

To:
Shippers, Suppliers, Customers, Transmission and Transportation
System Owners and other Interested Parties

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Dear Colleague

Changes to the NTS Environmental Incentive Calculation Methodology

In 2008, Ofgem introduced an incentive on National Grid which related to the methane vented from gas powered NTS compressors. This was subsequently expanded to include the electric drive compressors and all of the components of natural gas (i.e. not just the methane component). This incentive is called the NTS Environmental incentive.

This vented mass is also subject to other environmental obligations from the Environment Agency (EA) and the Scottish Environmental Protection Agency (SEPA). Therefore in response to the incentive and the wider obligations from the EA/SEPA to use the best information and methodology to calculate¹ the mass of natural gas vented, National Grid has undertaken work to review all aspects of the methodology, measurements and constants used in calculating the vented mass.

Through this year's consultation on System Operator (SO) Incentives, it was highlighted that the methodology review should be taken into account in the setting of the NTS Environmental Incentive target, to ensure that the updated methodology that will be used to calculate actual performance will be consistent with the methodology used to set the incentive target.

These studies are now complete and this letter explains the outcomes of the studies and the impact of the resulting methodology changes on the data previously reported (under the current methodology). For the purposes of this letter, these outcomes are grouped into two main areas, improvements to the calculation methodology and improvements resulting from site surveys.

¹ Due to the nature of the equipment and processed which result in the release of natural gas the volumes released are calculated rather than being directly metered.

Improvements to the Venting Calculation Methodology

We have identified two areas where changes in the calculation of the mass vented, will increase the accuracy of the calculation. These areas are described below:

- **Gas Starter Vents.** On some compressors, natural gas is used to start the compressor. The calculation will be updated to use data on the venting time and flow rate, rather than assumed volume and density (as currently used).
- **Start Up Vents.** Purging the compressor and associated pipework prior to starting a compressor to remove the risk of air entering the pipeline system. The calculation will be updated to use data on the venting time and flow rate, rather than assumed volume and density (as currently used).

Improvements to Source Data

We have surveyed the equipment on each of the NTS compressor sites to ensure that the correct constants (e.g. the volume of equipment vented) are fed into the calculation and that measured values are used where available. As a result of this review, four areas of improvement have been identified:

- **Fuel gas vents.** Purging the fuel gas lines on gas powered compressors prior to starting a compressor to remove the risk of air entering the fuel system. The calculation will be updated to use a measured, rather than an assumed gas density.
- **Process Vents.** Purging the compressor and associated pipework of gas when the compressor is no longer required for active duty, for safety reasons when maintenance needs to be carried out or should the compressor trip. The volumes of compressor casings and pipework used in the vent mass calculation will be revised following the surveys – including both increases and decreases in the volumes.
- **Dynamic Seal Leakage.** On some compressors, there is a small amount of leakage around a seal on the compressor shaft when the compressor is running. As part of the surveys we have obtained revised compressor specific constants that are used to calculate the vent mass that will be used when the changes are implemented.
- **Static Seal leakage.** The site surveys identified that seal leakage venting when the compressor is pressurised but not running, was not previously included in the reporting of the vented volumes. The surveys have determined the static seal leakage rate and this venting will be included in the reporting from April 2010.

The impact of the improvements identified above on the previously reported venting data for the 2009 calendar year can be seen in the following table.

	Current Calculation Methodology			Estimated Venting Following Methodology & Survey Updates		
	Electric	Gas	Total	Electric	Gas	Total
Process Vents	12	1240	1252	19	1479	1498
Fuel Gas Vents	0	3	3	0	4	4
Starter Vents	0	56	56	0	76	76
Start up Purge Vents	9	119	128	1	324	325
Dynamic Seal Leakage Vents	0	57	57	8	369	376
Static Seal Leakage Vents	n/a	n/a	n/a	39	688	727
Total Natural Gas Released (tonnes)	21	1487	1508	62	2945	3007

Table 1: Venting under the current calculation methodology and under the new methodology for electric and gas powered compressors in 2009

Conclusions

All of the improvements identified above will be included in the venting data reported to Ofgem and the environmental agencies from April 2010.

With the necessary studies now completed, subject to any future changes driven by the environmental agencies or environmental legislation, National Grid do not foresee a need to bring forward any further changes to the methodology.

In order that the incentive continues to drive the desired behaviours by National Grid, it is important that any incentive mechanism should use a consistent methodology for setting the target and for measuring performance. Therefore, we believe that the NTS Environmental Incentive target should be set using the available information in order to be consistent with outturn performance.

If you require any further information then please e-mail National Grid at SOincentives@uk.ngrid.com.

Yours sincerely



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