TOTAL GAS & POWER LIMITED

Extension of DM service to enable Consumer Demand Side Management

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1. Summary

Over the last twelve months prospective and current Meter Assets Managers (MAMs) have started to offer Automated Meter Reading Services (AMRS) to Industrial and Commercial Suppliers. One of the perceived advantages of AMR Meters is that it enables Industrial and Commercial Customers to actively manage their gas consumption in response to market signals, particularly in times of system stress.

At present we believe that the current market structure, in particular the system limitations, inhibits the development of consumer driven demand management and hence reduces the benefits of smart metering.

We are proposing that the UNC, with supporting systems are modified to enable Shippers to manage DM(AMR) Supply Points directly. We would anticipate daily meter reading that the MAM, as opposed to the Transporter, would collect with the Shipper submitting these daily readings to the Transporter's Agent (Xoserve). We do not anticipate removing any obligations from Transporters in maintaining and operating the current DM portfolio.

This paper outlines the problems that are inherent in the current system and offer some possible solutions.

2. Current Metering UNC Provisions

2.1. DM Transporter obligations

A site must be classified as a Daily Read Site if :

- The Supply Point has an AQ of greater than 58,600,000 kWh (2,000,000 Therms) and the Meter Point in question has an AQ > 2,196,000 kWh (75,000 Therms);
- If it is an NTS Supply Point; or
- If it is an Interruptible Supply Point. Any Supply Point with an AQ 5,860,000 kWh (200,000 Therms) can be an interruptible Supply Point.

There are at present several obligations placed upon Transporters with regard to DM Meters

- The meter must have attached a datalogger for recording previous day reads;
- A communication link to enable the Transporter to interrogate it remotely must also be installed. It must be a telephone line if practicable; otherwise radio equipment may be used;
- The Transporter must read the meter at the beginning and the end of the Gas Day. These must be provided to User by 11.00 am the following day;
- If telemetry equipment is installed, then the Transporter is not obliged to conform with the requirements to provide meter readings daily. This is presumably because Users will obtain the meter readings themselves at the same time; and
- Shippers may request hourly reads , which are provided in four-hourly chunks.

In practice there are very few firm supply points below 2,000,000 Therms that are DM Metered and these sites are of significant importance to the Transporter in regard to Network Management. This is contrast to the original intention at the inception of the Network Code to have sites above 25,000 Therms to be Daily Metered.

2.2. Limitations on NDM Meter Reads

At present the UNC restricts the number of meter readings that can be submitted to xoserve to no more regularly than:

- in the case of a Monthly Read Meter, every 7 Days;
- in the case of a Larger Annual Read Meter, every 14 Days ;
- in the case of a Smaller Annual Read Meter, every 63 Days.

Erroneous meter readings that were not rejected may be revised.

These limitations were put in place after modification 0693 was approved. The modification was raised by Transco to protect the integrity of the UK Link systems as it was feared that the advent of AMRS would result in the settlement systems being swamped with meter reads.

2.3. Limitations of current arrangements

A MAM will be able to collect Daily Meter Reads from any NDM site fitted with a AMRS meter. This information can be sent to the Shipper, who can then bill the customer on a daily basis, which can be index linked to a daily price.

The Shipper is only able to submit one read a week however and any reconciliation that occurs will be based on EUC for that period. Hence the daily performance of a site in the reconciliation process will be inaccurate. If a site does not readily fit an EUC profile (which has been seen with some sites, such as 24 hour Supermarkets) then the costs incurred by that consumer do not reflect their consumption patterns and hence efficient consumption is not incentivised.

For system purposes the allocation process will still assign an estimated demand to any NDM site, irrespective of that sites actual demand, even if the shipper submits a read for that site on the day that allocation is performed.

The implications of these restrictions are that accurate meter reading data may not be utilized to ensure that Shippers and consumers are managing their position as accurately as possible. This has knock-on effects on Demand-side management by customers which is demonstrated below.

3. Demand Side Management

The Demand-Supply Situation for this winter and the next winter is widely acknowledged as being the tightest in living memory. Ofgem in cooperation with the market has attempted to increase awareness amongst consumers and increase self-controlled Demand-side response in response to market signals.

The following example demonstrates how a site is affected by the attempt to reduce gas consumption in response to high prices.

An NDM site is part of a portfolio of large DM and NDM sites. The Customer wishes to have all of his contracts tied to the day-ahead spot price in order to enable flexible Demand Management. The consumer has indicated a preference to cease using gas if spot prices exceed £1/Th to save money. They will shift production to other days to compensate. NB: In reality an individual NDM cannot be examined in isolation, but this example highlights the effect the site would have on the portfolio.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
Consumption	80	90	0	100	150	75	75	570
D-1 Spot Price (£/Th)	0.60	0.80	1.35	0.96	0.65	0.50	0.50	
Allocation	80	90	100	100	100	50	50	570
Imbal	0	0	-100	0	50	25	25	570
SMBS/SMSS (£/Th)	0.55	0.75	1.25	0.85	0.45	0.35	0.30	
Imbal Cost	0	0	£125	0	£22.50	£8.75	£7.5	£86.25

In this example the customer attempts to reduce his gas costs in response to high prices, and thereby reduce the stress on the system. Owing to the allocation mechanism the Shipper, and ultimately the consumer, is penalised.

4. Changes required to enable Shipper-managed DM Sites.

As demonstrated above the current settlement process disincentives NDM supply points from engaging in Demand-side management. The following would be required to enable shippers to nominate to such sites.

4.1. Changes to DM Service Provision

At present Transporters are solely responsible for the provision and maintenance of DM sites. In order to enable a wider range of sites to become DM, shippers would need to be able to nominate sites to be Daily metered. In many respects the service provided to the DM Customer would be identical to the service currently provided by Transporters, but would be provided by MAMs directly contracting with Shippers. The following changes to the UNC need to be considered.

- Dataloggers would not be required at smaller sites, as the information is not as vital to the Transporter's operations as the current very large consuming sites;
- A telephone link would not be required, as the AMRS would use remote technology;
- One read a day, as opposed to two would be sufficient for the customer's purposes; and
- To avoid perceptions of possible discrimination, Shippers would need to be able to nominate sites without Transporter approval, though we anticipate selction criteria will prevent sites which would gain little from being a DM site from being submitted.

It is anticipated that there would need to be a submission deadline for reads from Shippers, as well as validation criteria for the reads. It is also anticipated that provisions to provide deemed reads in the absence of DM data for a Supply point, could be undertaken by Xoserve.

4.2. Change to frequency of submission of meter readings.

In order to facilitate the processing of a substantial amount of Daily Meter reads, UK Link may require to be upgraded. There would be a requirement to place a lower limit on the sites that can be DM to prevent undue strain on the UK Link system. The UNC defines a site with an AQ of greater than 25,000 Therms as a Large Firm Supply Point. In a local emergency, the Transporters can request all such sites to be isolated from the system in theory. It would seem appropriate that this is used as the qualifying threshold, though system issues will need to be examined prior to this being set.

4.3. Current DM sites.

Transporters are required to obtain meter readings from all DM sites at present. This information is utilized by the Transporters in balancing the system and we would anticipate that this requirement remains. We therefore do not believe that any changes to the provisions for current DM sites are necessary.