

To all industry stakeholders

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Dear Colleagues,

Consultation on the future of the Transmission Constraint Licence Condition

Target audience: This document may be of particular interest to generators, suppliers, system operators, transmission operators and consumer groups.

1. Introduction

1.1. Section 18 of the Energy Act 2010¹ gave powers to the Government to introduce a licence condition to limit behaviour by electricity generators during periods of transmission constraints. The licence condition, called the Transmission Constraint Licence Condition (TCLC), prohibits generators from deriving an excessive benefit during periods of transmission constraints. TCLC came into force in 2012 for a 5-years period, with a potential 2-years extension by the Secretary of State. Ofgem is now reviewing the impact of TCLC and the options around the future of the licence condition.

1.2. The purpose of this informal consultation is to seek initial views from interested parties on the impact of TCLC to date and on the options for keeping the costs of managing constraints as low as possible for consumers after the current expiry date for the licence condition. In particular we are seeking evidence and views on the:

- impact of TCLC to date;
- need for a similar licence condition after July 2017;
- extent to which TCLC overlaps with prohibitions in REMIT (Regulation (EU) No 1227/2011 wholesale energy market integrity and transparency).

1.3. Our intent is to ensure that the behaviours prohibited by TCLC remain addressed after TCLC expires in its current form. Responses to this consultation will be

¹ http://www.legislation.gov.uk/ukpga/2010/27/pdfs/ukpga_20100027_en.pdf

reviewed and considered before we set out firmer proposals on the future of TCLC. We will continue to liaise closely with Government during this time.

2. Background

Transmission constraints

2.1. Before TCLC was introduced, we had ongoing concerns in relation to the potential of generators to abuse transmission constraints in the Balancing Mechanism (BM), to the detriment of consumers. A transmission constraint² occurs where the transmission system has limited capacity to transmit the power supplied onto the transmission system to the locations where the demand is situated.

2.2. Constraints can arise under normal network conditions due to the patterns of supply and demand on a given day. However, they are often triggered or exacerbated by transmission and/or generation outages. An **export constraint** happens when total generation in an area exceeds the total demand plus transmission capacity to export the excess electricity. An **import constraint** occur when, given the current demand and electricity generated within an area, there is insufficient transmission capacity to import the required amount of electricity.

2.3. Transmission constraints can arise due to a number of reasons, including (but not limited to):

- i. The limitations on the thermal ratings of electric lines within the GB transmission system being exceeded;
- ii. The need to maintain voltages on the GB transmission system within prescribed limits;
- iii. The need to maintain the transient and dynamic stability of electrical plant, equipment and systems connected to the transmission system.

2.4. During periods of transmission constraints the System Operator (SO) often has a limited set of options to purchase increased/reduced generation from a specific geographic area. Given the limited number of available options for the SO, the potential exists in some cases for generators to charge high prices for balancing services. The costs of managing the constraints will ultimately fall on the consumers. The higher these costs, the higher the bills paid by consumers.

The Transmission Constraint Licence Condition

2.5. TCLC was introduced by government through Section 18 of the Energy Act 2010. It covers two specific circumstances:

2.6. Circumstance 1 of TCLC prohibits behaviours whereby an electricity generator (or affiliate) seeks to create or exacerbate a transmission constraint by dispatching or withholding one or more generation units in circumstances where

² For more detailed definition please refer to definition of TCLC terms in appendix 7.1.

the generator and its affiliates together have more economic options available to them and then enter into arrangements in the Balancing Mechanism (BM)³.

2.7. Circumstance 2 of TCLC prohibits electricity generators in reference to reducing generation from:

- i. paying or seeking to pay the SO an excessively⁴ low amount or
- ii. paying or seeking to be paid an excessive amount by the SO.

2.8. TCLC was intended to cover the period of high transmission constraints which were expected to reduce around 2017 following improvements in the infrastructure, such as the Western High Voltage Direct Current (HVDC) Link. Therefore it was introduced as a time-bound licence condition for 5-years to expire on 15 July 2017, with an optional 2-years extension if considered necessary.

3. Impacts of TCLC to date

3.1. We have been actively monitoring compliance with and the operation of TCLC since its introduction. So far there has been no enforcement case of generators engaging in the behaviour prohibited by Circumstance 1. This could suggest that Circumstance 1 has been effective in deterring the described abusive behaviour. This has likely been supported by the subsequent introduction of the REMIT prohibition on market abuse, which refers to physical withholding as an example of market manipulation.⁵

3.2. In relation to Circumstance 2 of TCLC, since its introduction in 2012 we have witnessed significant changes in the pricing behaviour by licensed generators as well as the prices they charge the SO to reduce generation. When separated by generation technology types, the aggregate cost of accepted bids to reduce generation was highest for wind farms. The most significant savings to consumers has been on bid prices for wind generation, on which there had been a declining trend since 2012. The prices taken by the SO to reduce generation from wind farms for system reasons have gradually decreased from an average of around £204/MWh which was paid before TCLC came into effect to around £65/MWh in 2016 (the figure includes both offshore and onshore wind farms).⁶

3.3. We estimated total savings to be in the region of £135 million⁷ between the introduction of TCLC and 13 May 2016. We note that this can be attributable to other factors, however the decline in prices following the introduction of TCLC suggests it significantly contributed to the savings.

³ As per section 2.16 of the TCLC guidance, if a generator who created or exacerbated a transmission constraint then submits any bid or offer in the BM in respect of the constraint period, it will be considered that the licensee has gained an excessive benefit.

⁴ The TCLC Guidance provides a non-exhaustive list of indicators which Ofgem may consider when determining whether an excessive benefit has been obtained, in section 2.36.
<https://www.ofgem.gov.uk/ofgem-publications/40377/tclc-guidance.pdf>

⁵ A summary of REMIT and our role can be found here: <https://www.ofgem.gov.uk/gas/wholesale-market/european-market/remit>

⁶ This assessment considered SO BM accepted prices pre-TCLC and 2016 to-date. Further details on the methodology are in the Annex 6.3.

⁷ This figure is calculated via a counterfactual analysis considering pre-TCLC accepted bid prices against post TCLC accepted bid prices and banking of this difference. Further details on the methodology are in Annex 7.4.

Enforcement

3.4.In 2014 Ofgem enforced a case against SSE for breaching Circumstance 2 of TCLC⁹. SSE submitted and had bids accepted for six hydroelectric units for several months during 2014 at prices which were above an economically justifiable level. SSE admitted that they had failed to comply with TCLC for a period of time under consideration. A redress payment of £100k was made to a charity.

Current scope of TCLC

3.5.Not all generators that choose to participate in the BM are bound by TCLC. Some generators are large enough to participate in the BM but have been granted an individual exemption or benefit from a class exemption from the requirement to hold a generation licence, so they do not have to comply with TCLC. Data shows that there appears to be a discrepancy between these two groups, licenced and licence exempt generators, who participate in the BM.

3.6.In 2015 on average, licence exempt onshore windfarms were paid about £88/MWh of generation they reduced in comparison to about £68/MWh for licenced onshore windfarms¹¹. If licence exempt windfarms had been paid the same amount per MWh as licenced onshore windfarms, it would have yielded a saving of more than £2.6m over 2015.¹² Licence exempt offshore windfarms appear to be paid less than their licenced equivalents, however the number of licence exempt windfarms participating in the BM is low therefore they do not have a significant impact on average prices overall.

Question 1: What are your views on the impact of TCLC on the behaviour of market participants?

Question 2: What have been the costs for generators to comply with TCLC?

Question 3: What have been the benefits of TCLC?

Question 4: Should the scope of TCLC be widened to include licence exempt generators participating in the BM?

Please include any reasoning and evidence in your answers.

⁹ For more details see: <https://www.ofgem.gov.uk/publications-and-updates/sse-pay-100000-energy-action-scotland-over-constraint-payments>

¹¹ These average figures compared the weighted average price between the two groups. Further details on the methodology are in Annex 7.3.

¹² The methodology was looking at average price per MWh that all windfarms were paid to reduce generation in 2015. We then compared the average price for licenced generators to the price paid to licence exempt generators. The potential savings is calculated by multiplying the total volume of licence exempt generators by the price paid to licenced generators.

4. Forecasted constraints beyond 2017

4.1. During periods of transmission constraint the SO often has a limited set of options to purchase increased/reduced generation (or demand) from a specific geographic area. As noted above, given the limited numbers of options available to the SO, the potential exists in some cases for generators to charge high prices for balancing services to manage constraints (or other contractual services to adjust generating levels); these are costs which will ultimately fall on the consumer. So in any consideration about the future of TCLC, it is relevant to consider the likelihood of constraints going forward. The total cost for managing these constraints was £354 million in 2015, which was a significant increase from £279 million in 2014. In the first three months of 2016 it cost £70 million to manage constraints.¹³

Temporary constraints

4.2. The current available forecasts for constraint related costs to the SO until 2025 suggest an initial drop in costs from 2016/17 for a year until 2017/18. This is then followed by a year-on-year increase until 2022 and a drop to near zero by 2024¹⁴. However, our current internal estimates on the completion of transmission reinforcement suggest that drop would start after the Eastern HDVC is completed, which is currently expected at 2023.¹⁵ This means that temporary constraint costs can be expected to remain at a relatively high level until these significant network upgrades are completed.

Ongoing constraints

4.3. Some level of transmission constraints are an inherent part of an efficient electricity network. This is because there is an optimum level of capacity required to run the system determined via cost benefit analysis.

4.4. Current evidence suggests that TCLC is a good deterrent against generators gaining excessive profits by exploiting transmission constraints. Given the likelihood that periods of transmission constraints will continue to exist beyond 2017, having a licence condition such as TCLC could not only continue to ensure a level playing field between licensed generators, but also ensure that the price to reduce generation due to transmission constraints are reflective of generators cost. This should ultimately benefit consumers through lower electricity bills.

¹³ Information on constraint costs is available from National Grid in the Monthly Balancing Services reports published monthly. We used the figures of Transmission Constraint - Total Management Costs, adding up the monthly figures to get the yearly total cost (calendar year, January to December).

<http://www2.nationalgrid.com/UK/Industry-information/Electricity-transmission-operational-data/Report-explorer/Services-Reports/>

¹⁴ Forecast based on the Gone Green Variant, Connect & Manage Forecast Report April 2015 by National Grid Electricity Transmission Ltd

<http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=41538>

¹⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/523367/Transmission_Owner_Major_Project_Update_April_2016.xls

Question 5: What are your views on extending TCLC until 2019 in its current form as allowed by current legislation?

Question 6: What are your views on extending TCLC beyond 2019 with a further review after five years?

Question 7: What are the risks and benefits of introducing an extension of TCLC?

Question 8: Do you have any concerns around TCLC you want to raise?

Please include any reasoning and evidence in your answers.

5. TCLC and REMIT

5.1. The behaviours prohibited by TCLC have parallels with REMIT. Article 5 of REMIT¹⁶ prohibits market manipulation, that is, entering into any transaction or issuing any order to trade in wholesale energy products which (as defined in Article 2(2)(a) and 2(3)(a)):

- i. gives, or is likely to give false or misleading signal as to the supply, demand or price of wholesale energy products; or
- ii. secures or attempts to secure the price of a wholesale energy product at an artificial level; or
- iii. disseminates information which is likely to give a false or misleading signal.

5.2. REMIT applies more widely than TCLC, as it applies to all market participants¹⁷ and not simply to generation licence holders.

Circumstance 1

5.3. Circumstance 1 in TCLC prohibits a single licensee with one or more generating units from generating or withholding electricity in one unit when it would have more economic options available to them, in order to secure a higher price for electricity. This has parallels with the definition of market manipulation in Article 2(2)(a)(i) and (ii) of REMIT (and Article 2(3)(a)(ii) for attempting to manipulate the market) because the generator is sending a false or misleading signal as to the supply and price of wholesale energy products and securing the price of a product at an artificial level.

Circumstance 2

¹⁶ Full version of Article 5 (Prohibition of Market Manipulation) can be found in the appendix.

¹⁷ The definition of market participant under REMIT: 'market participant' means any person, including transmission system operators, who enters into transactions, including the placing of orders to trade, in one or more wholesale energy markets

5.4. Circumstance 2 of TCLC provides a specific mechanism to control excessive pricing in periods of transmission constraints. The threshold for TCLC is to decide whether actions are economically justifiable. It is not necessary to prove that a price is at an artificial level. Article 2(2)(a)(ii) of REMIT (and Article 2(3)(a)(ii) for attempt to manipulate the market) prohibits a person from entering into any transaction which secures a wholesale energy product at an artificial level. We are keen to gather views on the benefits and costs of maintaining this more specific obligation in TCLC in our licences.

Question 9: What are your views on the interactions between TCLC and REMIT Article 5?

Question 10: What are the risks and benefits of relying on REMIT to address the behaviours prohibited by TCLC, as compared to the risk and benefits of keeping the TCLC?

Please include any reasoning and evidence in your answers.

6. Next steps

We are consulting on the future of TCLC for 4 weeks. We welcome your views. Please send your responses to the consultation questions by **5pm on 24 June 2016**. Where possible we would prefer responses provided electronically to the email provided below. Also, we would welcome that all responses are supported by evidence where possible.

Responses should be sent to:

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Yours faithfully,

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7. Appendices

7.1. Transmission Constraint Licence Condition

1. The licensee must not obtain an excessive benefit from electricity generation in relation to a Transmission Constraint Period.

2. For the purposes of paragraph 1, the licensee shall be considered to have obtained an excessive benefit from electricity generation in relation to a Transmission Constraint Period if:

(a) the licensee and the system operator enter into, or have entered into, Relevant Arrangements which relate to a Transmission Constraint Period; and

(b) either or both of the circumstances set out in paragraph 3 occurs.

3. The circumstances referred to in paragraph 2(b) are as follows:

(a) Circumstance 1 is that:

(i) the licensee, or any affiliate of the licensee, creates or exacerbates a Transmission Constraint by dispatching or withholding one or more Generating Units in circumstances when the licensee and its affiliates together had more economic options available to them; and

(ii) under the Relevant Arrangements, either:

a. the licensee is paid, or seeks to be paid, an excessive amount by the system operator in connection with an increase in electricity generation during the Transmission Constraint Period; or

b. the licensee is paid, or seeks to be paid, an excessive amount by the system operator, or the licensee pays, or seeks to pay, an excessively low amount to the system operator, in connection with a reduction in electricity generation during the Transmission Constraint Period;

(b) Circumstance 2 is that, under the Relevant Arrangements and in connection with a reduction in electricity generation in the Transmission Constraint Period, either:

(i) the licensee pays, or seeks to pay, the system operator an excessively low amount; or

(ii) the licensee is paid, or seeks to be paid, an excessive amount by the system operator.

4. For the purposes of paragraph 3 any reference to an increase or reduction in generation by the licensee in a Transmission Constraint Period means:

(a) an increase or reduction in comparison to the licensee's Notified Electricity Generation for that Transmission Constraint Period; and

(b) includes an increase or reduction in generation of electricity by particular generating plant, whether or not there is an overall increase or reduction in electricity generation in that Transmission Constraint Period.

5. This licence condition shall be interpreted and enforced in accordance with guidance issued by the Authority in accordance with section 19 of the Energy Act 2010.

6. The Authority may from time to time revise the guidance referred to in paragraph 5 and before issuing any such revised guidance the Authority shall consult:

(a) the holder of any licence under section 6(1)(a) of the Act;

(b) the Secretary of State; and

(c) such other persons as the Authority thinks it appropriate to consult,

setting out the text of, and the reasons for, the proposed revisions.

7. The licensee shall provide to the Authority, in such manner and at such times as the Authority may reasonably require, such information as the Authority may require or deem necessary or appropriate to enable the Authority to monitor the licensee's compliance with this condition.

8. This condition will cease to have effect on the Expiry Date unless the Secretary of State makes an order extending the Expiry Date pursuant to section 23(2) of the Energy Act 2010.

9. Definition of terms in TCLC:

"Balancing Mechanism"	means the mechanism for the making and acceptance of offers and bids to increase or decrease the quantities of electricity to be delivered to, or taken off, the total system at any time or during any period so as to assist the system operator in coordinating and directing the flow of electricity onto and over the national electricity system and balancing the national electricity system pursuant to the arrangements contained in the BSC;
"Expiry Date"	means 15 July 2017;
"Generating Unit"	means any apparatus which produces electricity;

<p>"National Electricity Transmission System"</p>	<p>means the system consisting (wholly or mainly) of high voltage electric lines owned or operated by transmission licensees within Great Britain, in the territorial sea adjacent to Great Britain and in any Renewable Energy Zone and used for the transmission of electricity from one generating station to a sub-station or to another generation station or between sub-stations or to or from any interconnector and includes any electrical plant or meters owned or operated by any transmission licensee within Great Britain, in the territorial sea adjacent to Great Britain and in any Renewable Energy Zone in connection with the transmission of electricity;</p>
<p>"Notified Electricity Generation"</p>	<p>means the intended level of generation notified by the licensee to the system operator for a period pursuant to the notification arrangements established by BETTA and the BSC;</p>
<p>"Relevant Arrangements"</p>	<p>means arrangements entered into by the licensee and the system operator within the Balancing Mechanism, and the entering of such arrangements shall include the making of a bid or offer by the licensee whether or not that bid or offer is accepted by the system operator;</p>
<p>"Renewable Energy Zone"</p>	<p>means any area designated by Order in Council under section 84(4) of the Energy Act 2004;</p>
<p>"Transmission Constraint"</p>	<p>means any limit on the ability of the National Electricity Transmission System, or any part of it, to transmit the power supplied onto the National Electricity Transmission System to the location where the demand for that power is situated, such limit arising as a result of any one or more of: (a) the need not to exceed the thermal rating of any asset forming part of the National Electricity Transmission System; (b) the need to maintain voltage on the National Electricity Transmission System; and (c) the need to maintain the transient and dynamic stability of electricity plant, equipment and systems directly or indirectly connected to the National Electricity Transmission</p>

	<p>System; and such limit being used by the system operator to operate the National Electricity Transmission System in accordance with the National Electricity Transmission System Security and Quality of Supply Standard referred to in standard condition C17 (Transmission systems security standard and quality of service) of the standard conditions for electricity transmission licences or any other provision of the transmission licence, the Act or any other requirement of law;</p>
<p>“Transmission Constraint Period”</p>	<p>means any period of time, regardless of the duration, when a Transmission Constraint occurs.”</p>

7.2.REMIT Prohibition of Market Manipulation

REGULATION (EU) No 1227/2011 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2011 on wholesale energy market integrity and transparency

Article 5 – Prohibition of Market Manipulation

Any engagement in, or attempt to engage in, market manipulation on wholesale energy markets shall be prohibited.

Article 2 - Definitions

For the purposes of this Regulation the following definitions shall apply:

(2)'market manipulation' means:

(a)entering into any transaction or issuing any order to trade in wholesale energy products which:

(i)gives, or is likely to give, false or misleading signals as to the supply of, demand for, or price of wholesale energy products;

(ii)secures or attempts to secure, by a person, or persons acting in collaboration, the price of one or several wholesale energy products at an artificial level, unless the person who entered into the transaction or issued the order to trade establishes that his reasons for doing so are legitimate and that that transaction or order to trade conforms to accepted market practices on the wholesale energy market concerned; or

(iii)employs or attempts to employ a fictitious device or any other form of deception or contrivance which gives, or is likely to give, false or misleading signals regarding the supply of, demand for, or price of wholesale energy products;

or

(b)disseminating information through the media, including the internet, or by any other means, which gives, or is likely to give, false or misleading signals as to the supply of, demand for, or price of wholesale energy products, including the dissemination of rumours and false or misleading news, where the disseminating person knew, or ought to have known, that the information was false or misleading.

When information is disseminated for the purposes of journalism or artistic expression, such dissemination of information shall be assessed taking into account the rules governing the freedom of the press and freedom of expression in other media, unless:

(i)those persons derive, directly or indirectly, an advantage or profits from the dissemination of the information in question; or

(ii)the disclosure or dissemination is made with the intention of misleading the market as to the supply of, demand for, or price of wholesale energy products;

(3)'attempt to manipulate the market' means:

(a)entering into any transaction, issuing any order to trade or taking any other action relating to a wholesale energy product with the intention of:

(i)giving false or misleading signals as to the supply of, demand for, or price of wholesale energy products;

(ii)securing the price of one or several wholesale energy products at an artificial level, unless the person who entered into the transaction or issued the order to trade establishes that his reasons for doing so are legitimate and that that transaction or order to trade conforms to accepted market practices on the wholesale energy market concerned; or

(iii)employing a fictitious device or any other form of deception or contrivance which gives, or is likely to give, false or misleading signals regarding the supply of, demand for, or price of wholesale energy products;

or

(b)disseminating information through the media, including the internet, or by any other means with the intention of giving false or misleading signals as to the supply of, demand for, or price of wholesale energy products;

7.3.Methodology of impact of TCLC on prices

7.3.1. The average prices used in the analysis are calculated using the total amount National Grid Electricity Transmission (NGET) paid to 62 wind balancing mechanism units to turn down generation for system reasons over given periods. This number is then divided by the total volume that NGET bid down for system reasons over the same period. This gives a weighted average £/MWh price for each MWh of wind-generated electricity bid down for system reasons for a given period. Both the amounts paid by NGET and volumes bid off are taken from publically available information published by Elexon via their BM Reports website.

7.3.2. For each of the prices quoted in the report, the methodology above has been applied to the following periods of time:

- 'Pre-TCLC' price: 1 April 2011 – 28 October 2012
- 2014 price: 1 January 2014 – 31 December 2014
- 2015 price: 1 January 2015 – 31 December 2015
- 2016 price: 1 January 2016 – 12 May 2016

7.4. Methodology of TCLC savings estimate

7.4.1. The underlying premise of this assessment is to determine the savings generated by the TCLC since it was implemented in 2012.

7.4.2. The estimate is based on the following assumptions:

- The pre 15 July 2012 accepted bid volume weighted average prices (VWAPs) are representative of the price at which each wind farm would have continued to bid had TCLC not been introduced
- The reduction in post 29 October 2012 accepted bid VWAPs is solely attributable to TCLC and not other factors (e.g. competition)
- The increase in VWAPs between 15 July 2012 and 29 October 2012 was excluded from the assessment because it was not representative of where VWAPs would have been had TCLC not been introduced
- That pre 15 July 2012 VWAPs would not have increased in line with inflation (not accounting for inflation provides an underestimated figure)
- The wind farms where the pre 15 July 2012 VWAP was above £500/MWh were not representative and including these prices would generate excessive savings, so using the VWAP of all other wind farms is more appropriate.

7.4.3. The assessment determines a VWAP for accepted bids to reduce volume of wind farms up to 15 July 2012. This is done by multiplying for any given settlement period (SP) the accepted bid volume by the accepted bid price, summing the results for all SPs and dividing by the total accepted bid volume. This is done for each wind farm participating in the balancing mechanism before 15 July 2012, excluding wind farms which only had bids accepted at anomalously high prices (i.e. above £500/MWh)– for these wind farms a VWAP is assigned based on the VWAP for all other wind farms.

7.4.4. The assessment then determines a VWAP for accepted bid volume from 29 October 2012. The methodology is the same as above.

7.4.5. The assessment then multiplies the volume of accepted bids for each wind farm since 29 October 2012 by each of the pre and post TCLC accepted bid VWAPs. The difference between the pre-TCLC cashflow and the actual cashflow is taken to be the saving for a given windfarm. The savings for each windfarm are then summed to give total savings.