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Transmission Constraint Licence Condition Guidance

Guidance

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Overview:

The Energy Act 2010 gave powers to the Government to introduce a licence condition to limit behaviour by electricity generators during periods when there is insufficient capacity to transmit electricity from where it is generated to where the demand is. In such circumstances, known as transmission constraints, the System Operator will need to take actions to ensure that the level of electricity supplied equals the level of electricity demanded. These actions are generally either to pay generators to increase their generation, or to accept a payment from (or sometimes pay) generators to reduce their generation. During transmission constraints, there are often only a limited number of options available to the System Operator, which can sometimes lead to very high costs to balance the system. The licence condition prohibits generators from obtaining an excessive benefit from electricity generation in relation to a period of transmission constraint. This may occur either where the generator artificially creates or exacerbates a transmission constraint, or where the generator obtains an excessive financial benefit from the System Operator in return for reducing their generation.

Contents

1. Introduction

Background

1.1. Ofgem has had longstanding concerns that the potential exists for electricity generators to manipulate and exploit market conditions and charge unduly high prices[1] to the System Operator (SO) to balance the GB electricity system in connection with periods of transmission constraint. Transmission constraints occur when there is insufficient network capacity to transmit the electricity into or out of a region on the network[2]. 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. 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; these are costs which will ultimately fall on the consumer.

1.2. In April 2008 Ofgem launched an investigation under the Competition Act 1998 (CA98) into Scottish Power (SP) and Scottish & Southern Energy (SSE), following concerns raised by industry participants about possible market manipulation and exploitation of market conditions arising from constraints between England/Wales and Scotland. While we had concerns about some of the behaviour observed under the period of investigation, in January 2009 Ofgem closed the investigation, noting that the likelihood of establishing an infringement under the CA98 was low, and that other routes were available which could be more effective in addressing the concerns.

1.3. Following this investigation, Ofgem published its consultation paper "Addressing Market Power Concerns in the Electricity Wholesale Sector – Initial Policy Proposals" in March 2009[3]. After consideration of the responses to the consultation document, Ofgem concluded that it would be most appropriate to introduce a new licence condition to address the concerns identified. Given the importance of the issue and the likelihood of increased constraint periods, we considered there was a strong case for a licence condition to be introduced via primary legislation. This led to the Department for Energy and Climate Change (DECC) pursuing a statutory change and the 2010 Energy Act gave the Secretary of State for Energy and Climate Change an enabling power to introduce a new licence condition for that purpose.

1.4. There have been further occasions when concerns have been raised that bids accepted in the Balancing Mechanism (BM) during periods of transmission constraint have been unduly costly for the SO. Typically, bids are paid by generators to the SO to reduce their generation of electricity, with the level of bids reflecting avoidable

[1] Or pay the SO unduly low 'bid' prices in the Balancing Mechanism.
[2] An export constraint is said to occur when total generation in an area exceeds the total demand plus transmission capacity to export the excess electricity. An import constraint is said to occur when, given the current demand and electricity generated within a particular region, there is insufficient transmission capacity to import the required amount of electricity.
[3] http://www.ofgem.gov.uk/Markets/WhlMkts/CompandEff/Documents1/Market%20Power%20Concerns-%20Initial%20Policy%20Proposals.pdf

costs associated with generation. However, during some periods the SO has had to pay large amounts (ie negative bids) to generators to reduce their generation. These occasions have been rare. However, it is anticipated that as investment in renewable generation is likely to be concentrated in particular areas, this could potentially increase transmission constraints and therefore increase activity in the BM. This may, in the absence of the Transmission Constraint Licence Condition (TCLC), increase the frequency of such negative bids.

1.5. Over time, policy developments in the GB electricity market could affect the need for the TCLC. These include: DECC's Electricity Market Reform programme, National Grid's Connect and Manage programme, the EU Regulation on wholesale energy market integrity and transparency (REMIT)[4] and project TransmiT. In addition, developments in smart meters and smart grids may change the way in which the SO balances the GB electricity system. One of the most important future developments likely to affect the continuing need for the TCLC is the series of upgrades currently planned and being constructed for the transmission network that will increase the capacity for electricity to flow between regions and therefore reduce the frequency of transmission constraints. However, for the time being, transmission constraints are likely to become more frequent during these upgrades, so strengthening the need for the TCLC to be put into place.

1.6. The TCLC has been introduced in order to prevent generators[5] from exploiting periods of transmission constraint. It does not displace the application of competition law where appropriate but is complementary to it and targeted at this particular harm. Ofgem does not intend to interpret the scope of the TCLC by reference to competition law and, in particular, the assessment of whether or not there has been a breach will be undertaken with reference to the framework of the TCLC and will not apply automatically the analytical framework for establishing excessive pricing under competition law. Whether the licensee is paid or seeks to be paid an excessive amount or whether the licensee pays or seeks to pay an excessively low amount (for the purposes of Circumstances 1 and 2[6]) shall be determined by reference to whether the licensee has obtained an excessive benefit which is the overarching test in paragraph 1 of the TCLC.

1.7. The TCLC will remain in force until 15 July 2017 with the possibility of a two year extension following an order by the Secretary of State.

Purpose

1.8. This TCLC Guidance document provides guidance to licensees and other interested parties on Ofgem's intended approach to the interpretation and enforcement of the TCLC. For ease of reference the TCLC is reproduced in full at

[4] Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency

[5] The terms "generators" and "licensees" are used interchangeably in this guidance hereon in and refer to those undertakings captured by the TCLC ie licensed generators.

[6] As described in chapter 2.

Appendix 1. The guidance has been developed after DECC and Ofgem held separate consultations on the content of the TCLC itself and Ofgem's interpretation of the TCLC[7]. In developing the guidance, we have also taken into account consultation responses received from industry and other stakeholders to our consultation as well as DECC's Government Response to the consultation on the TCLC[8].

Status

1.9. In accordance with Section 19 Energy Act 2010, this document constitutes the guidance referred to in paragraph 5 of the TCLC. It may be revised from time to time in accordance with paragraph 6 of the TCLC and Ofgem will consult on any proposed changes to the guidance in accordance with that paragraph.

Outline

1.10. This guidance document is set out in the following way. Chapter two sets out the detail of Ofgem's interpretation of the TCLC by going through the specific behaviour that will be prohibited, setting out key definitions and explaining how Ofgem intends to decide whether the condition has been breached. In chapter three, we explain how Ofgem intends to monitor and enforce the TCLC. Finally, chapter four describes the timeline of the condition.

[7] http://www.ofgem.gov.uk/MARKETS/WHLMKTS/COMPANDEFF/Documents1/TCLC%20guidance%20consultation.pdf
http://www.decc.gov.uk/assets/decc/11/consultation/transmission-constraint/3736-cons-transmission-constraint.pdf

[8] http://www.decc.gov.uk/assets/decc/11/consultation/transmission-constraint/5771-government-response-to-the-transmission-constraint.pdf

2. The Transmission Constraint Licence Condition

Overview

2.1. Paragraph 1 of the TCLC provides that the licensee must not obtain an excessive benefit from electricity generation in relation to a transmission constraint period.

2.2. A transmission constraint occurs where the transmission system is unable to transmit the power supplied onto the transmission system to the location where the demand for that power is situated, and can arise due to a number of reasons, as set out in Appendix 2. The TCLC will apply to all periods of transmission constraint regardless of how the constraint arises; a full definition of transmission constraint is set out in the TCLC and a summary of this is in the glossary of this document. A transmission constraint period is any period of time, regardless of the duration, when a transmission constraint occurs.

2.3. Paragraph 2 of the TCLC further provides that 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 SO 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.

2.4. The relevant arrangements referred to in paragraph 2 are defined as arrangements entered into between the licensee and the SO within the BM and the entering of such arrangements includes the making of a bid or offer by the licensee whether or not that bid or offer is accepted by the SO.

2.5. The circumstances identified in paragraph 3 of the TCLC essentially capture two types of behaviour:

- Manipulation of generation to create or exacerbate a transmission constraint (output manipulation) enabling the generator to derive excessive benefit from either bids or offers in the BM. This situation occurs when a generator dispatches or withholds plant when it had more economic options available to it (ie because it was either running/withholding the plant unprofitably, and/or it had more profitable options open to it). Generally speaking, the generator benefits because it gains a higher financial reward from services provided in the BM than it would have done selling in the forward market alone (Circumstance 1).

- Excessive bids in relation to export constraints[9]. In such cases, irrespective of output manipulation, generators may potentially take advantage of being behind an export constraint, and the limited number of options with which the SO can resolve the constraint, by submitting excessive bids (Circumstance 2).

2.6. There may be instances when it appears that the licensee is in breach of the condition, but their actions can be objectively justified. Any alleged objective justification relied upon by a licensee for breaching any of the circumstances set out in paragraph 3 of the TCLC will need to be clearly evidenced by the licensee and will be assessed by Ofgem on a case-by-case basis.

2.7. The remainder of this chapter discusses in detail the circumstances that are prohibited by the TCLC.

Circumstance 1

2.8. As set out in paragraph 3 of the TCLC:

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 the affiliates together had more economic options available to them; and

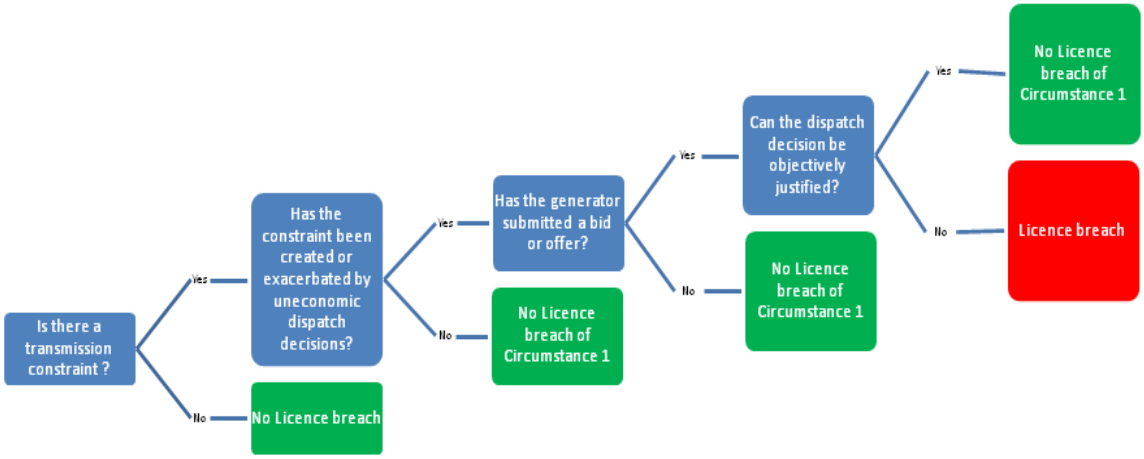
(ii) under the Relevant Arrangements, either:

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;

[9] Note that the TCLC does not prohibit excessively high offers during import constraints in the absence of output manipulation. The rationale for this is that (in the absence of output manipulation) such price spikes may be a true reflection of scarcity of generation, and hence a reasonable investment incentive.

2.9. The diagram below provides a high level illustrative example of the steps Ofgem would expect to take in considering whether a breach of the TCLC has occurred in relation to Circumstance 1.



2.10. This provision is designed to prohibit generators from making dispatch decisions (including decisions to run or not run a plant and/or decisions to ramp generation up or down)[10] that create or exacerbate a transmission constraint and then entering into arrangements in the BM[11]. The licensee is likely to obtain an excessive benefit from entering into arrangements with the SO in the BM because the payments to the licensee associated with their actions in the BM would not have occurred had the generator followed what would have been their most economic dispatch options in the forward market.

Creates or exacerbates a transmission constraint

2.11. We consider that a generator would have created or exacerbated a transmission constraint, in the way envisaged under Circumstance 1, if it made dispatch decisions which run counter to the prevailing economics of its generating units during the transmission constraint period in question.

2.12. For example, a generator could dispatch plant when it would have been more economic to meet its contracted position by buying from the wholesale market. Conversely, a generator could withhold generation from a plant despite it being economic to run that plant. A generator could also use their portfolio of generation units to create or exacerbate a transmission constraint. For instance, a generator could dispatch a coal fired plant in a certain location, when it would have been more economic to dispatch a gas fired unit in a different location.

[10] Accordingly, in this guidance any reference to dispatch decisions shall also include any decision to withhold generation.
[11] The entering of such arrangements shall include the making of a bid or offer, whether or not that bid or offer is accepted.

2.13. The wording of Circumstance 1 also deals with a situation in which actions are undertaken by a group of separately licensed generating units that create or exacerbate a transmission constraint and then seek to benefit from this constraint in the BM. More specifically, the drafting captures not only a licensee but also any affiliate (which means any holding company or subsidiary within the meaning of sections 1159 and 1160 Companies Act 2006) of the licensee which creates or exacerbates the constraint even if it is the licensee benefitting in the BM.

2.14. Our approach to determining whether a licensee has dispatched or withheld one or more generating units in circumstances when it had more economic options available to it will include, but not be limited to, the following. We will examine dispatch decisions based on Final Physical Notifications (FPNs) that are submitted to the SO one hour before gate closure for each settlement period. We will use the following non-exhaustive list of costs and prices to calculate generation spark and dark spreads or profitability from other units, on a Balancing Market Unit (BMU) specific basis:

- Within day gas prices;
- Spot coal prices;
- Spot European Union Allowances (co2 prices) + any lift up from the UK's carbon price floor mechanism;
- Any relevant other fuel costs (eg biomass);
- Any relevant subsidies such as Renewable Obligation Certificates (ROCs) and Levy Exemption Certificates (LECs); and
- Within day electricity prices.

2.15. We intend to adjust our profitability calculations to take account of any warm up/ramp up costs for generating units as well as any other technology/plant specific costs. However, we recognise that a complete profitability calculation can be difficult given the complexities involved and that there may be costs we have missed. Therefore, we will consult with generators before concluding whether plant has been dispatched or withheld when more economic options were available. If we suspect a generator has manipulated its output, we would generally expect to request information relating to the actual cost of generation. We would also expect to seek full information of any maintenance scheduling and associated costs.

Excessive benefit

2.16. Once we have determined that a generator has created or exacerbated the transmission constraint, if that generator then submits any bid or offer in the BM in respect of the constraint period, we will consider the licensee to have obtained an excessive benefit, given that we would generally expect the generator to receive a higher financial reward than they would have if the constraint had not been created or exacerbated by their uneconomic dispatch decisions.

2.17. Once the manipulation of output has been determined an excessive benefit will be established (subject to any objective justification) without there being a need to draw on the tools typically used for analysing excessive pricing under competition law. We do not consider that it would be necessary to analyse in any more detail whether the licensee is paid, or seeks to be paid an excessive amount, or whether the licensee pays or seeks to pay an excessively low amount.

2.18. Although each case will be considered on its own facts, there may be situations that Ofgem would take into account when deciding whether to take action under Circumstance 1 than others. For example:

- Whilst the TCLC permits enforcement action where the generator has created or exacerbated a constraint and submits a bid or offer which is not accepted, Ofgem generally expects to focus on whether a generator has created or exacerbated a constraint and has a bid or offer in the BM accepted. Nonetheless, Ofgem retains the option of taking action against generators that create or exacerbate a constraint but whose submitted bids or offers are not accepted; including in (but not limited to) circumstances where there is evidence of repeated conduct in this manner.

- Whilst the TCLC permits enforcement action where the generator has made a loss in the BM, Ofgem generally expects to focus on whether an accepted bid or offer is profitable to the generator. Nonetheless, Ofgem retains the option of taking action against generators that create or exacerbate a constraint but whose submitted bids or offers are accepted but loss making to the generator.

- Whilst the TCLC permits enforcement action for behaviour during a single short transmission constraint period, Ofgem generally expects to focus on longer transmission constraint periods. Nonetheless, Ofgem retains the option of taking action against generators for behaviour during a single transmission constraint period.

2.19. Ofgem would prioritise any action taken in accordance with its most recent enforcement guidelines at the relevant time. Further detail on enforcement can be found in Chapter 3 below.

Objective justifications

2.20. It is important to note that Circumstance 1 does not constitute a ban on arbitrage during periods of non-constraint. However, generators will need to ensure that their dispatch decisions are objectively justifiable during periods of transmission constraint.

2.21. As noted above, there may be instances when it appears that the licensee is in breach of the condition, but their actions can be objectively justified. Any alleged objective justification relied upon by a licensee for behaving in a way prohibited by Circumstance 1 of the TCLC will need to be clearly evidenced by the licensee and will be assessed by Ofgem on a case-by-case basis. If relevant the licensee should

provide any evidence which demonstrates that their actions can be objectively justified. Monitoring and enforcement is discussed in more detail in Chapter 3.

2.22. By way of illustration, for Circumstance 1, Ofgem may consider the following types of conduct to be objectively justified where they are evidenced. It is important to note that this is a non-exhaustive list of possible objective justifications. If the licensee believes its conduct can be objectively justified, an explanation and supporting evidence should be submitted to Ofgem for assessment.

Outages

2.23. Ofgem recognises that from time to time unplanned failures or required maintenance affects the capability of plants to meet their notified generation (FPN). This can either be a temporary shut down or a reduction in generating units' capability. Therefore, Ofgem will consider any evidence presented by the licensee alleging an objective justification related to mechanical or technological failure of plant. This will give the generators the opportunity, where relevant, to provide evidence that they dispatched plant uneconomically because their hand was forced by unplanned equipment issues.

Large Combustion Plant Directive effects

2.24. Ofgem acknowledges that there are European and UK policies that affect the profit optimising strategy of generators which may also affect dispatch decisions. One such regulation is the Large Combustion Plant Directive (LCPD). If a coal plant is opted out of the LCPD then it has limited running hours up to 2015. This may mean that a coal fired plant may want to hold back on generating even if generating now would be profitable, if it believes that it may be able to make more profitable use of its remaining hours at some point in the future.

2.25. In such cases, Ofgem may consider this an objective justification if a generator can provide evidence that it has a consistent strategy based on optimising the profits of the remaining hours and why they believe that the generating unit could be more profitably employed at a different time. Ofgem will also consider evidence put forward by generators that they are following a different strategy driven by the LCPD. For instance, a generator may decide simply to run the remaining hours of an existing unit, despite having more profitable options available, in order to build a new plant. However, in this case a generator will need to show firm plans that an alternative strategy to profit maximisation is being employed.

Supply chain logistics

2.26. It may be the case that supply chain logistic failures mean that plant cannot be used for example because it has does not have the fuel to do so, or if transportation costs are so great as to alter the economic analysis. Ofgem will consider evidence as to objective justification based on supply chain logistics. Generators seeking to rely on this objective justification will have to supply Ofgem

with convincing evidence that their dispatching was impeded because of logistical issues, such as transportation costs, which were outside its reasonable control.

Start-up and ramp up costs

2.27. Ofgem recognises that there are costs which can influence decisions to dispatch plant during periods of negative spreads or not dispatch plant during periods of positive spreads. For example, during a period of negative spreads a generating unit could continue to run in order to avoid start-up costs that would be incurred if it was to be shut down. These start-up costs could include the direct costs of fuel used in the start-up process as well as costs related to the probability of damage to the plant associated with the shut-down and start-up process. Similarly, a generator may decide not to start up a plant during a period of positive spreads if the spread was not substantial enough to justify incurring the start up costs.

Technology specific justifications

2.28. There may be technology specific reasons why generators may not run their plant. For example, hydro generation stations may run despite negative spreads in order to avoid potential structural damage to the dam or plant after periods of unusually high precipitation or a period of thaw. Similarly, biomass plants may need to burn biomass fuel before it 'goes off'.

2.29. Some plants, including flexible plants such as pump storage, may only run for short periods of time and therefore have to recover investment costs on top of the short run marginal costs (SRMC) associated with running the plant during these periods. Therefore, such plants may not run unless they gain a price that covers these costs.

Contractual requirements

2.30. There may also be contractual obligations that mean that a generating unit is run in circumstances when it had more economics options available to it. For instance:

- Power Purchase Agreements - may contain restrictions including the number of starts that a plant can have in any one calendar year. Such a restriction could limit the ability of a generating unit to run during periods of positive spread.
- Tolling contracts - a third party provides the fuel and carbon allowances at their own cost and then nominates when a generator's plant runs. Such contractual arrangements would need to be taken into account such that a generator's dispatch decisions would be expected to optimise the dispatch of its total portfolio of plant that it has dispatch authority over.

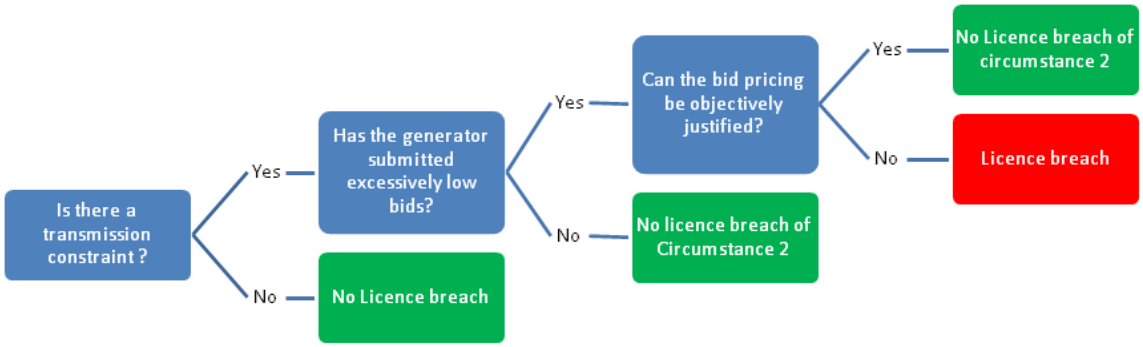
Circumstance 2

2.31. As set out in paragraph 3 of the TCLC:

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.

The diagram below provides a high level illustrative example of the steps Ofgem would expect to take in considering whether a breach of the TCLC has occurred in relation to Circumstance 2[12].



2.32. This is intended to prohibit generators from taking advantage of their position during export constraints and charging the SO (or seeking to charge) an excessive amount or paying, or seeking to pay the SO an excessively low amount to reduce generation[13].

[12] Note that a situation where the licensee pays, or seeks to pay, an excessively low amount and a situation where the licensee is paid, or seeks to be paid, an excessive amount are both captured in the second blue box in the diagram above. The first case refers to excessively low positive bids which result in payments from the generator to the SO and the second refers to excessively low negative bids which result in payments from the SO to the generator.
[13] The rules of the BM under emergency instructions mean that the SO pays the last remaining bid price submitted by the generator, even if that bid price is not related to the current settlement period. Given that emergency instructions can occur during periods of transmission constraint, there is the possibility of a TCLC breach in relation to emergency instructions. That is, if the SO has paid a bid to a generator by emergency instruction which is deemed excessively high and the bid price relates to a bid made after the TCLC came into force, then there is a potential TCLC breach. However, if the bid price is related to a bid made prior to the TCLC coming into force (ie where the generator last bid into the BM before the TCLC came into force) this would not be captured by the TCLC.

2.33. Although each case will be considered on its own facts, there may be situations in which Ofgem would be less likely to take action under Circumstance 2 than others. For example:

- Whilst the TCLC permits enforcement action where the generator has submitted an excessive bid, Ofgem generally expects to focus on whether a generator has an excessive bid accepted. Nonetheless, Ofgem retains the option of taking action against generators if excessive bids are submitted but not accepted.

- Whilst the TCLC permits enforcement action for behaviour during a single short transmission constraint period, Ofgem generally expects to focus on longer transmission constraint periods. Nonetheless, Ofgem retains the option of taking action against generators for behaviour during a single transmission constraint period.

2.34. Ofgem would prioritise any action taken in accordance with its most recent enforcement guidelines at the relevant time. Further detail on enforcement can be found in Chapter 3.

2.35. Unlike for Circumstance 1, Circumstance 2 applies regardless of whether the generator has created or exacerbated the constraint by dispatching plant when it had more economic options available to it. For example, during an export constraint if a generator charges the SO an excessive amount in the BM to reduce its generation then the generator will be in breach of the TCLC. It will be necessary to assess the level of the bid prices within the framework of the TCLC ie by reference to whether an excessive benefit has been obtained.

2.36. The following is a non-exhaustive list of indicators which Ofgem may consider when determining whether an excessive benefit has been obtained. The assessment should be undertaken with reference to the framework of the TCLC and does not suggest that there should be an automatic alignment with a competition law analysis even though some of the tools for assessing a breach of Circumstance 2 may be similar to those used in excessive pricing cases:

- Avoidable costs - Ofgem could compare bids accepted to manage export transmission constraints to estimates of avoidable costs. Avoidable costs can be defined as SRMC plus additional maintenance and ramping down costs, eg costs of going below the 'Stable Export Limit'. We would also expect to take account of opportunity costs and allow for reasonable profits to be earned. In the case of renewable generators, opportunity costs will include the price of ROCs and LECs.

- Comparable generator benchmarks - Accepted bids behind an export constraint could be compared with those charged by any comparable generators, on the other side of a constraint. Comparability could also take into account the differences between bids to, for example, turn down generation incrementally rather than reducing generation below the 'Stable Export Limit' and having to shut down the plant completely.

- Other indicators from general market monitoring, such as historical bids during non-constrained periods and average GB-wide bids.

2.37. If any of the above indicators suggest a potential breach, as set out in Chapter 3, Ofgem may write to the licensee concerned, giving them an opportunity to respond. If the licensee believes their pricing can be objectively justified, an explanation and supporting evidence should be submitted to Ofgem for assessment.

2.38. By way of illustration, for Circumstance 2, although each potential breach will be assessed on a case-by-case basis, Ofgem may consider pricing decisions to be objectively justified if affected by the following:

- Contractual obligations. For example, generators may have arrangements with suppliers to maximise renewable generation output that may limit their ability to make bids other than at a level which may initially be regarded as excessive.

- Operational risks. For instance, some generators may have to price in the risk that generation cannot be restarted or turned down immediately once the balancing action has been executed. Similarly, new plant may be relatively inflexible due to testing required during commissioning phases and therefore may reflect this in bid prices.

- Start up and ramp up costs. As with Circumstance 1, we recognise that there are costs associated with starting up or ramping up a plant that impact on the economics of dispatch decisions and that such costs may be reflected in bid prices to turn down generation.

2.39. Monitoring and enforcement is discussed in more detail in Chapter 3.

3. Monitoring and Enforcement

Monitoring

3.1. Ofgem will monitor compliance with, and operation of, the TCLC. Ofgem has developed a database which contains data on all BMUs in GB, data on Bid-Offer Acceptances as well as the latest fuel and electricity price data. The database is fed with data from Elexon and Bloomberg. The database provides a means for Ofgem to identify situations when BMUs have potentially been dispatched when more economic options were available to the generator. Similarly, the database will help Ofgem to identify when bid prices appear to be considerably above cost, or are out of step with the rest of the market. After identifying any such instances, Ofgem will then analyse the data in more detail to assess whether it indicates that a potential breach may have occurred.

3.2. Ofgem also expects market participants to play their part in identifying any potential breaches. As balancing costs are spread amongst markets participants on a market share basis[14] Ofgem believes that there is an incentive for market participants to report any suspected abuses to them. Ofgem will also regularly discuss balancing market actions with the SO to help identify any breaches of the TCLC.

Enforcement

3.3. Generators are responsible for ensuring that they comply with the requirements of the TCLC. They should ensure that they are able to demonstrate compliance in the event that concerns are raised about their conduct. We do not consider that this places an unreasonable administrative burden on generators as we would expect generators to already hold relevant information in this regard. We will monitor compliance by the means set out above and by reviewing any evidenced complaints made to us by customers, whistleblowers and other industry players.

3.4. We will enforce the TCLC in accordance with our most recent enforcement guidelines at the relevant time. Our current guidelines are the June 2012 'Enforcement Guidelines on Complaints and Investigations'[15].

3.5. Consistent with these guidelines, if, on our own initiative or following a complaint, we identify a potential breach under the TCLC, we may write to the licensee concerned, asking the licensee to provide cost and other relevant data. The licensee may also be required at this stage (and/or at a later stage) to provide information which demonstrates that their actions were objectively justified.

[14] See explanation of the BM in Appendix 3 for a description of BSUoS charging.
[15] http://www.ofgem.gov.uk/About%20us/enforcement/Documents1/Enforcement%20guidelines%202012.pdf

3.6. Also as set out in our Enforcement guidelines, we will assess whether it is appropriate to take enforcement action against our prioritisation criteria. For example, where the evidence of a potential breach is weak or any breach is likely to be trivial or there is no or minimal harm to consumers, an investigation would be less likely.

3.7. If a licensee is found to be in breach, it may face a financial penalty. The amount of any penalty imposed will be determined by the Authority in accordance with its published policy on financial penalties for licence breaches[16].

3.8. Unlike other licence conditions, the enabling power in the Energy Act 2010 for the introduction of this condition requires that appeals on enforcement orders, including those imposing financial penalties, are heard by the Competition Appeal Tribunal (CAT). The CAT's powers on appeal are set out in the Energy Act 2010 and include the power for the CAT to redetermine the appealed matter itself and substitute its own order, and make its own decision as to the appropriate amount of any penalty to be imposed. This is in addition to the possibility of the CAT remitting the appealed matter to the Authority. An appeal to the CAT may only be made by a generator on whom we have imposed an enforcement order. The CAT's rules and procedures are available from its website[17].

[16] Refer to GEMAs "Statement of Policy with respect of financial penalties pursuant to section 27B of the Electricity Act and Section 30B of the Gas Act" published in October 2003. http://www.ofgem.gov.uk/About%20us/Documents1/Utilities%20Act%20-%20Statement%20of%20policy%20with%20respect%20to%20financial%20penalties.pdf

[17] http://www.catribunal.org.uk/240/Rules-and-Guidance.html

4. TCLC Timeline

The Sunset Clause

4.1. Section 23 of the Energy Act 2010 requires that the TCLC must cease to have effect after the end of the period of 5 years beginning with the date on which section 18 of the Energy Act 2010 comes into force. Section 18 came into force on 16 July 2012. There is the possibility of a 2 year extension by the Secretary of State.

4.2. Ahead of the TCLC ceasing to have effect, we will review the degree to which market developments have reduced or eliminated the need for the TCLC. This process will include seeking the views of DECC, generators and other interested parties. Following that review process, the Secretary of State may consult on whether to extend the TCLC for a further 2 years.

4.3. Once the TCLC ceases to have effect there will be no explicit licence restrictions on generators' dispatch decisions or on their bidding behaviour in the BM. However, Ofgem will continue to monitor the BM and the market as a whole in line with its powers and duties under UK and EU competition law and under any other relevant powers (such as REMIT).

5. Appendices

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Appendix 1 – Licence Condition

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. In this condition:

"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;

"National Electricity Transmission System"	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;
"Notified Electricity Generation"	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;
"Relevant Arrangements"	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;
"Renewable Energy Zone"	means any area designated by Order in Council under section 84(4) of the Energy Act 2004;
"Transmission Constraint"	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 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;
"Transmission Constraint Period"	means any period of time, regardless of the duration, when a Transmission Constraint occurs."

Appendix 2 – Market Arrangements

Overview of BETTA market arrangements

1.1. The BETTA market arrangements have been in place since April 2005 and have helped to facilitate competition in the GB-wide wholesale market for trading electricity (the previous NETA arrangements had applied only within England & Wales). Under BETTA and NETA, participants in the electricity market contract for the supply of electricity either on a bilateral basis or through organised exchanges such as APX. Each participant must notify its contractual position to the SO before real time.

1.2. The SO is responsible for ensuring the system is in balance at all times to avoid blackouts or overloads. The BM provides a residual market for balancing the system in real-time. Generators are free to choose whether to self-dispatch or offer into the BM.

The Balancing Mechanism (BM)

1.3. Parties trade to balance their positions day ahead and within day. To enable NG as SO to keep the transmission system in balance, the Grid Code requires each participant to submit, daily at 11am, an Initial Physical Notification ("IPN") of its contracted position for each of the half hour trading periods in the following day. Each participant's IPN may be amended at any time prior to "gate closure", which is one hour before the relevant half hourly trading period. At gate closure, an IPN becomes a Final Physical Notification ("FPN"), and these final positions are aggregated by NG and notified to the market[18].

1.4. At gate closure, NG as SO becomes the sole counterparty to all further trades and can adjust the levels of generation and demand to keep the transmission system in balance by using participants' Bids and Offers in the BM[19].

Balancing services

1.5. NG also uses other tools outside the BM such as standing reserve contracts and pre-gate closure transactions (PGBTs)[20] to balance the system. Collectively, these

[18] Each participant must notify its contractual position for every half-hour trading period of the day to a central system operated by Elexon, the company that administers the Balancing and Settlement Code ("BSC") arrangements.
[19] Bids specify the price participants are willing to pay to NG to reduce generation or increase consumption by a specified volume, while Offers specify the price they will charge to NG to increase generation or reduce consumption by a specified volume. NG will normally accept the highest-priced Bids or lowest-priced Offers first, unless prevented from doing so by transmission constraints or the physical characteristics of the plant in question.
[20] PGBTs are fixed-price contracts struck between NG and a generator before the BM opens. They are another tool used by NG to help balance the system.

tools are known as Balancing Services. NG uses these services in order to manage the flows of electricity over the GB transmission system in order to:

- ensure the residual balancing of electricity supply and demand;
- ensure that the frequency and voltage of electricity on the system is maintained within the prescribed limits;
- manage constraints which have an impact on the frequency and voltage of particular parts of the system; and
- deal with emergency situations.

Charges and Payments

1.6. NG's actions in balancing the system give rise to charges and payments from and to participants in the BETTA market, including:

- Balancing Services Use of System Charges ("BSUoS"), which aggregate all the costs incurred by NG in balancing the electricity system in real-time, and charge these back to participants based on their proportion of the total market.
- Bid and Offer cash flows, which represent the charges or payments between NG and all BSC parties for changes to output due to accepted BM Bids and Offers.
- Balancing Services Contract Costs ("BSCC"), which are charged by NG for services procured from all participants in the electricity trading markets, regardless of whether they use the BM, to ensure the safe operation of the transmission system
- Energy Imbalance Charges ("EIC"), also known as "cash-out prices", which are the charges paid or received by any market participant based on the difference between their contracted energy position (as set out in the FPN) and their physical position according to actual outturn metered volume; and
- Residual Cashflow Reallocation Charge ("RCRC"): after physical imbalances have been financially settled, the remaining net cash flow is paid to or from all market participants in the same way as the BSUoS mechanism re-distributes or collects monies.

The GB transmission system

1.7. The transmission network has a finite capacity to transit electricity between any two locations. If flows on the system are too high, the network can overload which could lead to blackouts. On the other hand, in order for electricity to flow freely, the network must have sufficient capacity available. If insufficient capacity is available, the ability to meet demand for power in a particular area may be limited. A transmission constraint (referred to in this document as a "constraint") occurs where the transmission system is unable to transmit the power supplied onto the transmission system to the location where the demand for that power is situated, and can arise due to:

- the limitations on the thermal (heating) ratings of electric lines within the GB transmission system being exceeded;

- the inability to maintain voltages on the GB transmission system within prescribed limits set out in the Great Britain Security and Supply Standard (GBSQSS[21]); or
- limitations to ensure the transient and dynamic stability of electrical plant, equipment and systems directly or indirectly connected to the transmission system being breached.

1.8. It should be noted that constraints can arise under "normal" network conditions, simply due to the patterns of supply and demand on a given day. However, constraints are often triggered or exacerbated by transmission outages (which reduce the available capacity on the network) and/or generation outages (which disrupt the usual pattern of electricity supply).

1.9. In the event of a constraint, the SO will seek to reconfigure the system and/or take actions in the market to increase and decrease the amount of electricity at different locations on the network in order to manage the flow of electricity across the GB transmission system. The exact way in which a constraint is managed by the SO depends on a number of factors including the nature of the flows on the transmission system; the local level of generation output; and the local level of system demand. In the first instance, SO (NG) will normally seek to manage constraints by reconfiguring the transmission system: this includes, for example, splitting a substation to control power flows or switching a circuit out to manage high voltage issues. However, the constraint may still exist once all such actions have been exhausted and therefore require further management actions to be taken by the SO, such as:

- deferring transmission outages: if the constraint has arisen as a result of an outage due to maintenance or the installation of new transmission assets, deferring the outage where possible may avoid the constraint for the time being, but it will disrupt the construction programme and the constraint may then re-emerge at a later date;
- commercial inter-trips: when an inter-trip arrangement is in place, additional power may be flowed over the relevant transmission lines without breaching the GBQSS, since if a selected circuit trips the generation or demand in question will automatically be disconnected to avoid the lines overloading;
- taking Bid-Offer Acceptances (BOAs) in the BM, in order to increase the level of local generation on one side of the constraint and reduce it on the other;
- entering into BMU-specific trades (Over-the-Counter ("OTC") trades or PGBTs) with particular generators, which achieve a similar impact as do BOAs in the BM but may have the advantage of allowing NG to negotiate prices ahead of real-time and reduce the risk of exposure to volatile prices in the BM; and negotiating longer-term bilateral contracts for constraint management, which may have a variety of terms depending on the contract in question.

[21] Condition C17 of the Transmission Licence requires NG and the Scottish transmission companies to act in accordance with the GBSQSS unless a derogation has been granted by the Authority. The GBSQSS sets out, among other things, the design criteria for the transmission system and for connections to that system, eg the capability to deal with faults/outages without exceeding equipment loadings or voltage limits.

Appendix 3 - Glossary

A

Authority

The Gas and Electricity Authority ('GEMA') established under section 1 of the Utilities Act 2000.

B

British Electricity Trading and Transmission Arrangements (BETTA)

The British Electricity Trading and Transmission Arrangements, created a fully competitive British-wide wholesale electricity market for the first time. The new arrangements were implemented on 1 April 2005 and followed on from the implementation of NETA in England and Wales in 2001.

Balancing Mechanism (BM)

The Balancing Mechanism is the principal tool used by the System Operator to balance the electricity transmission system on a second-by-second basis, by procuring commercial services (Balancing Services) from generators and suppliers post gate closure, in accordance with the relevant provisions of the Balancing and Settlement Code (BSC) and the Grid Code.

Balancing Services

The services that the electricity System Operator needs to procure in order to balance the transmission system.

Bid-Offer Acceptances (BOAs)

Acceptances by the SO of Balancing Mechanism offers to increase output on the system, or bids to reduce output on the system. The prices of BOAs form the basis for the calculation of the Energy Imbalance or cash-out prices.

Balancing and Settlement Code (BSC)

The legal document setting out rules and governance arrangements for electricity balancing and settlement in Great Britain. All licensed electricity generators and suppliers must sign up to the BSc and other interested parties may also choose to do so.

Balancing Services Use of System (charges) (BSUoS)

The charge levied by the System Operator (SO) on users of the transmission system, in order to recover the costs the SO incurs in the Balancing Mechanism and in procuring Balancing Services. They are charged on a half-hourly basis based on proportion of total output and demand

B

Bid

Participants specify the price that they are willing to pay to NG to reduce generation or increase consumption by a specified volume by submitting bids in the Balancing Mechanism.

C

Cash-out prices

Cash-out prices (or Energy Imbalance Prices) applied to parties for their imbalances in each half-hour period.

D

Dark Spread

Dark spreads are a measure of the profitability of coal-fired power generation.

G

Great Britain Security and Supply Standard (GBSQSS)

The GBSQSS sets out, among other things, the design criteria for the transmission system and for connections to that system, eg the capability to deal with faults/outages without exceeding equipment loadings or voltage limits.

Grid Code

Code revised under BETTA to permit the development, maintenance and operation of an efficient, co-ordinated and economical system for the transmission of electricity, to facilitate competition in the generation and supply of electricity and to promote the security and efficiency of the power system as a whole. National Grid and users of its transmission system are required to comply with the Grid Code.

L

Levy Exemption Certificate (LEC)

The Climate Change Levy is a tax on the use of energy in industry, commerce and the public sector. Electricity from qualifying renewable sources is exempt. Levy Exemption Certificates (LECs) are evidence of Climate Change Levy- exempt electricity supply generated from qualifying renewable sources.

Large Combustion Plant Directive (LCPD)

An EU Directive placing restrictions on the levels of sulphur dioxide, nitrogen oxides and dust particulates which can be produced by combustion plants with a thermal output greater than 50MW. The implementation of the LCPD in the UK requires coal

and oil plant to fit flue gas de-sulphurisation (FGD) equipment or have their total running hours restricted to 20,000 between 1 January 2008 and 31 December 2015 before closing prior to the end of that period.

N

New Electricity Trading Arrangements (NETA)

Under NETA, bulk electricity is traded on one or more exchanges and through a variety of bilateral and multilateral contracts. Those buying and selling electricity on exchanges and through bilateral contracts include not only generators and suppliers (who produce or consume physical quantities of electrical energy), but non-physical traders as well.

0

Offers

Participants specify the price they are willing to charge to NG to increase generation or reduce consumption by a specified volume by submitting offers in the Balancing Mechanism.

Over the counter (OTC)

Term used to refer electricity trading contracts which are negotiated directly between the parties concerned.

P

Pre-gate closure transaction (PGBT)

PGBTs are fixed-price contracts struck between NG and a generator before the BM opens. They are another tool used by NG to help balance the system.

R

Renewable Obligation Certificate (ROC)

The Renewable Obligation is the main support mechanism for renewable electricity projects in the UK. It places an obligation on UK electricity suppliers to source an increasing proportion of electricity they supply to customers from renewable sources. Renewables Obligation Certificates (ROCs) are green certificates issued by the Authority to operators of accredited renewable generating stations for the eligible renewable electricity they generate. Operators can then trade the ROCs with other parties, with the ROCs ultimately being used by suppliers to demonstrate that they have met their obligation.

S

Spark spreads

Spark spreads are a measure of the profitability of gas-fired power generation.

Stable Export Limit

The Stable Export Limit of a generation plant refers to the minimum value at which the BM Unit, under stable conditions, may export (in MW) to the GB Transmission System at the Grid Entry Point or Grid Supply Point as appropriate.

System Operator (SO)

The entity charged with operating either the GB electricity or gas transmission system. NG is the SO of the high voltage electricity transmission system for the GB.

T

Transmission Constraint

There are various parts of the transmission network where import or export capacity is limited. Transmission constraints can become active when this capacity limit is reached. An export constraint is said to occur where total generation output in a given area exceeds the sum of demand plus transmission capacity to export from that area (ie excess supply over demand on one side of a transmission constraint). On the other hand, an import constraint occurs where there is an excess demand over supply on one side of a transmission constraint. Transmission constraints may require the SO to take 'sub-economic' balancing actions.

Transmission system

The national high voltage electricity network, operated by the SO.