



16 November 2009

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**BY EMAIL & POST**

And

Fraser McMillan  
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**BY EMAIL & POST**

Dear Sirs

**EDINBURGH TRAM NETWORK  
TIE LIMITED AND BILFINGER BERGER (UK) LIMITED/SIEMENS PLC/  
CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES DELIVERY CONSORTIUM  
("INFRACO")  
ADJUDICATION - GOGARBURN BRIDGE**

I enclose my final decision in respect of the above adjudication.

If I do not hear otherwise from the parties within 28 days from the date of this letter the papers submitted in this adjudication will be destroyed.

Yours faithfully



JOHN HUNTER

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## **Adjudication**

### **Between**

**TIE LIMITED**, a company incorporated under the Companies Acts (Company No SC230949), and having its registered office at City Chambers, High Street, Edinburgh, Midlothian EH1 1YJ (**“the Referring Party”**)

### **and**

**BILFINGER BERGER UK LIMITED**, a company incorporated under the Companies Acts (Company No 02418086), and having its registered office at 150 Aldershot Street, London EC1A 4EJ and **SIEMENS PLC**, a company incorporated under the Companies Acts (Company No 00727817), and having its registered office at Faraday House, Sir William Siemens Square, Frimley, Camberley, Surrey GU16 8QD and **CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES S.A.** a company registered in Spain and having its registered office at J.M.Iturrioz 26, 20200 Beasain, Spain (**“the Responding Party”**)

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### **Adjudicator’s Decision and Reasons**

#### **Gogarburn Bridge**

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John Hunter BSc FRICS MCI Arb MAPM of Hunter Consulting, Suite 1, Kirk House, 4 Kirk Road, Bearsden, Glasgow G61 3RG named as Adjudicator in respect of a dispute between tie Limited and Infraco.

## 1. INTRODUCTION

- 1.1 This adjudication concerns a dispute over matters arising under a contract for the provision of work associated with a new tram network for the City of Edinburgh. In particular this dispute relates to one element of the work, Gogarburn Bridge, and whether changes have occurred between the Base Date Design Information (BDDI) upon which the parties contracted and the Issued For Construction information (IFC) to the extent that such changes amount to a Notified Departure as defined in the contract.

## 2. THE PARTIES

- 2.1 TIE LIMITED is a company incorporated under the Companies Acts (Company No SC230949), and having its registered office at City Chambers, High Street, Edinburgh, Midlothian EH1 1YJ (“the Referring Party”)
- 2.2 BILFINGER BERGER UK LIMITED is a company incorporated under the Companies Acts (Company No 02418086), and having its registered office at 150 Aldershot Street, London EC1A 4EJ and SIEMENS PLC is a company incorporated under the Companies Acts (Company No 00727817), and having its registered office at Faraday House, Sir William Siemens Square, Frimley, Camberley, Surrey GU16 8QD and CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES S.A. is a company registered in Spain and having its registered office at J.M.Iturrioz 26, 20200 Beasain, Spain referred to in the contract as “Infraco”. (“the Responding Party”)

## 3. THE WORKS

- 3.1 The works, referred to as the Infraco Works are defined on page 257 of the contract as “the EAL Works and all or any of the works to be constructed and completed and/or services to be provided and/or the plant, machinery and equipment to be supplied and installed by the Responding Party and which are

necessary to deliver the Edinburgh Tram Network and to subsequently maintain it, all in accordance with this Agreement and the Employer's Requirements".

#### 4. THE DISPUTE

- 4.1. On or around 19 September 2008, the Responding Party served on the Referring Party a notification of tie change number 111 dated 16 September 2008 (hereinafter referred to as "Infraco Notification of tie Change") in terms of which the Responding Party advised the Referring Party of its opinion that:

*"Schedule Part 4, Pricing Assumption, paragraph 3.4.1.1, assumes that the Issued for Construction Drawings do not differ from the base date assumption drawings of 25 November 2007 other than design development as the (IFC drawings for S29 Gogarburn Bridge (IFC Drws ULE90130-07-BRG-00020 - 00045) differ to a greater extent and complexity than design development, the foregoing results in a Notified Departure"*

- 4.2. On or around 16 October 2008 the Responding Party, by letter, informed the Referring Party that an estimate in respect of the matters set out in the Infraco Notification of tie Change would be provided within 25 business days from 16 October 2008. Following exchanges of correspondence a preliminary estimate was then submitted to the Referring Party on 1 April 2009 with a revised estimate being issued by the Responding Party on 7 May 2009. The Referring Party by email of 13 May 2009 requested further and better particulars in respect of that estimate and a number of questions were put to the Responding Party by the Referring Party by letter dated 22 May 2009 asking for further information in respect of service ducts, foamed concrete, the design and make up of a run on slab, amendments to the parapets and an additional piling platform.
- 4.3. Following this further dialogue between the Referring Party and the Responding Party then continued in regard to the Infraco Notification and tie Change and Estimate in terms of which the Responding Party did not alter its opinion. On or around 24 August 2009 the Referring Party gave notice to the Responding Party that the dispute was to be referred to the Internal Dispute Resolution Procedure.

- 4.4. The parties failed to settle their differences through this procedure.
- 4.5. As a result of the refusal or failure by the Responding Party to agree that matters set out in the Infraco Notification of tie Change do not constitute a Notified Departure and to withdraw the Infraco Notification of tie Change and Estimate the Referring Party were compelled to refer the dispute to Adjudication.

## 5. THE ADJUDICATION

- 5.1 The Referring Party issued a notice of adjudication on 28 September 2009. I was provided with a copy of that notice and advised by the Referring Party that my name was set out as one of a list of Adjudicators named for dispute resolution purposes in the contract executed by the parties.
- 5.2 On 5 October 2009, following my agreement to act in this dispute, the Referring Party requested me to act and confirmed that in terms of clause 30 of Schedule Part 9, dispute resolution procedure to the Infraco Contract, that I adjudicate at the same time on both this dispute and another dispute concerning Carrick Knowe Bridge. I have adjudicated simultaneously upon each of these disputes and issue separate decisions in respect thereof.
- 5.3 The referral notice was delivered to me on 5 October 2009 and in subsequent correspondence I set a timetable for the adjudication and agreed with the parties that my decision would be issued on 16 November 2009.
- 5.4 On 20 October 2009 the Responding Party submitted their response.
- 5.5 The Referring Party replied to this response on 30 October 2009 and on 6 November 2009 I received a rejoinder from the Responding Party.
- 5.6 I initially pencilled in a meeting with the parties but upon the reviewing the written submissions, which were extensive, I concluded that I would be able to make a decision without reference to oral evidence either from the parties or from their

respective experts and I advised the parties by email on 9 November 2009 that I would not require a meeting.

## **6. PARTIES' CONTENTIONS**

- 6.1 The Referring Party submit that:
- 6.2 The matters set out in the Infraco Notification of tie Change do not constitute a Notified Departure.
- 6.3 The matters set out in the Infraco Notification of tie Change do not give rise to a deemed tie Notice of Change.
- 6.4 The matters set out in the Infraco Notification of tie Change and alleged additional works further particularised in the Estimate are not to be the subject of a tie Change Order.
- 6.5 The alleged change and/or alleged additional works referred to in the Infraco Notification of tie Change and further particularised in the Estimate arise from the Responding Party's obligation to complete the design of the Edinburgh Tram Network including, but not limited to, the achievement of full compliance with the Employer's Requirements for the deliverables to enable the Edinburgh Tram Network to be procured, constructed and commissioned.
- 6.6 The alleged additional works came about through the evolution of the design through normal development and completion of the design.
- 6.7 The Referring Party further contend that the Responding Party are not entitled to any [1] extension of time or relief from liquidated and ascertained damages under the Infraco Contract; or [2] additional loss and expense incurred by the Responding Party to the extent that the completion of the Infraco Works are delayed beyond the Planned Sectional Completion Date(s) as a consequence of or in any way connected with the date of issue by the Responding Party of Infraco Notification of tie Change and/or the date of delivery to the Referring Party by the Responding Party of the

Estimate in respect of Infraco Notification of tie Change and/or the absence of a tie Change Order in response to the Estimate.

6.8 The Referring Party consider that the Estimate delivered by the Responding Party is deficient, lacking in detail and does not comply with the whole requirements of the Infraco Contract and that the Responding Party have failed to demonstrate and/or substantiate that the matters particularised in the Infraco Notification of tie Change constitute a Notified Departure.

6.9 Notwithstanding the deficiencies noted at above, the Referring Party considers that it does have sufficient information to know that the Infraco Notification of tie Change is not a Notified Departure. In support of their contentions the Referring Party have submitted an experts report prepared by Mr Robert McKittrick.

6.10 Accordingly the Referring Party ask me to decide that the Responding Party are not entitled to any relief and/or additional payment and/or an extension of time and/or compensation in consequence of or in any way connected with the matters further particularised in the Infraco Notification of tie Change and the Estimate.

6.11 Furthermore, the Referring Party submit that in order for it to be said that a Notified Departure has occurred under the Infraco Contract, it is for the Responding Party to:

- Demonstrate and prove that the evolution and completion of the design to Issued For Construction stage exceeds normal development and completion of the designs;
- Demonstrate and prove that a Notified Departure has occurred;
- Administer the Change mechanism timeously; and
- Provide a sufficient, adequate and competent estimate.

6.12 The Referring Party say that the foregoing is the logical sequence of steps which occur in the event of a Notified Departure, but the Responding Party have failed to fully comply with each of these steps.

6.13 In the light of the foregoing the Referring Party submit that any delay in the carrying out and completion of the Infraco Works which may be said by the Responding Party to be due to alleged failures on the part of the Referring Party in timeously administering the Clause 80 change mechanism in regard to the Estimate (including, but not limited to, any alleged delay in issuing a tie Change Order in response to the Estimate) is attributable to failure on the part of the Responding Party, for which the Responding Party are not entitled to any relief or compensation under the Infraco Contract.

#### **Redress Sought**

6.14 As a consequence of the foregoing submission the Referring Party has raised these proceedings and seeks the following declarations.

6.15 The Referring Party requests a declaration that the matters further particularised in the Infraco Notification of tie Change are not a Notified Departure under the Infraco Contract and therefore the Infraco Notification of tie Change and the Estimate have no effect under the Infraco Contract and fall to be disregarded and ignored.

6.16 The Referring Party requests a declaration that the Responding Party are not entitled to any relief and/or additional payment and/or extension of time and/or compensation in consequence of or in any way connected with the matters further particularised in the Infraco Notification of tie Change and the Estimate.

6.17 The Referring Party requests a declaration that the Responding Party are not entitled to any [1] extension of time or relief from liquidated and ascertained damages under the Infraco Contract; or [2] additional loss and expense incurred by the Responding Party to the extent that completion of the Infraco Works are delayed beyond the Planned Sectional Completion Date(s) as a consequence of or in any way connected with the date of issue by the Responding Party of the Infraco Notification of tie Change and/or the date of delivery to the Referring Party by the



Responding Party of the Estimate in respect of the Infraco Notification of tie Change and/or the absence of a tie Change Order in response to the Estimate.

- 6.18 The Referring Party requests a declaration that the Responding Party are obliged without further instruction, pursuant to the Infraco Contract, to proceed with the carrying out and completion of the works depicted on the Issued For Construction drawings in connection with the structure known as "S29 Gogarburn Bridge".
- 6.19 The Referring Party requests an order that the Responding Party is liable for the whole costs of the Adjudicator's fees and expenses in relation to the Adjudication as determined by the Adjudicator, or such other sum as the Adjudicator considers that the Responding Party is liable for.
- 6.20 The Referring Party requests reasons for the Decision and I have incorporated my reasons into my findings as set out in this decision.
- 6.21 The Responding Party contend that the Infraco Contract is a lump sum fixed contract to design, build and maintain the tram system but that the contract price was fixed on the basis of certain assumptions set out in Schedule Part 4 of the contract and the departure from any of these assumptions triggers an entitlement for the Contractor both in terms of time and money.
- 6.22 The Pricing Assumption was agreed between the Parties because the design was not complete at BDDI and IFC Drawings had not been issued as at 25 November 2007 when the Responding Party completed its due diligence on the incomplete design. As a consequence of the above, the Pricing Assumption was agreed to transfer the risk of changes in design principle, shape and form and specification to the Referring Party and reduce the level of contingency required by the Responding Party in its price in respect of design change and development after contract award.
- 6.23 The Responding Party does not agree with the Referring Party's interpretation of Pricing Assumption 3.4.1, and advances its argument by setting out the arguments of the Referring Party and commenting thereon as follows. In paragraph 5.3.4.3 of the Referral Notice, the Referring Party states:

*"It is only those items of work which arise as a consequence of changes which are alterations in "design principle, shape, form or specification" which do not arise from the normal development and completion of design which validly and legitimately constitute a Notified Departure."*

6.24 This approach is also reflected in paragraph 4.3 of the Referral Notice.

6.25 Further, paragraph 5.2.1 of the Referral Notice states:

*"in order for it to be said that a Notified Departure has occurred...it is for the Responding Party to...demonstrate and prove that the evolution and completion of the design to Issued for Construction stage exceeds normal development and completion of the designs"*

6.26 The Responding Party contends that this is an incorrect interpretation of this Pricing Assumption which starts on the wrong premise. It asserts that the Responding Party must prove that the evolution and completion of the design to IFC stage exceeds normal development and completion of the designs. This, say the Responding Party, is not correct. The last part of the Pricing Assumption clearly defines for the purposes of this contract, that normal development and completion of design excludes changes of design principle, shape and form and outline specification. If a change in design principle, shape and form or outline specification occurs between the drawings forming the BDDI and the IFC drawings then the Responding Party contend that on a proper interpretation of this Pricing Assumption the changes are automatically outwith the bounds of normal development and completion of design as defined in this contract.

6.27 The Responding Party therefore asserts that any analysis must start with considering whether the changes between BDDI and IFC fall within one of these four headings in which case, by definition, they cannot be normal development and completion of the design. This is the basis upon which the Responding Party has approached its analysis of changes in design in the IFC Drawings and is the basis upon which it has determined whether changes are Notified Departures.

6.28 In paragraph 5.3.3 of the Referral Notice the Referring Party sets out its understanding of the analysis required in order to establish a Notified Departure. The Responding Party agrees with the process outlined in paragraphs 5.3.3.1 and 5.3.3.2 – in particular 5.3.3.2 which captures the very essence of the analysis required to establish a Notified Departure as follows:

*“The foregoing is an objective test in terms of which the facts and circumstances encapsulated in the Base Case Assumptions are compared with the facts and circumstances which are subsequently found to exist – the Responding Party’s entitlement (subject to various exceptions considered below) comprises the difference(s) revealed by that comparison.”*

6.29 The Responding Party therefore contend that a Notified Departure (in turn constituting a Mandatory tie Change) will be deemed to occur at any time when “the facts and circumstances differ in any way from the Base Case Assumptions save to the extent caused by a breach of contract by the Responding Party, an Infraco Change or a Change in Law.”

6.30 As also noted above, the Base Case Assumptions means the Base Date Design Information, the Base Tram Information, the Pricing Assumptions and the Specified Exclusions.

6.31 For the purposes of establishing whether a Notified Departure has occurred, the starting point is to determine the changes between the BDDI and the IFC Drawings and thereafter determine whether the Pricing Assumptions at 3.4.1 and in particular 3.4.1.1, apply to these design changes.

6.32 In carrying out this exercise, the Responding Party, and the expert appointed by it, Mr Ian Hunt has considered whether any of the changes identified can be said to be changes of design principle, shape and form and specification, which by the definition at 3.4.1, cannot be normal development and completion of design.

6.33 I shall deal with each of the alleged differences in the drawings within my findings.

- 6.34 It is the position of the Responding Party that if I find that any of the design changes identified by the Responding Party is a Notified Departure then I must refuse the redress sought by the Referring Party in paragraphs 7.1 and 7.2 of the referral notice.
- 6.35 Further, the Responding Party contend that the timeous administration of the change mechanism and/or the sufficiency or adequacy of the estimate are not conditions precedent to establishing whether or not a notified departure has occurred. They contend that the obvious complexities of the analysis required to prepare an estimate in respect of the Notified Departures for the Gogarburn Bridge required further time for those estimates to be provided but the Referring Party did not agree to any extension of time allowed to prepare such estimates and the Responding Party therefore contend that the redress sought in paragraph 7.3 must be refused because the effect of any delay in completion of the Notified Departure mechanism is not known and will not be known until a tie Change Order is issued.

## 7. ADJUDICATOR'S FINDINGS

### Introduction

- 7.1 The issues in this adjudication boil down to an interpretation of whether any of the differences highlighted by the parties between the BDDI requirements and the IFC requirements constitute changes that amount to a Notified Departure in terms of the contract.
- 7.2 The Referring Party put it to me that the dispute referred is not based entirely on a matter of fact or, as the Responding Party put it, that a mere allegation of fact is self evident but that the issue is broader than that suggested by the Responding Party as it involves operating the process of assessing and evaluating the actual or alleged change.
- 7.3 The documents that define the BDDI and IFC stages are not disputed.

- 7.4 Identification of the actual differences between the BDDI drawings and IFC drawings has been clearly established by the parties and the extent of the differences is not a matter that is disputed between them. The differences have been highlighted on the respective drawings and it is the status that is to be applied to each of these differences that is the matter at issue.
- 7.5 There are fundamental differences between the parties when it comes to assessing the nature of these changes in order to conclude whether they fall within the exclusions set out in Schedule Part 4 of the contract which was drafted to encompass the assumptions that led to what was contained in the contract price.
- 7.6 The parties approach their assessment of the nature of these changes from different perspectives and their respective experts hold opposing views on a substantial number of the identified changes.
- 7.7 These opposing views flow from the different interpretations that each party puts upon Schedule Part 4 as it affects the matters in dispute. It is therefore appropriate to start with each party's understanding of the relevant contractual provisions and how they operate before proceeding to a detailed analysis of each of the items included within the drawing comparison.
- 7.8 I will deal with each of these matters before applying my mind to the matters listed as alleged Notified Departures
- 7.9 Thereafter I shall deal with the question of any additional relief as a result of delay caused by the date of notification of the Notified Departure and the delivery of the Estimate.

#### **Contract Overview**

- 7.10 There is no dispute over the general obligations for delivery of the Works and indeed the Responding Party confirm at paragraph 3.6 of the rejoinder that it has an obligation to carry out and complete the detailed design obligations set out in the contract. In this regard the design obligations are very clear.

- 7.11 In the response to the referral at paragraph 6.11 the Referring Party set out that the design of the Works has been novated to the Responding Party. The intent of this form of procurement is that the Responding Party is contractually responsible to the Referring Party for both the design and construction of the whole of the works once novation has taken place and that in the usual way, therefore, the Responding Party has an opportunity to undertake full due diligence on the design and acquires the means to manage the design consultant. The Referring Party contends that this removes or reduces uncertainty in pricing the completed design.
- 7.12 My finding is that quite clearly uncertainty in pricing has not been removed as the subject matter of the dispute referred to me clearly shows. Where the parties are at issue is over whether the design obligations and the price that was agreed between them at BDDI stage reflect one another.
- 7.13 My finding is that the design obligations are all very clear and not in dispute. However, it is also clear that Schedule Part 4 was included by the parties within their contract as certain pricing assumptions have been necessary at the time that the contract was executed. Considering the point of Schedule Part 4 one is driven to consider why it was included as part of the agreement if the Infraco obligation was simply to meet the Employers Requirements.
- 7.14 This brings into focus the point relied upon by the Responding Party that there is an obligation to deliver a product and, distinct from that obligation, a contractual arrangement for being paid to deliver that product.
- 7.15 Both parties seem to be at one that the inclusion of Schedule Part 4 to the Infraco contract arose because certain elements of the works had not been fully investigated or quantified and therefore risk existed that had to be addressed commercially in any agreement between the parties. In plain words the design was not complete enough to allow a full unqualified price to be agreed.
- 7.16 Section 3.2.1 of Schedule Part 4 states that *"it is accepted by tie that certain pricing assumptions have been necessary and these are listed and defined in section 3.4 below. The parties acknowledge that certain of these pricing assumptions may result in the notification of a Notified Departure immediately*

*following execution of this agreement. This arises as a consequence of the need to fix the contract price against the developing factual background. In order to fix the contract price at the date of this agreement certain pricing assumptions represent factual statements that the parties acknowledge represent facts and circumstances that are not consistent with the actual facts and circumstances that apply. For the avoidance of doubt the commercial intention of the parties is that in such circumstances the notified departure mechanism will apply.”*

- 7.17 My finding is that Schedule Part 4 was included because the design was incomplete and therefore some unknowns existed that were beyond the capabilities of the Responding Party to include within their price. In other words how the BDDI was to be developed to IFC could be known in respect of certain factors but not all factors and the unknown or insufficiently developed elements were captured by the provision of the wording in Schedule Part 4.
- 7.18 The parties are at one that the risk for normal development to completion of design lies with the Responding Party. This is other than where that risk has been transferred to the Referring Party under one or more of the pricing assumptions set out in Schedule Part 4 pricing.
- 7.19 My finding is that whilst the occurrence of a Notified Departure is a question of fact I concur with the Referring Party that the onus is on the Responding Party to demonstrate that which they claim falls within the exceptions set out in the contract.
- 7.20 My finding is that this position is best summed up as follows. The risk which ought properly to be transferred to the Referring Party is where development and completion of designs is outside of the normal course of development of the detail shown in the initial design i.e. the Base Date Information, into the detail needed to construct the works as described all to meet the Employer’s Requirements. I would go one step further and clarify that the Employer’s Requirements have to be sufficiently well developed within the BDDI procedure as a baseline for proceeding in such a manner. I include this further step as it is clear to me that the Employer’s Requirements have in terms of the price for the works been clarified in section 3.1 of Schedule Part 4 and thus limited by the BDDI and the Schedule Part 4

agreement in respect of the agreed price. I find that to arrive at any other conclusion would, in my view, make Schedule Part 4 meaningless.

- 7.21 My finding is that matters that will become Notified Departures are matters that fall outwith normal design development that could be construed from the information available to the Contractor contained within the BDDI. These matters may have been alluded to in the Employer's Requirements as an obligation but because of the lack of complete design had not been sufficiently developed in terms of specification to become part of the price.
- 7.22 The foregoing does not mean that each and every change becomes a Notified Departure or that one can abandon the tests that must be satisfied in order to establish that a Notified Departure has occurred and I shall deal with these now.
- 7.23 My finding is that the first condition that must be satisfied in order to establish that a notified departure has occurred is a difference between the Base Case assumptions and actual facts and circumstances applying to the Infraco works. Such change has to fall within the definition set out at section 2.8 of Schedule Part 4 i.e. *"a Notified Departure is where now or at any time the facts or circumstances differ in any way from the Base Case assumptions save to the extent caused by a breach of contract by the Infraco, an Infraco Change or a change in law."*
- 7.24 The key wording that is to be considered in this regard is set out in Pricing Assumption 3.4.1.1 as follows.

*"The design prepared by the SDS provider will not, other than amendments arising from the normal development and completion of designs.*

*1.1 In terms of design principle, shape, form and/or specification be amended from the drawings forming the base date design information [except in respect of value engineering identified in appendices C or D to this Schedule Part 4]."*

- 7.25 The clear starting point is contained in the words "The design prepared by the SDS provider".



- 7.26 The parties are at one that normal development and completion of designs means the evolution of design through the stages of preliminary to construction stage and excludes changes of design principle, shape and form and outline specification as this is set out in pricing assumption 3.4.1.
- 7.27 Where the parties differ is on the interpretation of the pricing assumption as the Referring Party asserts that the Responding Party must prove that the evolution and completion of the design to IFC stage exceeds normal development and completion of designs. The Responding Party's position is that if a change in design principle, shape or form or outline specification occurs between the drawings forming the BDDI and the IFC drawings then on a proper interpretation of this pricing assumption the changes are automatically outwith the bounds of normal development and completion of design as defined in the contract.
- 7.28 It is clear that the Referring Party do not concur with the narrow interpretation placed by the Responding Party on pricing assumption 3.4.1 and they aver that to give primacy to the last sentence of the final paragraph 3.4.1 which "excludes changes of design, principle, shape and form and outline specification" from normal development and completion of designs over the whole of pricing assumption 3.4.1 is to ignore the words "the evolution of design through the stages preliminary to construction stage".
- 7.29 Having considered this point long and hard my finding, on balance, is that one has to give proper credence to design evolution flowing from the information that is available at BDDI but one must also take everything into account in considering why the pricing assumptions were included in the first place.
- 7.30 If there is an obligation to meet completion of the design to the Employer's Requirements, come what may, for the agreed price then there would be no requirement for any pricing assumptions as the Responding Party would have the full obligation to meet the Employer's Requirements without any particular specification being required or any further monies being paid beyond the price agreed.

- 7.31 My finding is that at the stage when BDDI was drawn up and the pricing assumptions drafted this was a stage which was an interim position being an interpretation of the Employer's Requirements set out on the drawings which both experts agree were designed to a particular level of detail. This was the starting point for assessment of any Notified Departures and not the Employer's Requirements.
- 7.32 It is clear, therefore, in my mind that the drawings have to be the starting point and they are the baseline for interpretation of the obligation to develop design to completion. In other words if something is not in any way addressed on the drawing then I cannot see how it can subsequently be developed.
- 7.33 In considering the submissions of the Responding Party the Referring Party consider that the Responding Party have simply carried out a remeasure in establishing the changes. My finding is that I do not agree with this point as it is clear that there are some obvious elements of design development which have not been claimed.
- 7.34 Further, the Referring Party contend that the Responding Party's expert Mr Hunt has started from an incorrect premise and therefore his interpretation of design development is narrower than it should be. I do not concur with this statement as it appears to me that, leaving aside any of Mr Hunt's interpretation of the legal position, if one takes ones preferred analysis of the legal position and then considers Mr Hunt's starting point the two sit squarely together and I therefore have no difficulty in making use of Mr Hunt's report in the form that it has been submitted. Both experts apply a series of tests in considering the changes and I have chosen to rely heavily upon their respective opinions in reaching my decision in the context of the general analysis set out above.
- 7.35 The proper approach, in my view, is as follows.
- 7.36 A comparison between the BDDI and IFC drawings reveals the changes in facts and circumstances that have occurred during the process of moving from BDDI stage to IFC stage. These changes must then be characterised as changes as follows.

- 7.37 The changes must firstly be established as changes in design principle, shape, form or specification.
- 7.38 Secondly, the changes must be assessed in order to conclude whether they are categorised as design development in which case they would not constitute a Notified Departure.
- 7.39 It is this two step test that I have initially applied to each of the changes identified. I have then applied a third test to ensure that each of the changes does not arise from a breach of the contract, an Infraco change or a change in law.
- 7.40 In applying the foregoing tests there is another fundamental matter that has, in my view, to be addressed and that is the distinction between the general obligation upon the Responding Party to design the project and the commercial limitations placed upon their price for the work brought about by Schedule Part 4.
- 7.41 It is appropriate at this stage to deal with this issue which was brought into focus by the Responding Party in paragraph 4.13 of the Rejoinder where they state at paragraph 4.13:

*“The Responding Party accepts that it had carried out a due diligence exercise on the design, it accepts that SDS was novated to it, it accepts that it was responsible for development of design and ultimately for delivering the Edinburgh Tram Network. There has been no omission by the Responding Party in not referring to these obligations in its analysis of pricing assumption 3.4.1. That is because Schedule Part 4 relates not to what the Responding Party is obliged to do under this contract but how it is to be paid for performing those obligations”.*

- 7.42 The foregoing also becomes apparent in the respective experts reports as follows.
- 7.43 The Referring Party appointed Mr McKittrick to prepare a report on their behalf and the Responding Party appointed Mr Hunt to carry out a similar exercise. In his amended report Mr McKittrick criticises Mr Hunt for failing to take account of the Employer's Requirements and Mr Hunt's response in paragraph 2.1 of his report states that he made no reference to the Employer's Requirements because clause

2.3 of Schedule Part 4 states that only the drawings issued by 25 November 2007 are to be BDDI. In paragraph 7.6 of the response the Responding Party clarify that the definition of Base Date design information is as follows.

*“The Base Date design information means the design information drawings issued to Infraco up to and including 25 November 2007 listed in appendix H to this Schedule Part 4.”*

- 7.44 My finding is that it is important to ensure that there is clarity in reaching an understanding of the distinction between the general obligation to meet the Employer’s Requirements and a commercial agreement that reflects the fact that the detailed design requirement for that obligation had not been completed at the date of the contract agreement.
- 7.45 My finding is that this position is summed up in paragraph 5.12.2 of the reply to the response to the referral notice where it states that other than where that risk has been transferred to the Referring Party under 1 or more of the pricing assumptions numbered 2 to 43 set out in Schedule Part 4 pricing the risk for normal development and completion of design lies with the Responding Party. In my view this normal development and completion of the design would include meeting the Employer’s Requirements. However it is also clear that Schedule Part 4 has a key part to play in any interpretation of the financial liability for meeting these obligations.
- 7.46 My finding is that I am sufficiently persuaded by the Responding Party’s argument on this point to concur with them that there is a distinction between their obligation to design the works and the price that they are to be paid and I reach this conclusion as it is clear from clause 4.3 of the Infraco Contract that “nothing in this agreement shall prejudice the Infraco’s right to claim additional relief or payment pursuant to Schedule Part 4 pricing.
- 7.47 My finding is that in addressing the changes I have to take into account all of the information that is defined as the BDDI but I must also bear in mind that a line was drawn in the sand as clearly articulated in Schedule Part 4.

7.48 I turn now to each of the matters at issue.

## **SPECIFIC MATTERS AT ISSUE**

### **Service Ducts and Foam Concrete**

- 7.49 Increased quantity of service ducts and foam concrete surround, detail 2 on drawing O22 Rev 2B shows 6 ducts on each side of the bridge and the configuration above these ducts is horizontal. There is also a notation that the number of ducts are to be confirmed and there is no type of material surround specified on the BDDI drawing.
- 7.50 The IFC drawing shows an increase in the number of ducts and the type of material is specified as foam concrete with the configuration above those ducts changing from a horizontal configuration to a profiled outline incorporating a surfaced walkway with drainage channels.
- 7.51 The Responding Party contend that this is a change in specification in respect of the number of ducts required within the structure, a change in specification in respect of the use of foamed concrete and a change of shape and form in respect of the concrete outline and revised duct configuration.
- 7.52 Mr Ian Hunt, the expert employed by the Responding Party, at paragraph 6.13 of his report concurs with the Referring Party's expert, Mr McKittrick, that the BDDI drawings are well developed and indeed so well developed that any tenderer would be reasonably convinced that the design was substantially complete and that any further development would be minor. Mr Hunt concludes that this must have an important bearing on what then constitutes what normal design development and he has taken this into account in reaching his own opinion of each change. Mr Hunt states that the duct numbers being increased and the foamed concrete being specified is a change in specification with a change in shape.
- 7.53 Mr McKittrick states that the IFC drawing is very similar to the BDDI one other than for an increase in the number of ducts from 12 to 20 and a reduction in the pile lengths from 12 to 10 metres.

- 7.54 Mr McKittrick goes on to say that “the additional service ducts are all within the limits of deviation [sic] within which there are no utilities services so it is my opinion that the additional ducts are as a result of requests from either the systems supplier, Siemens, or the tram provider both part of Infraco” He concludes that he does not consider that Infraco is entitled to payment for these additional ducts.
- 7.55 The respective experts are therefore at odds in relation to this item.
- 7.56 My finding is that Mr Hunt in his analysis identifies 17 separate items on drawing 00022 rev B when compared to drawing 00022 rev 5. He notes a number of dimensions being changed and categorises these as normal design development, but he goes further in that he identifies at note 22.12 a cast in-situ stitch being added and concludes that this is normal design development. I therefore find that Mr Hunt’s analysis is thorough and objective in that it does not simply allocate all changes as falling within the exclusion provisions but identifies matters including changes of shape, specification and dimension as design development.
- 7.57 I find that in respect of this same drawing Mr McKittrick does not highlight all of the changes or make any comment in relation to those differences identified by Mr Hunt. I also find that Mr McKittrick does not explain what he means by the statement that “the additional service ducts are all within the limits of deviation within which there are no utilities services” and he does not support his opinion that the additional ducts are as a result of requests from either the systems supplier or the tram provider. For this reason I find that I am persuaded by Mr Hunt’s analysis and prefer Mr Hunt’s conclusion on this point to that of Mr McKittrick.
- 7.58 This leads me to the conclusion that the increased quantity of service ducts and foam concrete surround is a change in specification with a change in shape.
- 7.59 Secondly, I find that it is not merely design development on the part of the Responding Party because the note on the drawing in relation to the ducts “to be confirmed” leads me to the conclusion that the Responding Party could not develop matters to a conclusion unless no change in the number of ducts occurred. A

change in the number of ducts did occur and I take this to beyond normal design development.

7.60 However, having satisfied the first two tests it is appropriate to apply the further test to ensure that this matter does not arise from a breach of contract, Infraco change or change in law. I concur with the Responding Party as set out in paragraph 6.3.16 of the response to the referral that the onus rests firmly with the Referring Party to establish that one of these exceptions apply if it is to sustain the argument that the changes identified do not constitute a Notified Departure. The Responding Party have clarified in paragraph 7.21.3 by reference to an email from Jason Chandler of SDS to the Referring Party dated 26 August 2009 that the change in the number of ducts across the structure arose as a result of the structural design being further advanced than the mechanical and electrical designs at BDDI stage.

7.61 This type of issue, in my view, is precisely the type of issue that leads one to the conclusion that the design was not complete, therefore the specification was not clear at BDDI and was subsequently clarified resulting in a change occurring. My finding is therefore that this change is precisely the type of matter for which the pricing assumptions were introduced and amounts to a Notified Departure.

#### **Additional Green Surfacing to Denote Safe Walkway**

7.62 It is clear that the surfacing is not shown on the BDDI drawing but it is shown on the IFC drawing.

7.63 Mr Hunt considers that this is a change in specification, Mr McKittrick makes no reference to this additional information in his initial report but on page 7 of addendum report he makes reference to section 25.3.2 of the Employer's Requirements stating that the platform top surfaces shall be slip resistant and durable. My finding is that I have found nothing to support Mr McKittrick's conclusion that emergency walkways on bridge structures be classified as platform tops. I can see nothing that would lead to the inclusion of this specific surfacing as part of normal design development. I find that it is a change in specification. I have seen nothing to conclude that it is an Infraco breach, change or change in the law.

Therefore I concur with Mr Hunt on this point. My finding is that this change is a Notified Departure.

#### **Additional Drainage Channel**

- 7.64 Once again it is clear that an additional drainage channel is now shown on IFC drawing 00022. Mr Hunt opines that a contractor would anticipate that the deck would need drainage but not that five lines of drainage would be necessary. He concludes that this is therefore a change to the deck drainage design principle and a change in specification.
- 7.65 Mr McKittrick makes no observation on this point. He partially concurs with Mr Hunt by making the statement that in his opinion it would have been obvious at tender and from the Employer's Requirements that deck drainage would have been needed, but he does not make reference to any specific Employer's Requirement or tender information to support his observation. He goes on to say that Infraco, if unsure, should have asked the question of tie and he concludes that five lines of resin concrete drainage could have reasonably been anticipated and therefore cannot be outwith the normal design development.
- 7.66 I am faced, on this point, once again with opposing experts holding polarised views that are completely at odds with each other.
- 7.67 I have sought assistance in deciding this point by considering the detail contained on the drawings themselves. Under normal design and build circumstances I would find myself agreeing with Mr McKittrick but for the fact that the drawings, as agreed by both experts, were at BDDI stage reasonably well advanced in terms of specifying the requirements for the design. As an example the drawings contain sufficient detail to identify 150mm diameter perforated pipe as a drainage solution on the internal face on the bottom of the inside face of the modular concrete unit. In addition a number of services ducts are identified with a note explaining that the number is to be confirmed. No such drainage or note regarding drainage exists. Therefore if I were to reach the conclusion that five lines of drainage would be necessary, as part of the normal design development, I would expect a note of that sort to be on the drawing at BDDI stage particularly when the detailing on the drawings is at what both experts agree a well developed stage. I cannot find any



reference to that number of drainage channels. I therefore conclude that Mr Hunt is once again correct in his interpretation of this particular item. My finding is that Mr McKittrick has failed to support his opinion in sufficiently robust terms to be with him on this point. It does not appear to be an Infraco change, breach or change in law. My further finding is that this is a change in specification and is a Notified Departure.

#### **Parapet Edge Beam Change from In-situ to Pre-cast**

7.68 Mr Hunt opines that this is a fairly radical change potentially altering the structural continuity of the upstand and this opinion supports the Responding Party's position that this is a change of design principle in that the fundamental method by which the parapet edge beams are constructed has changed.

7.69 At item 37 in his opinion Mr McKittrick states that this could be seen as a change of form but he does not consider that Infraco is entitled to any additional payment as this is, in his opinion, a change that is ostensibly cheaper and easier to construct.

7.70 I have to take from the first part of that statement by Mr McKittrick that he accepts that it is a change of form as the only reason that he gives for dismissing this is by reference to an entitlement for additional payment. My finding is that such reasoning is irrelevant to my deliberations in this adjudication. There is no evidence to lead to the conclusion that such a change is normal design development and neither expert advances this possibility on this item. My finding is therefore that both experts concur that this constitutes a change. Mr McKittrick's opinion on whether any payment should be made in respect of this item strays beyond his remit in this adjudication as I understand it and I do not take that element of his opinion as supporting a conclusion that no change has occurred.

7.71 My finding is therefore that whilst it may ultimately fall to be established whether this issue gives rise to any change in price the matter is clearly a change of form and I concur with Mr Hunt in this regard.

7.72 My finding is that this is a Notified Departure.

**Formwork for In-situ Concrete**

- 7.73 Having found that there is a change from in-situ parapets to precast parapets I note that a reduction in price for formwork is offered by the Responding Party but in any event this is a matter which falls to be decided in another forum as part of the change flowing from the parapet change.

**Reinforced Concrete Stitch**

- 7.74 On this point Mr Hunt considers that the cast in-situ stitch would be normal design development, although my reading of his opinion is that he reaches this conclusion on the basis that nothing else would have changed and that the parapet upstand change, in which I have found in favour of the Responding Party above, would bring reinforced concrete stitch into play in a different manner. My conclusion however is that Mr Hunt considers that a concrete stitch would have been required in any event and I therefore do not consider that this is a Notified Departure.

**In-situ Reinforced Concrete Ground Beam**

- 7.75 Mr Hunt's position on this follows on from his opinion at note 37.01. Mr McKittrick opines that the BDDI drawing reinforcement details are what he would expect but he concludes that the drawings are ostensibly the same.
- 7.76 My finding is that the drawings are clearly not the same and that Mr Hunt's opinion is to be preferred in this respect. My finding is that this is a Notified Departure.

**Joint Filler and Movement Joints**

- 7.77 These matters flow from the changes in the parapet edge beams as set out above. My finding is that this is a Notified Departure.

**Transition and Run on Slabs**

- 7.78 The Responding Party contend that the performance of the embankments and protection against differential settlement has changed from a dedicated slab to cementitious ground improvement and as such this is a change in design principle.
- 7.79 Mr Hunt at note 35.01 simply opines that this is a new requirement, a specification change and a change in form and Mr McKittrick concurs that the shape has changed, albeit that he considers that this represents a saving rather than an

additional cost. Once again the matter of additional cost or payment is a matter that will have to be established in due course and is not pertinent to establishing whether the IFC drawings have changed from the BDDI drawings to the extent that they fall within the exclusions leading to a Notified Departure.

- 7.80 My finding is that on the basis that Mr McKittrick agrees that the shape has changed and Mr Hunt considers that this is a change in form there is sufficient evidence to conclude that this is a Notified Departure.

### **Reduction in Pile Lengths**

- 7.81 The Responding Party consider that a reduction in the length of a specified pile is a change, but I do not concur with them that this view is supported by Mr Hunt. Mr Hunt says that this is a change in specification but clarifies his perspective on this by stating that when dealing with ground conditions changes in pile lengths are not unusual. Assistance on understanding Mr Hunt's general position on such matters can be found elsewhere in his report.

- 7.82 Mr Hunt at paragraph 5.24 of his report makes a statement that the addition of a reinforcement bar is an additional specification item. A change of only 5mm to a dimension is a change in shape but he goes on to say that he is not of the opinion that the intent of the contracting parties would be that such minor changes should be a notified change and that sensible engineering judgement is to be employed in identifying changes to be notified under the contract. Mr McKittrick appears to conclude that changes in piles amount to normal design development as set out in the final paragraph on page 6 of his addendum report and I concur with Mr McKittrick on this point that changes in pile lengths appear to be normal design development. I hold this view because piles were always anticipated so I cannot see this as a change in shape or form or specification but it does comfortably sit within the ambit of design development.

### **Proof Loading of Piles**

- 7.83 The Responding Party contend that they provided three pricing options in the absence of any indication of what proof loading methodology was required by the Referring Party. Mr Hunt considers that this is a new requirement and is a change in specification. Mr McKittrick makes no reference to this in his initial report but

dismisses the pile testing in his addendum report on page 7 as simply being an explanatory note which the Contractor would need to be able to construct the works.

7.84 My finding is that at BDDI stage an option had yet to be confirmed. The method of proof loading is one of specification.

7.85 My finding therefore is that the specification dated 2 June 2009 referred to at paragraph 7.31.3 of the response to the referral constitutes a Notified Departure.

#### **Additional reinforced Earth and Geo-grid**

7.86 My finding is that it appears to be clear from the content of production 15 from the Responding Party that revised geo-grids were required in the form of additional layers and upgrades to meet a specific specification decided upon after BDDI stage and this constitutes a Notified Departure.

#### **Additional Steel Reinforcement Bar**

7.87 Having found that changes arose from the parapet upstand my finding is that changes in reinforcement flowing therefrom constitutes a Notified Change but that is the extent of the change and I do not consider that such reinforcement as would have been required had nothing changed needs to be taken into consideration on this item.

#### **Bat Boxes**

7.88 My finding is that the bat box requirements are contained in the Employer's Requirements but it is clear that at BDDI no drawing indicates any requirement for actual type, number or installation of bat boxes.

7.89 Mr Hunt considers that this is a new requirement and is therefore a change in design principle. Mr McKittrick makes no reference to this in relation to drawing number 21 but refers in his addendum report to section 10.1.9 of the Employer's Requirements identifying that the protected species plan is to be dealt with.

7.90 The critical point for me is that the financial and commercial arrangement dealing with this has not been specified to the point at which further development could be

considered to be design development and this appears to be a change in specification when measured against the documents forming the BDDI which define the basis of the price agreed pursuant to Schedule Part 4 as distinct from the content of the Employer's Requirements which define the basis of performance of the contractual obligations as nothing is actually specified at BDDI. I therefore find that this is a Notified Departure.

#### **Administration of the Change Mechanism**

7.91 I find that the timeous administration of the change mechanism is not a condition precedent to establishing whether or not a Notified Departure has occurred and I therefore need say nothing further in relation to the submissions of the Referring Party on that point.

#### **Further Redress Sought**

7.92 In view of the foregoing my finding is that I am obliged to refuse the Referring Party's further redress sought at paragraphs 7.2, 7.3 and 7.4.

#### **Adjudicator's Fees**

7.93 My finding is that the Referring Party, having been unsuccessful in obtaining the redress sought, should bear responsibility for the whole of my fee and that on the basis that the parties have agreed that they should during the course of this adjudication each pay 50% of my fee the Responding Party have an entitlement to recover the proportion of the fee paid to me from the Referring Party.

**8. THE DECISION**

- 8.1 Having considered all of the submissions and on the basis of the evidence that I have seen my decision is:
- 8.2 I refuse the redress sought by the Referring Party at paragraph 7.1.
- 8.3 I therefore refuse the Referring Party's further redress sought at paragraph 7.2.
- 8.4 I therefore refuse the Referring Party's further redress sought at paragraph 7.3.
- 8.5 I therefore refuse the Referring Party's further redress sought at paragraph 7.4.
- 8.6 I hereby order that notwithstanding the joint and several liability of the parties the Referring Party shall bear responsibility for my fees and expenses.

Adjudicator  
John Hunter



Date

16 NOVEMBER 2009.

Witness



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