conclusions

At present any energy adjustment caused by reconciliations flows into or out of the SSP market and so there would be a corresponding increase into this market. This will not be the case when Project Nexus is implemented, but as any reductions in gas flow would instead go into Unidentified Gas and smeared across the market this will have the same net impact as RbD. Therefore for a net reduction for a shipper will push up allocated for all other shippers.

Extending the values highlighted above to the whole NDM market then the price impact of a 1% market change would be:

	Differential	Average Cost (p/th) ⁴	Average Cost (p/kWh)	Impact per % drop (NDM market) ⁵ p.a.
Short Shipper	SMBP	50.36	1.719	£85.9m
Prudent Shipper	Market Price - SMSP	1.67	0.057	£2.85m

It has been indicated that the approximate reduction in allocation between July 2011 and July 2012 for the whole LSP NDM sector was approximately 3.5%. This reduction would result in a cost to the market of £9.96m per year, assuming that all shippers were long and so able to absorb such a cost at a substantially lower rate than SMBP. If some shippers were instead short then it would instead be a substantially higher cost for the market as a whole.

Assuming that a Project Nexus has a lifespan of 10 years then the new settlement changes would have to achieve a reduction in volatility 0.35% to recover its costs.

⁴ Using System Prices February 2008 – January 2013 and Platts day-ahead price for the same period

⁵ Using an NDM market value of 500 TWh a year,