

Imperfections Charges
For
October 2014 – September 2015

Decision Paper

SEM-14-076

13 August 2014

Contents

1	EXECUTIVE SUMMARY	3
2	INTRODUCTION.....	4
2.1	Imperfections Charge & Dispatch Balancing Costs	4
2.2	Objective of Paper.....	4
3	IMPERFECTIONS CHARGE	5
3.1	Overview	5
3.2	Dispatch Balancing Costs	6
3.2.1	Responses	6
3.2.2	Dispatch Balancing Costs Summary.....	8
3.3	Energy Imbalances.....	8
3.4	Make Whole Payments.....	8
3.4.1	Responses	8
3.5	Other System charges.....	9
3.5.1	Responses	10
3.6	Recovery of Imperfection Costs	10
3.6.1	Provision of Working Capital for Imperfection Charges.....	11
3.7	K factor.....	11
3.7.1	Responses	12
4	INCENTIVISATION AND TRANSPARENCY	13
4.1	Dispatch Balancing Cost Incentivisation.....	13
4.1.1	Summary of Incentive Outturn for FOR 2012/13.....	13
4.2	TSOs Reporting and Transparency Measures	14
5	IMPERFECTIONS CHARGE SUMMARY	15

1 EXECUTIVE SUMMARY

On 26 June 2014 the SEM Committee published a consultation on the proposed imperfections charge for the period from 1 October 2014 to 30 September 2015. Three responses were received to this paper. The main themes within these responses related to increasing constraint costs and the need for network investment, increased forecast revenue for Other System Charges, increased forecast for Make Whole Payments, updated K factor estimate and the data freeze timeframe.

The SEM Committee have therefore decided that the imperfections charge to be applied from 1 October 2014 should be €5.60 per MWh. The composition of this is summarised in Table 1 below.

	2014-15	2013-14	Change
Imperfections Allowance (€ million)	181.20	165.60	9.4%
K factor (€ million)	5.25	-18.93	
Offset for Other System Charges	0.00	0.00	
Total Allowance (€ million)	186.45	146.67	27.1%
Forecast Demand (GWh)	33,320	33,220	0.3%
Tariff (€/MWh)	5.60	4.42	26.7%

Table 1: The composition of the Imperfections Charge 2014-15 and 2013-14

Incentivisation was introduced for the 2012-13 tariff year. While the TSOs reported a 2% reduction it did not meet the requirements for receiving an incentive payment. Therefore no incentive payment is due to, nor penalty owed by, the TSOs for the tariff year 2012/13. The RAs will continue to monitor the incentive parameters for effectiveness and any necessary changes will be made.

Transparency of the within year actual imperfection costs continue to be reported by the TSO's in the form of a 'Quarterly Imperfections Costs Report' available from the TSOs websites.

2 INTRODUCTION

2.1 IMPERFECTIONS CHARGE & DISPATCH BALANCING COSTS

In addition to SEMO's operational costs, the Market Operator (MO) tariffs have to recover Imperfections Charges which are made up of Dispatch Balancing Costs, Make Whole Payments and Energy Imbalance Charges. The Transmission System Operators (TSOs) submitted a paper to the Regulatory Authorities (RAs) on 1 May 2014 detailing the costs relating to Dispatch Balancing Costs. Dispatch Balancing Cost is a TSO-defined term and refers to the sum of Constraint Payments, Uninstructed Imbalance Payments and Generator Testing Charges. See section 3.1 below for an overview. The Imperfections Charges are made only on suppliers while the MO Charges are made on Suppliers and Generators.

2.2 OBJECTIVE OF PAPER

The objective of this Decision Paper is to determine the Imperfections Charge for tariff year 2014-15. This decision paper summarises the comments received from interested parties following the publication of the Imperfections Charge Consultation Paper on 26 June 2014. The responses received have been duly considered in preparation of this decision paper.

3 IMPERFECTIONS CHARGE

3.1 OVERVIEW

The costs associated with Imperfection Charges are depicted in the diagram below. Three of the costs covering constraint costs, uninstructed imbalance costs and testing charges (collectively known as Dispatch Balancing Costs) are provided by the TSOs, EirGrid and SONI. In addition to these, there are also Energy Imbalances and Make Whole payments. The estimate for these two costs is provided by SEMO.

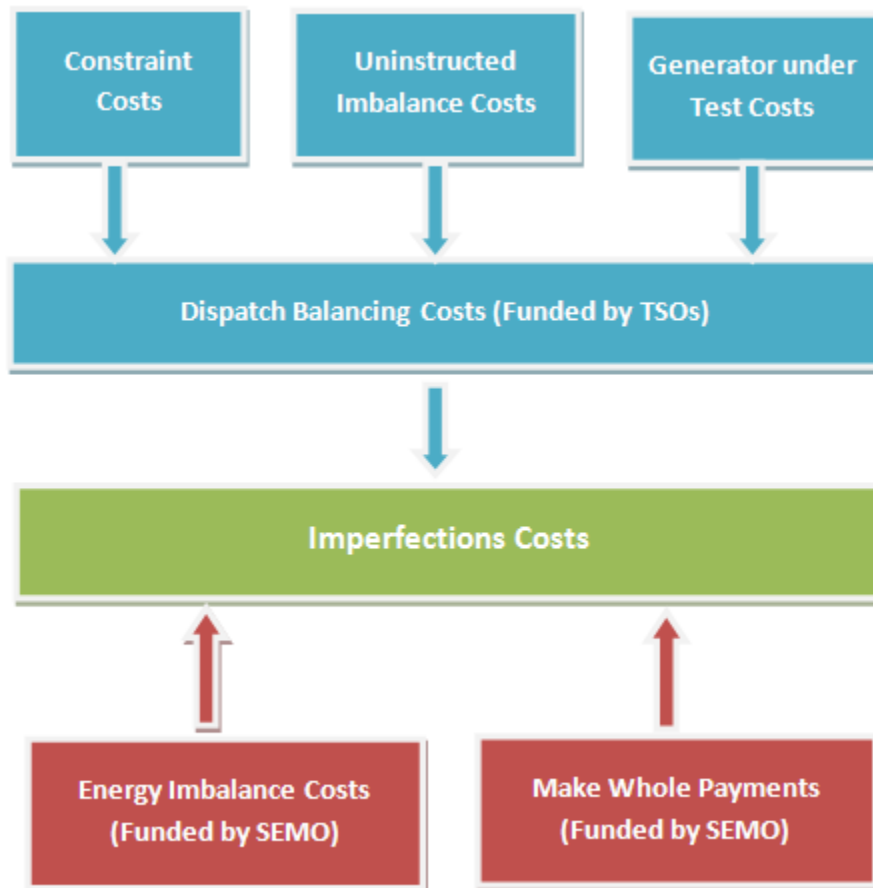


Figure 3: Make up of Imperfection Charges

The TSOs submission was prepared jointly by the EirGrid and SONI, and captured an all-island estimate of Dispatch Balancing Costs. The forecast of Dispatch Balancing Costs is for the period from 1 October 2014 to 30 September 2015.

All these costs are estimated *ex-ante* and recovered from suppliers on a MWh basis through the Imperfections Charge.

3.2 DISPATCH BALANCING COSTS

The budget proposed by the TSOs for the tariff year 2014-15 is €177.6 million compared to €165.5 million for the tariff year 2013-14. The forecast has been impacted by a number of key factors such as:

- Expected treatment of within-day gas transportation charges in participants' bids.
- High levels of interconnector imports and wind generation relative to overall demand drive a lower production cost but contribute to an increase in forecast constraint costs.
- The relative prices of coal and gas units, particularly those which are constrained on in the dispatch model for reserve, transmission and security constraints drive a higher constrained production cost.
- Anticipated savings as a result of increased SO Interconnector Countertrading arrangements reduces the overall imperfections cost forecast.

3.2.1 RESPONSES

The consultation paper generated three formal responses with varying and wide ranging views. Key themes within the responses are outlined below together with the RAs view at present.

Response: Increasing Dispatch Balancing Costs

Concern was raised by a respondent in which they expressed their disappointment 'that despite growing levels of wind and recently introduced TSO incentives to reduce dispatch balancing costs, the overall charges are increasing by almost €40m with a direct cost impact of +€1.03/MWh. This increase and the fact that supplier have no control over these increases does not bode well for consumer perception of increasing energy bills.'

RAs view:

A key driver of the increased forecast for 2014/15 is the additional inclusion of the Gas Transportation Capacity charge that gas generators have incorporated into their offer prices from 1st October 2013. The RAs welcome the increased benefits, as forecast in the 2014/15 submission, from SO-SO countertrading and expect the TSOs to continue to seek mitigation measures to reduce constraint costs for the betterment of electricity consumers.

Response: Network Investment Required

One respondent noted the dispatch balancing costs of €177.6m annual cost is an unacceptable constraints figure which clearly signals the need for investment in the networks to alleviate the drivers of constraints and reduce uncontrollable costs in the longer-term. The respondent goes on to say 'given the proposed direction of the I-SEM and the level of constraints on the SEM system, it is likely to become more difficult for the market schedule to deliver a technically feasible dispatch schedule. On that basis, the cost of constraints will increase further in future if the necessary investments are not made'. The respondent urges the RAs to recognise this signal for urgent investment in the networks and to work within the context of the TSOs investment programme and incentive regime to ensure that the necessary investments are made in a timely and cost effective manner.

RAs view: The RAs recognise the need for network investment in relation to *inter alia*, security of supply and constraints costs. Transmission constraints are a key driver of Dispatch Balancing Costs and grid development is a factor which contributes to the management of these costs. During 2014 the responsibility for planning the transmission network in Northern Ireland transferred from NIE to SONI therefore EirGrid and SONI are now responsible for network planning throughout the island and is now best placed to commit to the cost effective and timely delivery of a strong reliable transmission network in Ireland and Northern Ireland, in the context of their statutory obligations.

Response: Data Freeze Timeline

The modelling input data freeze date of 27 March 2014 was considered by one respondent to be too early in the year in comparison with the consultation period and believes this data freeze should occur as close to the tariff year as possible thereby allowing the modelling to be performed with the latest verified PLEXOS model and generator data set.

RAs view: The TSO's have provided further clarification as follows:

'The modelling process to produce the Imperfections revenue requirement submission requires two models of the All-Island system – one unconstrained model, similar to the Regulatory Authority's PLEXOS model and one constrained model including, among other things, the transmission system, reserve, and security requirements. The majority of the model build time is spent on the constrained model, which is a more complex transmission model and involves a considerable amount of time to both build and validate.'

From the RAs perspective data freeze was extended in recent years from late February to late March following previous comments from respondents. The TSOs issued their submission in late April. The submission is reviewed and a consultation prepared and approved within the SEM governance process. Following this consultation the responses are reviewed and a decision paper drafted and then approved through the SEM governance arrangements before publication. We view the current timelines to be the most practical at present.

3.2.2 DISPATCH BALANCING COSTS SUMMARY

Taking into consideration the responses from consultation the amount of €177.6M is approved by the SEM Committee to be collected by SEMO via the imperfections tariff to cover the Dispatch Balancing Costs. This is subject to an ex-post adjustment and any under- or over-recovery will be reflected in the following year's tariff.

3.3 ENERGY IMBALANCES

It is assumed that no Energy Imbalances will arise. If energy imbalances do occur, they are assumed to have an equal and opposite effect on constraints and will offset any increase or decrease accordingly. No comments were received in relation to this and the provision of a zero net cost has been included within the tariff for 2014-15.

3.4 MAKE WHOLE PAYMENTS

Make Whole Payments purpose is to provide the balance between total energy payments to a generator and the production cost of that generator on a weekly basis.

The forecast for Make Whole Payments is based on the TSOs experience of the last 12 months and as a result the TSOs have proposed a provision of €3.6 million.

3.4.1 RESPONSES

Response: Make Whole Payments

One respondent commented and requested clarity on their 'surprise at the estimated amount of €3.6m for Make Whole Payments for the coming Tariff year given that the amount included in the three previous years was €0.1m'.

RAs view: The TSO's have provided further clarification as follows:

'The figure of €3.6m was based on data from the SEM for the 12 months prior to submission. While the TSOs acknowledge the increase in provision for Make Whole Payments from previous years' submissions, the assumption is based on market data and is outside the control of the TSOs. It is not appropriate for the TSOs to give a breakdown of Make Whole Payments for each market participant, however a total figure per quarter and a year to date figure is calculated and published in the TSOs quarterly Imperfections report¹.

3.5 OTHER SYSTEM CHARGES

Other system charges aim to improve the performance of generators to ensure efficient use of the transmission system. Such charges relate to generator trips, short notice declarations and generator performance incentives.

The TSOs have assumed in their submission that generators are compliant with Grid Code and no revenue is recovered through Other System Charges. In other words the TSOs have forecast zero revenue income in respect of Other System Charges.

However, in reality and for a range of reasons, generators performance fails to provide necessary services to the system and as a result Other System Charges are levied on the generators. For example, following the tripping of a generator, the TSO must activate reserves and will typically have to replace the lost generation. Additional constraint costs are forecast for such changes in generator availability.

Revenue generated, and therefore set off against actual constraints cost, during 2012/13 tariff year was €6.6 million and the most recent Quarterly Imperfections report for the current tariff year 2013/14 shows revenue of €4.7 million for the nine month period October 2013 to June 2014².

¹ <http://www.eirgrid.com/operations/reports/>

² EirGrid SONI Quarterly Imperfections Costs Report to 30 June 2014 published

http://www.eirgrid.com/media/Quarterly_Imperfections_Cost_Report_Apr_to_Jun_2014.pdf

In light of the above the Regulatory Authorities proposed applying to the 2014/15 tariff an estimate of €4.9 million for the expected revenue generated from Other System Charges.

3.5.1 RESPONSES

Response: Other System Charges

All three responses made reference to the RAs proposal to reduce the Imperfections Charge by increasing the TSOs forecast from zero to represent a proportion of the actual revenue stream experienced within the last three years. Of the three responses one supported the efforts taken to try and reduce the overall charges by reference to actual other system charges revenue since 2010, while another respondent disagreed with this approach on the grounds it is inconsistent with the approach in previous years and the adjustment is at odds with the modeling assumptions thus invalidating the basis of the TSOs Imperfection submission. The remaining response recognised the need for further understanding of the differential between increased DBC and Other System Charges revenue before the inclusion of the proposed adjustment to the Imperfections Charge.

RAs view: Having considered the responses and the need for further modelling to fully understand the differential between increased DBC and Other System Charges the RAs have decided not to introduce the increased revenue forecast proposed but to keep the forecast at zero in line with the TSOs submission and consistent with the forecast for previous years. However the RAs would ask the TSOs to consider the appropriateness of their assumptions given that in reality situations continue to arise resulting in revenue from Other System Charges which is considerably greater than zero.

3.6 RECOVERY OF IMPERFECTION COSTS

The amounts detailed above are estimated *ex-ante* and this estimate is recovered during the relevant tariff period through the imperfections charge.

However, differences between the costs being recovered and paid out will lead to instances where SEMO will:

- require working capital to fund constraint payments that exceed revenue collected through the imperfections charge, or,

- have collected revenue through the imperfections charge that exceeds the amount being paid out on constraints.

To allow for the first scenario the mechanism adopted for previous SEMO Revenues and Tariffs was that any under-recovery of revenue during the tariff period plus financing costs will be financed by SEMO. This reflects the cost of short-term financing required to provide SEMO's working capital needs.

See section 3.6.1 below for further detail.

Similarly, for situations where the revenue recovered by SEMO through the Imperfections Charge is greater than that paid out in constraints (second scenario above), the Imperfections Charge in the following tariff period(s) will be reduced by an appropriate amount to reflect the allowed over-recovery and the associated interest.

3.6.1 PROVISION OF WORKING CAPITAL FOR IMPERFECTION CHARGES

The RAs proposed that, as is currently the case, the funding of working capital requirements be provided by EirGrid and SONI.

In addition, the RAs proposed that funding required to cover fluctuations during the tariff period, and any allowed under-recovery of revenue during the tariff period be paid back in the subsequent tariff period(s) with the appropriate amount of interest. This reflects the cost of short-term financing required to provide SEMO's working capital needs.

Similarly, for situations where the revenue recovered by SEMO through the Imperfections Charge is greater than that paid out, the Imperfections Charge in the following tariff period(s) will be reduced by an appropriate amount to reflect the allowed over-recovery and the associated interest.

No comments were received in respect of this proposal and the SEM Committee have decided that this mechanism will continue for the 2014-15 tariff period.

3.7 K FACTOR

The K factor comprises of two elements, firstly finalised actuals and therefore the necessary K factor adjustments for the previous tariff year (in this case an over-recovery of €4.8 million for 2012-13). The second element is to include a best estimate of the current tariff year (in this case an under-recovery of €10 million for 2013-14) based upon total actual imperfection charges to date and an estimate for the remainder of the current tariff year.

The total K factor applicable to the 2014-15 imperfections charge is €5.2 million. This represents an under-recovery increasing the 2014-15 Imperfections Charge.

3.7.1 RESPONSES

Response: Current tariff year K factor adjustment

A respondent requested justification of the TSOs assumed €10m under-recovery for the current 2013/14 tariff year which will add to the overall charges for 2014/15.

RAs view: The TSO's have provided further clarification as follows:

'As part of the Imperfections management process the TSOs monitor year to date Imperfection component figures and publish them publicly on the EirGrid website³ on a quarterly basis. Using the best available information at the time of submission with limited experience of the efficacy of the countertrading for reserve co-optimisation and taking into account influencing factors such as interconnector flows, fuel prices, wind generation, system demand, reserve provision and unit availability, the TSOs made a best estimate of the outturn position, which would result in an under-recovery of €10m.'

The RAs have reviewed the most recent Quarterly Imperfections Cost Report⁴ to June 2014 published by the TSOs on 28th July 2014. Based on this up to date information the RAs agree to the inclusion of an estimated under-recovery of €10 million for the 2013/14 current tariff year within the 2014/15 tariff.

³ <http://www.eirgrid.com/operations/reports/>

⁴ [http://www.eirgrid.com/media/Quarterly Imperfections Cost Report Apr to Jun 2014.pdf](http://www.eirgrid.com/media/Quarterly%20Imperfections%20Cost%20Report%20Apr%20to%20Jun%202014.pdf)

4 INCENTIVISATION AND TRANSPARENCY

4.1 DISPATCH BALANCING COST INCENTIVISATION

Dispatch Balancing Costs (DBC) are a significant cost passed on to the all-island consumer and represent the vast majority of the Imperfections Charge. In the tariff year 2011-12 DBC represented 5.7% of the €2.5 billion⁵ market.

In light of the above, an all-island DBC incentive mechanism was introduced by the SEM Committee with effect from 1 October 2012⁶. The current parameters as detailed in the DBC Incentivisation Decision Paper (SEM-12-033) are detailed in Table 2 below:

€m's	Lower Bound	Dead Band	Upper Bound	Below Target	Above Target
Dispatch Balancing Costs	7.5% - 20% below baseline	7.5% below and above the baseline	7.5% - 20% above baseline	TSOs retain 10% of every 2.5% below	TSOs penalised 5% of every 2.5% above

Table 2: DBC incentive parameters

For tariff year 2014-15 the baseline applicable for the above incentivisation, is €177.6m. The maximum reward available is €2.2m and alternatively, the maximum penalty is €1.1m.

The reward/penalty will be determined following completion of the 2013-14 ex-post review due to be submitted to the RAs on 31st March 2015. The resultant incentive payment/penalty will be applied on a 75:25 split between ROI TUoS and NI SSS revenues respectively. This incentive mechanism will be monitored over the coming years to determine its effectiveness.

4.1.1 SUMMARY OF INCENTIVE OUTTURN FOR 2012/13

2012/13 is the first year under review since the incentive was introduced. EirGrid and SONI provided a review of the outturn and their assessment of the subsequent incentive outcome for 2012/13 tariff year to the Regulatory Authorities in May 2014.

⁵ EirGrid Group Annual Report 2013

<http://www.eirgrid.com/media/2013%20EirGrid%20Annual%20Report%20English.pdf>

⁶ SEM-12-033 Incentivisation of All-Island Dispatch Balancing Costs Decision Paper

Their assessment resulted in an outturn Imperfections Costs for 2012/13 of €140 million; €3 million lower than the ex post adjusted revenue requirement. The savings reported by the TSOs do not meet the requirements for receiving an incentive payment.

Therefore for 2012/13 no reward is due to, nor penalty payable by, the TSOs through the DBC Incentivisation process.

The RAs continue to review the outturn results for 2012/13 in particular the ex post adjustments to the revenue requirement.

4.2 TSOS REPORTING AND TRANSPARENCY MEASURES

In order to increase transparency around DBC, the SEM Committee introduced reporting requirements on the TSOs. The TSOs now provide regular updates on the levels of constraints, drivers behind constraints, mitigating measures being taken and other information or commentary, which the TSOs believe will aid transparency in this area.

These Quarterly Imperfections Costs Reports are available on the TSOs website. The most recent report relates to the period April - June 2014⁷ and included a Year-to-Date section.

⁷ http://www.eirgrid.com/media/Quarterly_Imperfections_Cost_Report_Apr_to_Jun_2014.pdf

5 IMPERFECTIONS CHARGE SUMMARY

Based on the above decisions, the imperfections charge will be €5.60 per MWh for the period 1 October 2014 to 30 September 2015. This represents a 26.7% increase from the 2013-14 imperfections charge, as shown in the table below.

	2014-15	2013-14	Change
Imperfections Allowance (€ million)	181.20	165.60	9.4%
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