

August 2016

# National Grid Gas (NTS) System Operator Incentives – Supporting Information Version 8.0

UK Gas Transmission



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## Version Control

<b>Version Number</b>	<b>Date of Publication</b>	<b>Changes Made</b>
1.0	October 2009	First issue
2.0	May 2010	Update for incentive schemes in place from April 2010
2.1	August 2010	Update of 2009/10 incentive scheme performance
3.0	June 2011	Update for incentive schemes in place from April 2011
4.0	April 2012	Update for incentive schemes in place from April 2012
5.0	April 2013	Update for incentive schemes in place from April 2013
5.1	May 2013	Update to include Entry Capacity and Exit Capacity Constraint Management, Transportation Support Services and Customer and Stakeholder Satisfaction schemes in place from April 2013
6.0	October 2014	Update to all sections to include 2013/14 data and graphs
7.0	August 2015	Update to include scheme changes from renegotiation of Incentives from 2015/16 and with performance for 2014/15.
8.0	August 2016	Update with performance from 2015/16 and relevant updates for 2016/17 targets.

# Section 1

## Introduction

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### 1.1 Introduction to Gas System Operator Incentives

1. National Grid Gas (National Grid) operates the high pressure Gas Transmission System (NTS) in Great Britain. This System Operator (SO) function is subject to Licence<sup>1</sup> obligations and a number of financial incentive arrangements. These incentive arrangements encourage National Grid to minimise the overall cost of system operation to consumers, to consider environmental impacts and to support the efficient operation of the wholesale gas market.
2. These arrangements are designed to encourage National Grid to deliver outputs which provide benefits to the industry and consumers. These benefits include direct financial benefit from reductions in the costs associated with operating the gas transmission network and other benefits from meeting key performance measures (such as through improved information provision to the market).
3. The various incentive schemes provide a focus on key areas where National Grid is able to create value for the industry and consumers, allowing National Grid to retain a share of any value created (or to be penalised should targets not be met).

### 1.2 Background to this Document

4. This document was produced following feedback received through responses to consultation papers and industry events. This document summarises the Gas SO Incentive Schemes applicable from April 2013 and those reviewed and updated, which commenced April 2015.

### 1.3 Summary of Incentive Development for RIIO-T1

5. The seven existing shallow incentive schemes were reviewed in 2013 as part of the review of the SO Incentives for the RIIO-T1 period 2013 to 2021.
6. Following this review, four shallow financial incentives were retained (NTS Shrinkage, Residual Balancing, Day Ahead Demand Forecasting and Greenhouse Gas Emissions) and supplemented with two new shallow financial schemes covering Maintenance activities and Demand Forecasting in respect of the D-2 to D-5 forecast range.
7. However, the existing financial schemes for Operating Margins (OM) and Data Publication were replaced with new licence obligations:
  - Operating Margins<sup>2</sup> – requirement for National Grid to procure OM in an economic and efficient manner, to report on its annual procurement and to promote competition in its provision.

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<sup>1</sup> The National Grid Gas plc Gas Transporter Licence in respect of the NTS

<sup>2</sup> Special Condition 8C: Procurement of Operating Margins

- Data Publication<sup>3</sup> – requirement for National Grid to publish key assumptions in development of future energy scenarios, publish winter & summer outlooks and publish operational data.
8. The UAG (Unaccounted for Gas) licence obligation to continue witnessing meter validations and carry out data centred investigations into the causes of UAG has been retained for the duration of the RIIO-T1 period 2013 to 2021.
  9. In addition to the shallow incentive schemes, there were a further three financial incentive schemes added which cover further aspects of our activities. These schemes are:
    - Entry Capacity and Exit Capacity Constraint Management;
    - Transportation Support Services; and
    - Customer and Stakeholder Satisfaction.

#### 1.4 Summary of Incentive Review for 2015/16

10. For the two new shallow financial incentive schemes agreed as part of RIIO-T1 (Maintenance and Demand Forecasting D-2 to D-5), initial schemes were set for a two year period to assess their effectiveness before committing to longer timescales.
11. A scheme review was undertaken during 2014/15, which also included the Greenhouse Gas Emissions scheme, which had been set for an initial three year period. The review process concluded with a decision published by the Authority on 19<sup>th</sup> June 2015.
12. As a result of the review, the two new schemes were set against amended scheme parameters for an additional three years duration.
13. The Greenhouse Gas Emissions scheme was set for an additional two years period, which commences in the 2016/17 formula year.

#### 1.5 Feedback and Contact Details

14. We welcome any feedback on this document including suggestions for additional information to incorporate.
15. Contact details and further information on Gas SO Incentives can be found on the National Grid website via the below link:

<http://www.nationalgrid.com/uk/Gas/soincentives/>

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<sup>3</sup> Special Condition 8F: Provision of information

## Section 2

### Financial Incentive Schemes

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#### 2.1 Summary of Current Financial Incentives

16. The following pages provide a summary of the current financial SO incentive schemes which are listed in the table below:

Document Section	Financial Incentives
2.2	Demand Forecasting
2.3	Greenhouse Gas (GHG) Emissions from Compressors
2.4	Residual Balancing
2.5	NTS Shrinkage
2.6	Maintenance
2.7	Entry Capacity and Exit Capacity Constraint Management
2.8	Transportation Support Services
2.9	Customer and Stakeholder Satisfaction

## 2.2 Demand Forecasting

Purpose: to incentivise improvements in the accuracy of the Demand Forecasts issued by National Grid Gas.

17. National Grid publishes national gas demand forecasts over a range of timescales. We forecast demand on a day ahead basis and have been subject to an incentive based upon the accuracy of this forecast since 2006. In addition to this we publish demand forecasts each day from two to five days ahead of the day. A new incentive scheme was introduced on the 1st April 2013 designed to improve our performance over these forecasts ('D2 to D5') and was subject to a scheme change from 1<sup>st</sup> April 2015.
18. In respect of the **Day Ahead scheme**, National Grid has an incentive target of an annual average absolute forecast error of 8.5mcm with an adjustment for the level of short-cycle storage injection capability (to take into account the unpredictability of demand from short-cycle storage<sup>4</sup> sites). The adjustment revises the day ahead demand forecasting target absolute error of 8.5mcm and is capped at an additional 1mcm. This incentive was set for eight years commencing 1<sup>st</sup> April 2013.
19. The daily forecast error is calculated as the difference (in mcm) between the day ahead forecast NTS throughput value and the actual throughput value on the appropriate day of the year. The annual average absolute forecast error is the sum of the daily forecast errors which themselves are weighted according to the relevant day's demand as a proportion of annual demand in the relevant incentive year. Therefore forecasting accuracy on high demand days has a greater impact on performance than accuracy on lower demand days.
20. The incentive scheme parameters are summarised in the figure below.

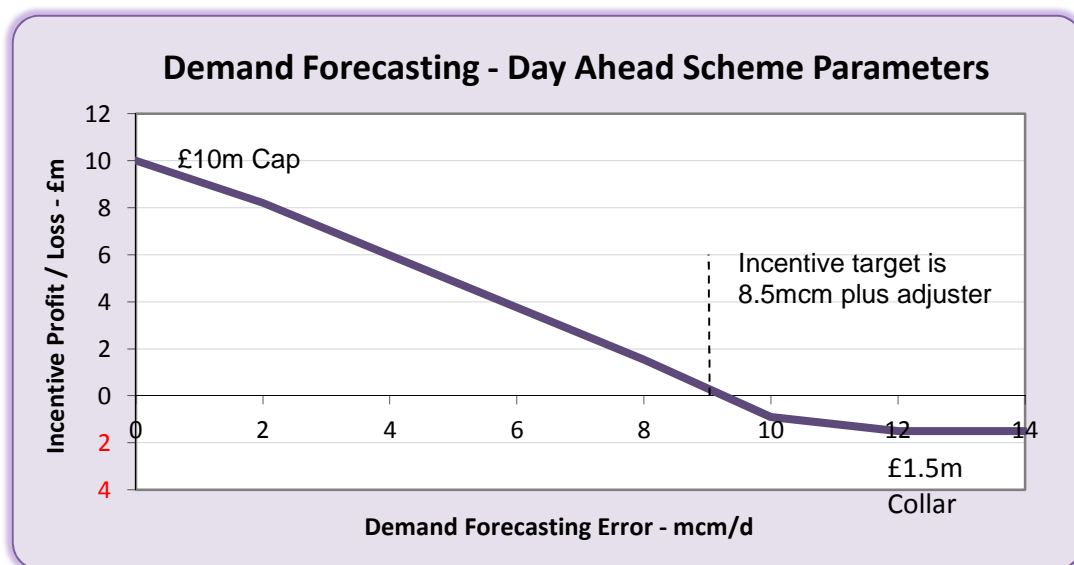
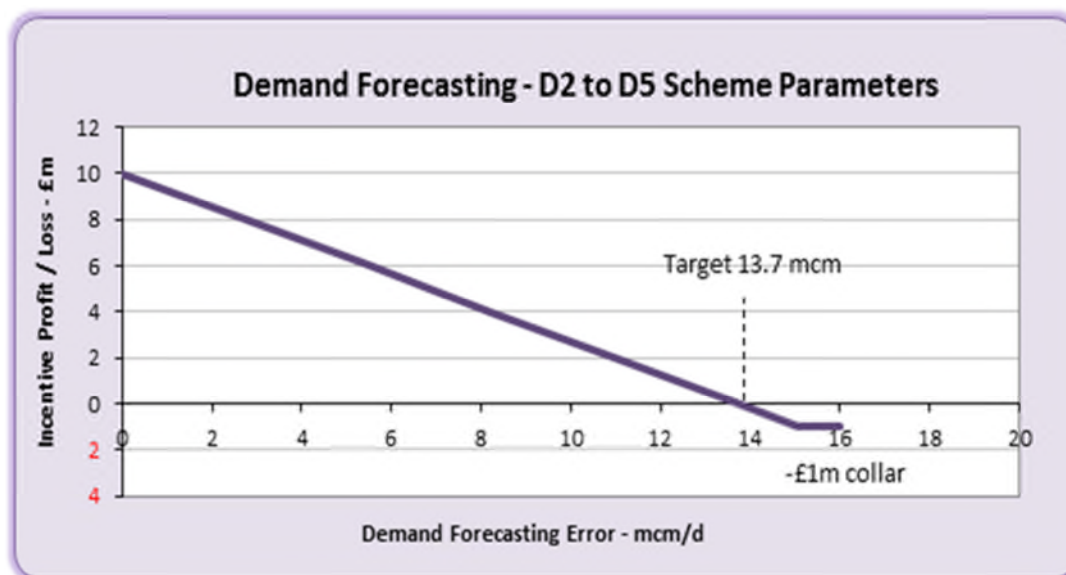


Figure 1a: Day Ahead Demand Forecasting Incentive

<sup>4</sup> Details of the storage sites that are utilised in the calculation are published on National Grid's website at: [www2.nationalgrid.com/uk/industry-information/gas-system-operator-incentives/demand-forecasting/](http://www2.nationalgrid.com/uk/industry-information/gas-system-operator-incentives/demand-forecasting/)

21. If National Grid has a demand forecast error below the target, an incentive payment will be received, however if the forecast error is greater than the target then an incentive penalty will be applied.
22. An average annual forecast error of 0.85mcm below the base target (7.65mcm) would mean National Grid earning £1.5m, and an error of 0.85mcm above the base target (9.35mcm) would result in National Grid being penalised by the same amount. The latter represents the highest loss that National Grid is exposed to under this incentive. The maximum payment that National Grid can receive is £10m<sup>5</sup>.
23. In respect of **the D-2 to D-5 scheme**, from 2015/16 through to 2017/18 National Grid has an incentive target of an annual average absolute forecast error of 13.7mcm. There is no adjustment for the level of short-cycle storage injection capability. This incentive was set for three years commencing 1<sup>st</sup> April 2015.
24. The overall forecast error is equal to the average annual forecast error of the four timed forecasts for the incentive year. The annual error for each timed forecast is derived as the sum of daily forecast errors weighted according to the relevant day's demand as a proportion of annual demand in the relevant incentive year. From this perspective, accuracy on high demand days has a greater impact on performance than accuracy on lower demand days
25. The scheme parameters are summarised in the figure below.



**Figure 1b: D-2 to D-5 Demand Forecasting Incentive**

<sup>5</sup> A payment of this scale would require forecast error to be between zero and 1mcm (dependant on the target adjustment). A zero forecast error would mean a zero error on every daily forecast in the year.

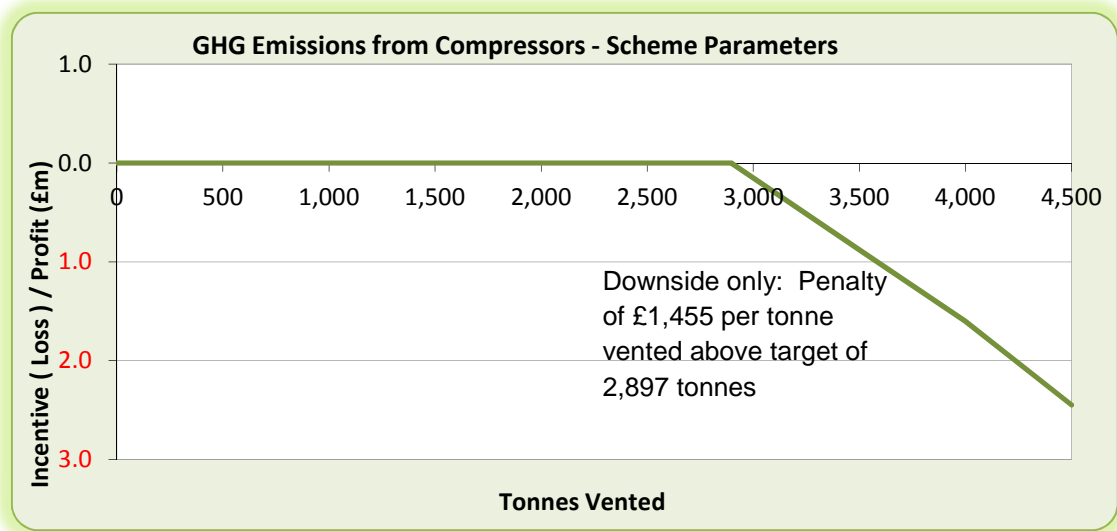


26. Similar to the Day Ahead incentive scheme, if National Grid's forecast error is below the target, an incentive payment will be received, however if the forecast error is greater than the target then an incentive penalty will be applied.
27. An average annual forecast error of 1.37mcm below the target (12.33mcm) would mean National Grid earning £1m, and an error of 1.37mcm in excess of the target (15.07mcm) would result in National Grid being penalised by the same amount. The latter represents the highest loss that National Grid is exposed to under this incentive. The maximum payment that National Grid can receive is £10m at zero forecast error.

### 2.3 Greenhouse Gas (GHG) Emissions from Compressors

Purpose: To incentivise the consideration of the environment when venting from NTS compressors

28. Compressors are utilised to increase pressures in parts of the NTS and to move gas from the sources of supply to areas of demand. The need to operate an individual compressor on any given day depends on a number of factors, including the sources of supply and demand, the prevailing network conditions and the need to accommodate essential maintenance, emission testing and construction plans.
29. The scheme incentivises National Grid to make the trade-off between choosing to depressurise compressor units (venting the gas within them) or to keep units on standby - which incurs costs associated with ancillary electrical equipment (vent fans, oil pumps etc.) and a level of emissions through the shaft seal. The incentive applies to both gas and electrically driven compressors.
30. The amount of natural gas vented from NTS compressors (in tonnes) results from a number of areas; namely starting a compressor, purging a compressor, depressurising a compressor or through emissions of gas through compressor shaft seals.
31. The Greenhouse Gas Emissions Incentive was set for an initial three years commencing 1st April 2013 and was then set for a further two years period as part of the Incentive Review covering 2016/17 through to 2017/18 against amended scheme parameters.
32. The incentive compares actual venting quantities against a target level, which is set at 2,897 tonnes. For every tonne vented above this target, National Grid is subject to a penalty of approximately £1,455. This is equivalent to £100,000 for every 69 tonnes vented above the target. As a 'downside only' scheme, National Grid does not receive any payment for target outperformance. The incentive scheme parameters are summarised in the figure on the next page.

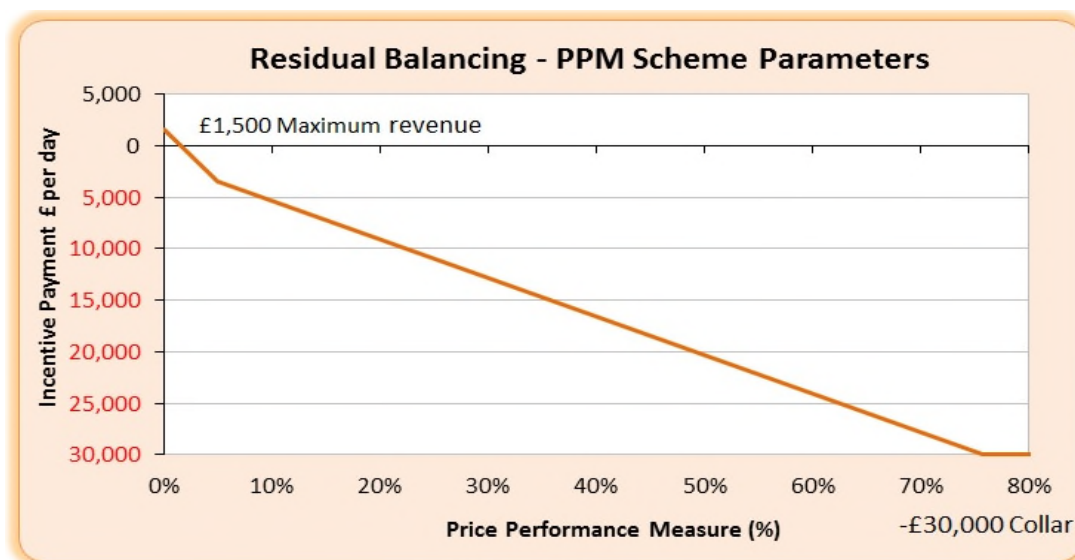


**Figure 2: GHG Emissions from Compressors Incentive**

## 2.4 Residual Balancing

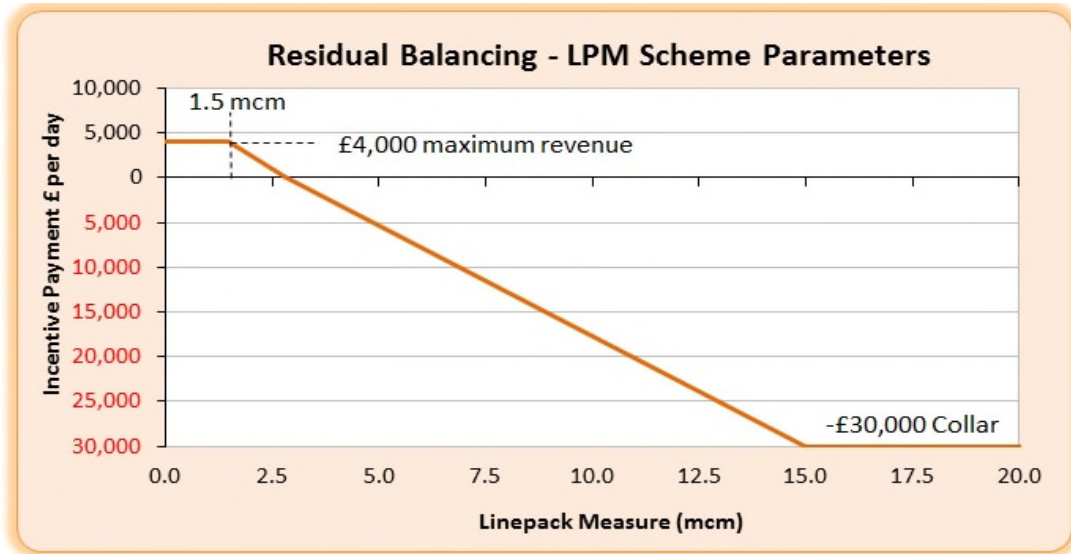
Purpose: To incentivise the daily balancing of supply and demand whilst minimising the impact of any actions on market prices.

33. The incentive contains two elements; the Price Performance Measure (PPM) and the Linepack Performance Measure (LPM) and was set for eight years commencing 1<sup>st</sup> April 2013.
34. The price element incentivises National Grid to execute any residual balancing trades at prices that are in a small range compared to the System Average Price (SAP) for the day. The PPM is defined as the difference between the highest and lowest prices at which National Grid trades divided by SAP. The target is a price spread of 1.5% of SAP.
35. The linepack element incentivises National Grid to minimise any changes between starting and closing NTS linepack over a gas day (i.e. to achieve a balance between the supply and demand on the gas day). This is intended to ensure that any system imbalances are resolved on the relevant day, so that the costs of resolving any imbalances are targeted to those responsible for the imbalance. The target is a linepack change of 2.8mcm.
36. The PPM and LPM each have their own incentive structures, which apply to each gas day in the year. The structure for the PPM is shown below.



**Figure 3a: Price Measure of the Residual Balancing Incentive**

37. If the PPM is below 1.5% on a given gas day then National Grid receives an incentive payment up to a maximum of £1,500. Conversely if the PPM is above 1.5% then National Grid incurs a penalty up to a maximum of £30,000.
38. The incentive structure for the LPM is similar to that for the PPM and is shown on the next page.



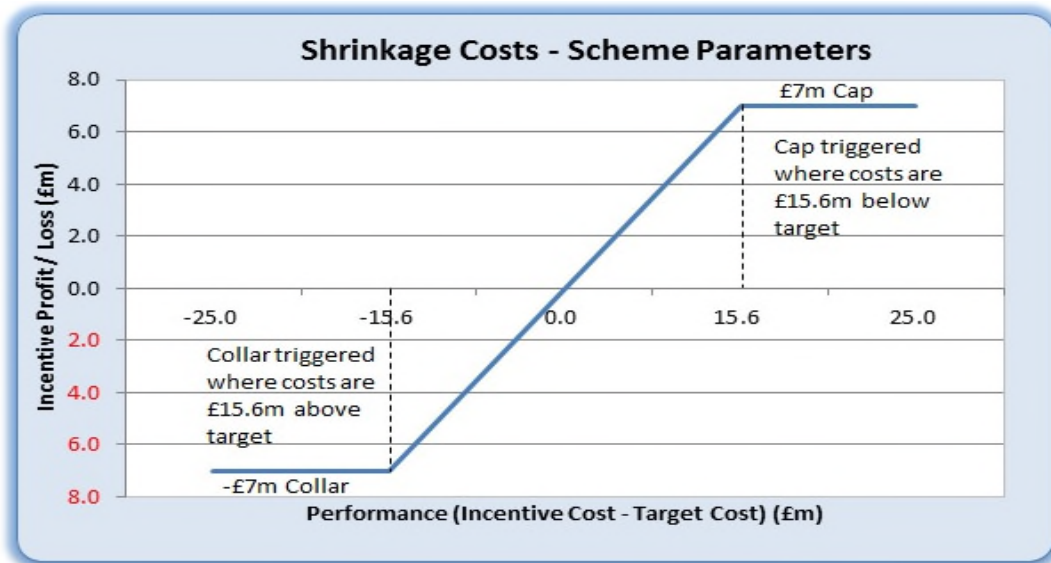
**Figure 3b: Linepack Performance Measure of the Residual Balancing incentive**

39. If the LPM is below 2.8mcm on a given gas day then National Grid receives an incentive payment up to a maximum of £4,000. This maximum applies at 1.5mcm, so there is no incentive for National Grid to balance the system beyond this point. Conversely if the LPM is above 2.8mcm then National Grid incurs a penalty up to a maximum of £30,000.
40. The sum of all of the daily payments for linepack and price performance under the Residual Balancing incentive are annually capped at £2m and collared at £3.5m.

## 2.5 NTS Shrinkage

Purpose: To incentivise an efficient overall cost of shrinkage through efficient system operation and energy procurement.

41. NTS Shrinkage covers the gas and electrical energy which is used in operating NTS compressors, and the gas that cannot be accounted for and billed in the measurement and allocation process. The components that comprise NTS Shrinkage are summarised as:
  - Compressor Fuel Use (CFU): The energy used to run compressors to transport gas through the NTS. For gas driven compressors this is Own Use Gas, for electric driven compressors this is Electric Compressor Energy;
  - Calorific Value (CV) shrinkage: The energy which cannot be billed due to the provisions of the Gas (Calculation of Thermal Energy) Regulations 1996 (amended in 1997); and
  - Unaccounted for Gas (UAG): The quantity of gas which remains after taking into account all measured inputs and outputs from the system, own use gas consumption, CV Shrinkage and the daily change in NTS linepack.
42. The form of the NTS Shrinkage incentive is a bundled cost minimisation incentive across all components of shrinkage, with a target principally derived from an energy procurement cost benchmark.
43. This 'Energy Procurement Target' is derived from a volume forecast and variance (the difference between the forecast and actual volume outturn). This is multiplied by gas and electricity reference prices for forwards procurement (of the forecast volume) and prompt procurement (of the variance volume) to derive a cost target. The volume forecast consists of CFU, CV Shrinkage and UAG volumes determined in accordance with an NTS Shrinkage Methodology Statement published by National Grid.
44. The overall cost target is also subject to:
  - An adjustment for comparison of outturn CFU and CV Shrinkage volumes compared to 'efficient' levels;
  - An allowance for the Transmission Network Use of System charges incurred in respect of electrically driven compressors; and
  - An adjustment for other shrinkage costs including environmental scheme compliance, electricity supply charges and other energy trading costs.
45. This incentive was set for eight years commencing 1 April 2013. The incentive scheme parameters are summarised in the figure below.



**Figure 4: Shrinkage Incentive**

46. If total spend against the incentive is below the target National Grid receives a payment equivalent to 45% of the under spend, subject to a limit of £7m. Conversely, if total spend against the incentive is in excess of the target, National Grid incurs a penalty of 45% of the overspend, subject to a limit of £7m.

## 2.6 Maintenance

Purpose: To incentivise the efficient planning and execution of network maintenance impacting customers at direct exit connections<sup>6</sup> from the NTS.

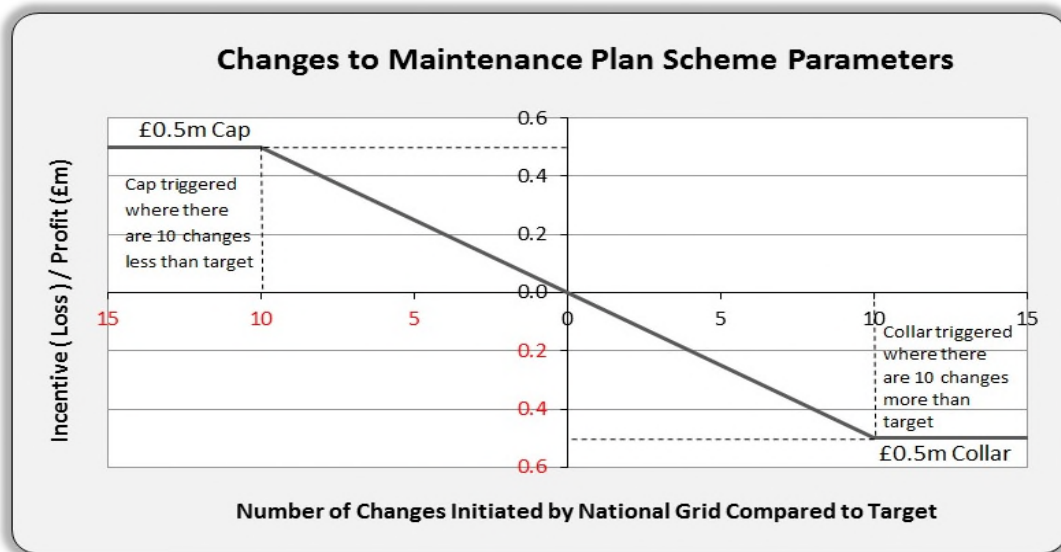
47. In order to ensure the ongoing reliability and integrity of the NTS in line with regulatory and safety requirements, National Grid is required to periodically undertake maintenance of the pipeline system. Where this work requires an outage, or to reduce the flexibility available (e.g. where steady gas flows may be required) at one or more direct exit connections, National Grid may 'call' one or more 'Maintenance Days' in accordance with the Uniform Network Code (subject to any site specific limitations).
48. To minimise the impact of Maintenance work on customers, National Grid plan maintenance activities to align with periods which minimise disruption to customer operations. Where National Grid is able to align maintenance to periods which have no impact on customer contractual rights, National Grid will communicate the maintenance period as "Advice Notice Days". Where this is not possible and an outage or restriction on customer operations is required a "Maintenance Day" will be called. The Maintenance Incentive is therefore split in to two scheme components incentivising:
  - Minimisation of changes initiated by National Grid to the agreed maintenance plan; and
  - Minimisation of the use of Maintenance Days to perform Remote Valve Operations maintenance.
49. In respect of the **Changes Scheme** the target number of Maintenance Days or Advice Notice Days<sup>7</sup> subject to change initiated by National Grid (excluding changes made by National Grid pursuant to customer's request) is equal to 7.25% of the total number of Maintenance plan days within the year. Changes within scope include changes to dates (including reduction or increases to the number of days for a specific job) or cancellation of days.
50. If the actual number of days changed is equal to target then incentive revenue is zero. If the actual number of days changed is less than the target then a payment of £50,000 per change below target is accrued up to a scheme cap of £0.5m (for 10 changes or more below target). If the actual number of days changed exceeds the target then a penalty of £50,000 per change in excess of the target is accrued to a scheme collar of -£0.5m (for 10 changes or more above target). The incentive scheme parameters are summarised in the figure below.

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<sup>6</sup> Direct exit connections to the NTS include individual NTS Supply Points and NTS Connected System Exit Points, but exclude offtakes to Distribution Networks.

<sup>7</sup> Where a single maintenance activity affects multiple NTS Exit Points on a day, this is construed as a single day for the purposes of the Maintenance Incentives.

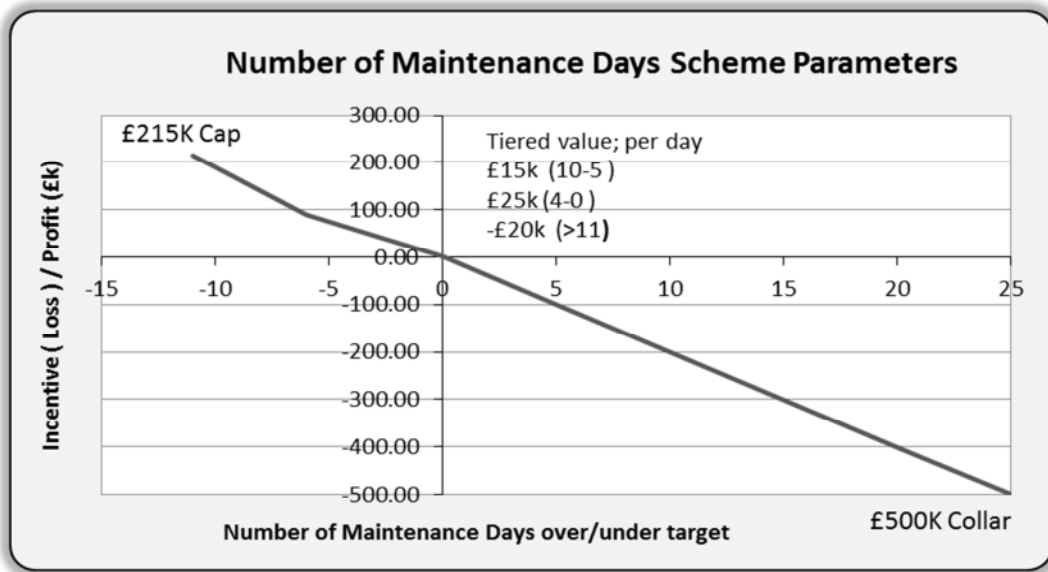




**Figure 5a: Changes Scheme of the Maintenance Incentive**

51. The **Use of Days Scheme** incentivises National Grid to minimise the number of Maintenance Days it uses to undertake Remote Valve Operations<sup>8</sup>. National Grid has an annual incentive target (in days) of 11.
52. If the actual number of Maintenance Days used for these activities is equal to the target then incentive revenue is zero. If the actual number of Maintenance Days used is less than target, National Grid receives a tiered payment between £15,000 and £25,000 each day below the target up to a natural scheme cap of £0.215m. If the actual number of Maintenance Days used exceeds the target, National Grid receives a penalty of £20,000 per day up to £0.5m (for 25 days or more above target). The incentive scheme parameters are summarised in the figure below.

<sup>8</sup> Valves are used to control the flow of gas and isolate pipelines in an emergency. To ensure the safe operation of the system, National Grid maintain key valves on an annual basis where they will need to be opened and closed to ensure operation, requiring a system bypass to maintain supply.



**Figure 5b: Use of Days Scheme of the Maintenance Incentive**

## 2.7 Entry Capacity and Exit Capacity Constraint Management

Purpose: To incentivise an efficient overall cost of System Operator constraint management actions through efficient system operation and optimisation of strategies.

53. The current regulatory and commercial frameworks oblige National Grid to release obligated levels of capacity significantly in excess of peak demand at both entry and exit points on the network. Flows of gas at these levels of capacity cannot occur concurrently, so National Grid takes a view of the likely combinations of supply and demand patterns likely to occur and makes an assessment of the most efficient solution to meet customer capacity requirements. We consider the rules, tools and asset options available to us.
54. In the instances where we believe we cannot accommodate Shippers' flow requirements associated with booked capacity, we undertake constraint management actions in accordance with the Uniform Network Code and System Management Principles Statement<sup>9</sup>. These actions fall into two categories:
- *Operational* constraint management – actions taken by National Grid to manage day to day issues on the network. Examples of such include unavailability of compression or maintenance outages; and
  - *Investment* constraint management – actions taken by National Grid to manage longer term issues associated with provision of additional capacity on the network. Examples of such include where physical reinforcement is not delivered within the contracted timescale.
55. Operational and investment constraint management actions may take one of the following forms:
- *Capacity Buybacks* – buying back Firm Entry or Exit Capacity previously sold to system users;
  - *Locational Energy Trades* – buying gas into NTS linepack or selling gas out of NTS linepack at specific locations on the network; and
  - *Turn Up/Turn Down Contracts* – contracts entered into to manage specific planned outages or where specific flow requirements need to be confirmed in advance.
56. From the 1st April 2013, National Grid was subject to a new Constraint Management Incentive which was set for eight years and encompasses both Entry Capacity and Exit Capacity Constraint Management actions. Incentive performance is driven by the difference between the net constraint management costs over a year (i.e. constraint management costs less

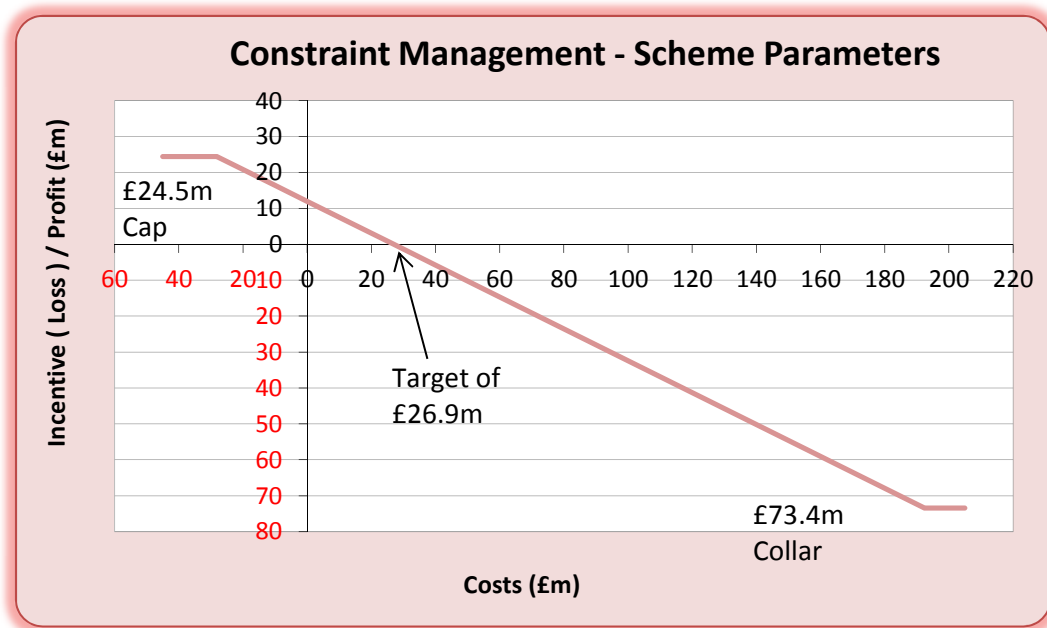
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<sup>9</sup> For details, see

[http://www.nationalgrid.com/uk/Gas/OperationalInfo/operationaldocuments/ProcurementSystemManagementServicesStatementsReports/doc\\_req\\_by\\_SCC8D/Stmt\\_Ent\\_Cap\\_Const\\_MGM\\_I](http://www.nationalgrid.com/uk/Gas/OperationalInfo/operationaldocuments/ProcurementSystemManagementServicesStatementsReports/doc_req_by_SCC8D/Stmt_Ent_Cap_Const_MGM_I)

revenues from the sale of certain capacity products) and a target value for such costs.

57. The revenues that feed into this incentive are:
- Non-obligated capacity i.e. capacity released over and above the obligated level;
  - Interruptible Entry Capacity and Off Peak Exit Capacity;
  - Within day Firm Entry and Exit Capacity; and
  - Entry overrun charges i.e. the charges incurred when Users' flows exceed their capacity entitlements.
58. All costs and revenues associated with the scheme are passed through to shippers through Capacity Neutrality and other charges. National Grid receives an incentive revenue or penalty according to whether actual net costs are higher or lower than the incentive target. This revenue or penalty feeds through charges two years after the financial year to which the incentive performance relates.
59. For 2016/17 the target is comprised of:
- a net target cost of £26.9m for entry and exit *operational* constraint management with National Grid's incentive revenue or penalty being 44.36% of the over or under spend respectively; and
  - a £0m target for entry and exit *investment* constraint management with National Grid's incentive revenue or penalty being 100% of the under or overspend.
60. The incentive scheme parameters for the operational part of the scheme are summarised in the figure on the next page:



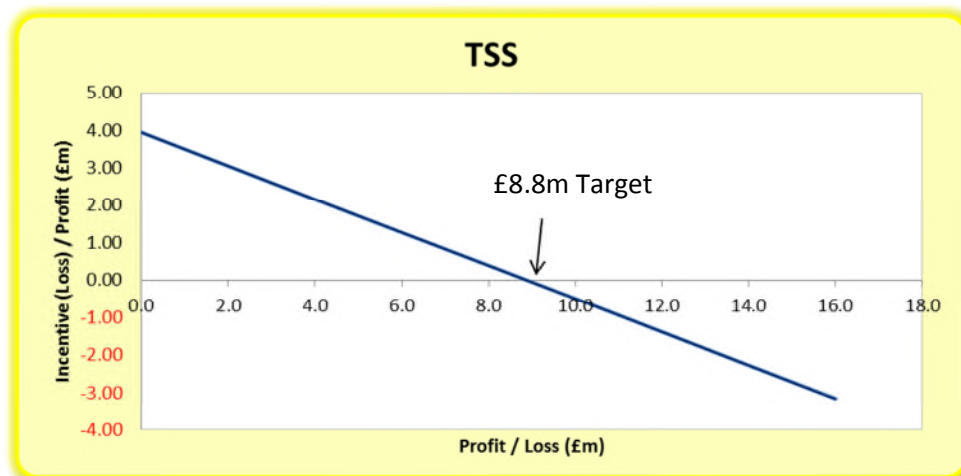
**Figure 6: Entry Capacity and Exit Capacity Constraint Management Incentive**

- 61. The incentivised range for 2016/17 is between a net cost of £192.4m and a net revenue of £28.15m.

## 2.8 Transportation Support Services

Purpose: To incentivise the minimisation of the overall cost of Transportation Support Services.

62. Transportation Support Services (TSS) are additional tools available to National Grid to support provision of a network to meet 1 in 20 peak day demand<sup>10</sup>. These tools are substitutes for physical pipeline capacity and there are currently two forms:
- Long Run Contracting – this is comprised of commercial arrangements at five specifically named direct offtakes in the South West of the network to ensure that National Grid retains the ability to manage the network following the introduction of the universal firm exit regime through Exit reform.
  - Constrained LNG – National Grid procures capacity at the Avonmouth LNG Storage Facility as a substitute for network investment during periods of high demand in the South West.
63. The TSS Incentive scheme runs from 1 April 2013 until October 2018 and take the form of an overall cost minimisation incentive with incentive performance driven by the difference between the TSS costs over a year and a target value for such costs. For 2016/17 this cost target is £8.84m The incentive scheme parameters are summarised in the figure below:



**Figure 7: Transportation Support Services Incentive**

64. If the net position of TSS costs is below the target, National Grid receives an incentive revenue equivalent to 44.36% of the under spend, up to a maximum of £3.92m when TSS costs are zero. Conversely, if the net position of TSS costs is in excess of the target, National Grid incurs an incentive penalty of 44.36% of the overspend. There is no limitation on this penalty.

<sup>10</sup> 1 in 20 peak day demand is the level of daily demand that, in a long series of winters, with connected load held at the levels appropriate to the winter in question, would be exceeded in one out of 20 winters, with each winter counted only once.

## 2.9 Customer and Stakeholder Satisfaction

Purpose: To incentivise delivery of customer and stakeholder satisfaction with outputs delivered by National Grid.

65. Customer and Stakeholder Satisfaction is an indicator of how satisfied customers and stakeholders are with National Grid. To reflect the importance of customer and stakeholder satisfaction in today's society, National Grid is incentivised to survey its customers and stakeholders to measure their overall satisfaction.
66. National Grid carries out surveys on a trigger based process in order to capture customer and stakeholder feedback in a timely and relevant manner. The survey asks customers to rate their overall satisfaction with National Grid Transmission on a scale of 1 to 10, where 1 is very dissatisfied and 10 is very satisfied for a range of services and engagement.
67. Our surveys cover both the 'System Operator' and 'Transmission Owner' aspects of our role to align with customers' and stakeholders' experience of how we operate as an integrated provider of transmission services.
68. The incentive scheme provides an incentive reward or penalty to National Grid of up to +/- 1% of National Grids annual allowed revenue.
69. The incentive scheme parameters for the stakeholder satisfaction element are currently subject to a consultation, which is being led by the Authority. The resulting scheme parameters will be updated on completion.

## Section 3 Incentive Performance

### 3.1 Quarterly Reports

70. National Grid publishes quarterly information on incentives on its website at:

<http://www.nationalgrid.com/uk/Gas/soincentives/Performance+Reporting/>

### 3.2 Summary of Past Performance

71. Feedback received through responses to consultation papers and industry events identified a requirement for information on incentive performance from previous years. The tables below therefore summarise National Grid's incentive performance for the last five incentive years (where available).

72. Please note that incentive schemes often change from year to year so consideration should be given to this when comparing performance figures across years.

#### Demand Forecasting Incentive – D1

Incentive Year	Incentive Target	Performance	Incentive Performance
2011/12	2.75%	3.37%	-£1.60m
2012/13	2.75%	3.82%	-£1.60m
2013/14 <sup>11</sup>	9.4 mcm	8.69 mcm	£0.88m
2014/15	8.95mcm	8.07 mcm	£1.54m
2015/16	9.00mcm	7.75mcm	£1.96m

#### Demand Forecasting Incentive – D2-D5

Incentive Year	Incentive Target	Performance	Incentive Performance
2013/14	16.00 mcm	13.10 mcm	£1.60m
2014/15	16.00 mcm	12.55 mcm	£2.15m
2015/16	13.70mcm	12.09mcm	£1.17m

#### Greenhouse Gas Emissions Incentive

Incentive Year	Incentive Target	Performance	Incentive Performance
2011/12	3,007 tonnes <sup>12</sup>	3,000 tonnes	£0.000m
2012/13	3,007 tonnes	3,443 tonnes	-£0.353m
2013/14	2,917 tonnes	3,332 tonnes	-£0.541m
2014/15	2,829 tonnes	2,857 tonnes	-£0.039m
2015/16	2,744 tonnes	2,882 tonnes	-£0.195m

<sup>11</sup> The parameters of this scheme changed with the introduction of RIIO. This incentive is now measured in mcm.

<sup>12</sup> Target quoted is mid-point between upper and lower limit (deadband)



### Residual Balancing Incentive

Incentive Year	Incentive Target (daily)		Performance (average, all days in year)		Incentive Performance
	Price	Linepack	Price	Linepack	
2011/12	1.5%	2.8 mcm	1.57%	2.46 mcm	£0.252m
2012/13	1.5%	2.8 mcm	1.69%	1.96 mcm	£0.647m
2013/14	1.5%	2.8 mcm	0.70%	1.90 mcm	£0.952m
2014/15	1.5%	2.8 mcm	0.96%	1.61 mcm	£1.088m
2015/16	1.5%	2.8 mcm	0.64%	1.62 mcm	£1.195m

### Shrinkage Incentive

Incentive Year	Incentive Target	Performance	Out-performance	Incentive Performance
2011/12	£124.6m	£94.7m	£29.9m	£5.0m
2012/13	£114.9m	£101.6m	£13.3m	£3.3m
2013/14	£112.6m	£101.2m	£11.4m	£5.1m
2014/15	£87.95m	£77.17m	£10.78m	£4.8m
2015/16	£87.22m	£73.24m	£13.98m	£6.3m

### Maintenance Incentive

Incentive Year	Incentive Target (days)		Performance (days)		Incentive performance
	Change To MD	Use of MD	Change To MD	Use of MD	
2013/14	6.24	72.30	0.00	31.00	£1.138m
2014/15	1.02	44.65	0.00	4.00	£0.864m
2015/16	3.99	11.00	0.00	2.00	£0.364m

### Entry and Exit Capacity Constraint Management Incentive

Incentive Year	Incentive Target	Performance	Incentive performance
2013/14	£25.6m	-£2.8m	£12.6m
2014/15	£26.5m	-£2.3m	£12.8m
2015/16	£26.99m	-£1.95m	£12.84m

### Transportation Support Services Incentive

Incentive Year	Incentive Target	Performance	Incentive performance
2013/14	£8.41m	£0.03m	£3.70m
2014/15	£8.71m	£0.00m	£3.90m
2015/16	£8.87m	£0.00m	£3.93m

## Section 4

### Impact of Incentive Payments on Charges

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*This section shows the link between incentive revenues and charges faced by Users.*

73. National Grid's incentive payments are recovered from shippers through the SO commodity charge, which National Grid has a reasonable endeavours obligation to only set twice a year on the 1st April and the 1st October.
74. For the financial year 2015/16 the incentive revenue from all of the shallow incentive schemes amounted to approximately 1.5% of the total SO commodity charge.
75. National Grid publishes a quarterly update on charges report, which contains either the actual SO commodity charge or the latest forecast of the charge. This report also includes supporting data on how these charges have been calculated and can be found (with previous versions) on the National Grid website.
76. As a rule of thumb, an increase of £2m in the costs recovered through the SO commodity charge would correspond with an increase in the SO commodity charge of approximately 0.0001p/kWh applied to both entry and exit flows.
77. From 2013/14, revenues and costs in respect of the Entry Capacity and Exit Capacity Constraint Management and Transportation Support Services incentive schemes were reflected in the SO commodity charge within the second Formula Year following the Formula Year in which those revenues and costs were accrued.
78. Accordingly, incentive revenues and costs for 2013/14 (in respect of the two schemes specified above) will be reflected in SO commodity charges in 2015/16.