Stage 04: Final Modification Report

What stage is this document in the process?

01 Initial Written Assessment

02 Definition Procedure

03 Assessment Procedure

04 Report Phase

P278 'Treatment of Transmission Losses for Interconnector Users'

P278 proposes to always apply a fixed Transmission Loss Multiplier of 1 to Interconnector BM Units, so that the BSC does not adjust their Metered Volumes for GB transmission losses.

The Proposer argues that, because Great Britain participates in the European Inter-TSO Compensation scheme, which compensates for GB transmission losses which occur from hosting cross-border flows, Lead Parties of Interconnector BM Units should no longer be charged for GB transmission losses under the BSC.

The BSC Panel:
- Recommends **approval** of P278

High Impact:
- Interconnector Users
- Interconnector Error Administrators
- Settlement Administration Agent
- Balancing Mechanism Reporting Agent

Medium Impact:
- Lead Parties of non-Interconnector BM Units

Low Impact:
- ELEXON

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About this Document

This is the P278 Final Modification Report, which ELEXON has submitted to Ofgem on behalf of the BSC Panel. It includes a summary of the Workgroup's assessment, the Panel's full views and the responses to both the Workgroup's Assessment Consultation and the Panel's Report Phase Consultation. Ofgem will consider this report and will decide whether to approve or reject P278.

There are 5 parts to this document:

- This is the main document. It provides details of the solution, impacts, costs, benefits/drawbacks and proposed implementation approach. It also includes the Panel's discussions and a summary of the responses received from the Report Phase Consultation.
- Attachment A contains more information on the Workgroup's analysis. It includes further details of the ITC Scheme, the effect of P278 on Trading Charges, and the materiality of the distributional impact on Parties' charges. It also contains details of the Workgroup's membership and full Terms of Reference.
- Attachment B contains the full responses received to the Workgroup's Assessment Procedure Consultation.
- Attachment C contains the redlined changes to the BSC for P278.
- Attachment D contains the full responses received to the Panel's Report Phase Consultation.

The Panel has progressed P278 in parallel with P277 'Allow Interconnector BM Units to choose their P/C Status'. P277 will also impact Interconnector Users, although the two solutions are independent of one another. For more information about P277, please refer to the separate P277 Final Modification Report.

Any questions?

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1 Summary

Why Change?

The BSC currently allocates GB transmission losses to all BM Units, including Interconnector BM Units. This is anomalous in light of recent European legislation on cross-border flows. The mandatory Inter-Transmission System Operator (TSO) Compensation Scheme ('the ITC scheme') includes an element which is intended to compensate National Grid (as the GB TSO) for transmission losses which occur on the GB Transmission System as a result of hosting cross-border flows across Interconnectors. National Grid passes on this compensation (which in reality can be positive or negative) to users of the GB Transmission System through its Transmission Network Use of System (TNUoS) charges. The intention of the European Third Package legislation, of which the ITC scheme is part, is to remove barriers to cross-border flows.

The GB (and therefore BSC) arrangements need to comply with any European legislation. The BSC's allocation of GB transmission losses to Interconnector Users could potentially be seen as charging for those GB transmission losses which occur as a result of hosting cross-border flows, and which are intended to be accounted for under the ITC scheme.

Solution

The BSC's Transmission Loss Multiplier (TLM) will be fixed at 1 for all Interconnector BM Units belonging to Interconnector Users and Interconnector Error Administrators. The GB transmission losses that would have been allocated to these Interconnector BM Units will be redistributed across all other (non-Interconnector) BM Units.

Impacts & Costs

P278 impacts the BSC, the Settlement Administration Agent (SAA) and Balancing Mechanism Reporting Agent (BMRA) Service Descriptions, and other SAA and BMRA documents. It directly impacts all Interconnector Users and Interconnector Error Administrators, and indirectly impacts all other BSC Trading Parties. It also impacts the SAA and BMRA, and ELEXON.

The central implementation cost of P278 is £91k, comprising £80k in SAA and BMRA costs and £11k in ELEXON effort. Individual Party costs range from zero to £20k.

Implementation

The proposed Implementation Dates for P278 are 29 November 2012 (November 2012 BSC Systems Release) or 28 February 2013 (February 2013 BSC Systems Release), depending on when Ofgem's decision is received.

The Case for Change

The Panel unanimously believes that P278 would better facilitate Applicable BSC Objectives (a), (c) and (e), and therefore recommends that P278 is approved.

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How does the BSC currently treat GB transmission losses?

As energy is transported across the GB Transmission System, some of it is lost (for example, through heat caused by the current flowing through overhead lines). The total metered energy which can be drawn from the GB Transmission System to meet demand will therefore always be less than that delivered onto the GB Transmission System by generation. The difference between total metered generation and total metered demand in a Settlement Period is therefore referred to as 'GB transmission losses'. The BSC adjusts the Metered Volumes of all BM Units through the application of Transmission Loss Multipliers (TLMs) to ensure that the total (adjusted) generation matches the total (adjusted) demand in any given Settlement Period. In doing so, it effectively allocates a share of the total GB transmission losses in that Settlement Period to every BM Unit (and thereby to BSC Trading Parties through their Trading Charges).[1]

Under the current BSC arrangements, 45% of the total GB transmission losses in a Settlement Period are allocated to BM Units in 'delivering' (exporting) Trading Units, and the remaining 55% to BM Units in 'offtaking' (importing) Trading Units. Within this split, the 'lost' energy is distributed evenly across all BM Units in proportion to their Metered Volumes.[2] This is often referred to as a 'uniform' allocation of losses.

For each Settlement Period, the Settlement Administration Agent (SAA) calculates two TLMs in accordance with BSC Section T2: the 'delivery' TLM and the 'offtake' TLM. An individual BM Unit's Metered Volume is multiplied by either the 'delivery' TLM or the 'offtake' TLM for that Settlement Period as follows:

- The **'delivery' TLM** (which is less than 1) is applied to all BM Units that are part of 'delivering' (exporting) Trading Units in that Settlement Period. This scales down the BM Units' Metered Volumes to account for GB transmission losses. This means that the Lead Parties for exporting BM Units in delivering Trading Units must export more to meet their contracted positions. If a Trading Unit is delivering overall but includes one or more importing BM Units in a given Settlement Period, then the importing BM Unit(s) in the Trading Unit will benefit from receiving the delivery TLM (Import scaled down) for that Settlement Period.
- The **'offtake' TLM** (which is greater than 1) is applied to all BM Units that are part of 'offtaking' (importing) Trading Units in that Settlement Period. This scales up the BM Units' Metered Volumes to account for GB transmission losses. This means that the Lead Parties for importing BM Units in offtaking Trading Units must contract for more energy to meet their expected import. If a Trading Unit is offtaking overall but includes one or more exporting BM Units in a given Settlement Period, then the exporting BM Units in the Trading Unit will benefit from receiving the offtake TLM (Export scaled up) for that Settlement Period.

What is the issue?

The BSC currently adjusts the Metered Volumes of Interconnector BM Units for GB transmission losses. This is anomalous in light of recently introduced European regulations on cross-border flows.

What are Trading Units?

A Trading Unit is a collection of one or more BM Units.

If the sum of the Metered Volumes across all of the BM Units in a Trading Unit is greater than zero for a given Settlement Period, the Trading Unit is a **'delivering' Trading Unit**.

If the sum of the Metered Volumes across all of the BM Units in a Trading Unit is less than or equal to zero for a given Settlement Period, the Trading Unit is an **'offtaking' Trading Unit**.

For more information, please see BSC Section T2.1.

[1] Losses on Distribution Systems are separately accounted for through the application of Line Loss Factors (LLFs) and GSP Group Correction.

[2] In practice, this split is designed to be equivalent to a 50:50 allocation, but with allowance for the fact that metering for most generation connections is on the high-voltage side of the supergrid transformer, whereas that for demand is on the low-voltage side. The 45:55 allocation of transmission losses is intended to allow for supergrid transformer losses for demand connections which are in addition to the metered flow.

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What are the European regulations for the treatment of cross-border flows?

National Grid, as the GB Transmission System Operator (TSO), participates in the mandatory European Inter-TSO Compensation (ITC) scheme on behalf of GB. The intention of this scheme is to compensate the national TSO of each European Member State for the costs incurred as a result of hosting cross-border (Interconnector) flows on their networks. There are two elements of compensation: one for infrastructure and one for losses. The ITC scheme therefore includes a mechanism which is intended to compensate the GB market (via National Grid as the GB TSO) for the transmission losses which occur on the GB Transmission System as a result of hosting cross-border (Interconnector) flows.

The ITC scheme is part of the wider European Commission (EC) objectives of removing barriers to cross-border flows, creating a single European market in electricity, and thus facilitating greater competition and benefits for consumers. It also relates to the move, under the Third Package, towards viewing Interconnectors as extensions to transmission systems in this single market which should not be subject to additional national network charges. As cross-border flows are required to facilitate the formation of a single European electricity market, applying national network charges to these flows can be seen as a barrier. One of the aims of the ITC scheme, and of the Commission generally, is to prevent the addition of multiple network charges (sometimes called 'pancaking' of charges) when a Party trades across multiple countries.

The Proposer believes that the BSC's Metered Volume adjustment for transmission losses can be considered a 'network charge' because, like Transmission Network Use of System (TNUoS) and Balancing Services Use of System (BSUoS) charges under the Connection and Use of System Code (CUSC), it is automatically levied on users of the GB Transmission System. National Grid has already removed TNUoS charges[3], and is currently progressing a CUSC change to remove BSUoS charges[4], from Interconnector Users.

How does the ITC interact with GB law?

The Electricity and Gas (Internal Markets) Regulations 2011 ('the Regulations') have amended electricity and gas legislation and licences in order to implement the Third Package. The Third Package includes Regulation (EC) No 714/2009[5] on conditions for access to the network for cross-border exchanges in electricity ('the Electricity Regulation'). Article 14 of Regulation 714/2009 requires that ITC payments and receipts are taken into account when setting national network charges. Commission Regulation (EU) No. 838/2010[6] of 23 September 2010 ('the ITC Regulation') is created under Article 18(5) of the Electricity Regulation. The ITC Regulation therefore falls within the realm of the Third Package. These regulations became legally binding on all EU Member States on 3 March 2011.

[3] Following Ofgem's approval of ECM-26 'Review of Interconnector Charging Arrangements'.
[4] CUSC Modification Proposal (CMP) 202 'Revised treatment of BSUoS charges for lead parties of Interconnector BM Units'.
[5] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0015:0035:EN:PDF
[6] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:250:0005:0011:EN:PDF

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The Electricity Regulation is directly applicable in Great Britain, as is the ITC Regulation. These Regulations supersede national law, so the GB (and therefore BSC) arrangements need to comply with these Regulations. If GB cannot demonstrate compliance, there is a risk that the Commission may initiate formal infringement proceedings against the GB Government. New Applicable BSC Objective (e) also relates to the BSC's compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency for the Co-operation of Energy Regulators (ACER).

How does the ITC work?

Each month, National Grid submits data to an ITC Administrator appointed by the European Network of Transmission System Operators for Electricity (ENTSO-E). The data is for specified time intervals over the previous month, as directed by ENTSO-E. The data from all participants in the ITC scheme is used to calculate how much compensation each Member State will pay into, or receive from, the ITC fund. More information is available in Attachment A. Note that National Grid only supplies the raw data; it is not involved in nor has any say in the actual calculations.

National Grid passes on this compensation (which may be positive or negative) to users of the GB Transmission System through its TNUoS charges. The compensation (whether positive or negative) is therefore funded entirely by GB Transmission System Users with no profit or loss to National Grid. Because National Grid has removed TNUoS charges from Interconnector Users, the compensation is therefore in practice funded by transmission-connected generators and Suppliers.

TNUoS is an annual product. At the beginning of the year, National Grid forecasts what its ITC compensation (positive or negative) will be for that year and factors these costs into the upcoming TNUoS charges. At the end of the year, it compares the actual costs against its forecasts, and adjusts TNUoS charges as appropriate. If National Grid makes a net contribution to the ITC fund, then Transmission System Users will be charged accordingly through TNUoS. If National Grid receives a net payment from the ITC fund, this will be distributed to Transmission System Users through TNUoS. National Grid made its first adjustments to TNUoS for the ITC during 2010, when it also removed TNUoS charges from Interconnector Users.

'Cross-border flows' versus 'transits'

The intention of the ITC scheme is to compensate for transmission losses arising from all cross-border (i.e. Interconnector) flows, and the costs of making the necessary incremental infrastructure available. However, the mechanism which the ITC uses to calculate the losses element of the compensation only looks at a specific subset of these cross-border flows called 'transits'.

EU Commission Regulation No 838/2010 says:

> *"Transmission system operators should be compensated for energy losses resulting from hosting **cross-border flows** of electricity. Such compensation should be based on an estimate of what losses would have been incurred in the absence of **transits of electricity**."*

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And Section 4.2 of Annex A of Regulation 838/2010 says that:

> *"The amount of losses incurred on a national transmission system shall be established by calculating the difference between:*
>
> > *(1) the amount of losses actually incurred on the transmission system during the relevant period; and*
> >
> > *(2) the estimated amount of losses on the transmission system which would have been incurred on the system during the relevant period* ***if no transits of electricity had occurred****."*

Article 2 of EC Regulation No 714/2009 defines a 'cross-border flow' and a 'declared transit' as follows:

> *"****'cross-border flow'*** *means a physical flow of electricity on a transmission network of a Member State that results from the impact of the activity of producers and/or consumers outside that Member State on its transmission network."*
>
> *"****'declared transit'*** *means a circumstance where a declared export of electricity occurs and where the nominated path for the transaction involves a country in which neither the dispatch nor the simultaneous corresponding take-up of the electricity will take place."*

Cross-border flows therefore cover all Imports into and Exports out of GB over Interconnectors, while transits are a specific subset of these flows where GB is neither the originator nor end recipient of the Interconnector flow.

To date, National Grid has been a net contributor to the ITC scheme. This is because the mechanism the Commission uses for calculating compensation is based on load-flow modelling with and without transit flows for 72 snapshot periods per year. In GB, most transit flows are from South to North, thereby tending to reduce losses on the GB Transmission System (on which more energy tends to flow from northern generation to meet southern demand). See the Workgroup's analysis and worked examples in Attachment A for further details. This may change in the future as new Interconnectors are built.

What is wrong with the current rules?

The BSC currently allocates GB transmission losses to all BM Units, including Interconnector BM Units.

The intention of the European Third Package legislation, of which the ITC scheme is part, is to remove barriers to cross-border flows. The GB (and therefore BSC) arrangements need to remain compliant with any European legislation. The BSC's allocation of GB transmission losses to Interconnector Users could be seen as charging for those GB transmission losses which occur as a result of hosting cross-border flows, and which are intended to be accounted for under the ITC scheme.

National Grid has raised P278 to ensure that the BSC (and thereby GB) demonstrates compliance with the ITC regulations.

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3 Solution

This section explains the P278 Proposed Modification, which is the solution put forward by the Proposer.

Neither the Workgroup nor Assessment Consultation respondents have identified any Alternative Modification within the scope of P278 which would better facilitate the Applicable BSC Objectives than the Proposer's solution.

What is the proposed solution?

The TLM applied to Interconnector BM Units would be fixed as 1. The BSC would therefore no longer allocate GB transmission losses to any Interconnector BM Units.

What is the proposed solution?

P278 would amend the BSC to apply a fixed TLM of 1 to all Interconnector BM Units. This means that Interconnector BM Units' Metered Volumes would no longer be adjusted by the TLM, and the BSC would therefore no longer allocate GB transmission losses to any Interconnector BM Units (regardless of whether these Interconnector BM Units belong to Interconnector Users or Interconnector Error Administrators).

The GB transmission losses which are no longer allocated to Interconnector BM Units would instead be allocated across all other non-Interconnector BM Units (proportional to their Metered Volumes and the overall 45:55 split between 'delivery' and 'offtake'). This would involve adjusting the equations for calculating the 'delivery' Transmission Losses Adjustment ($TLMO^{+}$) and the 'offtake' Transmission Losses Adjustment ($TLMO^{-}$) used in the calculation of the 'delivery' and 'offtake' TLMs.

You can find a more detailed description of the P278 solution requirements in Attachment A, which also includes an explanation of the effects of P278 on the TLMO calculation and on Trading Charges.

P278 does not impact the Isle of Man Distribution Interconnector. This is because it has a derogation from the Panel under BSC Section K5.2 such that it is not treated as an Interconnector (i.e. it does not have Interconnector BM Units or an Interconnector Error Administrator). Any other future Distribution Interconnector with such a derogation would also not be impacted. However, any future Distribution Interconnectors without such a derogation would be treated the same as a Transmission Interconnector, and so would be impacted by P278.

P278 does not impact any reporting flows. For example, the SAA-I014 flow will still report TLM values in the same way as currently. However, the actual TLM values reported through this flow for Interconnector BM Units would be 1 (whereas all current TLM values are either greater or less than 1). Parties may therefore need to amend their own systems to accept TLM values of 1 for their Interconnector BM Units.

Legal text

The proposed redlined changes to the BSC to deliver the P278 solution can be found in Attachment C. The Workgroup agrees that these changes deliver the intent of P278, and the Panel provisionally supports this view. No Assessment Consultation respondents had any comments on the legal text, which is therefore unchanged from the version provided in that consultation. You can find the full Assessment Consultation responses in Attachment B.

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Scope of issue and P278 solution

The GB Transmission System stops just before the shore, on the Transmission System side of the AC/DC conversion equipment. Losses occurring on the Interconnector cables themselves (including the conversion equipment) are allocated to Interconnector Users by the relevant Interconnector Administrator, and fall outside the scope of the ITC, BSC and P278. References to 'GB transmission losses' or 'losses on the GB Transmission System' in this document therefore exclude these cable and equipment losses, the allocation of which will be unaffected by P278. See Attachment A for further details.

Is a retrospective solution required?

No. There is a strong presumption against retrospective rule changes to the BSC, and it is not the Proposer's intention to apply P278 retrospectively. Although the ITC scheme became legally binding in March 2011, the proposed solution to P278 will not be a retrospective solution to account for the intervening time. As long as the GB arrangements are better aligned with European legislation and the requirements of the ITC promptly, it should not be necessary to back-date the P278 solution.

If the process of updating the arrangements is unduly delayed, the Proposer notes that it is possible that the European Commission may seek to impose a solution and timescale that exposes GB to retrospective application. This would only be the case if the Commission instigated formal infringement proceedings against GB.

How does P278 interact with P277?

P278 is being progressed in parallel with P277 'Allow Interconnector BM Units to choose their P/C Status', as they both relate to Interconnectors. P277 proposes to reduce the number of BM Units each Interconnector User and Interconnector Error Administrator is allocated under the BSC, from two to one per Interconnector. The two Modifications have independent solutions which will work separately or together. However, if both are approved, simultaneous implementation would offer a reduction in the combined central implementation costs (see Section 4).

For a detailed description of the interaction between the P277 and P278 solutions, see Attachment A to the separate P277 Final Modification Report.

How does P278 interact with CMP202?

National Grid has recently raised CUSC Modification Proposal (CMP) 202 to remove BSUoS charges from Interconnector BM Units.

P278 and CMP202 are not dependent on each other. However, CMP202 can be viewed as another step towards the European Commission's objectives of facilitating cross-border trades and developing a Europe-wide single internal market in electricity.

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Materiality of P278 solution

Under the current BSC arrangements, the volume of GB transmission losses allocated to Interconnector Users is approximately 9,000MWh per month. This equates to just over 2% of GB transmission losses, which would be redistributed to non-Interconnector BM Units under P278 proportionally according to their Metered Volumes.

The total financial materiality to Parties depends on to what extent they are able to forecast TLMs and factor these into their contractual positions. If they make no adjustment to their contracts to account for GB transmission losses, then the total 'worst case' materiality of this 9,000MWh volume of losses would be £500k a month (approximately £6m a year).

The Group notes that Parties who are purely Interconnector Users, and do not have any other generation or supply assets, will benefit most under P278 as other Parties will see the reduction in Trading Charges for their Interconnector BM Units offset to different extents by the increase in Trading Charges for their non-Interconnector BM Units.

See Attachment A for the Workgroup's further analysis of the materiality of the issue and the total distributional effect (movement of money) which would occur under P278.

Could a Trading Unit solution resolve the P278 issue?

BSC Sections K4 and K5.7 and BSC Procedure (BSCP) 31[7] allow an Interconnector BM Unit to form part of a 'Class 5' Trading Unit with:

- Other Interconnector BM Units associated with the same Interconnector; and/or
- Other BM Units connected to the same Boundary Point as the Interconnector by Dedicated Assets or Contiguous Assets,

except where an Interconnector BM Unit is associated with an Interconnector that has Boundary Points at more than one Site (in which case the Interconnector BM Unit may only be a Sole Trading Unit on its own).

In practice, no Parties have ever registered a Class 5 Trading Unit although it is possible that some may wish to do so in the future as new Interconnectors are built.

It is a Trading Unit's overall delivering or offtaking status in a Settlement Period which determines which of the two TLM values (delivery or offtake) is applied to scale its BM Units' Metered Volumes in a Settlement Period. Although an Interconnector can only physically flow in one direction during a Settlement Period, this is the net flow after taking account of all the individual Interconnector BM Unit flows (which can be a mixture of Exports and Imports in a given Settlement Period).[8] BM Units in Class 5 Trading Units would therefore benefit from having the Trading Unit's overall net flow determine whether they receive the delivery or offtake TLM, if the individual Metered Volumes of the different BM Units in that Trading Unit were a mix of Exports and Imports in a given Settlement Period. The Workgroup notes that, if all current Interconnector BM Units took advantage of their existing ability to form Trading Units, this could reduce their exposure to GB transmission losses. However, the level of this reduction would be less than 10%. See the Workgroup's analysis in Attachment A.

[7] 'Registration of Trading Units'.

[8] This is known as 'superposition'. See Attachment A for more details.

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Utilising the existing Class 5 Trading Units would therefore not resolve the issue identified by P278, which is that allocating GB transmission losses to Interconnector BM Units is not demonstrably compliant with the ITC.

The Workgroup has also considered whether allowing Interconnector BM Units to form an aggregated Trading Unit across all Interconnectors (rather than per Interconnector) could resolve the P278 issue. Some members initially suggested that this would be more in keeping with the fact that the ITC losses compensation mechanism focuses only on 'transit' flows, where equal and opposite volumes of energy flow into and out of GB. However, the Group notes that, without knowing which BM Units' Metered Volumes were transit flows and which were not, a trader who was purely transiting energy would still end up paying for transmission losses while other Interconnector Users who were not transiting would benefit from a reduction in their Trading Charges due to another Party's transits. The Group has concluded that this would not be consistent with the intention of the ITC scheme. The Workgroup has also more widely considered the cost-reflectivity of the ITC scheme, and how best to reflect it in the BSC. You can find the Group's wider discussions in Section 6.

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Estimated central implementation costs of P278

The total central implementation cost for P278 is approximately £91k. This comprises:

- Approximately £80k in SAA and BMRA costs; and
- Approximately £11k (45 man days) in ELEXON effort.

These are one-off implementation costs, and there would be no additional ongoing operational costs.

The SAA and BMRA costs include making the relevant changes to the systems equations for calculating TLMs.

The ELEXON costs include managing the implementation project and updating the relevant BSC Sections, Code Subsidiary Documents and other documentation.

If P278 is implemented at the same time as P277 'Allow Interconnector BM Units to choose their P/C Status', a cost-saving of 25-30% can be made on their combined separate costs. Note, however, that the timing of Ofgem's decisions on P277 and P278 will determine whether the two Modifications are implemented in parallel. P277 has a longer lead-time than P278. As P278 is required to ensure GB's compliance with European legislation, it may be that Ofgem determines that P278 should be implemented earlier than P277. The Group's proposed Implementation Dates for P277 and P278 give Ofgem the flexibility to approve both changes for the same BSC Release or separate Releases as appropriate. See the P277 Final Modification Report for more information.

Indicative Industry costs of P278

There would be no costs for Interconnector Administrators and Interconnector Error Administrators in implementing P278. Other Parties would incur individual costs ranging from zero up to £20k.

These reflect one-off costs for making the relevant amendments to their systems. See Attachment A for a more detailed description of the solution requirements and their impacts on Parties.

Parties have stated minimal cost-savings if P278 is implemented at the same time as P277.

Industry Impact Assessment

The full responses made by Parties to the Industry Impact Assessment can be found on the P278 page of the ELEXON website.

P278 impacts

Impact on BSC Systems and process	
BSC System/Process	Impact
SAA	Changes will be required to amend how the SAA systems calculate TLMs and TLMOs. See Attachment A for more details.
BMRA	Changes will be required to amend the calculation of the Estimated TLMs (ETLMs) used in the derived data calculations on the BMRS. The BMRA will also need to use revised Estimated Transmission Loss Adjustments (ETLMOs) provided by ELEXON. See Attachment A for more details.

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Impact on BSC Parties and Party Agents
The BSC will no longer adjust the Metered Volumes of Interconnector BM Units for GB transmission losses through the TLM (reducing the Trading Charges of Interconnector Users and Interconnector Error Administrators). The Metered Volumes of other non-Interconnector BM Units will therefore be scaled by a greater amount through the TLM (increasing their Trading Charges) in order to still allocate the total amount of GB transmission losses in a Settlement Period. See Attachment A for more details, including the total distributional effect (movement of money) which would occur under P278.

Impact on Transmission Company
The Transmission Company will not need to undertake any implementation activities for P278. You can find a copy of the Transmission Company's impact assessment on the P278 page of the ELEXON website.

Impact on ELEXON	
Area of ELEXON	Impact
Release Management	ELEXON will manage the implementation project.
Market Operations	ELEXON will develop a revised ETLMO calculation methodology for use by the BMRA, and will present this to the ISG for approval.

Impact on Code	
Code Section	Impact
Section T	Changes will be required to implement the solution. See draft legal text in Attachment C, and Attachment A for an explanation of the legal text.

Impact on Code Subsidiary Documents	
CSD	Impact
SAA Service Description	Changes will be required to implement the solution. The necessary redlined changes will be developed and consulted on as part of the implementation project if P278 is approved.
BMRA Service Description	Changes will be required to implement the solution. The necessary redlined changes will be developed and consulted on as part of the implementation project if P278 is approved.

Impact on other Configurable Items	
Configurable Item	Impact
SAA User Requirements Specification	Changes will be required to implement the solution. The necessary redlined changes will be developed and consulted on as part of the implementation project if P278 is approved.
BMRA User Requirements Specification	Changes will be required to implement the solution. The necessary redlined changes will be developed and consulted on as part of the implementation project if P278 is approved.

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Other Impacts	
Item impacted	Impact
ELEXON Information Sheets	Updates will be needed to the Transmission Losses Information Sheet and the Imbalance Pricing Guidance Note (which includes an explanation of TLMs). ELEXON will make the necessary changes as part of the implementation project if P278 is approved.

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5 Implementation

Recommended Implementation Dates

The Workgroup's recommended Implementation Dates for P278 are:

- 29 November 2012 (November 2012 BSC Systems Release) if ELEXON receives Ofgem's decision on or before 1 May 2012; or
- 28 February 2013 (February 2013 BSC Systems Release) if ELEXON receives Ofgem's decision after 1 May 2012 but on or before 28 August 2012.

The lead time for P278 is driven by the time required to make the changes to central BSC Systems, as the lead times given by Parties in their Impact Assessments were all shorter than this, with such responses ranging from minimal up to 3 months. Based on the required central lead time, the November 2012 BSC Systems Release is the earliest viable Implementation Date for P278.

The Workgroup has considered whether the P278 Implementation Date should be aligned with Parties' annual (April) or mid-year (October) contract rounds, in order to allow Parties to adjust their contracts to take account of the expected shift in their TLMs and Trading Charges. However, the Group notes that P278 would only lead to the reallocation of approximately 2% of GB transmission losses. The Group notes that many factors can currently cause the level of GB transmission losses to fluctuate by around 2%. It therefore concludes that this is not a material enough amount that the implementation of P278 needs to be aligned with Parties' contract rounds, which would require implementation outside a normal BSC Release.

The Workgroup notes that there will be central cost-savings if P277 and P278 are implemented at the same time. However, P277 has a longer lead time (due to its higher impact on Parties) and so the first viable Implementation Date for P277 is the February 2013 Release. See the P277 Final Modification Report for more details.

The Group notes that P278 can therefore feasibly be implemented earlier than P277. The Group has considered delaying the P278 implementation to achieve the central cost-savings with P277 (there would be no cost-savings to Parties). However, it notes that, while not insignificant, the cost-savings of implementing both Modifications together are far less than the costs GB would incur if the European Commission was to instigate infringement proceedings for a perceived non-compliance with the ITC. The Group considers that Ofgem may therefore wish to achieve a quicker implementation for P278. Its proposed Implementation Dates for P277 and P278 allow Ofgem the flexibility to approve P278 for an earlier implementation than P277 if required.

No Assessment Consultation respondents disagree with these Implementation Dates, although one respondent believes that changing TLMs outside contract rounds is not ideal. Some respondents believe that the implementation of P278 should not be delayed simply to align with P277.

One respondent has queried whether an earlier Implementation Date could be achieved. The Workgroup notes ELEXON's advice that, given the lead time needed to amend central BSC Systems, delivering P278 outside a normal BSC Release would at best save only a month – while implementing a stand-alone systems change a month before a scheduled systems Release would increase cost and risk. The Workgroup agrees that the November 2012 Release remains the earliest appropriate Implementation Date.

You can find the full Assessment Consultation responses in Attachment B.

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Is P278 appropriate?

The Workgroup has considered whether changes to the BSC are needed to demonstrate compliance with the ITC scheme and, if so, whether P278 is the correct solution.

After significant discussion, the Workgroup has concluded by majority that P278 is the most proportionate, and therefore the most appropriate, solution to better demonstrate compliance with the ITC. The Group notes that, while it retains concerns over the ITC scheme itself (see its views below), the ITC is legally binding and takes precedence over GB law. The longer the delay in implementing a BSC solution, the greater the risk that the European Commission instigates formal infringement proceedings – the legal costs of which would significantly outweigh the amount of GB transmission losses (and materiality to Parties) associated with P278.

The majority of Assessment Consultation respondents support the majority Workgroup view. You can find copies of the full responses in Attachment B. You can find the Panel's views in Section 7.

Are the GB transmission losses arrangements a 'network charge'?

The Workgroup notes that in GB, unlike other European Member States, Users rather than the Transmission System Operator pay for transmission losses.[9] One Workgroup member and an Assessment Consultation respondent consider that there may be an argument that the BSC's allocation of transmission losses is not a 'network charge' and is therefore not subject to the ITC.

The Proposer considers that scaling Interconnector Users' Metered Volumes for GB transmission losses under the BSC could be viewed as:

- A network charge, because (like TNUoS and BSUoS) this charge is automatically applied to any Party using the Transmission System; and
- 'Double-charging', because the ITC scheme is intended to separately compensate GB (via National Grid as TSO) for GB transmission losses which occur through cross-border flows.

Regulation (EC) No 714/2009, Article 14 Section 3(a) requires payments and receipts resulting from the ITC scheme to be taken into account when setting charges for network access. The Proposer acknowledges that this does not specifically say that Interconnectors should not be subject to national charges for transmission losses. However they consider that, given the above, there is a clear risk that charging Interconnector Users for losses could be viewed by the EC as non-compliant with the intention of the ITC and could lead to infringement proceedings. The Proposer notes that National Grid has already been contacted by some Parties (not just Interconnector Users) who believe this to be the case.

[9] The normal arrangement in most other European countries is that the national TSO includes transmission losses in its network charges.

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Is the ITC transparent?

Some members are concerned that the ITC compensation calculation is not transparent. The Workgroup notes that the exact details of the ITC mechanism/calculations are not transparent to either the national TSOs (who simply provide data to the ITC administrator and receive a monthly bill) or to the wider industry. An Assessment Consultation respondent has commented that this does not appear consistent with Regulation 838/2012 Annex Part A (4.2), which states that ENTSO-E shall "publish the calculation and its method in an appropriate format".

The Proposer confirms that National Grid has raised this with ENTSO-E, who is seeking advice on the matter.

Is the intention of the ITC clear?

Members of the Workgroup are also concerned that the stated intention of the ITC (to compensate for GB transmission losses caused by all cross-border flows) is inconsistent with the actual compensation mechanism (which appears to only consider transit flows).

One Workgroup member and an Assessment Consultation respondent believe that GB could therefore challenge any perceived non-compliance on the grounds that the ITC regulations are ambiguous and (in the absence of further information on the actual mechanism/calculations) are not sufficiently detailed to be sure that P278 is necessary or desirable. However, while sympathetic to this view, other members and respondents agree with the Proposer that the legal costs (and potential reputational damage for the GB government) involved in challenging the ITC would significantly outweigh the materiality of P278 and would therefore be a disproportionate response. The Workgroup notes that the wording of the ITC was the subject of a protracted negotiation between all European Member States.

Is the ITC cost-reflective?

Given the ambiguity over the intention of the ITC, some members initially questioned whether the BSC should only remove charges for GB transmission losses from Interconnector BM Units where they arise from transit flows.

One Workgroup member and an Assessment Consultation respondent believe that it should be possible for the two different elements of National Grid's ITC charge (losses and infrastructure) to be disaggregated, and that the losses element of this charge could then be allocated to individual Interconnector BM Units through the BSC. Potentially this could be disaggregated further so that Interconnector BM Units are only allocated losses caused by non-transit Interconnector flows. This Workgroup member and respondent believe that any amounts that National Grid receives or pays through the ITC scheme should be settled with and by BSC users who pay for losses, not as a component of TNUoS.

The Workgroup notes that this is not currently possible, as National Grid only receives a single invoice amount each month from the ITC administrator, which is not disaggregated into the different elements of the charge. As such, it is not possible to know how much of the monthly charge is due to losses and how much is related to infrastructure. Even if the two elements could be disaggregated, there would still need to be a way of translating this monthly charge into a half-hourly Settlement Period Metered Volume adjustment for individual BM Units.

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While work could be done to try to develop a fully cost-reflective BSC solution to establish which GB transmission losses relate to pure transit flows over Interconnectors, the Group notes that this would be extremely complex and would take a significant amount of time to develop and implement. The costs of such an alternative solution would also be likely to far outweigh the materiality (distributional effect) of the Proposer's P278 solution. Some members also believe that it is the stated intent of the ITC which matters from a compliance perspective, and the Proposer's P278 solution is consistent with the ITC's intention to cover all cross-border flows and not just transits. Alternatives which do not embrace that intent would therefore risk being perceived as non-compliant. The Proposer notes that it is less likely that GB would be singled out and penalised for any perceived non-compliance if the GB arrangements are brought in line with those of other Member States, who have already removed (or are in the process of removing) all transmission loss charges from Interconnector Users.

The other Workgroup members therefore agree with the Proposer that removing Interconnector BM Units from the BSC's allocation of transmission losses, and absorbing the ITC costs into TNUoS charges on a pure cost-pass-through basis, is the most appropriate approach. The Workgroup notes that Ofgem consulted the industry on GB's participation in the ITC scheme, and the recovery of those costs, as part of National Grid's price control review. Ofgem's decision was to include a pass-through term within the Transmission Licence to permit National Grid to recover the costs. In its decision letter, Ofgem notes National Grid's intention to pass on these costs through TNUoS.[10] The Proposer considers that the ITC scheme is a Europe-wide charge levied on all TSOs for the use they make of other TSO's transmission systems, and is therefore analogous with TNUoS (noting that the ITC payments currently cover both infrastructure and losses within a single charge).

What are the Workgroup's views against the Applicable BSC Objectives?

The following table contains the Proposer's and the Workgroup's views against each of the Applicable BSC Objectives:

Does P278 better facilitate the Applicable BSC Objectives?		
Obj	Proposer's Views	Other Workgroup Members' Views[11]
A	• Yes – Ensures GB charges for Interconnector Users are more transparently aligned with EC Regulations.	• Yes (majority) – Agree with Proposer. • Neutral (minority) – ITC regulations are ambiguous and could be interpreted as not requiring P278.
B	• Neutral – No impact.	• Neutral (unanimous) – No impact.
C	• Yes – Treats GB BM Units consistently with equivalent arrangements in Europe.	• Yes (majority) – Agree with Proposer. P278 represents due discrimination in the GB arrangements in order to comply with wider European regulations. • Unsure or slight negative (minority) – If considered in a purely-GB context, does not appear cost-reflective and may or may not be

[10] http://www.ofgem.gov.uk/Networks/Trans/ElecTransPolicy/Charging/Documents1/The%20Inter-TSO%20Compensation%20scheme%20for%202008%20and%202009.pdf

[11] Shows the different views expressed by the other group members – not all members necessarily agree with all of these views.

What are the Applicable BSC Objectives?

(a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence

(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System

(c) Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity

(d) Promoting efficiency in the implementation of the balancing and settlement arrangements

(e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency

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Does P278 better facilitate the Applicable BSC Objectives?		
Obj	Proposer's Views	Other Workgroup Members' Views[11]
		due discrimination in favour of Interconnector Users over other Parties. However, overall materiality is small. Could be argued to facilitate competition in a broader European context, when considering the wider objectives of promoting cross-border flows and a single European energy market. Removing barriers to cross-border flows could create trading opportunities for GB Parties. • No (minority) – ITC regulations are ambiguous, and P278 could be viewed as undue discrimination which makes it easier for Interconnector Users to compete with GB generators and Suppliers. Not clear that wider benefit of promoting European competition and the 'social welfare' benefits of Interconnectors outweigh this detrimental effect on GB competition.
D	• Neutral – No impact.	• Neutral (majority) – No impact. • No (minority) – Not convinced that the change is required, and so implementing it, along with the costs of doing so, would be inefficient.
E	• Yes – Aligns GB arrangements with ITC scheme, and thereby with Electricity Regulation and Third Package.	• Yes (majority) – Agree with Proposer. • No (minority) – Not convinced that the ITC wording actually requires this change.

By majority, the Workgroup believes that P278 does better facilitate the Applicable BSC Objectives, and therefore recommends that P278 is approved.

Consultation respondents' views on the Applicable BSC Objectives

The majority of Assessment Consultation respondents agree with the Workgroup's view that P278 better facilitates the Applicable BSC Objectives. The reasons and Objectives cited by these respondents are broadly in line with those expressed by members of the Workgroup.

One respondent has highlighted a possible benefit to Objective (d). They consider the current allocation of TLMs to Interconnector BM Units is an inefficient implementation and administration of arrangements, and that removing TLMs from Interconnector flows would therefore better facilitate efficiency under Objective (d). The Workgroup has considered this view, but by majority continues to believe that P278 has a neutral effect on Objective (d) – neither decreasing nor increasing efficiency.

One respondent is undecided as to whether P278 better facilitates any of the Applicable BSC Objectives. They consider that there is a lack of available details about the ITC mechanism, and so they believe that the issue and solution for P278 are based on

Assessment Procedure Consultation

The full responses made by Parties to the Assessment Procedure Consultation can be found in Attachment B.

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assumptions that have been made by the Proposer and that P278 may not be needed. Their concerns largely mirror the minority view in the Workgroup's discussions as set out in this Section 6. The respondent considered that P278, when considered alongside CMP202, could have the effect if implemented of changing the notional balancing point for GB wholesale trades. The Proposer notes that how the GB market wishes to recover the cost of losses from GB consumers is outside the scope of P278, which is about better demonstrating compliance with the ITC scheme.

You can find the full Assessment Consultation responses in Attachment B.

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7 Panel's Initial Discussions

Panel's views on the Applicable BSC Objectives

The majority of Panel Members agree with the Workgroup's majority view that P278 better facilitates Applicable BSC Objectives (a), (c) and (e) for the reasons set out in Section 6. These Panel Members have sympathy with the Workgroup's concerns about the transparency and clarity of the ITC scheme. However, they agree with the majority Workgroup view that P278 is the most proportionate, and thus the most appropriate, solution to better demonstrate GB's compliance with European regulations. One Panel Member notes that P278 is part of a package of changes to remove network charges from Interconnector BM Units, one of which (the removal of TNUoS charges) has already been approved by Ofgem.[12]

A minority of Panel Members believe that P278 does not better facilitate any of the Applicable BSC Objectives. Their views are broadly in line with the minority Workgroup views detailed in Section 6 and, in particular, the belief that P278 may not be required and may create undue discrimination and misallocation of costs. They believe that a more appropriate solution would be one which relates only to transit flows.

By majority, the Panel believes that P278 does better facilitate the Applicable BSC Objectives, and therefore initially recommends that P278 is approved.

Panel's views on legal text

The Panel unanimously agrees with the Workgroup's view that the proposed changes to the BSC in Attachment C deliver the intention of P278.

Panel's views on Implementation Date

The Panel unanimously agrees with the Implementation Date proposed by the Workgroup, as detailed in Section 5.

[12] See Sections 2 and 6 of this report.

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8 Report Phase Consultation Responses

This section summarises the responses to the Panel's Report Phase Consultation on its initial recommendations. You can find the full responses in Attachment D.

All the Parties who responded to the Report Phase Consultation had also responded to the Assessment Procedure Consultation.

What are Report Phase respondents' views?

The majority of respondents support approving P278.

Report Phase Consultation

The full responses made by Parties to the Report Phase Consultation can be found in Attachment D.

Summary of P278 Report Phase Consultation Responses

Question	Yes	No	Neutral/ No Comment	Other
Do you agree with the Panel's initial recommendation that P278 should be approved?	6	0	0	1
Do you agree with the Panel's recommended Implementation Date?	7	0	0	0
Do you agree with the Panel that the redlined changes to the BSC deliver the intent of P278?	6	0	1	0
Do you have any further comments on P278?	2	5	0	0

Views on Applicable BSC Objectives

The majority of Report Phase Consultation respondents agreed with the Panel's initial recommendation that P278 should be approved. Their views are broadly in line with the Panel's majority view for the reasons set out in Section 7. However, one respondent was unsure as to whether P278 better facilitated the Applicable BSC Objectives. The reasons that they gave were similar to those they gave in their Assessment Procedure Consultation response, as detailed in Section 6. In particular, they consider that there is a lack of available details about the ITC mechanism, and so they believe that the issue and solution for P278 are based on assumptions that have been made by the Proposer and that P278 may not be needed.

In addition, this respondent notes that European objectives may conflict with the Applicable BSC Objectives at a GB level, as benefits at a European level may involve a detrimental effect at a GB level. They also believe that it will be difficult to produce a cost-reflective allocation of Europe-wide network-related costs in order to remove such charges from Interconnector flows without any Europe-wide network-related charging arrangements, and that without such cost-reflective charging there would be a risk of inefficient network investment and increased energy prices. They believe that harmonising arrangements across individual Transmission Systems would not resolve this issue. The respondent concludes that charging all boundary flows within systems, including cross-border flows, seems a pragmatic way of limiting the potential for inefficient cross-border flows until such time as proper Europe-wide arrangements might be introduced.

The views of the other respondents were unchanged from their Assessment Procedure Consultation responses and no new arguments have been raised.

The full responses to the Report Phase Consultation can be found in Attachment D. We believe that the Workgroup has considered all of the arguments made in these responses during its assessment of P278.

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Views on Implementation Date

All respondents support the proposed Implementation Date proposed by the Panel for P278. No new arguments have been raised.

Views on legal text and CSD redlining

All respondents support the proposed changes to the BSC for P278. No new arguments have been raised.

Further comments on P278

One respondent to the Report Phase Consultation made further comments around the interpretation of the ITC scheme, providing their views and concerns about how this legislation is being interpreted. They believe that several of the reasons given in support of P278 are based on assumptions whose justification is not obvious. They note that there is a lack of information available around the ITC scheme. In particular, they consider there to be little information given on many of the stated intents of the European legislation, and wonder if different understandings on the intent has led to the apparently inconsistent guidance around it. They also consider whether P278 is the right interpretation and whether there is an alternate. Their response largely mirrors the minority views in the Workgroup's discussions. You can find the respondent's full response in Attachment D.

While members of the Workgroup share the respondent's concerns with the ITC scheme, they considered that P278 is the most proportionate, and therefore the most appropriate, solution to better demonstrate compliance with the ITC. The Workgroup noted during its assessment that there is little publicly-available information on the ITC scheme. They also noted that this scheme is legally binding and takes precedence over GB law, and that failure to fully comply with this legislation risks the European Commission instigating formal infringement proceedings – the legal costs of which would significantly outweigh the amount of GB transmission losses (and materiality to Parties) associated with P278.

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9 Panel's Final Discussions

Panel's final views on the Applicable BSC Objectives

The Panel unanimously agreed that P278 does better facilitate Applicable BSC Objectives (a), (c) and (e) for the reasons set out in Section 6.

One Panel Member noted that they disagreed with the view given by members of the Workgroup that the ITC scheme is ambiguous. They believe that the regulations, and the reasons behind P278, are clear. Another Panel Member disagreed, believing that it is not clear what the intent of the regulations are, but agreed that there was interaction with the ITC scheme, and that changes are necessary.

The Panel unanimously believes that P278 does better facilitate the Applicable BSC Objectives, and therefore recommends that P278 is approved.

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10 Recommendations

The BSC Panel recommends to the Authority:

- That Proposed Modification P278 **should** be made;
- An Implementation Date for P278 (if approved) of:
  - 29 November 2012 if an Authority decision is received on or before 1 May 2012; or
  - 28 February 2013 if an Authority decision is received after 1 May 2012 but on or before 28 August 2012; and
- The BSC legal text for P278.

Recommendation

The Panel unanimously recommends that P278 is approved.

11 Further Information

More information is available in:

Attachment **A**: Detailed Assessment

Attachment **B**: Assessment Consultation Responses

Attachment **C**: Approved BSC Legal Text

Attachment **D**: Report Phase Consultation Responses

Further information on P278, including the full Solution Requirements and the complete version of the impact assessment responses, is available on the P278 page of the ELEXON website.

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Appendix 1 – Estimated Industry Progression Costs

Initial estimate of industry progression costs from the IWA

Estimate of total industry assessment costs – Initial Written Assessment					
Workgroup support	Est #mtgs	Est #att	Est effort	Est rate	Sub-total
	4	6	1.5	£605	£21,780
Consultation response support	Est #cons	Est #resp	Est effort	Est rate	Sub-total
	2	6	2.5	£605	£18,150
				Total costs	**£39,930**

Updated estimate of industry progression costs

Estimate of total industry assessment costs – Modification Report					
Workgroup support	Meeting	Act #att	Est effort	Est rate	Sub-total
	1	7	1.5	£605	£6,353
	2	8	1.5	£605	£7,260
	3	10	1.5	£605	£9,075
Consultation response support	Consultation	Act #resp	Est effort	Est rate	Sub-total
	Assessment	10	2.5	£605	£15,125
	Report	7	2.5	£605	£10,588
				Total costs	**£48,401**

Industry Assessment Costs

Industry Workgroup support and consultation response costs represent an approximation of industry time and effort in attending Workgroup meetings and responding to consultations.

The initial calculation is based upon an estimate of how many attendees we expect to attend each meeting and how many responses we expect to receive to each consultation.

The updated calculation is based on the actual number of attendees at each meeting and the actual number of responses received to each consultation.

The calculations assume that each attendee will require 1.5 man days of effort per meeting and each response will take 2.5 man days of effort, multiplied by a standard rate of £605 per man day.

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