

# Harmonised Other System Charges Consultation

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Tariff Year  
01 October 2017 to 30 September 2018

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4<sup>th</sup> April 2017



## EXECUTIVE SUMMARY

Other System Charges (OSC) are levied on generators which fail to provide necessary services to the system leading to higher Dispatch Balancing Costs. The OSC include charges for generators whose units Trip or make downward re-declarations of availability at short notice. Generator Performance Incentive (GPI) charges were harmonised between Ireland and Northern Ireland on the 01 February 2010. These charges are specified in the Transmission Use of System Charging Statements approved by the Regulatory Authorities (RAs) in Ireland and Northern Ireland. The arrangements are defined in both jurisdictions through the Other System Charges policies, the Charging Statements and the Other System Charges Methodology Statement.

In this year's Annual Tariff Consultation we are proposing to retain the OSC rates approved for the 2016-2017 tariff year adjusting for inflation at forecast rate of 1.625%<sup>1</sup> for the tariff year 2017-2018;

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<sup>1</sup> <http://budgetresponsibility.org.uk/efo/economic-and-fiscal-outlook-november-2016> and <https://www.centralbank.ie/publications/Pages/QuarterlyBulletin.aspx>

## ABBREVIATIONS

AGU	Aggregated Generator Unit
DETI	Department of Enterprise, Trade and Investment
DMOL	Design Minimum Operating Level
DSU	Demand Side Unit
EDIL	Electronic Dispatch Instruction Logger
GPI	Generator Performance Incentive
HICP	Harmonised Index of Consumer Prices
UK	United Kingdom
OSC	Other System Charges
RA	Regulatory Authority
RoCoF	Rate of Change of Frequency
RPI	Retail Prices Index
SEM	Single Electricity Market
SND	Short Notice Declaration
SONI	System Operator Northern Ireland
TSO	Transmission System Operator
WFPS	Wind Farm Power Station

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# 1. INTRODUCTION

Other System Charges (OSC) are defined in the Transmission Use of System Statement of Charges and include Trip Charges, Short Notice Declaration charges and Generator Performance Incentive charges. These Other System Charges are levied on underperforming generators who unexpectedly trip off the system or re-declare at short notice causing a re-dispatch of other plant at a cost. The Generator Performance Incentive (GPI) charges are levied on those generators which fail to comply with specific standards in the Grid Code.

Short Notice Declarations (SNDs) incentivise generators to avoid changing declarations at short notice or at least provide maximum notice. The Notice Time Weight is an empirical weighting corresponding to the relative importance of notice time from 8 hours up to real time.

The Trip Charge incentivises generators to minimise the number of trips and to aim for slow tripping, when a trip is unavoidable. The Trip Charge is designed to incur higher charges the higher the MW loss seen by the power system. A charge applies for all full trips and/or partial trips where the reduction is greater than or equal to the trip threshold.

GPIs are designed to incentivise compliance with respect to the Grid Code and are not linked with DS3 System Services Agreements.

We consult on an annual basis regarding changes to the OSC and the purpose of this consultation paper is to obtain views on the proposed OSC rates for the tariff year 01 October 2017 to 30 September 2018.

## 1.1 The Delivery of I-SEM

In last year's Other System Charges consultation we presented the plan to consult on any necessary OSC changes in this year's paper. As the go live date for I-SEM has been delayed until 23<sup>rd</sup> May 2018, we are planning on allowing the new market to settle for the last four months of the tariff year 17/18 and not make any changes before consulting in next year's OSC tariff consultation paper for tariff year 18/19.

## 1.2 OSC Review

The OSC were introduced on a harmonised basis on 01 February 2010 and are divided into the following:

- Trip Charge;
- Short Notice Declaration Charge; and
- Generator Performance Incentive Charge.

In the event of a generator unit dropping output a Trip Charge is levied on the service provider depending on how the unit tripped (i.e. slow wind down, fast wind down, direct trip). The charge is intended to incentivise behaviour that enhances system security and reduces operating costs. The proposed rates for the various categories of unit trip are set at a level which seeks to recover an amount of costs which is representative of the power system impact. The purpose of the Trip Charge is to minimise the number of trips and, when a trip is unavoidable, to incentivise a Generator to reduce output as slowly as possible.

In the event of a generator unit making a downward declaration of its availability at short notice a Short Notice Declaration (SND) Charge is levied on the service provider depending on the amount of notice given. The charge is intended to incentivise behaviour that enhances system security and reduces constraints costs.

It is important for the efficient and economic operation of the system to ensure that generators maintain the performance required in the respective Grid Codes and act in a manner that facilitates the operation of the system. The harmonised arrangements establish Generator Performance Incentive Charges monitoring performance on an all-island basis. The arrangements are intended to quantify and track generation performance, identify non-compliance with standards and help evaluate the performance gap between what is needed and what is being provided by service providers as the power system develops.

We have found the introduction of GPIs has led to improved performance of certain generation units in relation to the required Grid Code compliance. In some cases GPIs have placed focus on the performance and highlighted the level of compliance of certain generator units. Therefore, we are proposing to retain the OSC rates approved for the 2016-2017 tariff year with the inclusion of the assumed inflation rate.

### 1.3 OSC Reporting

A monthly report is published on our websites which shows the following:

1. The total Trip Charges levied and the type of trip. This is reported on an all-island basis and the total OSCs for the tariff year;
2. The total SND charges levied. This is reported on an all-island basis and the total OSCs for the tariff year; and
3. The revenue levied for each category of GPI. This is reported on an all-island basis and the total GPIs for the tariff year.

These monthly reports are available on our websites which can be accessed at [www.EirGrid.com](http://www.EirGrid.com) or [www.soni.ltd.uk](http://www.soni.ltd.uk).

### 1.4 Instructions for Response

Responses should be sent to:

[Vivienne.Price@soni.ltd.uk](mailto:Vivienne.Price@soni.ltd.uk), [Amanda.Kelly@Eirgrid.com](mailto:Amanda.Kelly@Eirgrid.com) and [AS@Eirgrid.com](mailto:AS@Eirgrid.com).

**The closing date for receipt of responses is 5pm on Tuesday 2<sup>nd</sup> May 2017.**

It would be helpful if comments were aligned with the sections and sub-sections of this consultation document. It would also be helpful if responses were not confidential. If confidentiality is required, this should be made clear in the response. Please note that, in any event, all responses will be shared with the RAs.

## 2. EXISTING OSC DEVELOPMENTS

We have reviewed the charges levied on generating units for the tariff year 2015-2016 and observe a similar level of compliances compared to the same period in tariff year 2014-2015. This trend can be viewed on the monthly reports published on the EirGrid and SONI websites.

### 2.1 Trip Charge

We stated in previous OSC Recommendations papers that the review of the Trip Charge methodology should be revisited again once the DS3: Enhanced Performance Monitoring System is put in place. This is part of the DS3 project which will log any trips or load drops over a certain threshold (including WFPS). As this performance monitoring work has been delayed from its original go live date and phase 1 is now set to be operational in 2017 we will defer the review and consultation of any methodology changes until the next tariff year. It is believed that by then we will have sufficient data to establish any need for changes to the methodology.

### 2.2 RoCoF GPI

A RoCoF GPI was introduced in June 2016 in line with the publication of the RA's RoCoF decision paper<sup>2</sup>. We believe that the charge is appropriate at this time and would not propose to change the charge for this upcoming tariff year.

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<sup>2</sup>[http://www.uregni.gov.uk/uploads/publications/Decision\\_Paper\\_on\\_the\\_Rate\\_of\\_Change\\_of\\_Frequency\\_Grid\\_Code\\_Modification.pdf](http://www.uregni.gov.uk/uploads/publications/Decision_Paper_on_the_Rate_of_Change_of_Frequency_Grid_Code_Modification.pdf) and <http://www.cer.ie/docs/000260/CER14081%20ROCOF%20Decision%20Paper%20-%20FINAL%20FOR%20PUBLICATION.pdf>



## 2.3 Operating Reserve GPI

In last year's consultation paper we proposed to make a refinement to the GPI calculation for reserve, whereby the required decrement rate is included as part of the calculation. We will continue to monitor the need for this refinement and develop, if required, this proposal in next year's consultation.

The principle of the decrement rate is shown in Figure 1 and is the slope of the Contracted Reserve Decrement Rate. It shows the relationship between available reserve and the active power output of the unit.

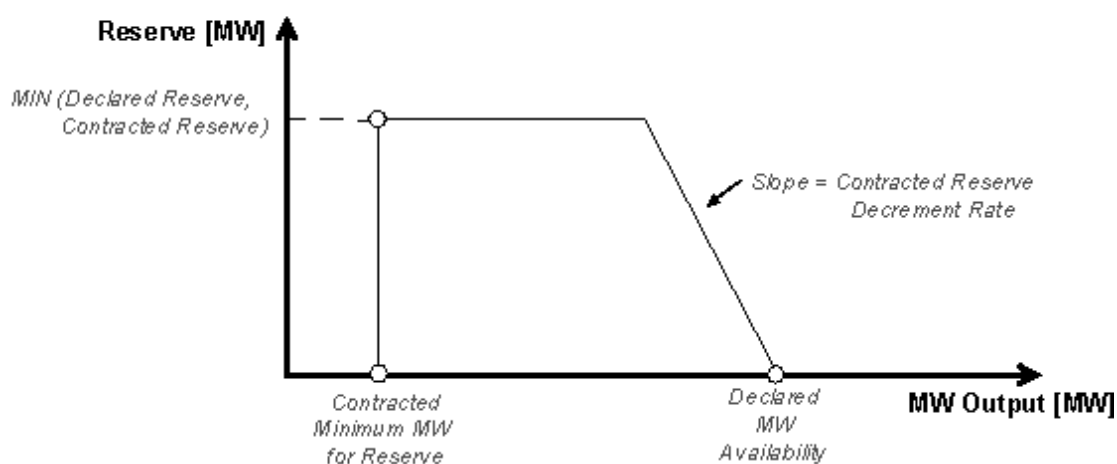


Figure 1 Reserve Curve

We have noted that, since the introduction of the harmonised Reserve GPI charge in February 2010, the compliance of the contracted reserve (MW) with respect to the required reserve quantities (MW) has improved. There has however been limited improvement in the contracted decrement rate for all categories of reserve and also deteriorations across the portfolio. As generating units are scheduled for dispatch based on their contracted reserve values any deviations from the required reserve values will cause an increase in Imperfection costs. These costs are passed through to suppliers and are ultimately borne by electricity consumers.

The objective of the proposed design refinement is to add a multiplication factor to the GPI charge. Generating units which are compliant with the required decrement rate are applied a multiplication factor of 1 (i.e. no increase). Generating units that have a non-compliant decrement rate would have a greater multiplication factor the greater their non-compliance. The proposed multiplication factor would therefore be:

$$\text{Factor} = \frac{\text{Required Decrement Rate}}{\text{Contracted Decrement Rate}}$$

Any additional charges levied through this design refinement will be passed through to offset Imperfection charges.

We have noted the views of those respondents who gave feedback to the refinement in last year's consultation and would welcome any additional opinions on the merits of the proposed refinement. As stated previously, we will continue to monitor the need for this refinement and develop, if required, this proposal in next year's consultation.

### **3. NEW OTHER SYSTEM CHARGES (OSC)**

In assessing new developments for OSC, there are two key areas for consideration:

1. Where a non-compliance trend is found and a GPI is considered worthwhile or an existing GPI should be modified; and
2. Implementation of OSC for non-conventional generation where there is a cost to the end user due to their non-compliance.

#### **3.1 Secondary Fuel GPI**

We had previously proposed a new GPI relating to a generating unit's declared secondary fuel capability. However, this was deferred to allow for the implementation of a revised NI Fuel Security Code by the Department of Enterprise, Trade and Investment (DETI) and the development of Fuel Switching Agreements in Northern Ireland.

Due to the scale of changes, such as DS3 System Services and I-SEM that are progressing in parallel, we believe a separate consultation on the implementation of a GPI for secondary fuel capability should be carried out in 2017 with the view to implement the proposed GPI in October 2018. This would assist in the practicalities of delivering against the numerous consultations and system and operational changes required pre October 2017.

### **3.2 Wind farm GPI**

There have been significant strides by windfarms over the last couple of years in terms of achieving Grid Code compliance through the issuing of compliance certificates. It has also been observed that the majority of new windfarms connected to the system are compliant with their Grid Code requirements. For those wind farms that are not compliant a number of temporary derogations have been granted.

We will continue to monitor compliance and review the need to introduce a GPI at the appropriate time in the future to ensure compliance is maintained.

### **3.3 Demand Side Unit GPI**

We are continuing to monitor and develop the performance of Demand Side Units (DSUs) in liaison with the industry. If required, non-compliances will be addressed with the introduction of a GPI, which will be presented in future OSC consultations.

## 4. PROPOSED RATES

The following sections define the rates used for the Other System Charges (OSC). In the Harmonised Ancillary Services Rates and Other System Charges Decision paper for 2011-2012, the SEM Committee was satisfied that the exchange rate methodology is aligned to that utilised in the SEM. The only difference being the 5 day timeframe is taken in July rather than August in order to align to other Regulatory Authorities timeframes with regard to publication of charges.

With respect to the blended inflation rate, we are again aligning to the methodology approved by the RAs in applying a blended rate.

In the OSC 2015-2016 recommendations paper, we proposed the following methodology to be applied going forward:

- 75% \* Central Bank HICP forecast from the latest available quarterly report adjusted for the relevant tariff timeframe; plus
- 25% \* Office of Budgetary Responsibility RPI forecast from the latest available quarterly report adjusted for the relevant tariff timeframe

According to the latest Office of Budgetary Responsibility report<sup>3</sup> (Nov 2016) the current RPI year on year inflation forecasts in the UK for the 2017/18 tariff year equates to c.+3.425% while the latest Central Bank report<sup>4</sup> (Q1 2017) forecasts HICP in Ireland for the same period at c.+1.025%.

Source		2017	2018	Tariff Year Methodology	2017/2018 Tariff Year	Blended Rate Methodology	Blended rate
OBR Nov 2016	RPI	3.2%	3.5%	(.032*25% + .035*75%)	3.425%	3.425*25%	0.85625
Central Bank Q1 2017	HICP	0.8%	1.1%	(.008*25% + .011*75%)	1.025%	1.025*75%	0.76875
<b>Blended Rate</b>							<b>1.625%</b>

Table 4.0: Proposed Inflation Rate Increase

On this basis, and recognising the relative balance between Ireland and Northern Ireland, the forecast blended rate for the forthcoming 2017/18 period is 1.625% as shown in Table 4.0.

<sup>3</sup> <http://budgetresponsibility.org.uk/efo/economic-and-fiscal-outlook-november-2016/>

<sup>4</sup> <https://www.centralbank.ie/publications/Pages/QuarterlyBulletin.aspx>

Therefore in this year’s Annual Tariff Consultation we are proposing to retain the OSC rates approved for the 2016-2017 tariff year adjusting for inflation at forecast blended rate of 1.625% for the tariff year 2016-2017. We believe our proposal is an appropriate inflation rate based on our assessment of forecast inflation at the time of initial submission.

#### 4.1 Trip Charges

The following tables propose the Trip Charges and Constants for the 2017-2018 tariff year. As seen in Table 4.1 and Table 4.2 there are no changes to the proposed charges compared with the previous tariff year other than increasing in line with the assumed inflation rate. We would like to clarify that 4 decimal places are used in the calculation of the inflationary increase.

	2016-2017	2017-2018
Direct Trip Rate of MW Loss	15 MW/s	15 MW/s
Fast Wind Down Rate of MW Loss	3 MW/s	3 MW/s
Slow Wind Down Rate of MW Loss	1 MW/s	1 MW/s
Direct Trip Constant	0.01	0.01
Fast Wind Down Constant	0.009	0.009
Slow Wind Down Constant	0.008	0.008
Trip MW Loss Threshold	100 MW	100 MW

**Table 4.1: Proposed Trip Constants**

Charge	2016-2017	2017-2018
Direct Trip Charge Rate	€4,250	€4,319
Fast Wind Down Charge Rate	€3,187	€3,239
Slow Wind Down Charge Rate	€2,125	€2,159

**Table 4.2: Proposed Trip Rates**

## 4.2 Short Notice Declaration (SND) Charges

The following tables propose the SND Charges and Constants for the 2017-2018 tariff year. As seen in Table 4.3 and 4.4 there is no change to the proposed constants and charges compared with the 2016-2017 tariff year other than increasing in line with the assumed inflation rate.

<b>SND Constants</b>	<b>2016-2017</b>	<b>2017-2018</b>
SND Time Minimum	5 min	5 min
SND Time Medium	20 min	20 min
SND Time Zero	480 min	480 min
SND Powering Factor (Notice time weighting curve)	-0.3	-0.3
SND Threshold	15 MW	15 MW
Time Window for Chargeable SNDs	60 min	60 min

**Table 4.3: Proposed SND Constants**

<b>SND Charge Rate</b>	<b>2016-2017</b>	<b>2017-2018</b>
SND Charge Rate	€74 / MW	€76 / MW

**Table 4.4: Proposed SND Charge Rate**

## 4.3 GPI Charges

The proposed GPI Constants, GPI Declaration Based Charges and GPI Event Based Charges for the 2017-2018 tariff year are outlined in Table 4.5, Table 4.6 and Table 4.7 respectively. We are proposing to make no change to the rates for 2017-2018 other than increasing in line with the assumed inflation rate.

The rates proposed are displayed with 2 decimal places in Euro. We would like to clarify that 4 decimal places are used in the calculation of the inflationary increase.

<b>GPI Constants</b>	<b>2016-2017</b>	<b>2017-2018</b>
Late Declaration Notice Time	480 min	480 min
Loading Rate Factor 1	60 min	60 min
Loading Rate Factor 2	24	24
Loading Rate Tolerance	110%	110%
De-Loading Rate Factor 1	60 min	60 min
De-Loading Rate Factor 2	24	24
De-Loading Rate Tolerance	110%	110%
Early Synchronous Tolerance	15 min	15 min
Early Synchronous Factor	60 min	60 min
Late Synchronous Tolerance	5 min	5 min
Late Synchronous Factor	55 min	55 min

**Table 4.5: Proposed GPI Constants**

	2016-2017	2017-2018
<b>GPI Declaration Based Rates</b>	<b>€ / MWh</b>	<b>€ / MWh</b>
Minimum Generation	1.25	1.27
Max Starts in 24 hour period	1.06	1.08
Minimum On time	1.06	1.08
Reactive Power Leading	0.31	0.31
Reactive Power Lagging	0.31	0.31
Governor Droop	0.31	0.31
Primary Operating Reserve	0.13	0.13
Secondary Operating Reserve	0.13	0.13
Tertiary Operating Reserve 1	0.13	0.13
Tertiary Operating Reserve 2	0.13	0.13

**Table 4.6: Proposed GPI Declaration Based Charge Rates**

	2016-2017	2017-2018
<b>GPI Event Based Rates</b>	<b>€ / MWh</b>	<b>€ / MWh</b>
Loading Rate	0.63	0.64
De-Loading Rate	0.63	0.64
Early Synchronisation	2.82	2.86
Late Synchronisation	28.12	28.58

**Table 4.7: Proposed GPI Event Based Charge Rates**

## 5. SUMMARY AND NEXT STEPS

Comments are invited from interested parties on this consultation paper and should be aligned with the sections and sub-sections of this document. If confidentiality is required, this should be made explicit in the response as the comments will be published on our websites<sup>5</sup>. Please note that, in any event, all responses will be provided to the RAs. **The closing date for responses is 5pm on Tuesday 2<sup>nd</sup> May 2017.**

- We will consider the comments received on the consultation paper and make recommendations to the RAs based on these;
- The RAs will approve/reject the recommendations proposed by us in light of the responses received; and
- We will implement in accordance with the RAs decision paper.

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<sup>5</sup> [www.eirgrid.com](http://www.eirgrid.com) and [www.soni.ltd.uk](http://www.soni.ltd.uk)