

0517/A/B:

Review of the Supply Matching Merit Order in Setting Capacity Charges

A – with Timing of Resultant Price Changes

B – with Rolling Average to Reduce Volatility in Annual Charges



This modification seeks to amend the current Merit Order which is specified in UNC TPD Section Y so that it aligns to the current utilisation of the supply.

It is proposed to combine the supply which is against MRS and LNG into one group within the Merit Order and prorate as currently specified in the methodology.

Small changes in inputs to the Transmission model can result in large changes to charges. Alternate A proposes to delay the implementation of the change by two years. Alternate B proposes to adopt a three-years rolling average using historic charges.



The Workgroup recommends that this modification should now proceed to consultation



High Impact:



Medium Impact:
Gas Distribution Network Operators,
Shippers and Suppliers



Low Impact:
National Grid Transmission

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About this document:

This report will be presented to the panel on [17 September 2015]

The panel will consider whether the modification should proceed to consultation or be returned to the workgroup for further assessment.

The Workgroup recommends the following timetable (backstop dates shown):

Initial consideration by Workgroup	31 October 2014
Amended Modification considered by Workgroup	n/a
Workgroup Report presented to Panel	17 September 2015
Draft Modification Report issued for consultation	17 September 2015
Consultation Close-out for representations	16 October 2015
Final Modification Report presented to Panel	19 October 2015
UNC Modification Panel decision	19 November 2015

Throughout this report, text in black is common to the original Modification 0517 plus the two alternatives, unless accompanied by coloured text as follows:

Blue text refers to Modification 0517A

Red text refers to Modification 0517B



Any questions?

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1 Summary

Is this a Self-Governance Modification?

Self-Governance does not apply as this modification is likely to impact commercial activities connected with the shipping, transportation or supply of gas conveyed through pipes.

Is this a Fast Track Self-Governance Modification?

Fast Track Self-Governance does not apply as it is not properly a house keeping modification.

Why Change?

The Merit Order within the Transportation Model was implemented as part of GCM16 in 2009. At the time the Merit Order reflected the utilisation of supply. National Grid must keep the charging methodology under review as part of its Licence conditions. Therefore the ordering of the supply source groups should be kept under review to reflect further developments in supplies and be consistent with what happens on the network.

In recent years there has been a change in selective utilisation of Liquefied Natural Gas (LNG) and Mid Range Storage (MRS). We have seen an increase in the use of MRS and a decrease in the amount of LNG that is being utilised. Both these sources have been utilised on any cold day in recent years.

Solution

It is proposed to amend the current Merit Order which is specified in UNC TPD Section Y so that it aligns to the current utilisation of the supplies in the current years.

This modification proposes to amend the Merit Order to combine the supply which is against MRS and LNG into one group within the Merit Order and prorate as currently specified in the methodology.

To implement for both NTS Entry Capacity charges and NTS Exit Capacity charges in a reasonable timeframe, the implementation of the change to the Merit Order for use in calculating NTS Entry Capacity Reserve Prices and NTS Exit Capacity charges should be subject to a notice period.

To reduce annual step changes in charges it is proposed, on an enduring basis, to use the rolling average of three years of charges, where available, to set charges for the current charging year.

Relevant Objectives

Implementation of this Modification Proposal would facilitate Relevant Charging Objectives a), aa), b) and c).

Implementation

No implementation timescales are suggested at this time. The different implementation timescales are shown in section 5 below. The Workgroup believes that this modification should be implemented at its earliest opportunity.

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

This does not affect any other industry change.

2 Why Change?

The Transportation Model calculates the Entry and Exit Capacity reserve prices. Within the Transportation model there is a specific Merit Order to scale the supplies to meet demand. For the Transportation Model to run the supplies must equal the demand. This Merit Order should reflect supply utilisation and the merit order to use supply types is specified within TPD UNC Section Y – Section 2.5.1(c).

The Merit Order used within the Transportation Model was implemented as part of GCM 16 which was implemented in 2009. At the time the Merit Order which is currently specified within Section Y and the Transportation Model reflected the supply utilisation.

The current Merit Order within the UNC and Transportation Model is specified as below and the adjustment shall be carried out by reducing supplies in the following order to the point at which supplies equal the forecast demand:

- (i) short range Storage Facilities;
- (ii) mid range Storage Facilities;
- (iii) LNG Importation Facilities;
- (iv) long range Storage Facilities;
- (v) pipeline interconnectors; and
- (vi) beach terminals.

In recent years the utilisation of supply on a highest demand day data based on the percentage of supplies has changed. There has been an increase in MRS and a decrease in LNG utilised over recent years.

Financial Year	LNG	MRS
2010/2011	17.36%	3.77%
2011/2012	18.70%	12.12%
2012/2013	7.70%	16.79%
2013/2014	2.47%	13.24%

The data above shows a change in the amount of LNG and MRS supply used on the cold day in the applicable year. With the reductions in LNG over these years being representative of the general trend in use of LNG as a supply source, the value for 2013/14 may be lower than it would otherwise have been due to additional global factors at the time such as the use of LNG in Japan.

LNG and MRS have both been used during cold days over the past 4 years therefore an amendment to the Merit Order within the Transportation Model is proposed.

The utilisation at entry points has changed since GCM16 was implemented in 2009 and it is recognised that this could change in the future and therefore the merit order will need to continue to be reviewed as and when it may be required to be consistent with what happens on the network.

The proposed change will have a material effect on NTS exit capacity charges in some LDZs including Wales South, South West and South East and may have a material effect on the viability of NTS directly connected sites as well as on the cash flows of Gas Distribution Networks. For this reason the implications of the implementation of this Modification Proposal need to be well understood before they are made.

Transparency

In 2007/8 Gas Distribution Networks (GDNs) introduced the Mod 186 report which is presented to members of the Distribution Charging Methodology Forum (DCMF) on a quarterly basis: Jan/Apr/July/Oct. The report provides Shippers, principally, with a detailed analysis of the Allowed Revenues and potential changes to transportation prices for the current year and the next four years, separately identifying Distribution Exit Capacity and Non-Exit Capacity revenues. The report is designed to give Shippers an indication of how transportation prices may move during the four years following the current year.

This does not exist for NTS, although we recognise that NTS are considering introducing something similar. The material impact of the proposed changes in this Modification Proposal highlights the need for a similar process for NTS pricing.

NTS Exit Charging Regime & RIIO

From October 2012, as a result of exit reform, Gas Distribution Networks are now charged by NTS for NTS exit capacity. Previously this charge was paid by Shippers directly. Gas Distribution Networks are now exposed to changes in NTS charges.

The new RIIO GD1 Special Condition 1D of the Gas Distribution Licence states

“The difference between exit capacity charges from NTS and the exit capacity allowance (‘true up’) is adjusted in formula year T+2”

This means that if charges from NTS exceeded the Exit Capacity allowance for 2015/16 the difference cannot be recovered from Shippers connected to the Gas Distribution Network until 2017/18. Sites directly connected to the NTS would incur the revised NTS exit capacity charges immediately.

Charging Impact of Modification 517

For WWU the increase in costs resulting from Modification Proposal 0517, compared to the latest indicative Exit Capacity prices from October 2015, would be approximately £1.0m each month from October 2015.

In the formula year 2015/16 this would amount to an increase in charges over a 6 month period from the NTS of £6m. (£23m to £30m).

Comparing the latest indicative Exit Capacity prices from October 2016 to similar Exit Capacity prices under Modification Proposal 0517, the costs for the formula year 2016/17 would increase by £12m (from £25m to £35m).

In terms of charges to Shippers, if we assume similar Exit Capacity prices were used from October 2016 the price adjustment to WWU Exit Capacity Charges in 2017/18 and 2018/19, following the two year lag, would be +41% and +17% respectively. This compares to price adjustments in 2017/18 and 2018/19 of 4% and 11% using the latest indicative Exit Capacity prices from NTS which reflect the current Merit Order

If Exit Capacity allowances were adjusted to match the increased costs from 2017/18 then the corresponding price adjustments to WWU Exit Capacity Charges would be 15% in 2017/18; and 16% in 2018/19.

The much larger increase in 2017/18 for 0517 compared to 0517A is due to the effect of the ‘true up’ arising from the difference between the Exit Capacity allowances and costs in 2015/16 feeding through.

RIIO GD1 requirements & Principles

Ofgem’s “Decision in relation to measures to mitigate network charging volatility arising from the price control settlement” included the following statements:

“We also noted in our consultation that stability of charges would also help improve the efficiency of

energy markets by reducing administration costs, eg the costs of suppliers notifying customers of changes in charges.” (Paragraph 1.11)

“The majority of respondents agreed that improving the predictability of charges should be the primary objective, however some also noted the importance of stable charges particularly for those consumers on non fixed price contracts, where any change in network charges may be passed on to them by their supplier.” (Paragraph 1.12)

<https://www.ofgem.gov.uk/publications-and-updates/decision-measures-mitigate-network-charging-volatility-arising-price-control-settlement>

Gas Distribution Networks and NTS both operate under the same Gas Act obligation to develop “an economic and efficient network”. Therefore the conclusion that stability of charges would help improve the efficiency of energy markets also applies to the NTS and the conclusions of Ofgem’s decision document should also apply to NTS charges

We believe that as Modification Proposal 0517 would result in material rebalancing of NTS charges (but not to the total NTS revenue) it should follow a similar time frame to that which applies to changes to Gas Distribution Networks Exit Capacity allowances. This will facilitate relevant objective (b) “reflecting changes in the transportation business” to a greater extent than Modification Proposal 0517 as it also reflects changes in approaches to charging in transportation businesses.

We accept that the NTS charges need to be cost reflective but this change has material impacts on both Shippers and Gas Distribution Networks, therefore the impact of this proposed change needs to be understood and delaying the implementation date and the introduction of a NTS “Mod 186” process will enable these steps to be undertaken. Although this means that NTS charges will be less cost reflective in the period up to October 2017 we believe that this consideration is outweighed by the effects on competition and on the stability of Gas Distribution Network charges in the affected LDZs. This competition issue has arisen owing to a combination of Exit Reform and the changes to Gas Distribution Network charging described above.

If Gas Distribution Networks wish to apply to Ofgem for an increase in their NTS Exit Capacity allowances they have to apply by 31 July 2015 in order to be able collect the additional revenue during the 2017/18 formula year onwards. This means that the information that they require to support the application needs to be available in advance of 31 July 2015 to allow sufficient time to prepare the application. This in turn means that forward looking NTS prices need to be provided and the implementation of the change to the Transportation Model needs to be delayed so that prices do not change until 1st October 2017. We believe that this will both avoid adverse impact on Gas Distribution Networks and ensure that there is no adverse effect on competition between sites that are directly connected to the NTS and those that are connected to Gas Distribution Networks.

Apparent small changes to inputs to the Transportation Model can result in large changes to charges. This is illustrated in appendix 1 where changes of up to 8000 % have been calculated. This volatility in charges is not helpful for business planning and making investment decisions. To reduce this volatility it is proposed to calculate the rolling average of three years of charges to set charges for the current charging year.

By introducing more stability in charges shippers and suppliers will be better able to predict costs and this will better facilitate competition.

3 Solution

It is proposed to amend UNC TPD Section Y – Section 2.5.1 (c) to ensure that the Merit Order specified in the UNC is reflective of how supplies are currently utilised.

This proposal seeks to amend the Merit Order to combine MRS and LNG into one group within the Merit Order and prorate the supplies (i.e. use an equal % of each group to achieve the supply and demand match required) when matching demand in accordance with the process specified in the methodology.

It is proposed that the NTS pricing methodology in Section Y regarding the merit order is effective from a future date to allow the GDN Exit Cost Allowances to be amended. Given the process for Gas Distribution Networks to apply for a change to NTS Exit Capacity allowances, the resulting changes to the model and resultant indicative charges need to be published by NTS by 30 June in any given year.

The NTS Exit Capacity charges would become effective 27 months after the relevant 30 June and the NTS Entry Capacity charges would become effective 20 months after the relevant 30 June. This would not change the timescales for setting the final NTS Entry Capacity reserve prices nor final NTS Exit Capacity charges and only informs the merit order to be used.

The published indicative prices would use the current model up to the end of the notice period and then the changed model would be used. The NTS Exit Capacity charges would be implemented on 01 October, 27 months after the relevant 30 June. To be consistent between Exit and Entry the corresponding Entry Capacity charges would be implemented on 01 April, 21 months after the relevant 30 June. This would mean that both the Entry and Exit Capacity charges resulting from a change in the Transportation Model would be implemented in the same Formula year (April to March).

The table below gives an example for a model changed and indicative charges published by 30 June 2015

Prices published	Model used
NTS exit capacity charges for 01 Oct 2015	Current model
NTS entry capacity charges for 01 Apr 2016	Current model
NTS exit capacity charges for 01 Oct 2016	Current model
NTS entry capacity charges for 01 Apr 2017 and thereafter	Changed model
NTS exit capacity charges for 01 Oct 2017 and thereafter	Changed model

This modification has been raised to introduce stability to charges by applying a three year rolling average to the prices shippers and ultimately customers are charged. This will reduce the impact of the large step change introduced by the change in the supply merit order as proposed in the original 517. In addition, because the proposal is for a permanent change, it has the benefit of reducing volatility of charges on an on-going basis.

Mods 517 and 517 A impact charges for both entry and exit capacity. It is proposed that 517 B applies to both entry and exit capacity too. It might be unduly discriminatory to apply 517B to only exit or entry charges, although there is a precedent of different calculation methodologies for entry and exit prices in the Transportation Model. For clarity, the averaging process is to apply to capacity charges only and not to commodity charges.

To reduce volatility in charges it is proposed to calculate and use the rolling average of three years of charges to set charges for the current charging year. For clarity, the methodology introduced by mod 517 will be used to calculate the annual tariffs in this alternative. By way of example, to set the actual charges

for 2015/16; the average of the historic charges from 2013/14 and 2014/15 and those forecast for 2015/16, as calculated by the charging methodology, will be added together and then divided by three to create an arithmetic average. This calculation will be carried out on a rolling average basis for future years as:

$$\text{Applicable Charge year } Y = (\text{Charge year } Y + \text{Charge year } Y-1 + \text{Charge year } Y-2)/3$$

Calculation of new Exit and Entry reserve point charges where historical charging data does not exist.

Where there are less than two years of historic charging data available to calculate a rolling average, then however many years data are available will be used to calculate the applicable charge year. This approach will retain the cost reflectivity of either the new exit or entry point and will be more cost reflective than using charges from a nearby site.

Calculation of indicative User Commitment costs for exit

No change is proposed to the User Commitment for new exit points and it will be based on the prevailing methodology. To calculate the User Commitment it is proposed to use the rolling average of three years of exit prices for the year the average prices are applicable for. By way of example, to set the price for 2015/16 the average of the historic prices from 2013/14 and 2014/15 and those forecast for 2015/16 are used. These would be calculated using the charging methodology, added together and then divided by three to create an arithmetic average. This calculation will be carried out on a rolling average basis for future years as:

$$\text{Applicable Charge year } Y = (\text{Charge year } Y + \text{Charge year } Y-1 + \text{Charge year } Y-2)/3$$

Where historic data is not available to calculate the average price then however many years of charges are available will be used to calculate the applicable charge year.

Calculation of incremental Entry Price Steps

To calculate Incremental Entry Price Steps, it is proposed to use the rolling average of three years of QSEC step prices for the year the average prices are applicable for. By way of example, to set the Incremental price steps for 2015/16; for each step for each ASEP, it will be the average of the historic price steps from 2013/14 and 2014/15 and those forecast for 2015/16. These would be calculated using the charging methodology, added together and then divided by three to create an arithmetic average for each of the incremental price steps. This calculation will be carried out on a rolling average basis for future years as:

$$\text{Applicable price step year } Y = (\text{Price step charge year } Y + \text{Price step charge year } Y-1 + \text{Price step charge year } Y-2)/3$$

This is consistent with the calculation used for the average reserve prices. The approach would use the above methodology when considering sites where three years is not available.

User Pays	
Classification of the modification as User Pays, or not, and the justification for such classification.	No User Pays service would be created or amended by implementation of this modification and it is not, therefore, classified as a User Pays Modification.

Identification of Users of the service, the proposed split of the recovery between Gas Transporters and Users for User Pays costs and the justification for such view.	Not applicable
Proposed charge(s) for application of User Pays charges to Shippers.	Not applicable
Proposed charge for inclusion in the Agency Charging Statement (ACS) – to be completed upon receipt of a cost estimate from Xoserve.	Not applicable

4 Relevant Objectives

Impact of the modification on the Relevant Charging Methodology Objectives:

Relevant Objective	Identified impact
a) Save in so far as paragraphs (aa) or (d) apply, that compliance with the charging methodology results in charges which reflect the costs incurred by the licensee in its transportation business;	Impacted Impacted Impacted
aa) That, in so far as prices in respect of transportation arrangements are established by auction, either: (i) no reserve price is applied, or (ii) that reserve price is set at a level - (I) best calculated to promote efficiency and avoid undue preference in the supply of transportation services; and (II) best calculated to promote competition between gas suppliers and between gas shippers;	Impacted Impacted Impacted
b) That, so far as is consistent with sub-paragraph (a), the charging methodology properly takes account of developments in the transportation business;	Positive Positive Positive
c) That, so far as is consistent with sub-paragraphs (a) and (b), compliance with the charging methodology facilitates effective competition between gas shippers and between gas suppliers; and	Positive Positive Positive
d) That the charging methodology reflects any alternative arrangements put in place in accordance with a determination made by the Secretary of State under paragraph 2A(a) of Standard Special Condition A27 (Disposal of Assets).	None
e) Compliance with the Regulation and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.	None

Relevant Charging Objectives a) and aa)

The Proposers consider that implementation of either Modification 0517/A/B would, in using the same Solution with respect to the Merit Order, align to the current supply source utilisation and ensure that the Entry and Exit reserve prices are cost reflective and consistent with what happens on the network, furthering both Relevant Charging Objectives a) and aa).

Some participants consider that setting a future Merit Order on the basis of historical usage is not necessarily appropriate as it does not represent 1 in 20 peak day usage (as required in the

methodology/Licence??). On this basis, they believe that the Relevant Charging Objectives a) and aa) are negatively impacted.

Relevant Charging Objective b)

Participants consider that implementation of either Modification 0517/A/B would take into account changes in usage that have taken place since the current Merit Order was introduced as part of GCM16 in 2009. This would have a positive impact on Relevant Charging Objective b) as it reflects developments (changes) in the transportation business.

Wales and West Utilities believe that Modification 0517A also reflects developments in thinking about charging predictability and volatility. Deferring the implementation of any changes in charges resulting from the change to the Transportation Model until after the notice period reflects Ofgem's earlier decisions on the volatility and predictability of network charges.

Relevant Charging Objective c)

Participants consider that implementation of either Modification 0517/A/B would better facilitate effective competition between Shippers as, by aligning the Merit Order with the costs incurred in operating the system, cost reflectivity is improved.

Wales and West Utilities believe that Modification 0517A will result in changes to NTS exit capacity charges being reflected in prices charged to sites directly connected to the NTS at the same time as the charges are reflected in prices charged to sites connected to Gas Distribution Networks.

SSE believes that apparent small changes to inputs to the Transportation Model can result in large changes to charges. This volatility in charges is not helpful for business planning and making investment decisions. It makes budgeting; choosing when to give a User Commitment signal for exit capacity and contracting with end customers all more challenging than could be the case. Volatile charges ultimately have a negative impact on competition because they create uncertainty and discourage investment.

By introducing more stability in charges shippers and suppliers will be better able to predict costs and this will better facilitate competition. In the case of gas supply it will enable the offer of more stable prices to end customers, this should reduce risk premiums. It will allow power station operators to more accurately forecast future costs and enable better decisions to determine if assets are kept open or closed, whereby, benefiting competition in the power market. In the case of new build, more stable prices will reduce timing risk from user commitment and lower barriers to entry.

This modification does not conflict with:

- (i) paragraphs 8, 9, 10 and 11 of Standard Condition 4B of the Transporter's Licence; or
- (ii) paragraphs 2, 2A and 3 of Standard Special Condition A4 of the Transporter's Licence;

Workgroup Assessment

Introduction

National Grid NTS has an obligation, amongst the suite of Licence and code obligations and objectives, to keep the Charging Methodology under review. The charging methodology is in Section Y of the UNC and with respect to setting entry capacity reserve prices and exit capacity charges, a key element is the Transportation Model, which comprises the Transport Model (ie the model that determines the initial Long Run Marginal Costs) and the Tariff Model (ie that converts LRMCs into prices). The Transportation Model optimises the use of the NTS in matching supplies to 1 in 20 Peak Day Demand ('Demand') in order to calculate location based capacity charges that reflect where gas enters and exits the NTS and how much of the system the gas is deemed to use. Demand values are taken from the Ten Year Statement and, in order for the model to run supplies must equal demand. Typically total supply exceeds demand. As such supplies need to be reduced to ensure that demand is met and to do this, there is a merit order of supply matching that was put in place to reflect previous and expected patterns of supply utilisation on the NTS. This has not been reviewed for many years and, if the underlying principle of the merit order used in section Y is to reflect a more realistic use of supplies, then there is a rationale to say that it should be updated.

National Grid has proposed the Merit order of supplies used in the Transportation Model and the methodology behind it should be reviewed to bring it more in line with trends seen over recent years. It is not proposed to fundamentally revise the merit order principles however the merit order will be kept under review to ensure that any changes in supplies on the NTS can be discussed with industry and any potential modifications raised.

At the NTS Charging Methodology Forum some participants believed that the supplies used in the merit order should be closer to the supplies that have been observed in recent years. There was some discussion about whether it should be based on forecast or historical information. Other participants believed that recent history may not reflect the supply pattern that would be seen should there be a 1 in 20 Peak Day. The proposal is based on historical trends as the use of these trends can be used to show how the use of the different supply sources have been utilised in meeting demand on the NTS.

Drivers behind the change

As the review of the supplies in recent years show usage different to that in the existing merit order it is timely that consideration should be given to updating the merit order of supplies such that they more closely represent how supply sources are used on the NTS in meeting demand.

Updating the merit order, as proposed in UNC Modification 517, within the charging methodology at the earliest opportunity would result in the merit order being more reflective of supply patterns on the NTS. This would also result in applicable capacity charges in-keeping with the supply flow patterns.

This review retains the existing supply groupings as per UNC Section Y. Without a change to bring the merit order to be up to date with supply patterns the scenario where those who currently have lower prices than they would be under a change to update the merit order would continue until such time as a modification to the supply matching merit order was implemented. The reverse would be the case for those whose charges are higher than they would otherwise be. National Grid also has an obligation to minimise cross subsidies through the charging framework. To update the merit order where there is evidence to support the supplies to be used and to update in a reasonable timeframe would reduce the cross subsidies between these two groups.

Evidence

See Appendix 1 (section 9)

Impact on prices

The detailed Changes to Entry and Exit prices and the sensitivities of the changes as a result of the proposal for Mod 517 can be seen in Appendix 1.

The geographical Impact of the proposal in UNC Mod 517 can also be seen in Appendix 1.

This change will result in Exit and Entry capacity charges increasing and/or decreasing depending on the size of supply flows at each Entry point assumed in the Merit Order. This change would impact all NTS customers at the same time, however it has been noted by a Distribution Network (DN) that, where the charges exceed the NTS Exit Capacity cost allowance in their DN Licence, then there will be a delay in the ability to reflect such an increase in their charges to DN connected customers. Conversely should the NTS Exit Capacity charge be less than the allowance then there will also be a delay in the DN's ability to pass on the reduction. 0517 does not address this.

0517A does address this impact. If 0517A was implemented DN networks where the charges resulted in costs larger than the NTS exit capacity allowances in the RIIO GD1 price control could apply to Ofgem for a change in their allowances to mitigate the effects on their cash flow. If 0517 was implemented then there would be an adverse impact on cash flow over the price control period for WWU of £5.5m, peaking in 2016/17 where the adverse impact reaches £17.1m. If 0517 was implemented and WWU applied for and was granted a change to its allowances (which is the more realistic scenario) it could recover this shortfall after two years although this would cause much more volatile prices.

In addition the two year lag in changing DN charges it means that customers connect to the NTS and those connected to DN networks will see the effect of changes in the NTS exit capacity charges at different times. Directly connected customers would see the change immediately but those connected to a DN network would only see the change after two years. This could affect competition between two power stations that are geographically close together but one is connected to the NTS and one connected to a DN network.

The commentary and tables in section 9 Appendix 2 illustrate these points.

0517A addresses both these issues by delaying the implementation of the changed merit order until DN networks can apply for and have implemented changes to their NTS exit capacity allowances. This will result in less volatile prices as there will be no "catch up" of the unrecovered revenue and will mean that customers experience the impact of changes to the NTS exit capacity charges at the same time whether they are directly connected to the NTS or to a DN network. The downside of 0517A is that changes to the merit order are delayed by two years thereby meaning that the model is less cost reflective for a two years longer than would be the case with 0517. To be consistent between entry and exit, changes to NTS entry capacity charges will be subject to the same timing as NTS exit capacity charges.

It should be noted that at the workgroup there was much discussion about why NTS exit capacity charges in Wales South LDZ were increasing when the data published by NG NTS showed that in the Transport Model the assumption was that at peak more gas was entering the NTS at Milford Haven than was taken out at the five NTS offtakes in Wales South (two directly connected offtakes and three feeding the Wales South LDZ). Given that prices are set on the basis of long run marginal cost this at first sight seems counter-intuitive. It may be considered illogical to implement 0517 on the basis that the revised merit order is more cost reflective when some Users may have concerns over how the model works in a world where gas flows can reverse depending on the sources of supply. 0517A, with its delay to the implementation of the revised merit order, would provide a window for all parties to understand how the NTS Transport model and Tariff models work before the revised merit order comes into effect.

For changes to charges National Grid has, as its obligations with respect to notice periods, to provide 150 days' notice for indicative changes charges and two months' notice for changes to actual charges. This is also the same for Distribution charges. As part of exit reform, with regard to exit capacity charges

National Grid now provides 150 days' notice for final charges i.e. around the beginning of May each year ahead of implementation from the following October. This was to allow final charges to be known ahead of the July window.

The DNs have a specific arrangement when it comes to being able to pass on changes to Exit capacity charges from the National Grid NTS. Under RIIO there is an allowance and should the charges be less or more than this allowance, then there is reconciliation in y+2.

0517A provides a mechanism to implement the modification and provide sufficient time for DNs to apply for a change to NTS exit capacity allowances before the revised merit order comes into effect.

Volatility

0517B has been raised to introduce stability to charges by applying a three-years rolling average to the prices shippers and ultimately customers are charged. This will reduce the impact of the large step change, to some charges, introduced by the change in the supply merit order as proposed in 0517. In addition, because the proposal is for a permanent change, it has the benefit of reducing volatility of charges on an on-going basis.

Volatility is a concern for shippers, suppliers and end customers. The volatility in charges shown in Appendix 1 gives examples of changes of up to 8000%. It is for individual shippers to view the data and draw their own conclusions. There are only two years of prices shown in appendix 1 to demonstrate the impact of mod 517B, this is due to the limited historical data available. However, it is clear from statistical theory that a rolling average will always produce a less variable time series of data than individual price points from which it calculates, as a rolling average is used to smooth data.

Volatility in shipping costs makes budgeting; choosing when to give a User Commitment signal for exit capacity and contracting with end customers all more challenging than could be the case. Such volatile charges ultimately have a negative impact on competition because they discourage investment and create uncertainty.

It has not been defined in the UNC or other industry documents what cost reflective means with respect to charges. This makes assessment on this basis subjective. For example, the existing Transportation model is arguably not cost reflective because an adjustment is made to recover allowed revenue that distorts the locational LRM prices calculated by the Transport model. Looking to the future, Ofgem's Gas Transmission Charging Review is likely to impact on cost reflectivity further because of the application of a uniform floating top up element to recover allowed revenue that dilutes the locational element of LRMCs. For example, Ofgem's analysis has shown a floating top up cost of between 0.04 and 0.06 p/Kwh [<https://www.ofgem.gov.uk/ofgem-publications/92784/gtcria-final3.pdf>] which is greater than all entry transportation charges, with the exception of St Fergus.

For clarity, this mod will enable all allowed revenue for a charging year to be collected in that charging year due to the use of the existing capacity under recovery methodology based on commodity charges.

It has not been demonstrated if the averaging of capacity charges will lead to a material change in commodity charges or not. Capacity charging trends at individual points of either decreasing or increasing prices will last for longer, but across the network these could cancel each other out. In the event that there is an under recovery, this will be collected using the existing methodology. However, one of the biggest uncertainties driving the level of commodity charge is the level of gas throughput. This is turn is driven by demand for heating and competing sources of generation from coal and renewables.

5 Implementation

The Workgroup has not proposed a timescale for implementation of this modification, but would suggest that it is implemented at the earliest practical opportunity.

No implementation costs are anticipated.

Question for consultation – ask for respondents views on implementation timescales?

Modifications 0501 and 0501B

Y = Gas Year from 01 October to 30 September

Ofgem Decision Date	Auction	Prices Produced	Applicable From
Between 01 October in gas year Y and 31 March in gas year Y	Exit	May gas year Y	01 October of gas year Y+1
	MSEC	June gas year Y	01 October of gas year Y+1
	QSEC	January gas year Y+1 Auction March gas year Y+1	01 October of gas year Y+3
Between 01 April in gas year Y and 30 September in gas year Y	QSEC	January gas year Y+1 Auction March gas year Y+1	01 October of gas year Y+3
	Exit	May gas year Y+1	01 October of gas year Y+2
	MSEC	June gas year Y+1	01 October of gas year Y+2

Example:

Gas year Y = 01 October 2015 – 30 September 2016

Gas year Y+1 = 01 October 2016 – 30 September 2017

Gas year Y+2 = 01 October 2017 – 30 September 2018

Gas year Y+3 = 01 October 2018 – 30 September 2019

Ofgem Decision Date	Auction	Prices Produced	Applicable From
Between 01 October 2015 and 31 March 2016	Exit	May 2016	01 October 2016
	MSEC	June 2016	01 October 2016

	QSEC	January 2017 Auction March 2017	01 October 2018
Between 01 April 2016 and 30 September 2016	QSEC	January 2017 Auction March 2017	01 October 2018
	Exit	May 2017	01 October 2017
	MSEC	June 2017	01 October 2017

6 Impacts

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

No other industry change is impacted.

7 Legal Text

Legal Text and Commentary

Individual Legal Text (inc. Commentary) have been produced for each Modification (published alongside this report).

8 Recommendation

The Workgroup invites the Panel to:

- AGREE that this modification should be submitted for consultation.

9 Appendix

Appendix 1

QSEC 2014 capacity price data

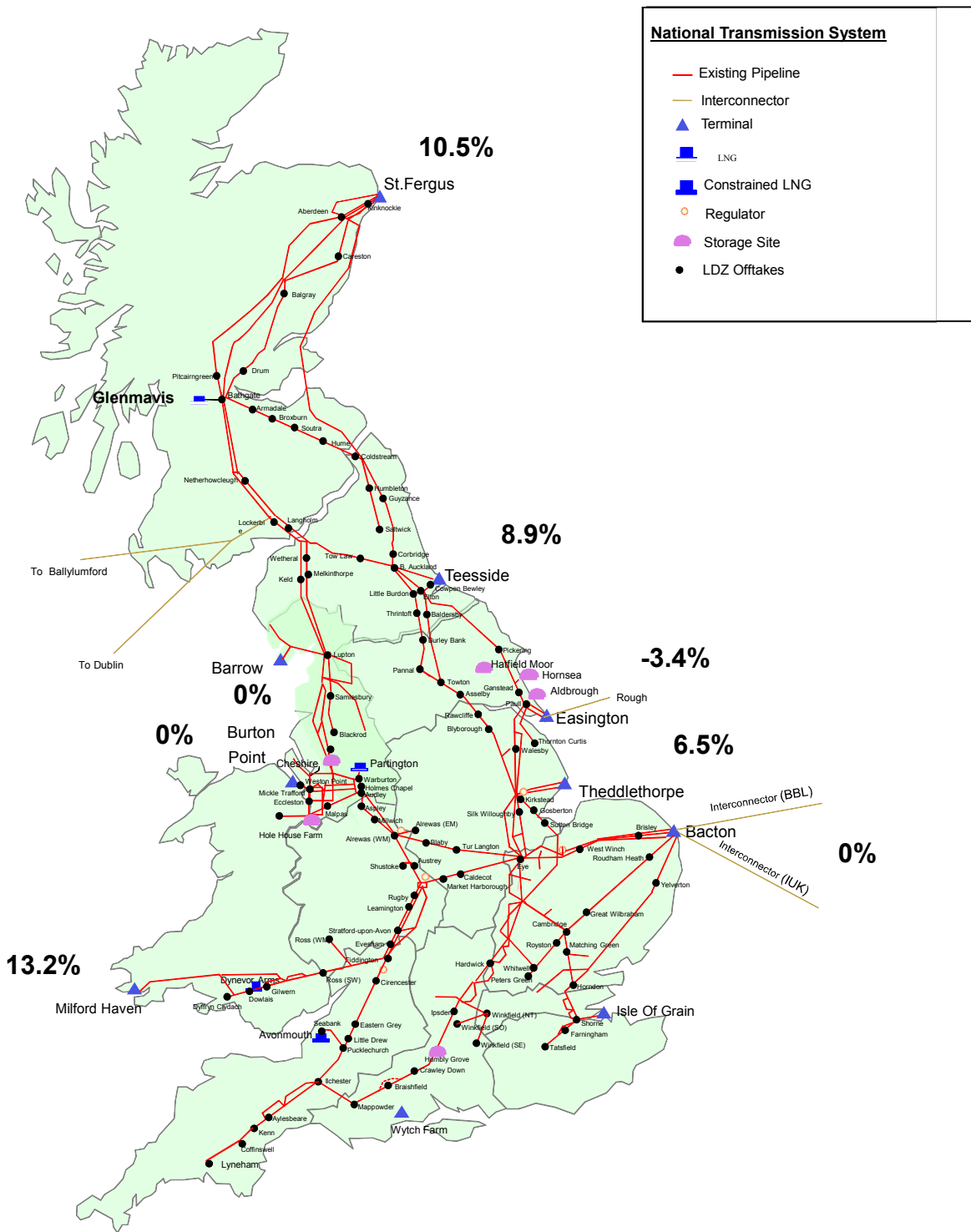
QSEC 2014			
Entry Point	Entry Price (p/kWh/day) - Original TM - QSEC 2014	Entry Price (p/kWh/day) - MOD517	% Variance (Original vs MOD517)
AVONMOUTH_LNG	0.0001	0.0001	0.00%
BACTON_TERMINAL	0.0096	0.0096	0.00%
BARROW_TERMINAL	0.0001	0.0065	6400.00%
BARTON_STACEY_(MRS)	0.0001	0.0001	0.00%
BURTON_POINT_TERMINAL	0.0001	0.0001	0.00%
CANONBIE_TERMINAL	0.0034	0.0042	23.53%
CAYTHORPE_(MRS)	0.0125	0.0141	12.80%
CHESHIRE_(MRS)	0.0001	0.0001	0.00%
DYNEVOR_ARMS_LNG	0.0071	0.0001	-98.59%
EASINGTON&ROUGH_TERMINAL	0.0130	0.0125	-3.85%
FLEETWOOD_(MRS)	0.0020	0.0044	120.00%
GARTON_(MRS)	0.0129	0.014	8.53%
GLENMAVIS_LNG	0.0128	0.0156	21.88%
HATFIELD_MOOR_(MRS)	0.005	0.0049	-2.00%
HOLEHOUSE_FARM_(MRS)	0.0001	0.0001	0.00%
HORNSEA_(MRS)	0.0118	0.0135	14.41%
ISLE_OF_GRAIN_TERMINAL	0.0013	0.003	130.77%
MILFORD_HAVEN_TERMINAL	0.0205	0.0232	13.17%
MOFFAT	0.0067	0.0076	13.43%
PARTINGTON_LNG	0.0001	0.0001	0.00%
ST_FERGUS_TERMINAL	0.043	0.0475	10.47%
TEESSIDE_TERMINAL	0.009	0.0098	8.89%
THEDDLETHORPE_TERMINAL	0.0123	0.0131	6.50%
WYTCH_FARM_TERMINAL	0.0001	0.0001	0.00%

QSEC 2014 supply data

QSEC 2014		
Supply Point	Supply Flow (GWh) - Original - QSEC 2014	Supply Flow (GWh) - MOD517
AVONMOUTH_LNG	0.00	0.00
BACTON_TERMINAL	384.81	384.81
BBL	587.67	587.67
IUK	807.50	807.50
BARROW_TERMINAL	77.21	77.21
BURTON_POINT_TERMINAL	0.00	0.00
CAYTHORPE_(MRS)	0.00	0.00
CHESHIRE_(MRS)	0.00	219.05
EASINGTON	833.89	833.89

ROUGH	485.00	485.00
FLEETWOOD_(MRS)	0.00	0.00
GARTON_(MRS)	0.00	187.76
GLENMAVIS_LNG	0.00	0.00
HATFIELD_MOOR_(MRS)	0.00	8.88
HOLEHOUSE_FARM_(MRS)	0.00	125.09
HORNSEA_(MRS)	0.00	82.46
BARTON_STACEY_(MRS)	0.00	33.41
ISLE_OF_GRAIN_TERMINAL	542.23	275.46
MILFORD_HAVEN_TERMINAL	792.46	402.57
PARTINGTON_LNG	0.00	0.00
ST_FERGUS_TERMINAL	1107.86	1107.86
TEESSIDE_TERMINAL	445.09	445.09
THEDDLETHORPE_TERMINAL	71.34	71.34
WYTCH_FARM_TERMINAL	0.00	0.00
PORTLAND_(MRS)	0.00	0.00
ALBURY_(MRS)	0.00	0.00
SALTFLEETBY_(MRS)	0.00	0.00
BARROW_BAINS_(MRS)	0.00	0.00

Graphical representation of the changes in QSEC 2014 – original QSEC 2014 charges vs Option 3 QSEC 2014 charges



Indicative Exit October 2015 capacity price data

Exit - October 2015 Indicative Values			
Exit Point	Exit Price (p/kWh/day) - October 2015 - Original	Exit Price (p/kWh/day) -MOD517	% Variance (Original vs MOD517)
ABERDEEN	0.0001	0.0001	0.00%
ALREWAS_EM	0.0161	0.0154	-4.35%
ALREWAS_WM	0.0161	0.0154	-4.35%
ARMADALE	0.0001	0.0001	0.00%
ASPLEY	0.0195	0.0188	-3.59%
ASSELBY	0.0011	0.0001	-90.91%
AUDLEY_NW	0.0214	0.0197	-7.94%

AUDLEY_WM	0.0214	0.0197	-7.94%
AUSTREY	0.0154	0.0147	-4.55%
AVONMOUTH_LNG	0.0169	0.0251	48.52%
AYLESBEARE	0.0244	0.0326	33.61%
BACTON_BAIRD	0.0001	0.0001	0.00%
BACTONINT	0.0001	0.0001	0.00%
BACTONBBLINT	0.0001	0.0001	0.00%
BACTON_OT	0.0001	0.0001	0.00%
BAGLAN_BAY_PG	0.0001	0.0055	5400.00%
BALDERSBY	0.0027	0.0013	-51.85%
BALGRAY	0.0001	0.0001	0.00%
BARKING_PG	0.0116	0.0109	-6.03%
BARROW_BS	0.0096	0.0062	-35.42%
BARROW_BAINS	0.0096	0.0062	-35.42%
BARROW_GATEWAY	0.0096	0.0062	-35.42%
BATHGATE	0.0001	0.0001	0.00%
BILLINGHAM_ICI	0.0001	0.0001	0.00%
BISHOP_AUCKLAND	0.0005	0.0001	-80.00%
BISHOP_AUCKLAND_TEST_FACILITY	0.0005	0.0001	-80.00%
BLABY	0.0122	0.0115	-5.74%
BLACKROD	0.0181	0.0166	-8.29%
BLYBOROUGH	0.0031	0.0024	-22.58%
BP_GRANGEMOUTH	0.0001	0.0001	0.00%
BP_SALTEND_HP	0.0001	0.0001	0.00%
BRAISHFIELD_A	0.025	0.0243	-2.80%
BRAISHFIELD_B	0.025	0.0243	-2.80%
BRIDGEWATER_PAPER	0.0258	0.0221	-14.34%
BRIGG_PG	0.0042	0.0035	-16.67%
BRIMSDOWN_PG	0.0122	0.0115	-5.74%
BRINE_FIELD_PS	0.0001	0.0001	0.00%
BRISLEY	0.0005	0.0001	-80.00%
BROXBURN	0.0001	0.0001	0.00%
BRUNNER_MOND	0.0239	0.0187	-21.76%
BURLEY_BANK	0.005	0.0036	-28.00%
CALDECOTT	0.0095	0.0088	-7.37%
CAMBRIDGE	0.0076	0.0069	-9.21%
CARESTON	0.0001	0.0001	0.00%
CARRINGTON_PS	0.0233	0.0198	-15.02%
CAYTHORPE_(MRS)	0.0001	0.0001	0.00%
CHESHIRE_(MRS)	0.0232	0.0179	-22.84%
CIRENCESTER	0.0125	0.0207	65.60%
COFFINSWELL	0.0274	0.0356	29.93%
COLDSTREAM	0.0001	0.0001	0.00%
CONNAHS_QUAY_PS	0.0262	0.0225	-14.12%
CORBRIDGE	0.0032	0.0001	-96.88%
CORBYP_PS	0.0099	0.0092	-7.07%
CORYTON_PG	0.0113	0.0113	0.00%
CORYTON_PG_2	0.0113	0.0113	0.00%
COTTAM_PG	0.0031	0.0024	-22.58%

COWPEN_BEWLEY	0.0001	0.0001	0.00%
CRAWLEY_DOWN	0.0235	0.0228	-2.98%
DAMHEAD_CREEK	0.0091	0.0104	14.29%
DEESIDE_PS	0.0262	0.0225	-14.12%
DIDCOT_PS	0.019	0.0183	-3.68%
DOWLAIS	0.0001	0.0081	8000.00%
DRAKELOW_PS	0.0156	0.0149	-4.49%
DROINTON_OT	0.0174	0.0167	-4.02%
DRUM	0.0001	0.0001	0.00%
DYFFRYN_CLYDACH	0.0001	0.0055	5400.00%
DYNEVOR_ARMS_LNG	0.0001	0.0075	7400.00%
EASINGTON&ROUGH_TERMINAL	0.0001	0.0001	0.00%
EASTON_GREY	0.0131	0.0213	62.60%
ECCLESTON	0.025	0.0219	-12.40%
ELTON	0.0001	0.0001	0.00%
ENRON_(BILLINGHAM)	0.0001	0.0001	0.00%
EVESHAM	0.0091	0.0167	83.52%
EYE	0.0065	0.0058	-10.77%
FARNINGHAM	0.0118	0.0131	11.02%
FARNINGHAM_B	0.0118	0.0131	11.02%
FIDDINGTON	0.0077	0.0159	106.49%
GANSTEAD	0.0001	0.0001	0.00%
GARTON_(MRS)	0.0001	0.0001	0.00%
GILWERN	0.0012	0.0094	683.33%
GLENMAVIS	0.0001	0.0001	0.00%
GLENMAVIS_LNG	0.0001	0.0001	0.00%
GOOLE_GLASS	0.0017	0.0002	-88.24%
GOSBERTON	0.0043	0.0036	-16.28%
GRAIN_GAS	0.0091	0.0104	14.29%
GREAT_WILBRAHAM	0.0065	0.0058	-10.77%
GREAT_YARMOUTH	0.0001	0.0001	0.00%
GUYZANCE	0.0004	0.0001	-75.00%
HARDWICK	0.0151	0.0144	-4.64%
HATFIELD_MOOR_(MRS)	0.0022	0.0011	-50.00%
HAYS_CHEMICALS	0.0226	0.0186	-17.70%
HOLEHOUSE_FARM_(MRS)	0.0225	0.0188	-16.44%
HOLMES_CHAPEL	0.0227	0.0211	-7.05%
HORNDON	0.0116	0.0109	-6.03%
HORNSEA_(MRS)	0.0001	0.0001	0.00%
HUMBLETON	0.0001	0.0001	0.00%
BARTON_STACEY_(MRS)	0.0232	0.0226	-2.59%
HUME	0.0001	0.0001	0.00%
ICI_RUNCORN	0.0259	0.0222	-14.29%
ILCHESTER	0.0196	0.0278	41.84%
IMMINGHAM_PG	0.0001	0.0001	0.00%
IPSDEN	0.0187	0.018	-3.74%
IPSDEN_2	0.0187	0.018	-3.74%
KEADBY_BS	0.003	0.0015	-50.00%
KEADBY_PS	0.003	0.0015	-50.00%

KELD	0.0107	0.0073	-31.78%
KEMIRAINCE_CHP	0.0255	0.0218	-14.51%
KENN	0.0256	0.0338	32.03%
KINGS_LYNN_PS	0.0031	0.0024	-22.58%
KINKNOCKIE	0.0001	0.0001	0.00%
KIRKSTEAD	0.002	0.0013	-35.00%
LANGAGE_PG	0.0305	0.0387	26.89%
LANGHOLM	0.0043	0.0009	-79.07%
LAUDERHILL	0.0003	0.0001	-66.67%
LEAMINGTON_SPA	0.012	0.0138	15.00%
LITTLE_BARFORD_PS	0.0108	0.0101	-6.48%
LITTLE_BURDON	0.0001	0.0001	0.00%
LITTLETON_DREW	0.014	0.0222	58.57%
LOCKERBIE	0.0033	0.0001	-96.97%
LONGANNET	0.0001	0.0001	0.00%
LOWER_QUINTON	0.0103	0.0158	53.40%
LUPTON	0.0136	0.0101	-25.74%
LUXBOROUGH_LANE	0.0119	0.0112	-5.88%
MAELOR	0.0244	0.0228	-6.56%
MALPAS	0.0235	0.0219	-6.81%
MAPPOWDER	0.0219	0.0297	35.62%
MARCHWOOD	0.0253	0.0246	-2.77%
MARKET_HARBOROUGH	0.0108	0.0101	-6.48%
MATCHING_GREEN	0.0111	0.0104	-6.31%
MEDWAY_PS	0.0092	0.0105	14.13%
MELKINTHORPE	0.0098	0.0064	-34.69%
MICKLE_TRAFFORD	0.0248	0.0212	-14.52%
MILFORD_HAVEN_REFINERY	0.0001	0.0001	0.00%
MILWICH	0.0181	0.0174	-3.87%
MOFFAT	0.002	0.0001	-95.00%
BURNHERVIE	0.0001	0.0001	0.00%
NETHER_HOWCLEUGH	0.0012	0.0001	-91.67%
PANNAL	0.0055	0.004	-27.27%
PARTINGTON	0.0233	0.0198	-15.02%
PARTINGTON_LNG	0.0233	0.0198	-15.02%
PAULL	0.0001	0.0001	0.00%
PEMBROKE_PG	0.0001	0.0001	0.00%
PETERBOROUGH_PS	0.0069	0.0062	-10.14%
PETERHEAD_PG	0.0001	0.0001	0.00%
PETERS_GREEN	0.0113	0.0106	-6.19%
PETERS_GREEN_SOUTH_MIMMS	0.0113	0.0106	-6.19%
PHILLIPS_SEAL_SANDS	0.0001	0.0001	0.00%
PICKERING	0.0023	0.0001	-95.65%
PITCAIRNGREEN	0.0001	0.0001	0.00%
PUCKLECHURCH	0.0149	0.0231	55.03%
RAWCLIFFE	0.0013	0.0001	-92.31%
ROCKSAVAGE_PG	0.0259	0.0222	-14.29%
ROOSECOTE_PS	0.0096	0.0062	-35.42%
ROSS_SW	0.0045	0.0127	182.22%

ROSS_WM	0.0045	0.0127	182.22%
ROUDHAM_HEATH	0.0024	0.0017	-29.17%
ROYSTON	0.0086	0.0079	-8.14%
RUGBY	0.0133	0.0126	-5.26%
RYE_HOUSE_PS	0.0127	0.012	-5.51%
SALTEND	0.0001	0.0001	0.00%
SALTWICK_PC	0.0018	0.0001	-94.44%
SALTWICK_VC	0.0018	0.0001	-94.44%
SAMLESBURY	0.0165	0.015	-9.09%
SAPPAPERMILLCHP	0.017	0.0155	-8.82%
SEABANK_LDZ	0.0171	0.0253	47.95%
SEABANK_POWER_phase1	0.0149	0.0231	55.03%
SEABANK_POWER_phase_II	0.0169	0.0251	48.52%
SELLAFIELD_PS	0.0141	0.0107	-24.11%
SHORNE	0.0106	0.012	13.21%
SHOTTON_PAPER	0.0261	0.0224	-14.18%
SHUSTOKE	0.0167	0.016	-4.19%
SILK_WILLOUGHBY	0.0034	0.0027	-20.59%
SOUTRA	0.0009	0.0001	-88.89%
SPALDING_PG	0.0047	0.004	-14.89%
SPALDING_PG_2	0.0047	0.004	-14.89%
STAYTHORPE	0.0064	0.0057	-10.94%
ST_FERGUS_BS	0.0001	0.0001	0.00%
ST_FERGUS_OT	0.0001	0.0001	0.00%
STALLINGBOROUGH	0.0001	0.0001	0.00%
STRANRAER	0.002	0.0001	-95.00%
STRATFORD_UPON_AVON	0.0105	0.0153	45.71%
STUBLACH	0.0232	0.0179	-22.84%
SUTTON_BRIDGE	0.0052	0.0045	-13.46%
SUTTON_BRIDGE_PS	0.005	0.0043	-14.00%
TATSFIELD	0.0137	0.015	9.49%
TEESSIDE_BASF	0.0001	0.0001	0.00%
TEESSIDE_HYDROGEN	0.0001	0.0001	0.00%
THORNTON_CURTIS_LDZ	0.0001	0.0001	0.00%
THORNTON_CURTIS_(KILLINGHOLME)	0.0001	0.0001	0.00%
THRINTOFT	0.002	0.0005	-75.00%
TOW_LAW	0.0028	0.0013	-53.57%
TOWTON	0.0036	0.0021	-41.67%
TUR_LANGTON	0.011	0.0103	-6.36%
WALESBY	0.0001	0.0001	0.00%
WARBURTON	0.023	0.0196	-14.78%
WEST_WINCH	0.0032	0.0025	-21.88%
WESTON_POINT	0.0259	0.0222	-14.29%
WETHERAL	0.007	0.0036	-48.57%
WHITWELL	0.0108	0.0101	-6.48%
WINKFIELD_NT	0.021	0.0203	-3.33%
WINKFIELD_SE	0.021	0.0203	-3.33%
WINKFIELD_SO	0.021	0.0203	-3.33%
WYRE_PS	0.0177	0.0143	-19.21%

YELVERTON	0.0001	0.0001	0.00%
ZENECA	0.0001	0.0001	0.00%
CENTRAX	0.0272	0.0354	30.15%
CHOAKFORD	0.0305	0.0387	26.89%
WEST_BURTON_PS	0.0032	0.0025	-21.88%
HATFIELD_POWER_STATION	0.0013	0.0001	-92.31%
AM_PAPER	0.0202	0.0168	-16.83%
SEVERNSIDE_ICI	0.0168	0.025	48.81%
SALTFLEETBY	0.0001	0.0001	0.00%
TILBURY_PS	0.0109	0.0117	7.34%
BACTON_Deborah	0.0001	0.0001	0.00%
COCKENZIE_PS	0.0001	0.0001	0.00%
HILLTOP_FARM	0.0225	0.0188	-16.44%
WILLINGTON_PS	0.0172	0.0165	-4.07%
ROLLS_WOOD	0.0001	0.0001	0.00%

Indicative Exit October 2015 supply data

Exit October 2015 Indicative Values		
Supply Point	Supply Flow (GWh) - Original - Exit October 2015	Supply Flow (GWh) - MOD517
AVONMOUTH_LNG	0.00	0.00
BACTON_TERMINAL	437.21	437.21
BBL	517.57	517.57
IUK	810.80	810.80
BARROW_TERMINAL	99.83	99.83
BARTON_STACEY_(MRS)	0.00	34.24
BURTON_POINT_TERMINAL	0.00	0.00
CANONBIE_TERMINAL	0.00	0.00
CAYTHORPE_(MRS)	0.00	0.00
CHESHIRE_(MRS)	0.00	224.52
DYNEVOR_ARMS_LNG	0.00	0.00
EASINGTON	843.88	843.88
ROUGH	485.00	485.00
FLEETWOOD_(MRS)	0.00	0.00
GARTON_(MRS)	0.00	182.43
GLENMAVIS_LNG	0.00	0.00
HATFIELD_MOOR_(MRS)	0.00	9.10
HOLEHOUSE_FARM_(MRS)	0.00	128.21
HORNSEA_(MRS)	0.00	84.52
ISLE_OF_GRAIN_TERMINAL	551.68	282.33
MILFORD_HAVEN_TERMINAL	806.27	412.61
MOFFAT_ASEP	0.00	0.00
PARTINGTON_LNG	0.00	0.00
ST_FERGUS_TERMINAL	1081.43	1081.43
TEESSIDE_TERMINAL	445.09	445.09
THEDDLETHORPE_TERMINAL	94.36	94.36
WYTCH_FARM_TERMINAL	0.00	0.00

Appendix 2

The effects of 0517 and 0517A

Introduction

Wales and West Utilities (WWU) have modelled the impact on typical customers in both the WA2 (Wales South), and SW1 Exit Zones for each of the following bands:

1. Domestic – a customer with usage less than 73,000kWh;
2. A small inc, a customer within the usage range of 73,000kWh and 730,000kWh;

We have provided analysis for all five WWU Exit zones (WA1, WA2, SW1, SW2, SW3) for

3. Large, a customer exceeding 730,000kWh usage.

These impacts have considered four scenarios:

1. Current Prices - Assuming MOD0517 is not implemented, this model utilises the 'October 2015 indicative values - Exit Price (p/kWh/day) - October 2015 – Original'
2. MOD0517;
3. MOD0517 with a change in WWU's exit capacity allowances for formula years 17/18 and 18/19, this is considered a rational response to the material impact of the change which would result in WWU requesting a compensating allowance adjustment; and
4. MOD0517A.

The following consistent assumptions have been applied to the model:

1. Exit Capacity Prices used for Mod 0517/0517A are those published within the Agenda of the UNC Work Group 8th December 2015, 'Exit - October 2015 Indicative Values': Option 3.
2. No increase has been applied to the above exit capacity prices over the period to 2020/21.
3. Exit Capacity prices used for 'Current Prices' are:
 - (i) Gas Year commencing 1st Oct 2015: Published by NTS on 14th Nov 2014
 - (ii) Gas Years commencing 1st Oct 2016 and 1st Oct 2017: Published by NTS on 1st May 2014.
 - (iii) Gas Years commencing 1st Oct 2018, 1st Oct 2019 and 1st Oct 2020: Assumed 4% increase year on year.
4. No increase has been applied to these exit capacity prices over the period to 2020/21
5. Adjustments have been made to account for leap years in 2015/2016 and 2019/2020.
6. A year is based on the regulatory year, i.e. from 1st April XX to 31st March XY
7. All prices are at nominal prices
8. Assumes the following price adjustments excluding exit capacity income aligned to the regulatory year:
 - a. 2015/16 – baseline
 - b. 2016/17 – +8.2%
 - c. 2017/18 – +8.9%
 - d. 2018/19 – +3.9%
 - e. 2019/20 – +3.9%
 - f. 2020/21 – +3.8%

The model has used the 'Option 3' NTS Exit Capacity Charges as published 8th December 2015. These prices have been assumed to be implemented in October 2015 with no further changes to these prices in subsequent years. The implementation in October 2015 results in a partial effect in 2015/16, with only October 2015 to March 2016 effected, 2016/17 onwards will receive a full year's impact from the increased NTS Exit Capacity Charges.

Insight – Domestic and small inc customers

For domestic (tables 1 and 2) and small I&C (tables 3 and 4) the impact of the changes in NTS exit capacity charges is out-weighted by planned increases to the overall bill, reflecting that exit capacity is a relatively small component of the total bill.

Insight – Large customers

For the indicative large I&C (tables 5 to 9) which we envisage to be a power station or similar load there are several considerations arising from the impact of the change:

Impact on the Exit Capacity Charge

Looking at Mod 0517 and Mod 0517 with allowance increase in 17/18 and 18/19 we see that in 15/16 and 16/17 charges increase relative to current prices in WA2 and SW1 and decreases in the other three Exit Zones. The reason for this is that although the effect of the new NTS capacity charges does not affect WWU's allowed revenue in these years the DN's charging methodology uses those charges to apportion WWU's charges to each exit zone in order to recover its allowed revenue. Therefore, WWU's existing charge base is apportioned using the new prices. For WA2 and SW1 exit zones this results in an increase for 15/16 and 16/17 as their share of the charges has increased. Other exit zones such as SW2 and SW3 where the NTS exit capacity charges has risen but by less than the weighted average see a fall in charges in these years. WA1 where the NTS exit capacity charge falls also sees a fall relative to current prices.

An additional complication is that since the new NTS charges come in halfway through the formula year means that the apportionment in 15/16 is based half on existing and half on new prices. From 16/17 the apportionment is 100% based on new prices.

This effect is an unforeseen consequence of DNs having the two year lag introduced under RIIO GD1 as a result of Ofgem's decision on Volatility and Predictability. The DN charging methodology states that the current NTS exit capacity charges will be used to apportion the NTS exit capacity costs between customers. To remove it would require a change to DN's charging methodology by means of a UNC modification.

Increased Pricing Volatility

Mod 0517 with an allowance adjustment is more volatile than Mod 0517A with an allowance adjustment. For WA2 and SW1 Mod 0517 with adjustment charges peak in 18/19 slightly more than 10% above what they would be under 0517A with adjustment and then decline. For SW2 and SW3 the effect is nearly 18% and 16% respectively. The peak is caused by the catch up mechanism in the DN's charging methodology. In contrast the path under 0517A with adjustment is smooth as the delayed increase in prices is offset by a planned adjustment in allowances.

Competition between a customer connected directly to the NTS and those on the LDZ

Under MOD0517 with Allowance adjustment, an LDZ connected customer would receive a pricing benefit as compared to a similar customer directly connected to the NTS. This situation arises because a directly connected customer to the NTS would experience a price rise from 2015/16 (directly after the implementation in October 2015), whereas those connected to the LDZ would experience a delayed increase to 2017/18 due to RIIO price formula adjustment in T+2. Under 0517A with adjustment both LDZ and NTS directly connected customers would see the price changes coming in 17/18 which would mean that they move more in line with each other.

These between year effects may materially affect competition between power stations that are in the same geographical location but one is connected to the LDZ and one is connected to the NTS.

Tables 10 to 14 show the NTS exit capacity charge element that contributes to the charges in tables 5 and 6, isolating the effect of the change in NTS Exit Capacity Charges on the large customer.

Customer in <73,200kWh band

The following examples relate to an indicative bill for a typical domestic customer, within the region of WA2 (table 1), and additionally SW1 (table 2). The bill has been calculated on the following assumptions:

	South Wales	South West
LDZ	WA2	SW1
AQ	14,000	14,000
Load Factor	31.8%	29.90%
SOQ*	121	128

* Assumes SOQ will reduce by 2.7% in 2015/16 and 2% per annum thereafter based on historic trends.

Table 1 - Impact on total bill for a Domestic customer based in WA2

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)
Domestic 2015/16	£131.75	£132.89	£132.89	£131.75	0.87%	0.87%	0.00%
2016/17	£142.52	£144.11	£144.11	£142.52	1.11%	1.11%	0.00%
2017/18	£155.69	£157.72	£158.24	£156.53	1.30%	1.64%	0.54%
2018/19	£161.84	£164.34	£164.74	£162.94	1.55%	1.80%	0.68%
2019/20	£168.87	£171.03	£170.41	£169.80	1.28%	0.91%	0.55%
2020/21	£174.77	£176.92	£176.44	£175.78	1.23%	0.96%	0.58%

Table 2 - Impact on total bill for a Domestic customer based in SW1

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)
Domestic 2015/16	£142.16	£142.63	£142.63	£142.16	0.33%	0.33%	0.00%
2016/17	£153.69	£154.39	£154.39	£153.69	0.46%	0.46%	0.00%
2017/18	£167.53	£169.45	£170.34	£168.19	1.15%	1.68%	0.39%
2018/19	£174.33	£176.86	£177.56	£175.27	1.45%	1.85%	0.54%
2019/20	£182.37	£184.06	£183.03	£182.80	0.93%	0.36%	0.23%
2020/21	£188.77	£190.40	£189.56	£189.28	0.87%	0.42%	0.27%

Customer in 73,200kWh < 'Small I&C' < 732,000kWh band

The following examples relate to an indicative bill for a small incorporated customer, within the region of WA2 (table 3), and additionally SW1 (table 4). The bill has been calculated on the following assumptions:

	S.Wales	South West
LDZ	WA2	SW1
AQ	196,490	196,490
Load Factor	N/A	N/A
SOQ*	1,755	1,755

* Assumes SOQ will reduce by 2.7% in 2015/16 and 2% per annum thereafter based on historic trends.

Table 3 - Impact on total bill for a Small Inc customer based in WA2

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)
2015/16	£1,251.15	£1,267.85	£1,267.85	£1,251.15	1.33%	1.33%	0.00%
2016/17	£1,263.32	£1,378.34	£1,378.34	£1,355.28	9.10%	9.10%	7.28%
2017/18	£1,283.02	£1,512.44	£1,520.12	£1,495.14	17.88%	18.48%	16.53%
2018/19	£1,290.37	£1,578.37	£1,584.13	£1,557.87	22.32%	22.77%	20.73%
2019/20	£1,304.56	£1,641.75	£1,632.76	£1,623.76	25.85%	25.16%	24.47%
2020/21	£1,307.48	£1,697.79	£1,690.74	£1,681.13	29.85%	29.31%	28.58%

Table 4 - Impact on total bill for a Small Inc customer based in SW1

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)
2015/16	£1,282.63	£1,289.05	£1,289.05	£1,282.63	0.50%	0.50%	0.00%
2016/17	£1,295.99	£1,397.55	£1,397.55	£1,387.95	7.84%	7.84%	7.10%
2017/18	£1,313.77	£1,539.98	£1,552.15	£1,522.69	17.22%	18.15%	15.90%
2018/19	£1,324.96	£1,611.04	£1,620.64	£1,589.26	21.59%	22.32%	19.95%
2019/20	£1,346.95	£1,675.79	£1,661.66	£1,658.45	24.41%	23.36%	23.13%
2020/21	£1,351.68	£1,733.02	£1,721.49	£1,717.64	28.21%	27.36%	27.07%

Customer in 732,000kWh<'Large' band

The following examples relate to an indicative bill for a Large customer, within each WWU LDZ. The bill has been calculated on the following assumptions:

	North Wales	South Wales	South West		
LDZ	WA1	WA2	SW1	SW2	SW3
AQ	3,000,000,000	3,000,000,000	3,000,000,000	3,000,000,000	3,000,000,000
Load Factor	N/A	N/A	N/A	N/A	N/A
SOQ**	14,000,000	14,000,000	14,000,000	14,000,000	14,000,000

** Assumes no reduction in SOQ over the period based on historic trends

Table 5 - Impact on total bill for a Large WA1 customer based in WA1

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)
Large WA1 2015/16	2,617,340.02	2,326,070.02	2,326,070.02	2,617,340.02	-11.13%	-11.13%	0.00%
2016/17	2,883,950.03	2,383,170.03	2,383,170.03	2,883,950.03	-17.36%	-17.36%	0.00%
2017/18	3,005,370.03	2,862,290.03	3,030,920.03	2,862,290.03	-4.76%	0.85%	-4.76%
2018/19	3,215,770.03	3,128,900.03	3,266,870.03	3,113,570.03	-2.70%	1.59%	-3.18%
2019/20	3,602,020.03	3,213,660.03	3,009,260.03	3,280,090.03	-10.78%	-16.46%	-8.94%
2020/21	3,725,550.03	3,306,530.03	3,137,900.03	3,424,060.03	-11.25%	-15.77%	-8.09%

Table 6 - Impact on total bill for a Large WA2 customer based in WA2

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)
Large WA2 2015/16	1,503,360.02	1,636,220.02	1,636,220.02	1,503,360.02	8.84%	8.84%	0.00%
2016/17	1,662,660.03	1,846,620.03	1,846,620.03	1,662,660.03	11.06%	11.06%	0.00%
2017/18	1,870,950.03	2,106,010.03	2,167,330.03	1,968,040.03	12.56%	15.84%	5.19%
2018/19	1,953,600.03	2,244,870.03	2,290,860.03	2,081,350.03	14.91%	17.26%	6.54%
2019/20	2,058,800.03	2,309,190.03	2,237,650.03	2,166,110.03	12.16%	8.69%	5.21%
2020/21	2,136,340.03	2,386,730.03	2,330,520.03	2,253,870.03	11.72%	9.09%	5.50%

Table 7 - Impact on total bill for a Large SW1 customer based in SW1

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)
Large SW1 2015/16	1,753,750.02	1,804,850.02	1,804,850.02	1,753,750.02	2.91%	2.91%	0.00%
2016/17	1,923,270.03	1,999,920.03	1,999,920.03	1,923,270.03	3.99%	3.99%	0.00%
2017/18	2,116,230.03	2,325,740.03	2,422,830.03	2,187,770.03	9.90%	14.49%	3.38%
2018/19	2,229,540.03	2,505,480.03	2,582,130.03	2,331,740.03	12.38%	15.81%	4.58%
2019/20	2,396,060.03	2,580,020.03	2,467,600.03	2,442,050.03	7.68%	2.99%	1.92%
2020/21	2,488,930.03	2,667,780.03	2,575,800.03	2,545,140.03	7.19%	3.49%	2.26%

Table 8 - Impact on total bill for a Large SW2 customer based in SW2

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)	
Large SW2	2015/16	2,423,160.02	2,392,500.02	2,392,500.02	2,423,160.02	-1.27%	-1.27%	0.00%
	2016/17	2,679,550.03	2,648,890.03	2,648,890.03	2,679,550.03	-1.14%	-1.14%	0.00%
	2017/18	2,846,960.03	3,240,430.03	3,465,270.03	2,954,270.03	13.82%	21.72%	3.77%
	2018/19	3,042,030.03	3,573,470.03	3,762,540.03	3,220,880.03	17.47%	23.69%	5.88%
	2019/20	3,387,400.03	3,663,340.03	3,392,510.03	3,392,510.03	8.15%	0.15%	0.15%
	2020/21	3,505,820.03	3,766,430.03	3,546,700.03	3,546,700.03	7.43%	1.17%	1.17%

Table 9 - Impact on total bill for a Large SW3 customer based in SW3

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)	
Large SW3	2015/16	2,556,020.02	2,428,270.02	2,428,270.02	2,556,020.02	-5.00%	-5.00%	0.00%
	2016/17	2,812,410.03	2,648,890.03	2,648,890.03	2,812,410.03	-5.81%	-5.81%	0.00%
	2017/18	2,923,610.03	3,235,320.03	3,460,160.03	2,984,930.03	10.66%	18.35%	2.10%
	2018/19	3,123,790.03	3,568,360.03	3,752,320.03	3,256,650.03	14.23%	20.12%	4.25%
	2019/20	3,489,600.03	3,658,230.03	3,387,400.03	3,433,390.03	4.83%	-2.93%	-1.61%
	2020/21	3,613,130.03	3,761,320.03	3,541,590.03	3,587,580.03	4.10%	-1.98%	-0.71%

To demonstrate the direct impact MOD0517 has on the exit capacity element of a customer bill, i.e. without any offset in price increases in other elements of customer bill, the exit capacity only has been considered for a **730,000kWh<'Large' band:**

Table 10 - Impact on EXIT CAPACITY element of bill for a Large WA1 customer based in WA1

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)	
Large WA1	2015/16	1,180,410.00	889,140.00	889,140.00	1,180,410.00	-24.68%	-24.68%	0.00%
	2016/17	1,333,710.00	832,930.00	832,930.00	1,333,710.00	-37.55%	-37.55%	0.00%
	2017/18	1,313,270.00	1,170,190.00	1,338,820.00	1,170,190.00	-10.89%	1.95%	-10.89%
	2018/19	1,456,350.00	1,369,480.00	1,507,450.00	1,354,150.00	-5.96%	3.51%	-7.02%
	2019/20	1,778,280.00	1,389,920.00	1,185,520.00	1,456,350.00	-21.84%	-33.33%	-18.10%
	2020/21	1,829,380.00	1,410,360.00	1,241,730.00	1,527,890.00	-22.91%	-32.12%	-16.48%

Table 11 - Impact on EXIT CAPACITY element of bill for a Large WA2 customer based in WA2

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)	
Large WA2	2015/16	66,430.00	199,290.00	199,290.00	66,430.00	200.00%	200.00%	0.00%
	2016/17	112,420.00	296,380.00	296,380.00	112,420.00	163.64%	163.64%	0.00%
	2017/18	178,850.00	413,910.00	475,230.00	275,940.00	131.43%	165.71%	54.29%
	2018/19	194,180.00	485,450.00	531,440.00	321,930.00	150.00%	173.68%	65.79%
	2019/20	235,060.00	485,450.00	413,910.00	342,370.00	106.52%	76.09%	45.65%
	2020/21	240,170.00	490,560.00	434,350.00	357,700.00	104.26%	80.85%	48.94%

Table 12 - Impact on EXIT CAPACITY element of bill for a Large SW1 customer based in SW1

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)	
Large SW1	2015/16	316,820.00	367,920.00	367,920.00	316,820.00	16.13%	16.13%	0.00%
	2016/17	373,030.00	449,680.00	449,680.00	373,030.00	20.55%	20.55%	0.00%
	2017/18	424,130.00	633,640.00	730,730.00	495,670.00	49.40%	72.29%	16.87%
	2018/19	470,120.00	746,060.00	822,710.00	572,320.00	58.70%	75.00%	21.74%
	2019/20	572,320.00	756,280.00	643,860.00	618,310.00	32.14%	12.50%	8.04%
	2020/21	592,760.00	771,610.00	679,630.00	648,970.00	30.17%	14.66%	9.48%

Table 13 - Impact on EXIT CAPACITY element of bill for a Large SW2 customer based in SW2

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)	
Large SW2	2015/16	986,230.00	955,570.00	955,570.00	986,230.00	-3.11%	-3.11%	0.00%
	2016/17	1,129,310.00	1,098,650.00	1,098,650.00	1,129,310.00	-2.71%	-2.71%	0.00%
	2017/18	1,154,860.00	1,548,330.00	1,773,170.00	1,262,170.00	34.07%	53.54%	9.29%
	2018/19	1,282,610.00	1,814,050.00	2,003,120.00	1,461,460.00	41.43%	56.18%	13.94%
	2019/20	1,563,660.00	1,839,600.00	1,568,770.00	1,568,770.00	17.65%	0.33%	0.33%
	2020/21	1,609,650.00	1,870,260.00	1,650,530.00	1,650,530.00	16.19%	2.54%	2.54%

Table 14 - Impact on EXIT CAPACITY element of bill for a Large SW3 customer based in SW3

	Current Prices	MOD0517	MOD0517 with Allowance adjustment in T+2	MOD0517a (with allowance adjustment in T+2)	Increase from current prices for MOD0517	Increase from current prices for MOD0517 (with allowance)	Increase from current prices for MOD0517 A (with allowance)	
Large SW3	2015/16	1,119,090.00	991,340.00	991,340.00	1,119,090.00	-11.42%	-11.42%	0.00%
	2016/17	1,262,170.00	1,098,650.00	1,098,650.00	1,262,170.00	-12.96%	-12.96%	0.00%
	2017/18	1,231,510.00	1,543,220.00	1,768,060.00	1,292,830.00	25.31%	43.57%	4.98%
	2018/19	1,364,370.00	1,808,940.00	1,992,900.00	1,497,230.00	32.58%	46.07%	9.74%
	2019/20	1,665,860.00	1,834,490.00	1,563,660.00	1,609,650.00	10.12%	-6.13%	-3.37%
	2020/21	1,716,960.00	1,865,150.00	1,645,420.00	1,691,410.00	8.63%	-4.17%	-1.49%