

October 2015



THE EDINBURGH TRAM INQUIRY
WITNESS STATEMENT OF STEVE REYNOLDS

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EDINBURGH TRAM INQUIRY

WITNESS STATEMENT OF STEVE REYNOLDS

I, Steve Reynolds, will say as follows:

1 INTRODUCTION

1.1 My name is Steve (Stephen) Reynolds. I am 60 years old and my address is c/o Parsons Brinckerhoff, Manchester Technology Centre, Oxford Road, Manchester M1 7ED.

1.2 I attach a copy of my CV¹.

1.3 I am now the Head of Discipline Major Project Services at Parsons Brinckerhoff Limited (“PB”), and have been employed by PB since 1988. I took up my current role in March 2015.

1.4 My involvement with the Edinburgh Tram Project commenced in February 2007 when I was appointed as Project Director. As Project Director I was responsible for the overall direction and delivery of PB’s scope as part of the Edinburgh Tram Project.

1.5 I have annexed documents to this Statement, to which I will refer. The Documents are inserted in numbered tabs, and I will refer to each document as “**Document ***”, according to the tab number (ie Document 5 will be found at tab 5).

1.6 In this Statement, I use the following abbreviations:

Alfred McAlpine Infrastructure Services	“AMcA”
BBUL/Siemens Consortium	“BBS”
Bilfinger Berger (UK) Limited	“BBUL”
City of Edinburgh Council	“CEC”
DLA Piper LLP	“DLA”

¹ Document 15

The Development Partnering and Operating Franchise Agreement	“DPOFA”
Edinburgh Airport Rail Link	“EARL”
Employer’s Requirements	“ERs”
Invitation to Tender	“ITT”
Multi Utilities Diversion Framework Agreement	“MUDFA”
Parsons Brinckerhoff Limited	“PB”
Siemens plc	“Siemens”
Statutory Utilities Company	“SUC”
System Design Services	“SDS”
Transport Edinburgh Limited	“TEL”
Transport Initiatives Edinburgh Limited	“tie”
Value Engineering	“VE”

1.7 The general structure of PB’s team on the Edinburgh Tram Project was as follows.

1.7.1 I refer to an Organisational Chart for the SDS Team at October 2007².

1.7.2 I was the Project Director.

1.7.3 The Project Manager was Jason Chandler.

1.7.4 The Deputy Project Manager was Alan Dolan.

1.7.5 Structurally, we organised into the following divisions:

(a) *Engineering*. The Engineering Manager was Chris Mason.

(b) *Design Delivery*. The Design Delivery Manager was Alan Dolan (who was also Deputy Project Manager).

² See Document 1

- (c) *Construction*. The Construction Manager was Tom Kelly.
 - (d) *Procurement*. The Procurement Manager was Bruce Ennion.
 - (e) *Commercial*. The Commercial Manager was John McNicolls.
- 1.7.6 The primary divisions on the Edinburgh Project were Engineering and Design Delivery, and each had its own structure.
- 1.7.7 The Tram Project route alignment was divided geographically into 7 Sections. PB appointed a Section Manager for each Section.
- 1.7.8 PB engaged a core team of circa forty people who worked in Edinburgh in direct management interface with the local client personnel. Design teams were located remotely at various locations.
- 1.7.9 There was a continuity of PB's senior management team which ensured a robust approach to management.
- 1.8 We sub-contracted the portion of PB's contractual scope relating to roads and drainage design and some structures to Halcrow. There were no other elements of the services scope which were sub-contracted except in respect of certain planning issues which were sub-contracted to White.
- 1.9 Weekly Reports
- 1.9.1 I kept a weekly contemporaneous record of the project between February 2007 and April 2008 in the form of Weekly Reports. (“**the Weekly Reports**”).
- 1.9.2 A copy of the Weekly Reports is at Document 20, and I will refer to these in my Statement. My full time involvement with the project ceased at Novation, hence the absence of weekly reports beyond this point.
- 1.9.3 I recorded these notes every week and I circulated the notes at the time by email to Keith Hawksworth (Chief Executive), Greg Ayres (UK Managing Director), Grant Smallhorn (Legal Counsel in Sydney), Chuck Kohler (Operations Director, New York) and later to Stuart Glenn (Deputy Chief Executive).

2 PROJECT OVERVIEW

Project structure

2.1 The organisations (and individuals within those organisations), with whom we were most directly involved were:

2.1.1 tie (our client)

- (a) The Executive Chairman of tie was Willie Gallagher. He was dedicated to what he was trying to do and his chairing of the governance meetings to which I was invited was exemplary. In my view, however, he came under tremendous pressure as a direct consequence of some of the key stakeholders failing to provide the support which was required to achieve the overall programme objectives.
- (b) Matthew Crosse was the third Project Director appointed in about February 2007, at the same time that I arrived on the project.
- (c) Tony Glazebrook became tie's SDS Project Manager from April 2007, replacing Ailsa MacGregor³. The SDS Project Manager reported to the Project Director.
- (d) David Crawley took on the role of the new Engineering Director (trams) during February 2007⁴.
- (e) Steven Bell was Engineering and Procurement Director (tie) and then Project Director.
- (f) In my view, tie was not able to operate with the authority required to deliver a programme as complex as the Tram scheme. With hindsight it would probably have been preferable to appoint a specialist programme management organisation, better equipped to challenge the changes proposed by CEC and other stakeholders.

2.1.2 The BBUL/Siemens Consortium

- (a) Richard Walker was BBUL's, Managing Director (Civils). I developed a sound working relationship with him.
- (b) Martin Foerder was introduced at some point after Infracore contract award as the consortium Project Director.

³ see Document 6

⁴ Weekly Report at Document 20, 16 February 2007

(c) Michael Flynn was the senior negotiator representing Siemens.

2.1.3 AMcA were appointed as MUDFA Contractor. AMcA were bought over by Carillion in December 2007. After completion of the Carillion work scope, the utility diversion work after November 2009 was undertaken by Clancy Docwra and Farrans.

The Business Case

2.2 Prior to my involvement, a Draft Final Business Case, dated November 2006⁵ (“the Business Case”) had been prepared, including a detailed Procurement Strategy. The Final Business Case was approved by CEC in October 2007, with version 2 issued 7 December 2007⁶. There were some changes to the final form of the Business Case⁷. In this section, references to Paragraph numbers are to paragraphs of the Business Case.

2.3 In my view, the Business Case was generally a good document in terms of its strategic direction.

2.3.1 The Business Case included early appointment of the potential operator, Transdev.

(a) The DPOFA was awarded to Transdev in 2004⁸.

(b) The intention was that Transdev would provide expertise in Tram operations and assist tie as a key element of the group acting as ‘Intelligent Customer’, particularly in the development of the design⁹.

(c) In December 2009 Transdev ceased to be the potential tram operator and TEL subsequently became the operator.

2.3.2 The Business Case intended that the Detailed Design be completed prior to the Infraco Award.

(a) The Business Case said: “It is expected that the overall design work to Detailed Design will be 100% complete when the Infraco contract is signed.”¹⁰. This was to include “Commencement of the Detailed Design phase which will develop the Preliminary Designs to the next level of detail, fully defining the scope of the project and enabling more accurate pricing of the works by

⁵ Document 4

⁶ Document 21

⁷ A copy of section 7 of the revised version 2 dated 7 December 2007 is at Document 21

⁸ Document 4, Paragraph 1.78

⁹ Document 4, Paragraph 7.38

¹⁰ Document 4, Paragraph 7.53

*Infraco bidders and the process for obtaining the various approvals required before commencement of construction.*¹¹

- (b) In general, the Business Case intended the securing of the best design by the appointment of a competent designer to create a design package. Thereafter the consortium would be appointed, into which the design would be novated. A separate tram supplier would be procured.
- (c) The Business Case intention was for the novation of the design and vehicle provision (including maintenance contract) to Infraco at the point of award, *“to help facilitate the speedy implementation and completion of the construction phase of the project and to remove uncertainty and therefore cost from bidder’s proposals ie deliver value for money”*¹².
- (d) Key attributes of the strategy¹³ were considered in the Business Case, but not robustly implemented. The Business Case also recognised the importance of the Programme¹⁴.

2.3.3 The Business Case recognised the importance of the definition of specification and scope.

- (a) *“Changes to scope or specification. A great deal of care has been taken in defining the scope and specification of the tram project throughout the Parliamentary process and during design development with input from TEL and Transdev and extensive consultation with CEC and Transport Scotland. However significant unforeseen changes to scope and specification could have a very significant impact on the deliverability of the project. Effective management of the consideration of any significant changes through the Governance processes implemented for the project will be vital to mitigate this risk”*¹⁵. (my emphasis).
- (b) It is important to note the recognition of the risk of significant impact of changes to scope and specification and hence the importance of management of any significant changes through governance processes.
- (c) In version 2 of the Final Business Case¹⁶, it was recognised that the Infraco bids had been prepared on the emerging designs, but that the risk of variations would not be at the risk of the Infraco if *“they represent changes to tie’s*

¹¹ Document 4, Paragraph 7.54

¹² Document 4, Paragraph 1.79, 7.11, 7.115

¹³ Document 4, Paragraph 1.80

¹⁴ Document 4, Paragraph 11

¹⁵ Document 4, Paragraph 1.84

¹⁶ Document 21

*Employer's Requirements (ERs), which are at cost to the public sector*¹⁷. This provision was introduced as a result of the serious impact on programme up to that point of changes introduced due to what could be termed preferential engineering, i.e changes which were not necessary to deliver the required functionality but which were deemed by the Approval Body to be an improvement, on the original intent.

2.3.4 The Business Case gave consideration to early diversion of utilities away from the alignment of the trams.

- (a) A principal element of the base cost estimates was utility diversions¹⁸.
- (b) It was recognised that *“tie must manage the interface between utility diversions and the follow on works by Infraco. A significant delay in the hand-over of worksites to the Infraco could result in significant financial penalties to the extent these are not met by the MUDFA contractor's liability limits. A prompt start to utility diversions is a key element of the mitigation of this risk”*¹⁹.
- (c) The strategy was for *“separate procurement of utilities works to enable completion of the utilities diversions before commencement of infrastructure works thus reducing risk to the construction phase and avoiding the risk premiums that would otherwise be included if this work was included with the Infraco package”*²⁰.
- (d) The Business Case recognised the risk taken by the public sector in circumstances where MUDFA fail to complete in time²¹.

2.3.5 The Business Case recognised the importance of the obtaining of approvals and consents.

2.4 tie's procurement strategy was *“taking a greater degree of control over the process during the early development phase compared to what the public sector has done on other projects.”* It was intended that this would result in *“tie progressing the overall project sufficiently in advance of seeking bids from Infraco bidders such that it will be able to offer the private sector a better defined basis on which to bid and a less onerous risk allocation (and in particular reducing the extent of design and approval uncertainty at bid stage)”*²².

2.5 There was recognition that Development Risks included:- delays in obtaining, amongst other things, *“Prior Approvals”*; *“Cost and delays due to utility diversions”*; *“Incomplete*

¹⁷ Document 21, Paragraph 7.51

¹⁸ Document 4, see Paragraph 1.60

¹⁹ Document 4, Paragraph 1.84

²⁰ Document 4, Paragraph 7.13

²¹ Document 4, Paragraph 10.56

²² Document 4, paragraph 7.7

definition of scope to implement the operational tram system”; Changes in design required by the Operator”; “Changes in design required by stakeholders”²³. The Business Case recognised that “the major responsibility for identifying and managing potential risks during [the period of scheme development] will remain with the project team and their advisers”²⁴.

Role of PB

- 2.6 PB was awarded the role of design provider in September 2005. In that role, PB was not appointed to undertake the final design, but to undertake a fully detailed design, which would then be used when the contractor was appointed.
- 2.7 The SDS Contract was awarded to PB during September 2005 under a Contract with tie.
- 2.8 The SDS contract was a bespoke contract. Bespoke contracts were used generally on the project drawn up by DLA.

Contractual structure

- 2.9 The intention was for appointment of Infraco “to complete the design, and carry out construction, installation, commissioning and maintenance planning in respect of the Edinburgh Tram Network”²⁵.
- 2.10 If required, tie and the SDS Provider would procure the novation of SDS to Infraco²⁶.
- 2.11 The SDS scope²⁷ was to perform the Services²⁸.
- 2.12 In relation to the utilities: “The SDS Provider shall **provide assistance to tie** with the management of an advanced utilities diversion programme ...”²⁹ (my emphasis). The scope of SDS design work was limited to “critical design” with most of the design activities being the responsibility of the Statutory Utility Companies under separate contracts with tie.

²³ Document 4, Paragraph 10.8

²⁴ Document 4, Paragraph 10.58

²⁵ Document 22, Recital E

²⁶ Document 22, Recital F and Clause 29

²⁷ Document 22, Clause 3.3

²⁸ Document 22, Schedule One

²⁹ *ibid*, Paragraph 3.2.1

3 CHRONOLOGY OF EVENTS

General

- 3.1 In this section, I describe the important facts and circumstances during the Edinburgh Tram Project, adopting a chronological structure.
- 3.2 The project is best understood as a timeline of facts, based on monthly progress reports and programme updates.

The importance of programmes

- 3.3 It is the tie master programme which is the primary reference for project progress and the best evidential tool to assess issues of delay. I recommend that the Inquiry uses this programme as the baseline.
- 3.4 There was a need for updates to programme to be produced by tie at regular intervals. Inspection of the updated programmes would highlight instances of prolongation at the detail task level.
- 3.5 In terms of contemporaneous records of progress against programme, there were regular Design/Procurement/Delivery (“DPD”) Meetings, and Tram Project Board Meetings, which were minuted. Commencing in February 2007 there were also weekly Critical Issues meetings, usually on Friday mornings. There were monthly SDS contract meetings, which dealt with such matters as change control issues. There were Tram Leadership Meetings, which were chaired by tie’s Project Manager, between February and May 2007 only.

Overview of chronology

- 3.6 I have prepared a high level timeline³⁰, in which I have divided the progress of the Edinburgh Tram Project into five distinct phases. I will explain the chronology of events, in the context of these phases, in this section of my Statement.
- 3.7 Before I comment on the chronology of events, in each of those five phases, I make some general comments by way of an overview.
- 3.8 Important matters to highlight are the continuing uncertainty on scope and the numerous design changes which impacted upon the progress of detailed design, particularly during the period between June 2006 and June 2007.

- 3.8.1 The Preliminary Design was completed, on time, in June 2006.

³⁰ Document 2

- 3.8.2 There were delays by tie in their review of the Preliminary Design submitted. This in turn prevented PB as the SDS designer from efficiently proceeding from Preliminary Design to Detailed Design.
- 3.8.3 tie suggested that preliminary design was incomplete. However the Technical Support Services (“TSS”) Contractor (i.e. the technical auditor), Scott Wilson subsequently provided a report in December 2006 which recorded that the Preliminary Design was fit for purpose.
- 3.8.4 The start of detailed design was effectively delayed until the end of 2006. PB was unable to make as much progress as it could have achieved had (1) tie completed its comments and review of the Preliminary Design timeously; and (2) PB been given clear direction on an unambiguous underlying specification against which to progress the Detailed Design.
- 3.8.5 The delayed progress of Detailed Design arose due to a failure to commit to the underlying specification. The SDS having provided a compliant Preliminary Design, the promoters nevertheless decided that such designs were not what they wanted, even though compliant, and they sought changes to the underlying specification. Charrettes was the term given to a series of workshops to work through specification issues.
- (a) The term "*charrette*" is derived from the French word for "little cart." In Paris during the 19th century, professors at the Ecole de Beaux Arts circulated with little carts to collect final drawings from their students, with last minute design changes made as the carts circulated.
 - (b) In the present context, Charrettes were workshops with project manager, stakeholders and designers to review particular aspects of design where the stakeholders wished to see changes.
 - (c) The Charrettes process gave rise to specification changes from PB's perspective, leading to additional services being undertaken, and seriously delaying the progression of the Detailed Design phase. This included a requirement upon PB to undertake fresh optioneering exercises and to develop new base schemes for many sections of the route, which differed from the original contract baseline. PB increased its management and design staff and worked with its client to try to ensure a speedy resolution of these issues.
- 3.8.6 What came out of the Charrettes process were often unaffordable aspirations.
- (a) The promoters of the tram project had been considering their needs since September 2005, and before, but changed their requirements through the Charrettes process.

- (b) For example, the Edinburgh Park viaduct structure was revisited, rather than progressing with the preliminary design.
- (c) There were Charrettes for:
 - (i) Section 1 - St Andrew's Square (realignment and tramstop redesign), Princes Street (realignment), Leith Walk (realignment and parking/loading), Shandwick Place (tramstop location and road layout), Picardy Place (road redesign), Foot of the Walk ((tramstop location), Haymarket (junction remodelling);
 - (ii) Section 3 – Coltbridge Viaduct (structures), Craigleith Drive Bridge (structures);
 - (iii) Section 5 – Edinburgh Park Station Bridge (structures), Carrick Knowe (structures).
- (d) The Charrettes process was intended to be a rapid review, but the manner in which the Charrettes were conducted caused substantial delay. For instance the Charrettes process relative to Picardy Place gave rise to delay of 206 days. As late as May 2007, three of the eleven Charrettes remained incomplete.

3.8.7 Delays also arose due to new agreements and changes to draft agreements between CEC and third parties, subsequent to September 2005. This gave rise to significant numbers of technical interfaces and revised design requirements. This included:

- (a) Section 1 - Forth Ports Interface issues – section 1A bridges redesign; Leith Sands substation relocation; Ocean Terminal frontage redesign; Lindsay Road extension; Ocean Drive Stop Relocation/redesign;
- (b) Section 3 - Groathill Road South (designed works to maintain a 2m gap from property boundary), Telford Road tramstop and alignment;
- (c) Section 5 – Scottish Rugby Union (“SRU”) (lack of signed agreement and integration with flood scheme); Balgreen Road/Baird Drive (suite of structures and stop, substation), Gogarburn Tramstop (RBS);
- (d) Section 7 – Futureproofing issues, Ingliston Park and Ride (car park layout not finalised and additional interface issues), Section 7A Culverts 1, 2 and 3.

3.8.8 There were new or changed requirements instructed by tie, resulting in PB undertaking alternative design studies. This included:

- (a) Section 1 – Constitution Street (tramstop) and Leith Walk Substation;
- (b) Section 2 – Section 2A (steps and Masterplan);

- (c) Section 3 – noise mitigation issues, Granton Square (urban development), Oxcraft Street (design needs not envisaged in STAG);
- (d) Section 5 – South Gyle Tramstop relocation;
- (e) Section 6 – Depot (depot length, occupancy, accommodation requirements, depot equipment specification, revised levels and wire height to minimise excavation);
- (f) Section 7 – Newbridge Branch (future proofing issues from Transdev).

3.8.9 Further issues arose due to a lack of coordination by tie between the tram project and the EARL project. tie were responsible for the interface between the two projects. The EARL project followed several months behind the tram project and details which subsequently arose from EARL impacted on the tram design. The close proximity of the tram and EARL projects on the ground led to significant numbers of interface issues. PB was required to undertake significant design studies relating to such interfaces. There were delays in instructing PB in regard to such interfaces. Issues included:

- (a) Edinburgh Airport – Eastfield Avenue (Gogarburn retaining walls); Burnside Road (BAA/EARL interface issues); Airport Utilities Surveys (BAA/EARL interface issues); Airport Stop (BAA/EARL interface issues).

3.8.10 These issues were exacerbated by a lack of clarity regarding the overall project requirements, particularly in respect of scheduling with failures by tie to update the master programme at the required frequency.

3.8.11 The project lost traction between June 2006 and June 2007. Much of the overall delay to programme completion can be traced back to indecision and lack of leadership through this period.

3.8.12 The focus by tie and others was seemed to be on achieving some sort of design perfection rather than on programme delivery against advertised target dates.

3.8.13 In early 2007 the use of the “orange box” drawing process was introduced by PB. This mapped the issues against the geographical alignment of the project. Orange boxes marked each issue at points along the route. This process clearly identified to tie as project manager the matters that remained outstanding.

3.8.14 In relation to the change management procedure, it appears that the major stakeholders were poorly managed such that they were not properly made aware of the consequences of change:- primarily prolongation and increased cost. The primary stakeholders were CEC, Lothian Buses and Transport Edinburgh Limited and there were secondary stakeholders, such as Forth Ports (for instance regarding the interface of the trams at Leith Docks).

- 3.8.15 The Critical Issues meetings were intended to bring core issues to the attention of all stakeholders with a view to (i) securing rapid resolution such that the design could progress, and, (ii), to educate everyone that future changes should be avoided as far as possible. David Crawley's experience in the field of change management proved invaluable and the process did close off many issues, with the majority cleared by mid-2007. Nevertheless, some Critical Issues remained well into 2008.
- 3.8.16 When, after June 2007, tie started at last to take note of PB's emphasis of the need to manage and control change, and progress design, the improvement in design delivery performance was obvious.
- 3.9 Whilst design delivery improved from June 2007 other events through the period to May 2008 are worthy of note. It was at this time that issues arose with the management of the MUDFA contract; tie's failure to manage the alignment of the Employer's Requirements with the Infraco scope of work; and the management of the procurement of Infraco.
- 3.10 A further important aspect of the chronology in terms of wider project delays (albeit PB was less directly involved in such issues) is prolongation and disputes between tie and Infraco during the period between May 2008 and March 2011.

I now turn to a more detailed chronology of events:

Pre September 2005

- 3.11 The DPOFA was awarded to Transdev in 2004.
- 3.12 Conceptual design had been completed and was embodied in the material in the data room at the stage of the SDS tender process.

September 2005 to June 2006 – Requirements analysis and preliminary design

- 3.13 *19 September 2005* - SDS Contract Award. The tender had been submitted by PB by letter dated 13 May 2005 and included a bid programme (for Lines One and Two), which assumed a start date of 1 July 2005. The milestone for delivery of the Requirements Definition was proposed for 30 November 2005, and for Preliminary Design by 28 February 2006. In the event, the SDS Contract was not awarded until 19 September 2005, some 81 days after the assumed start date of 1 July 2005. It was therefore agreed, prior to entering into the contract, that the Requirements Definition would be provided by 19 December 2005.
- 3.14 *Autumn 2005*. PB's first task was to define the system requirements, working with tie. PB was given three months to do this to 19 December 2005. PB achieved this.
- 3.15 *December 2005*. The Requirements Definition was provided. Given delays in contract award, the systems requirements phase was squeezed into a tight programme. PB met the accelerated programme and delivered the Requirements Definition document. Some further work was required in early 2006 during the Preliminary Design phase.

- 3.16 PB's second task was to create the Preliminary Design. This was a six month task from January to June 2006.
- 3.17 *June 2006.* The Preliminary Design was completed. The Detailed design should have commenced immediately.
- 3.18 Following completion of the Preliminary Design, there were significant delays in the review of such by tie. tie continued to submit comments and reviews of the Preliminary Design up to as late as 6 December 2006. Such comments arose not in respect of material issues regarding compliance with the specification, but due to changes to the contractual requirements.

June 2006 to June 2007 – Detailed Design

- 3.19 The project moved to the Detailed Design phase.
- 3.20 From PB's perspective, this is a relevant period during which issues, including primarily specification changes and delays in resolving critical issues, gave rise to substantial delays to the project.
- 3.21 At this stage the city architect advising CEC opined that the design was not in the best interests of the city. This gave rise to numerous examples of changes instructed very late in the day.
- 3.21.1 The appointment of a signature architect, together with a Project Manager without sufficient authority, were key factors in respect of issues which subsequently arose.
- 3.21.2 CEC did not appear to understand the impact on programme of these issues.
- 3.21.3 With the appointment of the signature architect, perceptions and objectives changed from a functional system to a project defined by environmental features etc.
- 3.22 It was at this stage of the project that I was appointed as Project Director. tie had come to the view that PB was contracted for a fixed price, so that all these changes were at PB's risk. I was brought in to resolve contractual misunderstandings. There were weeks of tense interaction, but tie came to understand the contractual position. tie themselves had recently appointed Matthew Crosse as Project Director. He generally understood PB's position. Ultimately PB and tie reached a settlement on payment for changes.
- 3.23 One example of the changes at this stage was the alignment at the airport where the Preliminary Design Depot Access Road went over a level crossing. This was changed to access via an over-bridge. This represented a major deviation from the Preliminary Design.
- 3.24 Several examples exist of the impact of the signature architect bringing about significant changes to tram stops. It can be argued that visual impact was given priority over functionality.

- 3.25 There were also issues regarding the viaduct at Edinburgh Park.
- 3.25.1 Significant changes were requested to the Preliminary Design after it was decided that the design fell short of aspirations. PB's design complied with the original specification comprising an open structure on concrete pillars.
- 3.25.2 It was the form of the structure of the viaduct that changed. This arose at the request of New Edinburgh Limited; the proprietors at Edinburgh Park.
- 3.25.3 This issue was subject to a Charrette from November 2006. The Charrette process was supposed to lead to a speedy resolution, but in reality was a slow process. Even then a clear recommendation did not result. This was a major structure and therefore gave rise to significant delays to the project of circa 6 months. Eventually it was concluded that the proposed revisions were unaffordable and the design reverted to something that could be afforded.
- 3.26 In my opinion, CEC were diverted from the business case by these design changes, and this had a significant impact on programme.
- 3.27 *October 2006.* The MUDFA was awarded to AMcA.
- 3.28 *October 2006.* Tender documents were issued for Infracore, for return by early 2007.
- 3.29 During *early February 2007*, PB was invited to that month's Tram Project Board Meeting with tie. There was a powerpoint slide alleging that delays were caused by PB. This was about the time of my appointment, and PB appeared to be very much in the firing line.
- 3.30 At a later Board sub-committee, when delays were advised the instinctive reaction was that this must be due to PB, as designer.
- 3.30.1 Detailed Design completion for any package of work is always a key milestone and it is tempting to blame the designer when the milestone is missed. However, completion of the design is dependent upon the timely provision of information without which design cannot progress, or in some cases, even commence. There are many examples of delays to the provision of information by others, one worthy of note being information from Lothian Buses on routing along Princes Street, a major thoroughfare with complex interfaces between the tram and road junctions. Ultimately these issues were for CEC to resolve.
- 3.30.2 Another example of delayed design completion was due to the multiple redesigns instructed at Picardy Place, (at significant cost), because there was an aspiration for a hotel development. The Tram project was repeatedly held up.

- 3.31 *12 February 2007.* tie was focused on the VE exercise to secure costs reductions in the order of £50M. An instruction to proceed with the scheme was expected on around 24 February 2007, with sanction to spend a further £60M³¹.
- 3.32 *13 February 2007.* There was a Design/Procurement/Delivery (“DPD”) Sub-committee meeting³² which included discussion of programme delays and the key issues driving those delays. This was the first such meeting attended by PB. Matthew Crosse (tie project director) and I gave a presentation on the status of the project at that stage³³.
- 3.32.1 The presentation highlighted a number of shortcomings within tie, from Matthew Crosse’s perspective, and identified 30 key issues which were preventing completion of SDS design tasks.
- 3.32.2 For instance the presentation recognised³⁴ that *“tie has insufficient technical resource to process reviews and queries”*; *“In the past tie has been unable to encourage other Stakeholders to speed up – though this is now improving”*; *“There has been prevarication and indecision”*; *“tie has relied on others to ‘own’ engineering matters (TSS)”*; and *“sheltering behind the presupposition that risk will be, or has been transferred.”*
- 3.32.3 Whilst tie made certain allegations regarding PB, they recognised³⁵ that SDS *“lack ability to move quickly due to slow change control process”*, faced *“meetings overload”* and log jams due to the Charrettes process, together with an extremely challenging programme. Indeed it was recognised by tie that Charrettes sometimes resulted in *“diversion and delay”*³⁶.
- 3.32.4 The importance of resolving and closing down Critical Issues was recognised³⁷.
- 3.32.5 It was agreed to convene weekly meetings with all relevant parties with a view to clearing the logjam quickly.
- 3.33 *20 February 2007.* There was a Tram Project Board Meeting³⁸. This involved a presentation by Matthew Crosse and me on the status of the project. Essentially this built on the DPD presentation during the preceding week.
- 3.34 The negotiation of the Infraco bids was proceeding less smoothly, with a number of shortcomings evident in tie’s procurement strategy³⁹.

³¹ See Weekly Report at Tab 20, 12 February 2007

³² See Weekly Report at Tab 20, 12 February 2007

³³ See Weekly Report at Tab 20, 16 February 2007. A copy of the presentation is at Document 5.

³⁴ See for instance slide 7 at Document 5.

³⁵ See slide 9 at Document 5.

³⁶ See slide 11 at Document 5.

³⁷ See slide 31 at Document 5.

³⁸ See Weekly Report at Tab 20, 16 and 23 February 2007

- 3.35 *22 February 2007.* A day-long meeting was chaired by David Crawley to define ‘*an achievable and aligned programme for the Tram Project*’⁴⁰. The discussion included design, utilities, VE and Critical Issues. The outcome of the meeting was a proposal by Matthew Crosse of a 5 month delay to the programmed date for financial close of the Infraco contract. PB was to provide a programme to clear remaining Critical Issues. tie were reminded of the urgent need to realign the ERs. It was recognised that the utility diversion programme should be modified to align more closely with the deliverables from the SDS contract. PB was concerned about attempts by tie to assign blame for at least part of the proposed delay to PB.
- 3.36 *23 February 2007.* There was a detailed review meeting concerning re-prioritisation of the SDS programme to completion⁴¹.
- 3.37 *By March 2007,* Willie Gallagher came to realise that the ‘all designers’ fault’ argument was flawed. I had pointed out to him instances of the major stakeholders failing to provide PB with necessary information, so that PB was prevented from completing, and in many cases even commencing the detailed design work. Willie Gallagher came to realise that this was the case.
- 3.38 *2 March 2007.* By this date⁴², PB had met its commitment to provide a prioritised programme for clearance of remaining Critical Issues. An important issue for PB was the management of PB’s variation requests and Matthew Crosse agreed to put more focus on resolving outstanding commercial issues. Six Critical Issues were cleared for detailed design - Edinburgh Park Viaduct, Coltbridge Terrace, South Gyle Tramstop, Princes Street Tramstop, Constitution Street Bus Stops (accepted as a change to PB), and Craighleith Drive Bridge. These Critical Issues related to matters that required resolution for detailed design, which should have commenced in July 2006. tie were still considering issues regarding alignment of the ERs to be provided to the Infraco bidders. Challenges included clearing the Critical Issues, improving the change control process, progressing agreement of PB prolongation costs with tie, and agreement of PB’s role during the Infraco Contract.
- 3.39 *9 March 2007.* At this date⁴³, confirmation of funding for the scheme was still awaited. There were ongoing commercial issues, including in relation to the management of the change control process. The alignment of ERs remained an issue and focus continued on the Critical Issues.
- 3.40 *16 March 2007.*
- 3.40.1 Focus continued on the Critical Issues, particularly relative to the resolution of Forth Ports’ position with tie. There were design integration issues between Forth Ports

³⁹ See Weekly Report at Tab 20, 23 February 2007

⁴⁰ See Weekly Report at Tab 20, 12 February 2007 and also 23 February 2007

⁴¹ See Weekly Report at Tab 20, 16 February 2007

⁴² See Weekly Report at Tab 20, 2 March 2007

⁴³ See Weekly Report at Tab 20, 9 March 2007

and the tram project. It was for tie to manage the interface with this major stakeholder to ensure that issues were resolved.

- 3.40.2 After I arrived, a more rigid change control procedure was put in place. By this date⁴⁴, I had successfully moved the spotlight onto commercial issues relating to the alleged fixed price nature of PB's contractual arrangement. Discussions focused on PB's claim for prolongation/additional costs due to the significant numbers of changes. tie suggested that a counterclaim could be prepared by them alleging delays caused by PB/SDS. The counterclaim was never tabled.
- 3.41 *23 March 2007.* By this date⁴⁵, a formal announcement of £60M funding had been made, allowing the MUDFA work of diverting and protecting the utilities. There remained commercial concerns and continued issues regarding the alleged fixed price nature of the SDS Contract. PB was now preparing a formal EOT claim relative to tie's failure to meet its contractual obligations following the submission of the Preliminary Design on 30 June 2006.
- 3.42 *29 March 2007.* A five hour long meeting to progress high impact Critical Issues was held⁴⁶. This was an attempt to resolve the key hurdles at the time.
- 3.43 *30 March 2007.* A revised and re-prioritised programme remained to be completed by tie⁴⁷.
- 3.44 *12 April 2007.* Matthew Crosse advised me that Tony Glazebrook (Deputy Engineering Director) was to take up the role of SDS Project Manager for tie, replacing Ailsa MacGregor,⁴⁸.
- 3.45 *13 April 2007.* Matthew Crosse expressed his view of a significant improvement in SDS/tie relations over the past two months⁴⁹. There was concern about the future implementation of the EARL scheme. The new programme (incorporating the 5 month delay) was completed by tie, but this was dependent upon clearance of the remaining Critical Issues and timely approvals and consents from CEC. There remained a risk of significant delays should CEC require detailed designs in support of the approvals and consents process.
- 3.46 *20 April 2007.* By this date⁵⁰, PB had submitted its EOT claim supported by 32 documents. At a Commercial Review Meeting with Matthew Crosse, he recognised the changing nature of the scheme and I noted a shift in position from tie's previous fixed price stance.
- 3.47 *27 April 2007.* By this date⁵¹, Tony Glazebrook was developing a clear understanding of tie's historic failure to perform and there was continuing commercial review of issues. Whilst tie

⁴⁴ See Weekly Report at Tab 20, 16 March 2007

⁴⁵ See Weekly Report at Tab 20, 23 March 2007

⁴⁶ See Weekly Report at Tab 20, 30 March 2007

⁴⁷ See Weekly Report at Tab 20, 30 March 2007

⁴⁸ See email at Document 6

⁴⁹ See Weekly Report at Tab 20, 13 April 2007

⁵⁰ See Weekly Report at Tab 20, 20 April 2007

were declaring a five month slip to the programme, they didn't have the agreement of the major stakeholders⁵².

- 3.48 *4 May 2007*. By this date⁵³, there was concern at the performance of the MUDFA contract. There were problems with the Statutory Utility Companies ("SUCs") not meeting agreed review periods, which was in turn delaying SDS deliverables.
- 3.49 *9 May 2007*. An article confirmed the SNP's intention to cancel the tram project leading to a period of uncertainty⁵⁴. The political dimension meant that the ultimate client was not consistent in its underlying intent for the trams project. This was a further important backdrop to the issues which arose.
- 3.50 *11 May 2007*. By this date⁵⁵, there was more concern about political undercurrents and threats to cancel the project. We reported on Critical Issues and other topics to the DPD Subcommittee meeting on Thursday 10 May 2007.
- 3.51 *18 May 2007*. By this date⁵⁶, we had met to discuss new processes, political developments and commercial issues. In relation to programme, whilst our primary focus was on the detailed engineering design tasks, tie's viewpoint was more focused upon the Infracore procurement process and CEC on planning approvals and consents, and there was an urgent need to coordinate these three perspectives.
- 3.52 *25 May 2007*. By this date⁵⁷, there was continuing dialogue with CEC on programme, including regarding the inherent risks in the programme. tie committed to agreeing that they would ensure that new issues relative to the Critical Issues would be addressed (by closing or elevating) within one week. This did give rise to a change of approach in the management of Critical Issues. However Critical Issues remained outstanding for a significant time thereafter.
- 3.53 As with any project, there were design issues arising with the design team regarding quality and timescales, particularly relating to Halcrow Group Limited's ("Halcrow") scope. Certain design teams were not delivering as well as they could have done. I noted this in my Weekly Reports⁵⁸, recognised such issues, and addressed them at the time. These issues were not relevant to the wider and much more serious issues, which I have referred to in this statement, which were the matters which materially impacted on progress and cost. As I recorded at the

⁵¹ See Weekly Report at Tab 20, 27 April 2007

⁵² See for instance paragraph 4 of my Weekly Report at Tab 20, 27 April 2007

⁵³ See Weekly Report at Tab 20, 4 May 2007

⁵⁴ See Email from Colin McLauchlan, tie HR and Corporate Affairs Director, at Document 7

⁵⁵ See Weekly Report at Tab 20, 11 May 2007

⁵⁶ See Weekly Report at Tab 20, 18 May 2007

⁵⁷ See Weekly Report at Tab 20, 25 May 2007

⁵⁸ See for instance Weekly Report at Tab 20, 25 May 2007, paragraph 7.2

time, “most of the slippage can be directly linked to lack of tie progress on resolution of the Critical Issues”⁵⁹.

3.54 In summary, key issues which arose during this period included:

3.54.1 Specification changes, through the Charrettes process and otherwise, which prevented progress with the Detailed Design; and

3.54.2 Slow management of change, through the change control procedure, the Charrettes procedure, and through the Critical Issues process.

June 2007 to May 2008 – Detailed design progress

3.55 *June 2007.* The detailed design effectively recommenced. It was only after the specification changes and the Critical Issues were resolved that the design intent crystallised. In my email to David Crawley on 29 June 2007⁶⁰, I recorded my concerns about continued attempts to optimise the design such that progress was not being made on the Detailed Design, and by reply on the same day, David Crawley agreed with my interpretation of the situation.

3.56 *1 June 2007.* By this date⁶¹, there were continuing concerns regarding project funding.

3.56.1 There were concerns expressed by David Crawley and Tony Glazebrook about tie’s organisational capabilities, including a lack of clarity regarding tie’s project management role vis a vis SDS and the management of the complexities of the tram project. There were master programming issues and PB was able to show (in more detailed review of the technical issues) that most of the programme slippage was due to failure by tie and the stakeholders to unlock Critical Issues.

3.56.2 Given historic experiences, PB had concerns about signing up to a reprioritised programme ‘protocol’. The protocol was arguably an attempt by tie to have PB take the risk that others would be unable to perform, which, given the history of events to date, was inappropriate.

3.56.3 Regarding the Critical Issues there was increased concern regarding issues getting stuck with CEC, illustrated by CEC’s reluctance to accept design proposals for critical junctions without significant optioneering work. The critical junctions issue related to interaction between the trams and road traffic, white lining, kerb lines etc. CEC were continually refining, but losing recognition of the need to progress to avoid programme impact.

⁵⁹ For instance as I contemporaneously recorded in my Weekly Report dated 1 June 2007 at Tab 20, paragraph 7.1.

⁶⁰ Document 10

⁶¹ See Weekly Report at Tab 20, 1 June 2007

- 3.57 *6 June 2007.* Scottish Executive asked Audit Scotland to complete a review of the methodology used to produce costs for the tram and EARL projects. The review was to be delivered by 20 June 2007⁶².
- 3.58 *On Thursday 7 June 2007,* I gave a further presentation to the DPD Sub-committee regarding the impact of delayed decision making on the SDS programme and I felt that there was a better understanding amongst all parties. Willie Gallagher confirmed to me that he felt better informed that the slippage was generally not due to PB performance. There was a continuing improvement in the commercial approach of all parties, with 24 change requests submitted and several agreed at the project management meeting. The first round of negotiation of our prolongation claim was scheduled for the following Thursday. Willie Gallagher recorded frustration at the programme slippage⁶³, primarily focused at tie, CEC, Transdev and TEL. I made it clear that PB's role in slippage was limited and that such slippage largely arose from outstanding Critical Issues, which required a change of approach. In a private meeting with Willie Gallagher I emphasised the need for CEC and TEL to work harder to resolve issues. I was concerned about tie's understanding of their project management responsibility.
- 3.59 *14 June 2007.* There was a Tram Project Board Meeting⁶⁴ and a meeting between Greg Ayres, Matthew Crosse, David Crawley, and me, with Willie Gallagher joining for a short time. I reiterated the problems for PB in the failure to resolve outstanding Critical Issues and it was agreed that stakeholders needed to understand the impact of their decision making to delays and the SDS programme. With regard to Critical Issues, I was concerned about the continuing failure to close out some Issues and significant tie project management issues in that regard (including that David Crawley was only averaging 2 days a week in his part time role) and the importance that tie understood the programme impact of CEC and TEL's approach.
- 3.60 *20 June 2007.* Publication of Audit Scotland Report on tie and the tram and EARL projects⁶⁵. The Audit Scotland Report did not record material concerns with the progress of the project at that stage. It recorded a strategy to seek to make savings through a VE exercise. It recorded tie's strategy to delivery of the programme on time by maintaining sufficient time between utilities diversion work and the start of infrastructure work. The Report recognised the early involvement of PB and recorded no issue in respect of PB's design.
- 3.61 *22 June 2007.* By this date⁶⁶, there was an initiative to apply pressure to stakeholders to unlock issues impeding the design programme. Most Critical Issues had been closed out, but 7 remained.

⁶² See email from Suzanne Waugh, tie's Heads of Corporate Communications on 6 June 2007 at Document 8.

⁶³ See Weekly Report at Tab 20, 8 June 2007 and Document 9

⁶⁴ See Weekly Report at Tab 20, 15 June 2007

⁶⁵ See Weekly Report at Tab 20, 22 June 2007

⁶⁶ See Weekly Report at Tab 20, 22 June 2007

- 3.62 On 29 June 2007. As mentioned above, David Crawley agreed with me that any future revisiting of the design (which could only lead to programme delay) was a tie risk⁶⁷.
- 3.63 29 June 2007. By this date⁶⁸, there was continuing uncertainty regarding the EARL project. Continuing Critical Issues included awaiting information from Forth Ports, continuing delay in CEC and SRU reaching agreement on land issues, and the final wide-area traffic model⁶⁹.
- 3.64 July 2007. Commencement of MUDFA construction work.
- 3.65 6 July 2007. The cancellation of the EARL scheme was almost certain and demobilisation instructions were given to EARL contractors⁷⁰. This was diverting attention and gave rise to uncertainty within tie. VE measures were being revisited, which were in effect cost reduction exercises and the option of revisiting the architectural design on some of the major structures was being considered, which would very significantly impact on the programme. The stakeholders were told in no uncertain terms of the need to engage on the resolution of Critical Issues initiatives.
- 3.66 13 July 2007. By this date⁷¹, there was substantial concern that the programme could not be achieved. For the first time the pivotal role of stakeholders appeared to be acknowledged - “CEC has all the power required to deliver timely completion”. There were some moves to settlement of PB’s prolongation claim and consideration of novation of the SDS contract.
- 3.67 20 July 2007. By this date⁷², there were continued delays in progressing PB’s claim for additional costs and tie attempted to link the separate issues of claim resolution and programme completion. Even at this stage, CEC and TEL were continuing to debate possible changes to the design.
- 3.68 27 July 2007. There was continued pressure to sign the ‘protocol’ for completion of the programme, without any clarity as to what such would achieve⁷³. Revised change control procedures were improving. PB had previously been paid for the impact of Charrettes up to November 2006 and after that date, such issues had been addressed – or would be addressed – through the Critical Issues initiatives. There were ongoing issues regarding responsibility for consents. PB continued to pursue their claim relative to disruption caused to PB due to lack of coordinated project management.

⁶⁷ see email exchange at Document 10

⁶⁸ See Weekly Report at Tab 20, 29 June 2007

⁶⁹ The wide-area traffic model related to analysis of the furthest out impact of the trams in terms of traffic management along the route

⁷⁰ See Weekly Report at Tab 20, 6 July 2007

⁷¹ See Weekly Report at Tab 20, 13 July 2007

⁷² See Weekly Report at Tab 20, 20 July 2007

⁷³ See Weekly Report at Tab 20, 27 July 2007

- 3.69 *3 August 2007.* By this date⁷⁴, there was ongoing dialogue regarding the commercial issues. Annexed to this Weekly Report was our draft text for response to tie's position for commercial resolution. This response was later submitted. For instance, we set out in that document why tie's allegations of PB fault were unfounded. tie's allegation of late delivery of the Requirements Definition Document were unfounded, amongst other things, in the context of information still being provided by tie well into December 2005. tie's allegation of late delivery of the Preliminary Design was unfounded, amongst other things, on the basis of the date of the SDS Contract award and the detailed nature of pre-contract clarifications, and in any event the date actually submitted was the result of an agreement with tie to synchronise preliminary design submission with tie's wider procurement strategy.
- 3.70 *10 August 2007.* The progress of detailed design was substantially 'on target'⁷⁵.
- 3.71 *7 September 2007.* By this date, detailed design progress was continuing substantially on target, equating to 9 consecutive weeks of progress in such regard following resolution of remaining Critical Issues on 28 June 2007⁷⁶. Delivery of Utility Diversion Designs was also substantially on target, with some risk to some interim milestones from some failures of SUCs to deliver information on time.
- 3.72 *14 September 2007.* Design continued substantially on target⁷⁷.
- 3.73 *21 September 2007.* At a discussion Willie Gallagher⁷⁸ indicated his view that whilst the project had suffered in the early stages, relations were now much better, and he was anxious to learn from past mistakes. He indicated tie's intention to restructure, centred on appointment of an experienced construction manager and suggested that I would be surprised by some of the proposals. There was some improvement, but then matters got bogged down in contract negotiations with the Infracore. Consideration continued regarding novation. The SUCs' inadequate resources gave rise to delays to approval of SDS designs. MUDFA programme issues lay with tie.
- 3.74 *28 September 2007.* There were escalating problems with the tie MUDFA programme⁷⁹. Delays arose due to failure of SUCs to engage with the MUDFA delivery programme. Willie Gallagher was very critical of tie's management of the MUDFA Contract. It was reported to me that Thursday's Tram Project Board meeting included a very upbeat report on PB/SDS delivery performance as a result of the continuing on-target weekly delivery of detailed design packages to tie. There was discussion with Willie Gallagher regarding the extent and scope of PB/tie responsibility. I stressed the need for tie to gain better control of the MUDFA programme and Willie Gallagher later clarified that his concern about the MUDFA problems was with the entire team, as he had clarified to his tie management team.

⁷⁴ See Weekly Report at Tab 20, 3 August 2007

⁷⁵ See Weekly Report at Tab 20, 10 August 2007

⁷⁶ See Weekly Report at Tab 20, 7 September 2007

⁷⁷ See Weekly Report at Tab 20, 14 September 2007

⁷⁸ See Weekly Report at Tab 20, 21 September 2007

⁷⁹ See Weekly Report at Tab 20, 28 September 2007

- 3.75 On 3 October 2007, we received through tie feedback on a 3-day intensive investigation by the Office of Government Commerce (“OGC”), which was very positive⁸⁰.
- 3.76 12 October 2007. Concerted efforts to drive SUC collaboration led to improvements in that regard⁸¹. There was discussion about the Business Case intent that novation would be once design was 100% complete. Detailed design remained on schedule.
- 3.77 19 October 2007. Most of the tie team were involved in updating the business case⁸². Jason Chandler presented a very comprehensive analysis of SDS deliverables to Willie Gallagher by way of an update on the design produced by SDS for the tram network. There were delays to the preferred bidder announcement.
- 3.78 October 2007. BBS was declared preferred bidder.
- 3.79 26 October 2007. The final business case submission was approved⁸³ and Willie Gallagher issued an internal communication recording the tireless effort and hard work of the team including all partners on the project. Negotiations with BBS were progressing. I was first introduced to BBS and I noted comments by BBS that designs supplied with the tender were highly detailed. There were continuing issues about novation of SDS. There were better results for MUDFA collaboration.
- 3.80 2 November 2007. The focus was on bringing order to technical clarification meetings with BBS⁸⁴. I had concerns about the approach of tie to a common understanding of goals and a properly structured plan for progress of the BBS procurement.
- 3.81 9 November 2007. I continued to have concerns about Preferred Bidder meetings with BBS⁸⁵ and the lack of knowledge by tie of the technical content of BBS offer.
- 3.82 16 November 2007. Negotiations with BBS continued⁸⁶. The high quality of information provided by PB to date was acknowledged. tie was engaged in redrafting the ERs to version 3 and I emphasised that the detailed design completed to date would have to be reviewed against such revised ERs. tie’s failure to set a robust programme for BBS negotiations was a concern.
- 3.83 Changes to the ERs were a significant issue in delays to the project. I flagged the importance of focusing this issue, for instance in my email on 20 November 2007⁸⁷.

⁸⁰ See email from Willie Gallagher on 3 October 2007 at Document 11

⁸¹ See Weekly Report at Tab 20, 12 October 2007

⁸² See Weekly Report at Tab 20, 19 October 2007

⁸³ See Weekly Report at Tab 20, 26 October 2007

⁸⁴ See Weekly Report at Tab 20, 2 November 2007

⁸⁵ See Weekly Report at Tab 20, 9 November 2007

⁸⁶ See Weekly Report at Tab 20, 16 November 2007

⁸⁷ Document 14

- 3.84 There were technical difficulties regarding the trackform on Princes Street⁸⁸.
- 3.85 *23 November 2007*. Preferred bidder negotiations continued⁸⁹. BBS were seeking to put risk on tie.
- 3.86 *25 November 2007*. Base Date design information date. Version 31 of SDS Programme. It was this programme that was subsequently incorporated into the Infraco Contract even though the programme developed to Version 37 by the time the contract was signed.
- 3.87 *30 November 2007*. Negotiations with BBS continued⁹⁰ and Technical Approvals with CEC. The clock was running down against CEC's 20 December deadline. Changes to the ERs was a key issue. It had always been intended that the Technical Specification prepared by SDS would form part of the Infraco's ITT and would be in line with the ERs, but tie introduced a number of changes to the ERs without reference to SDS.
- 3.88 *7 December 2007*. BBS were attempting to use incomplete design as reason for an incomplete offer⁹¹. The design itself was sound and indeed BBS had commented about the high quality of design with the tender. However the core requirement from the business case that a complete detailed design be available for submission to the Infraco was not followed through to contract award. The misalignment of the ERs issue continued.
- 3.89 *w/c 9 December 2007* saw tie focused almost exclusively on achieving financial close with BBS⁹². BBS didn't deliver the required final price and programme at the stipulated date. There was limited progress on novation planning with tie and BBS engaged on other priorities. We accelerated delivery of the design packages as part of a drive to complete as much as possible of the SDS contract scope prior to novation.
- 3.90 *21 December 2007*. There were continuing discussions with BBUL⁹³. There was a meeting regarding the potential consequences of implementing a revised set of ERs. There were changes to delivery phasing for MUDFA.
- 3.91 *December 2007*. Mobilisation and advance work agreement with BBS.
- 3.92 *December 2007*. Final Business Case, version 2 issued⁹⁴.
- 3.93 *11 January 2008*. Financial close for the Infraco negotiations was now targeted at 28 January 2008⁹⁵. A meeting to review the potential consequences of implementing revised ERs to

⁸⁸ See for instance Document 13

⁸⁹ See Weekly Report at Tab 20, 23 November 2007

⁹⁰ See Weekly Report at Tab 20, 30 November 2007

⁹¹ See Weekly Report at Tab 20, 7 December 2007

⁹² See Weekly Report at Tab 20, 14 December 2007

⁹³ See Weekly Report at Tab 20, 21 December 2007

⁹⁴ Document 21

⁹⁵ See Weekly Report at Tab 20, 11 January 2008

reflect changes to accommodate the BBS offer was postponed. There were issues to resolve regarding the interface between MUDFA design and SDS contract novation.

- 3.94 On 13 January 2008, I sent an email to Matthew Crosse attaching a diagram to illustrate the evolution of the misalignment between the ERs and the SDS design⁹⁶. The diagram attached to my email shows how the technical specification prepared by SDS evolved in isolation from the ERs under tie's control. Ultimately the offer received from BBS did not align with the Technical Specification, or the ERs, and significant costs were incurred in resolving the issue.
- 3.95 An email exchange followed on 12-14 January 2008⁹⁷ regarding the impact of changes made by tie to the ERs without reference to SDS. Unrealistic timescales were given to SDS in relation to the coordination of the revised ERs and the SDS design.
- 3.96 18 January 2008. Whilst financial close on 28 January 2008 was still advertised, in reality a revised target date was anticipated⁹⁸. tie had issued a revised version 3.2 of the ERs running to some 700 pages. At this time, I recorded in my weekly notes that *"tie has not managed the Employer's Requirements definition process at all well and has ended up with an unwieldy and potentially inconsistent set of Requirements. This is a key source of risk and a prime cause of the delay to tie's achievement of financial close"*.
- 3.97 25 January 2008. There were ongoing delays in BBS negotiations⁹⁹ and discussions now assumed an end February target. The ERs remained a significant issue. In that regard, I offered to Willie Gallagher to help with verification of revisions, assessment of consistency etc.
- 3.98 1 February 2008. Willie Gallagher was very impressed that PB had achieved 96% of the target of 300 Detailed Design deliverables to tie by 28 January 2008¹⁰⁰. He acknowledged that had been a significant achievement, especially since the target had been set as long ago as 3 July 2007. Negotiations with BBS continued and a target date for the issue of a letter of intent to BBS was set for 13 February 2008. A key task at this stage was definition of the BBS construction programme.
- 3.99 Review of the revised ERs continued. For instance see email exchange on 15 and 18 February 2008¹⁰¹.
- 3.100 8 February 2008. There were concerns about the achievability of the 13 February target date¹⁰². The gap between the SDS design and the BBS offer was a continuing concern and this impacted the novation planning process.

⁹⁶ See Document 16

⁹⁷ see Document 17

⁹⁸ See Weekly Report at Tab 20, 18 January 2008 (mistakenly dated 11 January 2008)

⁹⁹ See Weekly Report at Tab 20, 25 January 2008

¹⁰⁰ See Weekly Report at Tab 20, 1 February 2008

¹⁰¹ Document 18

- 3.101 *15 February 2008.* BBS negotiations continued and I considered that the most important area of debate was the misalignment between SDS Design and BBS Offer¹⁰³. I had concerns about tie's procedural control over the development of the ERs.
- 3.102 *22 February 2008.* There was intensive effort on the SDS novation¹⁰⁴. An email from Willie Gallagher dated 21 February 2008 recorded his concerns regarding the process for concluding negotiations - in particular in completing the SDS novation - and I understood that Willie Gallagher's main concern was the poor performance of his own team. tie had convened a meeting on Tuesday 19 February 2008 and a serious concern for PB was the expectation that PB should be prepared to declare compliance with the ER's. tie eventually recognised the need for paid instruction to change the SDS design to align with the ER's and acknowledged that tie no longer had the technical capability in house to be able to undertake the exercise of alignment. tie's inability properly to review the BBS offer in the context of the SDS design since declaration of BBS as preferred bidder had contributed significantly to slippage to the Infracore Award date. A further concern was that required redesign work may be of sufficient magnitude to impact on the construction programme. The email from tie on 15 February 2008¹⁰⁵ gave me concern regarding tie's control over the process.
- 3.103 *29 February 2008.* There were intensive efforts regarding SDS novation¹⁰⁶.
- 3.104 *14 March 2008.* Negotiations continued with BBS and relative to novation¹⁰⁷. There was a meeting with Willie Gallagher and others. By now tie had issued an instruction to PB to undertake an assessment to identify misalignment between the ERs (now at version 3.5a) and the SDS design.
- 3.105 *21 March 2008.* There had been formal notification of intent to award the contract to BBS¹⁰⁸ on Saturday 29 March 2008.
- 3.106 *28 March 2008.* Having set the 29 March 2008 contract award date, it was acknowledged that with negotiations continuing this would not be met, and a revised date of 15 April 2008 had been advised to me.
- 3.107 *4 April 2008.* Richard Walker and I agreed that the most important issue regarding SDS novation was to define an unambiguous scope and programme.
- 3.108 *18 April 2008.*¹⁰⁹ tie provided a set of draft instructions to be costed for changes required to the SDS design to align with the ERs. PB had provided two reports on the misalignment issue

¹⁰² See Weekly Report at Tab 20, 8 February 2008 (mistakenly dated 1 February 2008)

¹⁰³ See Weekly Report at Tab 20, 15 February 2008

¹⁰⁴ See Weekly Report at Tab 20, 22 February 2008

¹⁰⁵ Document 18

¹⁰⁶ See Weekly Report at Tab 20, 29 February 2008

¹⁰⁷ See Weekly Report at Tab 20, 14 March 2008

¹⁰⁸ See Weekly Report at Tab 20, 21 March 2008

¹⁰⁹ See Weekly Report at Tab 20, 18 April 2008

by 27 March 2008, but tie had only provided an incomplete draft response on 16 April 2008. PB's Misalignment Reports were a key part of developing an agreed scope of work to be undertaken under the Novation Agreement. tie's lack of response meant that there was continued uncertainty regarding the construction scope of work.

- 3.109 *25 April 2008*. Negotiations continued¹¹⁰. Parties were working to 2 May for formal signing. A new issue of concern was the potential for the Tram "Design Workbook", unofficially handed to me on Thursday 24 April 2008, to have a material impact on the timescales for Approvals and Consents, and therefore the project programme. This issue arose in relation to the trams fit with CEC's wider aspirations for public realm. CEC were identifying new public realm standards which gave rise to yet further potential changes. Even in April 2008, this risked significant impact on design. In the event, it was closed off and didn't become an issue, but is indicative of the lack of appreciation of the impact of such aspirations on programme by CEC as a major stakeholder. See my emails on *24 April 2008*¹¹¹ attaching letter from the CEC City Development Planning and Strategy team.
- 3.110 In summary, by October 2007 BBUL and Siemens (together "BBS") had been identified for the Consortium and PB had started to work with BBS, with novation negotiations beginning. DLA drew up the Infraco terms, the CAF terms and the terms for the novation. It took from October 2007 to May 2008 to conclude the contract documents. Material issues which arose during this period were:
- 3.110.1 Management of utilities and the MUDFA contract;
 - 3.110.2 Alignment of ERs with the scope as let; and
 - 3.110.3 Progress of negotiations with the Infraco.

May 2008 to March 2011 – Infraco prolongation and disputes between tie and Infraco

- 3.111 In my view, as an observer, this is another significant period in relation to problems which arose during the project. By this stage PB had been novated to Infraco/BBS. For that reason, I was not directly involved in interfaces with tie and CEC after novation. I therefore simply record a number of issues that I observed during this period.
- 3.112 Considering the prolongation which occurred during this period, in my view some of the delay resulted from an inconsistency in the Infraco agreement which included a pricing assumption that VE would be delivered and a programme that did not allow the time required for implementation.
- 3.113 Furthermore, the version of the SDS programme incorporated into the Infraco Contract, and against which PB was novated, was not the most current version at the time, because

¹¹⁰ See Weekly Report at Tab 20, 25 April 2008

¹¹¹ Document 19

negotiations had taken several months before the contract was concluded. By the time that the Infraco Contract was entered into, Version 37 of the SDS programme had been reached. Version 31 was incorporated into the Infraco contract. This gave rise to an immediate Compensation Event.

- 3.114 Considering pricing, my understanding is that pre-contract tie removed a sum of £7M for systems integration, but failed to agree on responsibility for systems integration. tie were trying to reduce the cost, but the failure to deal with the consequences gave rise to a scope gap.
- 3.115 As I have narrated above, the ERs were changed to match the Infraco offer. The SDS design changes which this revision necessitated were completed during this period.
- 3.116 Richard Walker and I met on several occasions post novation. My records of a meeting on 13 June 2008 record that *“The main subject of this week’s review was the continuing problem being experienced with CEC Planning Dept’s approach to the Prior Approvals process. Whilst things have improved from two months ago BBS is now starting to experience the type of preferential engineering approach which has delayed the project on regular occasions in the past. With the signing of the Infraco contract and the novation of the SDS Agreement the order of priority has changed and whilst the needs of the Planning Dept have still to be taken into account those needs are lower priority than meeting the Employer’s Requirements. Provided the submissions can be demonstrated to have met the Employer’s Requirements then any changes required by the Planning Dept are at tie’s expense. Richard’s view is that he and I should request a meeting with Willie Gallagher to remind him of the assurances given by tie through the Infraco negotiations that the Planning Dept needs would be contained.”*

3.116.1 The problem which was surfacing again was the inclination to refuse approval for designs because, on review, CEC would decide that something different would be better, notwithstanding that the submitted design complied with the ERs.

- 3.117 It is clear that relationships became strained during this period. The project fell into particular difficulty between late 2008 and late 2010. There was a serious risk of cancellation of some of the project.

- 3.118 The key dates during this period were:

3.118.1 *14 May 2008.* Infraco Contract Award.

3.118.2 *14 May 2008.* SDS Novation.

In early 2011, Colin Smith and Sue Bruce became involved for CEC and started to create an effective recovery plan, documented in the “Phoenix Agreement”. (I had some involvement at the Phoenix Settlement meeting. Jason Chandler and I, together with two Halcrow representatives, were on call if needed).

- 3.119 The Phoenix Agreement was signed in March 2011, with the scope of work required for a substantially reduced scheme running between Edinburgh Airport and York Place rather than Leith. The price agreed at Phoenix represented a significant overspend. I believe that key to the Phoenix Agreement was a recognition by both Colin Smith and Sue Bruce that the approach adopted by CEC to that point had been overly pedantic. Certainly progress beyond this point was much better directed.
- 3.120 Following Phoenix matters moved forward pretty much on programme with much better direction.
- 3.121 *May 2014*, Public service commenced.

4 CORE ISSUES

- 4.1 In this section, having outlined the detailed chronology of events, I describe and summarise the main issues which I consider to be relevant to the Edinburgh Tram Inquiry. I will begin with an overview of the main issues relating to the various parties involved. I will then describe particular issues, which I have numbered.

tie/CEC

- 4.2 tie as programme manager was responsible for delivery management and also stakeholder engagement, with stakeholder management always critical to the successful delivery of light rail schemes. Several issues arose through the course of the SDS contract, with the following serving as useful examples.

- 4.3 From a stakeholder management perspective:-

4.3.1 Problems arose from the management of stakeholders in relation to the underlying specification. This related to the primary stakeholders (CEC, Lothian Buses and Transport Edinburgh Limited), and to secondary stakeholders such as Forth Ports.

4.3.2 tie's constitution seemingly made it difficult for tie staff to challenge CEC-inspired changes to the tram network design. It could be argued that there was an overly zealous approach to planning by CEC which was not conducted in the collaborative fashion required to allow tie to meet programme timescales.

4.3.3 An example of such issues is tramstop design, where proposals were tabled at one point for the removal of tram shelters to provide for uninterrupted views. The primary concern should have been more focused on functionality.

4.3.4 There were failures properly to apply tie's contracts with the SUCs.

- 4.4 From a delivery management perspective:-

4.4.1 The contractual period for review of the preliminary design was prolonged by several months.

4.4.2 There were numerous changes after completion against Preliminary Design and there were late change instructions which impacted on the completion of the design.

4.4.3 The introduction of Charrettes gave rise to uncertainty over the underlying specification, and the Charrettes process was itself lengthy rather than providing a quick solution as it should have done. Major changes were introduced.

- 4.4.4 The tie failure to drive forward Detailed Design was only overcome as a result of the SDS email to tie (D Crawley) in June 2007¹¹².
- 4.4.5 Delays were experienced in interface management, notably as a result of the emerging design for the EARL project.
- 4.4.6 There was little engagement with the SDS contract by tie's engineering director early on. The opportunity for early appreciation by tie of fundamental design standards was lost, which arguably led to tie's inclination to accept low cost, inadequate solutions later in the programme – with the Princes Street low-cost trackform aspiration being the key example. tie was seeking to replace the PB design with a lower cost alternative. PB demonstrated to tie and its independent consultant that the tie alternative was unsatisfactory. PB was put under great pressure to relent on this issue, but in the end PB was shown to be correct. This is an example of attempts to cut corners, which didn't work.

Political uncertainty

- 4.5 This gave rise to uncertainty in terms of underlying objectives. This was an undercurrent to the direct day to day issues which we encountered, but is illustrated for instance in the Glasgow Caledonian University paper, *Edinburgh Trams: a case study of a complex project in 2010*.

In summary of the key issues, I now move on to identify 11 key issues which I consider to be of importance to the Inquiry.

Issue 1 – The Business Case

- 4.6 The CEC Business Case is the baseline for CEC's intentions. The Business Case shows what CEC wanted to do and is the direct comparator to what actually happened. The Business Case was a good document in its general aspirations.
- 4.7 The Business Case was not properly implemented.
- 4.8 It is important to compare the Business Case to the facts and circumstances which subsequently arose, particularly those factual circumstances which I have recorded above.

Issue 2 – Planning permission

- 4.9 It is important to compare the endorsed baseline with the substantially changed scheme which evolved through the period of the design. Significant changes arose in that regard.

¹¹² Document 10

- 4.10 The obligation for PB to deliver a design which accommodated planning changes was invoked by tie and CEC to an unreasonable extent with no recognition of the programme impact of repeated change and excessively detailed review of emerging designs

Issue 3 – Changes due to Charrettes with CEC/tie and TEL

- 4.11 The Preliminary Design was completed in accordance with the Contract Requirements, including Tram Design Manual, Parliamentary Drawings and other baseline information.
- 4.12 However, after the complete Preliminary Design was submitted to CEC, the base scheme and fundamental design principles described in the Parliamentary Drawings and other core documents were challenged by CEC, tie and TEL.
- 4.13 A Charrettes process was arranged by tie and CEC to reassess the Promoter's requirements for sections of the route. It is important to consider the approach taken by CEC and the interface between CEC and tie in the management of this process. As I have explained above, the Charrettes process gave rise to significant change, and its management led to lengthy delays.
- 4.14 Additional services were requested by tie for detailed studies in respect of aspects of the Preliminary Design.
- 4.15 Fresh optioneering exercises were undertaken and a new base scheme developed for many sections of the route. This differed from the original contract baseline and Preliminary Drawings.
- 4.16 Substantial delays to programme arose from Issue 3.

Issue 4 – The role of CEC and tie

- 4.17 A further issue was the role of CEC as distinct from tie.
- 4.18 CEC established tie as an independent body; yet they adopted a hands on approach themselves. CEC continued their active involvement as a principal, notwithstanding tie's appointment.
- 4.19 They 'remained in the ring', so that the dialogue was three way not two way. This further confused matters. CEC remained constantly involved and directly participating in a manner which was not properly aligned with tie's programme management role.
- 4.20 The original contract was for tie to be principal and yet CEC remained actively engaged as a principal and this is a further issue to be considered.

Issue 5 – Changes due to additional third party agreements

- 4.21 Changes arose subsequent to SDS Contract award from:

4.21.1 New third party agreements.

4.21.2 Changes to draft agreements between third parties and CEC.

4.22 These changes gave rise to design revisions, increases to scope, and impacted on programme delays.

Issue 6 – Changes instructed by tie

4.23 Whilst the design was produced in accordance with the Tram Design Manual, alternative design studies were required to the Tram Design Manual.

4.24 Numerous changes were instructed after completion of the Preliminary Design.

4.25 Issue 6 impacted on cost and programme prolongation during the detailed design phase.

4.26 Ultimately the detailed design could not be completed on time, with the result that a key objective of the Business Case (ie novation of a 100% design to Infracore), could not be delivered.

Issue 7 – Utility Diversions

4.27 It is important to understand the timing and content of the contracts between tie and the utility companies.

4.27.1 The provisional sum did not properly represent the circumstances on the ground.

4.27.2 The original utilities contract had not been correctly estimated. tie had not provided the programming required. Ultimately programming responsibility was with the utility providers themselves.

4.28 It is important to compare the original programme relative to utilities compared to what occurred, and the reliability of the original material handed over.

4.29 In 2007 PB was being criticised for utility delays, whereas in reality there was an earlier failure to deal with utility diversions.

4.30 Problems arose from an early stage in the performance of the MUDFA contract.

4.31 SUCs failed to meet master programme review periods agreed with all parties including tie.

4.32 Issue 7 impacted on timing, including delays in the production of the design deliverables necessary to progress the utilities diversion works, leading to consequential delay claims by the MUDFA Contractor.

Issue 8 – Delays to resolution of “Critical Issues”

- 4.33 There was an initiative commenced in early 2007 to address so called “Critical Issues”.
- 4.33.1 Critical Issues were design issues which had been unresolved for some time (some months in several cases), and which were holding up detailed design completion on many elements of the infrastructure including roads and tramstops.
 - 4.33.2 Given the complexities involved, resolution required engagement with multiple stakeholders. The key participants were CEC and TEL.
 - 4.33.3 CEC and TEL used the absence of results from the detailed traffic modelling exercise (which was being applied to the design by CEC) as a reason not to approve designs already submitted for road junctions.
- 4.34 The major stakeholders failed to appreciate the severe impact on programme for (at best) marginal improvement in the design and the consequential impact on completion of detailed design and novation of the design contract.

Issue 9 – Changes due to EARL

- 4.35 It is important to consider the programme for the EARL up to its termination (including the fact of the EARL project running several months behind the tram project prior to its termination).
- 4.36 In particular there was a lack of coordination by tie of the interface issues between the tram and EARL.
- 4.37 This gave rise to consequential impact on design, programme and cost.

Issue 10 – Changes due to third party developers’ emerging designs

- 4.38 Another important issue is the securing, during the Preliminary and Detailed Design Phases, of planning permission by developers along the route from CEC which conflicted with the base scheme for the Edinburgh Tram.
- 4.39 This impacted on redesign and delay to the tram infrastructure design.

Issue 11 – ERs Management

- 4.40 The original set of ERs was prepared at an early stage in the design development under the SDS Contract. It was intended that the Technical Specification and the detailed design produced in line with this specification would align with the ERs.
- 4.41 However significant changes were implemented by tie in respect of the ERs.

- 4.42 There was a failure by tie to synchronise the Technical Specification included with Infraco ITT and the ERs.
- 4.43 Furthermore, the Infraco offer did not fully comply with the Technical Specification.
- 4.44 tie elected to amend the version of the ERs to align with a clarified Infraco offer, but there was persistent misalignment with the SDS design.
- 4.45 The solution adopted by tie was to instruct changes to the SDS design to bring it into line with the Infraco offer but these changes could not be implemented prior to novation, further exacerbating the novation of an incomplete design, in contravention of the Business Case intent.
- 4.46 Risk arose from the tie approach, associated with the relationship between contracted deliverables and the needs of the stakeholders.

5 SUMMARY

- 5.1 In general summary, the adverse consequences in time and cost with the Edinburgh Tram Project primarily arose due to:
 - 5.1.1 The failure to apply the Business Case;
 - 5.1.2 The failure to apply sufficiently rigorous project management, particularly in respect of the management of stakeholders in relation to change.
- 5.2 I consider that project prolongation arose in consequence of repeated change and indecision especially during the first 12 months of the scheduled detailed design period, and subsequently following the Infraco contract award.
- 5.3 The trams have proved to be successful and the quality of the design provided by SDS is not in question. As Project Director for PB I am proud to have been part of delivering what I am sure will come to be recognised by the City of Edinburgh as a world class transport system.

6 **DECLARATION**

6.1 I declare that the contents of this statement are true to the best of my knowledge and belief.

Signed:



Steve Reynolds

Dated:

08-OCT-2015