

## **DETERMINATION NO RBA/TR/A/DET/179**

### **DETERMINATION BY THE GAS AND ELECTRICITY MARKETS AUTHORITY OF A DISPUTE UNDER SECTION 23 OF THE ELECTRICITY ACT 1989 –**

#### **Charges for the provision of a point of connection between a development and the distributor's electricity distribution system**

#### **INTRODUCTION**

- 1.1. The Gas and Electricity Markets Authority ("the Authority"<sup>1</sup>) has been asked by [REDACTED] ("the Authorised Distributor") to determine a dispute between the Authorised Distributor and Scottish Power Energy Networks Holdings Limited ("the Company").
- 1.2. The dispute concerns the charges levied for reinforcement works associated with the provision of a point of connection between the Proposed Development and the Company's electricity distribution system at [REDACTED] ("the Premises").
- 1.3. The dispute has been referred to us for determination under section 23 of the Electricity Act 1989 ("the Act"). We are required to determine such disputes once the Authorised Distributor has asked us to do so.
- 1.4. Copies of the submissions by the Authorised Distributor and the Company in relation to this dispute are attached as Appendices 1 and 2 (respectively) to this Determination. The responses to the parties' submissions and further comments are attached as Appendices 3 and 4.

#### **STATUTORY OBLIGATIONS**

- 1.5. Generally, section 16(1) of the Act, places an obligation on the Company to connect any premises to its distribution system if the owner or occupier (or authorised supplier acting on his behalf) requests it.
- 1.6. Specifically, under section 16 (1)(b) of the Act the Company would also be under a duty to make a connection between a distribution system of his and any distribution system of another authorised distributor, when required to do so by that authorised distributor for the purpose of enabling electricity to be conveyed to or from that other system.
- 1.7. Section 16A of the Act sets out the procedure that should be followed when a connection is requested. It specifies that the person requiring a connection under section 16(1) shall give the distributor notice requiring him to offer terms for making a connection. It also states that as soon as is practicable after receiving that notice and any other information reasonably requested by the distributor, the distributor shall give to that person a notice:

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<sup>1</sup> In this document the terms the "Authonty" and "we" are used interchangeably.

- a) stating the extent (if any) to which his proposals are acceptable to the distributor and specifying any counter proposals made by him;
  - b) specifying any payment which that person will be required to make under section 19(1) or regulations under section 19(2);
  - c) specifying any security which that person will be required to give under section 20; and
  - d) stating any other terms which that person will be required to accept under section.
- 1.8. Section 19(1) provides that where any electric line or electrical plant is provided by an electricity distributor in pursuance of section 16(1) above, the distributor may require any expenses reasonably incurred in providing it to be defrayed by the person requiring the connection to such extent as is reasonable in all the circumstances.
- 1.9. Any dispute arising under sections 16 to 21 of the Act, between an electricity distributor and a person requiring a connection may be referred under section 23 of the Act for determination.
- 1.10. Section 23(1C) of the Act provides that a dispute may only be referred to us for a determination within 12 months from when the connection was made.
- 1.11. Regulation 4 of the Electricity (Connection Charges) Regulations 2002 ("the Regulations") defines the prescribed period as lasting for five years after the provision of any electric line or electrical plant for the purpose of making a connection to the premises or distribution system of an initial contributor.
- 1.12. Regulation 5 of the Regulations sets out the right that electricity distributors have to require a person requiring a connection to pay an amount in respect of any relevant expenses incurred in making the connection. The electricity distributor may only exercise this right if it is done within the prescribed period and an initial contributor has already *made a payment* to the electricity distributor in respect of the relevant expenses. In addition, the electricity distributor must not have recovered the relevant expenses in full. The electricity distributor must have made available to the person requesting the connection such information (if any) as may have been reasonably requested by that person for the purpose of ascertaining the amount of the relevant expenses, the date of the first provision of the electric line or electrical plant and the amounts paid in respect of the relevant expenses by the initial contributor or by persons previously required to make a payment under the Regulations.
- 1.13. Regulation 6 places an obligation on electricity distributors to recover the amount in respect of expenses if within the prescribed period: (a) any electric line or electrical plant first provided for the purpose of making a connection to a premise is subsequently used for the purpose of making a further connection to another premise; and (b) the relevant expenses have been wholly or mainly defrayed by the initial contributor or by that

contributor and any other person previously required to make a payment in accordance with the Regulations.

1.14. Interpretation:

- a) *Initial Contributor:* Paragraph 1 of Regulation 2 of the Regulations defines an "initial contributor" as meaning a person in relation to whose premises or distribution system any electric line or electrical plant was first provided for the purpose of making a connection and who made a payment in respect of the relevant expenses.
- b) *Prescribed Period:* Regulation 4 of the Regulations defines the "prescribed period" for the purposes of these Regulations as five years after the provision of any electric line or electrical plant for the purpose of making a connection to the premises or distribution system of an initial contributor.

**FACTS OF THE CASE**

- 1.15. We consider the following to be the facts of the case, based on the information submitted to us by the parties to this determination.
- 1.16. The Authorised Distributor requested a 1.250 MVA point of connection (POC) from the Company at [REDACTED] on 22 March 2010. The POC offer issued to the Authorised Distributor included a charge of £317,500 for reinforcement works.
- 1.17. The Authorised Distributor has disputed the necessity of the reinforcement works and consequently the reinforcement charges levied for this connection point. In addition, it has also queried whether the reinforcement work undertaken by the Company complied with the minimum scheme.
- 1.18. According to the Company, the reinforcement work at [REDACTED] was required to facilitate an initial connection and future connections in this group. [REDACTED] the entity identified as the initial contributor, requested a point of connection (POC) for 1 MVA in August 2009. The Company received payment from [REDACTED] in April 2010. The reinforcement work referred to in the POC offer provided to the initial contributor and the Authorised Distributor was authorised in July 2010, provision of first plant was 12 July 2010 and projected completion of the reinforcement work will be April 2013. We note that the Company completed work to enable the initial contributor's connection and the Authorised Distributor's connection in October 2012.
- 1.19. The recommended reinforcement option presented in the Technical Approval Report in 2010 proposed installing a second transformer at Whitby Main (T2) substation and reconfiguring the Strawberry Roundabout Group to comprise Great Sutton, Little Sutton, Strawberry Roundabout, Sutton Hall and Whitby Main T2 with Chester Gates forming

a single transformer group. It would increase the capacity of the reconfigured group by 5 MVA to 40 MVA, which would enable the connection of the initial contributor (1 MVA) and that of the Authorised Distributor (1.4 MVA).

- 1.20. On 22 March 2010, the Authorised Distributor requested a 1.250 MVA connection from the Company at [REDACTED]
- 1.21. On 15 April 2010, the Company provided a POC offer to the Authorised Distributor for the requested 1.250 MVA. This offer included a charge of £317,500 for reinforcement work. It mentioned that the reinforcement works were around the Tower Wharf development. The Company later confirmed that this was an administrative error.
- 1.22. On 26 July 2010, the Company issued another POC for 1.250 MVA which included the same reinforcement charges of £317,500 and had the correct location of the reinforcement works, namely the Strawberry Roundabout Group. However, it seems that the POC issued on 26 July subsequently expired without being accepted by the Authorised Distributor.
- 1.23. On 21 December 2011, the Authorised Distributor applied for a POC for a revised load of 1.4 MVA.
- 1.24. On 21 January 2011 a new POC was issued by the Company for 1.4 MVA. The POC offer included a charge of £355,894 for reinforcement works. The Authorised Distributor did not accept this subsequent offer and it expired.
- 1.25. On 24 June 2011, the Company reissued a POC offer for 1.4 MVA. The point of connection offer included a charge of £355,894 for reinforcement works. This connection offer also expired.
- 1.26. Eleven months later, on 24 May 2012, the Company revalidated the 24 June offer and issued a connection agreement for the 1.4 MVA POC.
- 1.27. Throughout May 2012, the parties met to discuss payment terms. On 23 May 2012 agreements were confirmed and staged payments were agreed to enable the connection. On 29 May 2012 the Authorised Distributor paid the Company to enable the 1.4 MVA connection to take place.

### **Timelines for Dispute**

- 1.28. In December 2011 the Authorised Distributor raised a formal complaint with the Company requesting an explanation for the initial error in the provision of the quote (ie the reference to Tower Wharf) and a justification for the reinforcement charges being levied.
- 1.29. During December 2011 and May 2012 discussions and meetings were held between the Authorised Distributor and the Company in order to progress the issues in dispute.
- 1.30. However, despite various attempts at trying to resolve the dispute through discussions, the parties were not able to reach agreement. On 2

May 2012 the Authorised Distributor referred the matter to us for determination.

## POINTS OF DISPUTE

1.31. The main points of dispute are: a) competency of quotes; and b) need for reinforcement and associated charges. These points are discussed in detail below.

### Competency of the quotations

1.32. The Authorised Distributor disputes the validity of the quotes provided by the Company in response to POC requests for 1.250 MVA and the revised load of 1.4 MVA. It raised a formal complaint with the Company in December 2011 requesting clarification on the need for reinforcement in the area, the charges associated with this reinforcement and whether the costs of the reinforcement had been apportioned correctly.

1.33. The five quotes provided by the Company to the Authorised Distributor over a period of two years varied due to changes in the requested load. The five quotes are set out in the table below:

POC Offer	POC Offer Date	Reason for issue	Capacity requested	Reinforcement Charges following apportionment
Quote 1	15/04/10	Connection application received	1.250 MVA	£317,500
Quote 2	26/07/10	POC quote 1 lapsed and POC reissued	1.250 MVA	£317,500
Quote 3	21/01/11	Revised Connection Capacity	1.4 MVA	£355,894
Quote 4	24/06/11	POC quote 3 lapsed and reissued	1.4 MVA	£355,894
Quote 5	24/05/12	Final POC	1.4 MVA	£355,894

1.34. The Company replied to the Authorised Distributor's formal complaint by confirming that a project was underway to facilitate the connection. The connection would be enabled through reinforcement to the Whitby Main Primary substation site and coordinated development of the related network. These works would add 5MVA to the group bringing the total capacity of the group to 40MVA. The total estimated cost for the reinforcement work was £1,271,064. They also confirmed the apportionment factor to be:  $CAF = 1,400kVA/5,000kVA$  and the apportioned cost to be calculated as follows =  $£1,271,064 \times (1/5,000)kVA = £254.21$  per kVA

- 1.35. The Authorised Distributor explained that it was not able to accept and pay the Company's June 2011 quotation since the Company had not provided clear answers on the need for reinforcement, the cost of the reinforcement and whether other alternative connection options had been explored. However, in January 2012 it accepted the contract without payment in order to secure the connection. The Company did not agree to the request for connection prior to receiving payment from the Authorised Distributor.

### **Need for reinforcement**

- 1.36. The Authorised Distributor contends that the Company failed to justify the need for reinforcement in this area. Its view is that the Cheshire Oaks group had spare capacity to connect new customers on the basis that this is what was indicated in the Company's Long Term Development Strategy. The Authorised Distributor does not agree that the Company was within its rights to charge the Authorised Distributor for the reinforcement works since it considers the reinforcement was not needed to enable the connections in this group.
- 1.37. The Authorised Distributor further questioned the need for reinforcement by pointing out that the Company may have previously removed a transformer which had been previously installed at Whitby Main Primary Substation. It believes there is a correlation between the transformer being removed and the loss of 5MVA from the transformer group. It queried why a transformer had been taken out of commission and then a new transformer subsequently installed as part of the reinforcement works in this group.
- 1.38. Additionally, the Authorised Distributor believes the Company did not provide sufficient information on the alternative options considered to progress works and that it has failed to demonstrate that the reinforcement work was in accordance with the minimum scheme.
- 1.39. The Company stated that the reinforcement had been driven by increased capacity requirements of new connecting customers. It stated that by August 2009 the full 35MVA at the site was fully used with no available capacity within the group. It considered that any new connections taken up from this point would have driven a requirement for reinforcement.
- 1.40. The Company stated that the values noted in the Long Term Development Strategy (LTDS) considered the theoretical group capacity of a five transformer group as being 40 MVA. However, system analysis and network modelling showed the actual firm capacity to be 35 MVA, accounting for the uneven distribution of loads and the geographical location of the primary transformers.
- 1.41. In regards to the history of the Whitby transformer, the Company stated that this transformer had been removed around November 1999. According to the Company, this enabled the configuration of the EHV network to support the introduction of a new primary site at Strawberry

Roundabout which was needed to meet the connection demands of the area at that particular time.

- 1.42. On August 2009 the Company received a connection request from [REDACTED]. An offer was provided by the Company with a cost of £258,704.57 for a 1 MVA connection. According to the Company [REDACTED] the first customer to connect, is the initial contributor for the purpose of the Regulations.
- 1.43. The Company confirmed that the reinforcement charge (£/kVA) for [REDACTED] connection was calculated based on the associated total cost of the reinforcement demand request as  $£254.21^2 \times 1000\text{kVA} = £254,210$
- 1.44. The Company stated that reinforcement works were necessary to maintain compliance with ER P2/6 for a system outage during the winter peak loading. The reinforcement works increase the wider group network capacity across the Strawberry Roundabout and the Chester Gate Groups to 40 MVA. The required assets and works are detailed below -
  - Whitby Main – Installation of primary transformer, switchgear and transformer civil works, EHV/HV Cabling and Termination works, protection modifications
  - Strawberry Roundabout
  - EHV & HV Group System Reconfiguration works
- 1.45. The Company states that a number of options were considered before committing to the chosen course of action. It has provided a copy of a technical report issued in 2010 with all the potential options for reinforcement. It has stated that the reinforcement works undertaken comply with the minimum scheme required to connect the initial contributor.
- 1.46. Under section 19(1) of the Act, the Company was entitled to recover reasonable expenses incurred in providing the connection from WCC as set out in paragraph 1.43 above.
- 1.47. The Company stated that it had complied with its regulatory duty to recover expenses from subsequent connections under the Regulations since this was a connection driven reinforcement. Hence connecting customers should have paid for the reinforcement works.
- 1.48. The Company provided the following timeline of the works justifying its decision to recover the reinforcement costs from the Authorised Distributor -
  - a) [REDACTED] requested a connection of 1MVA on August 2009
  - b) A POC for the [REDACTED] connection was accepted and paid on 22 April 2010

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<sup>2</sup> This is the apportioned cost which has been calculated as follows =  $£1,271,064 \times (1/5,000)\text{kVA} = £254.21$  per kVA

- c) The reinforcement scheme received the internal Company's authorisation to progress on July 2010, the works commenced in November 2011 with the works scheduled for completion in April 2013
- d) [REDACTED] the initial contributor, made payment in respect of the relevant expenses - £137,160 received in April 2010
- e) The relevant expenses had not been recovered in full; and
- f) on 13 March 2012 the Company confirmed to the Authorised Distributor the following request:
  - i. the amount of the relevant expenses for reinforcement - £1,271,064;
  - ii. the date of the first provision of the electric line or electrical plant - 12 July 2010; and
  - iii. the amount paid by the initial contributor - £137,160

## **CONSIDERATION OF EVIDENCE**

- 1.49. We have carefully considered the evidence and comments from both parties (set out in Appendices 1 and 2 and summarised in this Determination) and the evidence provided by both parties in support of their case. This includes an expert report submitted by the Company.
- 1.50. We have considered in particular the following key issues, amongst others referred to by the parties, in making this determination:
- a) whether the reinforcement was necessary to enable this particular connection;
  - b) whether the reinforcement was the minimum scheme required;
  - c) what can be considered a reasonable charge for the work carried out; and
  - d) whether it is reasonable for the Company to recover charges associated with the reinforcement work from the Authorised Distributor.
- 1.51. We have obtained an independent expert opinion from TNEI Consultants Ltd on points a) to c) of paragraph 1.50 above.

## **Need for reinforcement**

- 1.52. The expert report indicates that load flow results presented in the Company's Technical Report show that, given the level of loading on the existing transformer group, reinforcement works would have been necessary to enable the initial contributor connection, the Authorised Distributor's connection, or any other new connection.
- 1.53. The expert report states that there were two drivers for this reinforcement:
- (1) For an intact network (with no transformer outages) the addition of 1.4 MVA at [REDACTED] causes the Great Sutton 7.5 MVA transformer to be overloaded to 8.1 MVA, ie an overload of 8%;

(2) In N-1 conditions<sup>3</sup>, the addition of 1.4 MVA at [REDACTED] would cause the Great Sutton 7.5 MVA to be overloaded to 11.4 MVA, ie an overload of 14% on the short term rating of 10 MVA. According to our expert consultants, this is not an acceptable operational risk, particularly in the interconnected network. A second transformer outage in this condition would risk cascade tripping and the loss of large segments of the network.

- 1.54. We have explored the history of the Whitby Main transformer. In response to our questions, the Company has explained that the removal of the transformer in November 1999 was linked to a wider network reconfiguration in the Strawberry Roundabout group which would enable the group to meet the connection demand in that area at that particular time. The Company has provided some evidence from its historical database which records half hourly demands at each primary transformer. The evidence indicates the half hourly demand from April 1999 until March 2001 at this transformer. According to the Company's records, the transformer was on line until 19 November 1999 and appears to be no longer active after this date. This is the extent of the evidence we have received on this issue from either party.

### **Minimum Scheme**

- 1.55. Five potential schemes were considered by the Company, including:

- establishing a new double primary substation site,
- installing a new primary substation at the Stanney Lane site; which
- installing a new primary substation at the Marks and Spencer site.

These arrangements were all rejected on the basis that they were more costly than the proposed scheme.

- 1.56. The reinforcements that were carried out for the chosen solution involved reconfiguring the network, which consisted of:

- installing a second transformer at Whitby Main (T2) substation; and
- reconfiguring the Strawberry Roundabout Group to comprise Great Sutton, Little Sutton, Strawberry Roundabout, Sutton Hall and Whitby Main T2, with Chester Gates forming a single transformer group.

- 1.57. These works provided an additional 5 MVA capacity and represented the lowest capital cost of the technically viable options.

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<sup>3</sup> This refers to the condition where a single distribution circuit fails so that the remaining circuits become more heavily loaded.

## Reinforcement Charges

- 1.58. Our expert consultant's report states that the estimated Company's cost for these reinforcement works was £1,238,292.<sup>4</sup> The expert consultant's cost estimate for the reinforcement works was £1,220,465 using the expert consultant's internal cost data.
- 1.59. The expert consultants' cost estimate is within 1.5% of the estimated costs of reinforcements. We therefore conclude that in the round the cost of reinforcement is reasonable.

## Whether it is reasonable to recover charges

- 1.60. We have considered the evidence provided by the Company and the Authorised Distributor and note the following events in the reinforcement works timeline-
- █████ requested POC in August 2009
  - █████ accepted and paid for POC on 22 April 2010
  - Reinforcement scheme received internal Company authorisation in July 2010
  - Works progressed in November 2011 but the Company cites 12 July 2010 as the date of first provision of electrical line or plant
  - Works completed for the Authorised Distributor and the initial contributor's connection on October 2012
  - Reinforcement work scheduled to be completed in April 2013
- 1.61. The Company has identified █████ as the initial contributor on the basis that the reinforcement works were triggered by the WCC connection request and that WCC made a payment for the relevant expenses.
- 1.62. The Company considers that the reinforcement work was connections-driven and that the initial contributor rule was applied under the Regulations to █████ as the first party to require and pay for a connection which triggered reinforcement works.
- 1.63. Based on the evidence provided to us by the Company, and in the absence of any evidence to the contrary, we conclude that the reinforcement work was triggered by █████ accepting and paying expenses towards the connection offer in April 2010.

## DISCUSSION AND CONCLUSIONS

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<sup>4</sup> This figure is the Company's cost estimate for the reinforcement works based on the technical approval report from 2010. The final cost as reported by the Company is £1,271,064.

- 1.64. On the basis of the available evidence, we consider that reinforcement of the network was required to connect the initial contributor's load and subsequent connecting customers.
- 1.65. The Company designs and operates its Manweb area differently from other DNOs. In particular, it interconnects its transformers into groups so that there are more sources of supply to customers, potentially increasing supply reliability in the event of an outage. This network design approach requires the transformers that are grouped together to be of a standard size so that they share the demand in the group effectively. It is therefore not necessarily possible to simply upgrade a transformer in the group to a higher rating to provide more capacity. Reinforcement options have to consider the operation of the entire group rather than just a single substation and are therefore more complex than may be the case for other DNO areas.
- 1.66. The cost estimate of the reinforcement works undertaken by the Company was £1,238,292. This is lower than the cost estimate of the other alternative options. We therefore conclude that the reinforcement work was the minimum scheme.
- 1.67. The cost of the reinforcement work has been estimated by our expert consultants. In the light of this, the Company's costs appear to be reasonable.
- 1.68. We consider that the Company was entitled to charge its initial contributor for the reinforcement work in the Premises. Therefore, under Regulation 5 of the Regulations, the Company was entitled to recover the relevant reinforcement expenses from any subsequent connections made under section 16(1) of the Act.
- 1.69. We consider the Company was entitled to charge ■■■ for the costs of the reinforcement works **under section 19(1)** as such expenses were incurred as a result of making the connection requested by ■■■. The connection requested by the Authorised Distributor was also made within the prescribed period. The Company's entitlement to recover an amount in respect of the reinforcement expenses arises out of operation of Regulation 5 of the Regulations and consequently the Company was within its rights to recover expenses from the Authorised Distributor for this connection.

#### **DETERMINATION**

- 1.70. **The Authority finds that (a) the reinforcement was necessary to enable new connections in ■■■■■■■■■■. (b) the reinforcement work undertaken by the Company was the minimum scheme required and (c) the Company charges were reasonable for the work carried out.**
- 1.71. We also consider that the Company was entitled to recover charges associated with the reinforcement work from the Authorised Distributor for

the reasons set out in paragraph 1.69 and consequently no further action is required from the Company on these charges.

- 1.72. However, we consider that the Company might have avoided a dispute here and increased its customer's confidence in the service it provides by ensuring that quotes accurately reference the part of the network that is being reinforced. In this case, referring to a completely different location in the initial quote is likely to have raised doubts about other aspects of the quote. The Company should ensure that its systems and processes result in quotes which are consistent and accurate.
- 1.73. This document constitutes a notice stating reasons for the Authority's decision for the purpose of section 49A of the Act.



**Andrew Burgess**  
**Associate Partner, Transmission and Distribution Policy**  
**Duly authorised on behalf of the Gas and Electricity Markets Authority**  
**28 February 2013**