

**To:**

**The General Manager  
TC Lincs OFTO limited  
Two London Bridge  
London  
SE1 9RA**

**DIRECTION UNDER PARAGRAPH 9 OF AMENDED STANDARD CONDITION E12-J4  
OF THE OFFSHORE TRANSMISSION LICENCE**

Whereas:-

1. TC Lincs Limited (the "Licensee") is the holder of an offshore transmission licence (the "Licence") granted under section 6(1)(b) of the Electricity Act 1989 (the "Act").

2. In accordance with Paragraph 9 of Amended Standard Condition E12-J4:

a) the Licensee considers that the transmission service reduction on the Licensee's transmission system commencing at 6:01am on 28 August 2016 and ending at 12pm on 28 August 2016 was not caused by an exceptional event;

b) the Licensee notified the Gas and Electricity Markets Authority (the "Authority") of the event on 22 September 2016, within 14 days of its occurrence;

c) the Licensee has provided details of the reduction in system availability that the Licensee considers resulted from the exceptional event and further information required by the Authority in relation to the event; and

d) the Authority considers, for the reasons specified in the Annex to this direction, that the event notified under sub-paragraph (b) above does not constitute an Exceptional Event as defined in Amended Standard Condition E12-J1. Accordingly, the Authority is not satisfied for the purposes of paragraph 9(d) of the Condition that the Failure Event was an Exceptional Event.

3. The Authority gave notice in accordance with Paragraph 11 of Amended Standard Condition E12-J4 of the Licence to the Licensee on 30 October 2017 (the "Notice").

4. The Licensee submitted representations to the Authority on 13 February 2018. We have considered these carefully, and our views are set out in the Annex to this direction.

This direction constitutes notice pursuant to section 49A(1)(c) of the Act.

**Dated: 12 March 2018**

**Akshay Kaul, Partner, Commercial Networks**

**Duly authorised by the Authority**

## ANNEX 1

### REASONS FOR REJECTION OF AN EXCEPTIONAL EVENT CLAIM SUBMITTED BY TC LINCS OFTO LIMITED UNDER PARAGRAPH 9 OF AMENDED STANDARD CONDITION E12-J4

#### 1 Notification

- 1.1 On 5 September 2016, TC Lincs OFTO Limited (the **Licensee**) notified the Authority under paragraph 9 of Amended Standard Condition E12-J4 (the **Condition**), regarding a transmission service reduction on the TC Lincs transmission system, which it considers was caused by an Exceptional Event. The Licensee provided further details regarding the cause of the transmission service reduction in a letter dated 2 May 2017, including a technical report produced by Gutteridge Haskins and Davey (the **GHD Report**).
- 1.2 The Licensee states that, on 28 August 2016, a trip signal was received by the 400kV circuit breaker, which caused the reduction in transmission service (the **Failure Event**). Subsequent investigations confirmed that the trip signal was sent by the control system of the SVC PLUS STATCOM (the **SVC**).<sup>1</sup>
- 1.3 The GHD Report states that Siemens Transmission and Distribution Limited (**Siemens**) designed, manufactured and installed the equipment. Siemens advised that the root cause of the failure was consecutive data communication errors within the microprocessor control and protection system of the SVC that due to the design of the system (the system had been designed such that a fault on the 13.9 kV system caused the 400 kV system to fail), caused the system failure. Siemens concluded the event to be a sporadic fault, "of a glitch type which was observed in total three times in the last six years with over 50 [SVC] converters running".<sup>2</sup>
- 1.4 GHD concluded that the reliability of the control and protection systems of the SVC did not meet the standard expected for a transmission connected system, identifying the main contributory factor as the unreliable operation of the SVC's control system. Siemens' concluded that the error was a "sporadic fault". GHD did not consider that such "sporadic faults" should be expected to occur on this type of equipment. GHD cites the occurrence of three similar events in six years across a population of 50 similar installations as evidence of "an inherently high level of unreliability", which "it is not reasonable to expect an OFTO, or indeed anyone other than Siemens, to have known about".<sup>3</sup>
- 1.5 GHD also noted that data communication errors do not normally result in service reductions and that the non-redundant design of the system caused the system to trip when the SVC equipment failed.<sup>4</sup>

#### 2 Exceptional Event requirements

- 2.1. Paragraph 9 of the Condition provides that the Authority shall adjust the value of the monthly capacity weighted unavailability to offset the impact of an Exceptional Event where:
- a) the licensee considers that any event on its transmission system that causes a transmission service reduction has been wholly or partially caused by an Exceptional Event;
  - b) the licensee has notified the Authority that a possible Exceptional Event had

---

<sup>1</sup> Paragraph 1 of appendix A of licensee letter of 2 May 2017 refers.

<sup>2</sup> Page 4 of the GHD Report refers.

<sup>3</sup> Page 5 of the GHD Report sets out its conclusions.

<sup>4</sup> See footnote 3.

- occurred, within 14 days of its occurrence;
- c) the licensee has provided such information as the Authority may require in relation to the event; and
  - d) the Authority is satisfied that the notified event is an Exceptional Event.
- 2.2. An Exceptional Event is defined in Amended Standard Condition E12-J1 of the offshore transmission licence as follows:

*"an Event or circumstance that is beyond the reasonable control of the licensee and which results in or causes a Transmission Service Reduction and includes (without limitation) an act of God, an act of the public enemy, war declared or undeclared, threat of war, terrorist act, blockade, revolution, riot, insurrection, civil commotion, public demonstration, sabotage, act of vandalism, fire (not related to weather), governmental restraint, Act of Parliament, other legislation, bye law or directive (not being any order, regulation or direction under section 32, 33, 34 and 35 of the Act) or decision of a Court of competent authority or the European Commission or any other body having jurisdiction over the activities of the licensee provide that lack of funds shall not be interpreted as a cause beyond the reasonable control of the licensee. For the avoidance of doubt, weather conditions which are reasonably expected to occur at the location of the event or circumstances are not considered to be beyond the reasonable control of the licensee."*

### **3 Decision**

- 3.1 The Licensee has acted in accordance with the requirements of subparagraphs 9(a) to (c) of the Condition. However, pursuant to subparagraph 9(d) of the Condition, the Authority is not satisfied that the Failure Event is an Exceptional Event, for the reasons set out below.

### **4 Reasons for decision**

- 4.1 The Authority has considered the information provided by the Licensee regarding the Failure Event against both the licence and the open letter dated 22 October 2014 (the **Open Letter**).
- 4.2 As evidenced by the GHD Report, the Failure Event was the product of the assets failing during the course of their normal operation, namely consecutive data communication errors within the microprocessor control and protection system of the SVC. Fault or failure of apparatus is not listed in the definition of an Exceptional Event as an example of an event, which is to be treated as "*beyond the reasonable control of the licensee*". This is also not an event, which is commensurate with the examples of such events listed in the definition. To the contrary, the definition of Exceptional Event identifies that events, which are reasonably expected to occur, are not in the nature of Exceptional Events. The definition expressly identifies, as one example and "*for the avoidance of doubt*", that weather conditions which are reasonably expected to occur and which lead to a transmission service reduction are not to be treated as events "*beyond the reasonable control of the licensee*".
- 4.3 When licensees take on responsibility for the offshore transmission assets, they thereby assume the normal operational risk for those assets. The assumption of normal operational risk means that the licensee is responsible for operating the asset from the point of asset transfer, for maintaining the system and managing the risks arising from owning, operating and maintaining the asset. The fact that such assets may be the subject of occasional failure is part and parcel of that normal operational risk, and is not an event properly to be considered "exceptional" in the life of those assets. While a licensee is unlikely to know exactly how or when its

assets may fail, it is reasonable for a licensee to anticipate the risk of asset failure and to put in place risk management measures accordingly.

- 4.4 It follows that the Failure Event is not to be treated as being beyond the reasonable control of the licensee for the purpose of the Exceptional Events definition. Rather, the condition of a licensee's assets under normal conditions is deemed to be *within* its reasonable control.
- 4.5 In the Open Letter, the Authority outlined an approach which asked two key questions to determine whether or not the event in question was beyond the licensee's reasonable control, namely:
- (1) Whether it was reasonable for the licensee to know about all the relevant triggers or contributory factors; and
  - (2) Whether it was reasonable for the licensee to control or change some or all of these relevant triggers.
- 4.6 However, the two questions in the Open Letter apply only in circumstances where the event is *not* one which is reasonably expected to occur in the normal course of events. This is plain, for example, in relation to the example of weather conditions, which are reasonably expected to occur; in such circumstances, it would not be appropriate for the Authority to apply the two questions in the Open Letter, given that the licensee cannot control or change the triggers for bad weather, yet it is expressly not an Exceptional Event. Similarly, in respect to the present facts, the fact that the Failure Event can be reasonably expected to occur in the normal course of events means that it is not appropriate for the Authority to apply the two questions in the Open Letter.
- 4.7 The Authority has previously allowed claims for Exceptional Events in respect of fault or failure of apparatus, but only in circumstances where the trigger event leading to the transmission services reduction occurred prior to the licensee assuming normal operational risk for the assets at the time of asset transfer. In circumstances where the event occurs partly or wholly during the period when the licensee has not yet assumed normal operational risk for the assets, the Authority considers that it is not appropriate to deem the event as being within the licensee's reasonable control. The present facts are plainly distinguishable from such examples, however, as there is no evidence that the trigger for the Failure Event lay in the period prior to asset transfer. It is a principle consistent with each of the claims previously allowed, and the rejection of the current claim, that the condition of a licensee's assets, operating under normal conditions, is within that licensee's reasonable control from the point of asset transfer.

#### *Representations from Licensee*

- 4.8 The Licensee noted one factual error. We have amended this decision to correct that error.
- 4.9 The Licensee raised the following counter-argument to support its contention that the Failure Event was "*beyond its reasonable control*" for the purpose of the definition of an Exceptional Event.
- 4.10 The Licensee argues that reliability of the control and protection systems of the SVC did not meet the standard expected for a transmission connected system, the main contributory factor being the unreliable operation of the SVC's control system. The Licensee considers that the event is beyond its reasonable control, due to a high failure rate and that, using the severe weather analogy presented by Ofgem, the failure rate was akin to "unusual weather conditions". The Licensee reiterates the

points made in its claim that the Mean Time Between Failures (MTBF) provided by Siemens for the SIPROTEC range of devices (which the OFTO states includes this SVC) was 1 in 600 years. This is the same statistic provided in the claim (ie three failures in six years across 50 similar installations). The Licensee considers that, in the context of transmission equipment, "occasional failures" of 1 in 100 years could not be considered as normal operational risk.

- 4.11 The Licensee agrees with Ofgem that events that could normally have been expected to occur are not exceptional. However, in this instance they have experienced a fault rate that would "*not have been reasonably expected to occur*". The Licensee considers that anticipation of a failure event should be based on not only that the event might occur, but also take into account the likelihood and consequences of an event, which is how OFTO availability is calculated at ITT bid stage. In this case, it was not reasonable for the Licensee to be aware of the higher than anticipated failure rates that were not known prior to this event.
- 4.12 Although the Licensee was aware that an issue with the SVC could trip the 13.9 kV system, it was not expecting the likelihood of this event on the SVC system. The Licensee notes that it had questioned the design of the system during the tender process and had been advised, "*certain tripping functions must trip the 400kV circuit breaker*". However, Siemens has since changed the protection and control system for the SVC to ensure the system does not trip for an event of this type in future; contradicting the previous advice given to the Licensee.
- 4.13 The Licensee also refers to the two questions we use when determining whether an event is an exceptional event, set out in the Open Letter and that the Licence is "without limitation" with regards to the types of events that can be considered exceptional events. We discuss the relationship between this event and the Open Letter at the start and end of paragraph 4.6, above.

*The Authority's views on the Licensee's representations*

- 4.14 Our internal technical team has considered GHD's findings and concluded that the statistics provided by the Licensee, that there has been the occurrence of 3 similar events in 6 years across a population of 50 similar installations, do not demonstrate an 'inherently high level of unreliability'. The Licensee has described the failure event as "consecutive data communication errors within the microprocessor control and protection system of the SVC". The evidence presented in relation to expected failure rates as defined by the manufacturer (Siemens) relate to the SIPROTEC range and not specifically to events caused by communication errors. The Licensee has advised that no further failures of this type of equipment has been entered into NEDERS but this fault may have occurred on some wind farms, although this is not confirmed.
- 4.15 We accept that the failure rate of the SVC Siemens SVC controllers is higher than expected (1 in 100 compared to 1 in 600). Given that the revised failure rate is reflective of a range of faults on Siemens SVC controllers, we do not consider this is necessarily reflective of events caused by communications errors. In any event, we do not consider that a failure rate of 1 in 100 is high nor commensurate with the nature of events listed in the definition of Exceptional Event in the licence. We consider the event to be an occasional failure of assets, which is part and parcel of that normal operational risk, and is not an event properly to be considered "exceptional" in the life of those assets.
- 4.16 Further, the Licensee was aware of the design principles of the system and that any fault on the 13.9 kV system would affect the 400 kV system.
- 4.17 For the reasons set out in this decision, the Failure Event does not constitute an

Exceptional Event as defined in Amended Standard Condition E12-J1. Accordingly, the Authority is not satisfied for the purposes of paragraph 9(d) of the Condition that the Failure Event was an Exceptional Event.