

**TOM HICKMAN – Q&A**

I would be grateful if you could provide a full CV (setting out your vocational qualifications and experience).

This Note is structured as follows:

- Introduction
- The Trams Project – General
- Events between 2006 and May 2008
- Events between June and December 2008
- 2009 to 2011
- Extensions of Time etc
- Project Management, Governance and the main Contractors
- Final thoughts

**INTRODUCTION**

1. By way of introduction:

(1) What were your main qualifications and vocational experience prior to working on the Edinburgh tram project?

I have been employed, initially as a Planner and then as a Planning Engineer, with various employers since 1981. I was Lead Planning Engineer with BP Grangemouth from 1990-1999. I was then Zone Planning Engineer with First Engineering from 1999-2001 with responsibility for heavy rail maintenance activities. I worked again with BP Grangemouth from 2001-2006, ultimately as FPS Central Planner. From 2006-2007 I was a Senior Project Control Engineer with Turner & Townsend before being seconded to TIE as Programme Manager.

(2) What was your experience of major infrastructure projects, including tram and light rail systems, prior to working on the Edinburgh tram

project?

I had no particular experience of infrastructure, tram or light rail projects.

2. In relation to your work on the Edinburgh tram project:

(1) By whom were you employed on the tram project, what was your job title and between what dates were you employed on the project?

Initially I was employed by Turner & Townsend Mar (2006 – May 2007) as a Senior Project Controls Engineer seconded to TIE to support the Edinburgh Tram Project; later I was employed directly by TIE (May 2007 – Oct 2011) as Programme Manager.

(2) What were your main duties and responsibilities in each role?

At Turner & Townsend I was responsible for directing a team of planners to ensure that a robust and integrated programme covering various work streams and 3rd party inputs was available to inform decisions at both Business and Government Levels; writing Planning procedures and protocols and inputting to change control and budgets; and working with Project Managers and External Stakeholders to prepare summary programmes indicating the life Cycle of the project.

At TIE I managed the Programme team to analyse, monitor and integrate various contract and third party Project Programmes; developed and presented Period Progress Reports; evaluated schedule merit on claims/dispute and contractor request for changes and/or extensions of time; co-ordinated submitted schedules with Client Project schedule & confirmed progress against approved contract schedule.

I was responsible for programme planning, resource profiling, recovery, progress update & slippage monitoring; for development and alignment of project milestones with cost milestones; for review and analysis of claimed impacts affecting critical path/milestones with Programme team; for creation, development, analysis and maintenance of the various Programmes; for identifying and preparing Work Breakdown schedules (WBS), Resource Breakdown Schedules (RBS) & Organisational Breakdown Structures (OBS); for development of reports to be prepared across the programme and construction teams for Stakeholders, Executive Management Team and Project Managers indicating progress/material usage against plan and rescheduling of any underachievement; for the Creation, development and maintenance of As built programmes in Primavera and Microsoft Project; for creation and maintenance of the Adjudication programme used by the Client, Forensic Planners and Lawyers; and for the development of concurrency charts to track and recording the development of Compensation Events, Notices of Change and other relevant information.

(3) In each role, to whom did you report and who reported to you?



In my role with Turner & Townsend I reported directly to Silviu Rosu, Project Controls Manager, and Orla O'Regan reported to myself.

At TIE I reported directly to Susan Clark with Clare Norman, John McAloon, and Dominick Stuart reporting to myself.

### **THE TRAM PROJECT – GENERAL**

**It would be helpful if you could provide an overview of the matters in this section.**

**In answering the more detailed questions later in this note please, of course, feel free to refer back to your answers in this section if you consider that they adequately answer the more detailed questions that follow.**

#### **The role of the TSS Provider**

3. We understand that on 25 July 2005 TIE appointed Scott Wilson Railways Limited as Technical Support Services (TSS) provider (CEC01651410).

The first schedule of the TSS agreement set out the scope of the TSS provider's services (CEC01580826) (at page 54 of the agreement).

By way of overview:

(1) In general, what services were provided by TSS to TIE? Did the services provided by TSS to TIE change in any way (and, if so, when and why)?

As I was not involved with the Project in 2005 I cannot comment on the original intent of the TSS Agreement nor whether that agreement changed over time.

(2) Are you aware if there were any services in the SDS agreement that it was anticipated that TSS would provide to TIE but that, for whatever reason, TSS did not provide or TIE did not instruct?

I am not aware of any services that were either not provided or not instructed.

(3) To what extent, for example, did TSS provide TIE with the Commercial Support services referred to in the TSS agreement (at pages 62 to 67) including, for example; supporting TIE in the development and management of the Project Cost Plan; leading reviews of the adequacy of the project risk management plan; reviewing the project risk register; and reviewing the adequacy of the cost and programme contingency report?

I cannot comment on the commercial support nor project cost plan or risk plan, other than I would have expected these to have been aligned to reflect the Master Project Programme, however I cannot recall with any level of clarity whether or not this was achieved. I do recall regular

review sessions of the Project Risk register and alignment of risks with Programme activities.

(4) Are you aware why TSS did not provide to TIE any services that the TSS agreement had anticipated would be provided?

No.

### **Programme**

4. In relation to the programming for the tram project:

(1) By way of overview, it would be helpful if you could explain the different programmes that were compiled for the tram project (including, for example, the master programme and the programmes for the design, utility and infrastructure etc works)?

The SDS design programme was developed by Parsons Brinckerhoff. This programme reflected the design build in the same pre-determined sections of the route as was used in the main programme to allow alignment of information. This programme would then be submitted to TIE to allow progress to be monitored and current forecast dates to be integrated into the main programme logic.

The utility diversion programme was developed initially by Alfred McAlpine and then later by Carillion. Again this was at the same level as per the Master Programme to allow alignment of progress and date data.

The Infrastructure programme was probably initially developed by TIE, with the detailed programme available following award of contracts. I say 'probably' as TIE had a Programme Manager and programme in place when I joined the project via Turner & Townsend but at what level of detail I cannot recall. Again this was structured in such a way as to allow alignment of progress and date data.

Logic existed between these three programmes such that if a section of design was early or late, then that would improve or impact the subsequent utility, and infrastructure programmes, with similar improvements, or impacts, between utilities and Infrastructure.

The Master programme was an amalgamation of the three programmes above. It replicated the SDS Primavera programme and linked the utilities, and infrastructure, information into it.

(2) How were these programmes compiled and updated? What was the role of TIE, and what was the role of the main design, utilities and



infrastructure contractors in compiling and updating the programmes?

These programmes were compiled using Primavera Planning software in a hierarchical structure such that the logic flowed throughout the Master Programme, as described in the previous answer. The detail behind both the SDS Design Programme and Utility Diversion programmes was at a much lower level, which was rolled up to a more manageable or summary level within the Master Programme.

TIE's role was to compile and update the Master Programme based on the information provided by the contractors on a monthly basis. The information tended to be accepted as submitted (following review by the appropriate members of the TIE team) imported to the Master Programme and then the impact of the update assessed. The SDS monthly update was frequently received late, which caused issues when it included forecast dates which had already passed.

(3) Approximately how many activities did the programmes take into account (see, for example, your e-mail dated 26 September 2007 to Orla O'Reagan, TSS, TIE00256418, attaching a document summarising the evolution and development of the master programme between September 2006 and September 2007, TIE00256419, which noted that the programme had developed from 2246 activities to 4708 activities).

I do not accurately recall activity numbers but do recall that the main programmes numbered many thousands of activities that themselves had many thousands of activities below them held in the contractor's submissions.

(4) What were the main challenges in compiling and updating the master programme and the programmes for the different works?

One of the main challenges was being in a position where we had robust, accurate and, most importantly, up-to-date information from which to inform the master programme. The level of detail required to monitor and progress the many thousands of activities in the utility and infrastructure programmes whilst being able to summarise this at a presentable level was also a challenge.

(5) In compiling and revising the various programmes you, presumably, required to rely on information provided by others (both from others in TIE and from the main contractors). Did you ever have any concerns about the reliability of information provided by others? If so, please explain your concerns?

As noted above it was important to have robust, accurate and most importantly up-to-date information from which to inform the Master Programme. In some instances we did receive information from the main contractors in a time frame in which some of the forecast dates were already in the past. However information as presented was always verified by the TIE team member in the associated role.

(6) To what extent, if at all, were you responsible for ensuring that the works progressed according to the various programmes, including the master programme? Which individuals within TIE were responsible for ensuring that the works progressed according to the various programmes, including the master programme?

My responsibilities were to maintain the integrated Master Programme and to provide the Senior Management team with robust information from which they could make informed decisions. There would be a number of other people in Senior positions directly responsible for ensuring that the works progressed to meet the schedule.

(7) How were the programmes (and any material slippages in or revisions of the programmes) reported to the relevant decision makers (including e.g. the Tram Project Director, the TIE and TEL Boards, the Tram Project Board and CEC and Transport Scotland)?

Following receipt of information from other contractors, which allowed the Master Programme to be updated, any slippages would be reported through the established reporting mechanisms, which were generally fortnightly or monthly, with any more critical issues being discussed directly with line management up to the level of Tram Project Director. All other reporting was via formal reports issued to the various stakeholders.

(8) Did you have any concerns, at any stage, in relation to how the programmes (including any material slippages or revisions) were reported to the main decision makers?

My concerns would have been around having the most robust information available to support the reporting being submitted to the major stakeholders. Examples of my concerns are highlighted in the later questions.

### **Procurement Strategy**

5. In relation to the procurement strategy for the tram project:

(1) By way of overview, what was your understanding of the main aims of the procurement strategy for the tram project and how these aims would be achieved?

I understood the concept of the main aims of the procurement strategy. The intention was that the design and the utilities diversions would be complete before the infrastructure works so that there was a 'buffer' for Infracore. The Infracore contract was to be achieved by a competitive tendering strategy



(2) What was your understanding of the importance of obtaining a fixed price for the Infraco contract and how that was to be achieved?

I understood the concept and importance of achieving a fixed price contract to achieve not only certainty of cost but also delivery and scope. The intent was to achieve this by a competitive tendering strategy under-pinned by a completed design and utility diversion programme prior to award of Infrastructure contract.

(3) In the event, do you consider that the main aims of the procurement strategy were met (and, if not, why not)?

Generally, the main objective of competitive tendering was achieved, although the expectation of having a completed design and utility diversion programme at the point of Infrastructure award proved a challenge. This was not fully achieved with some of the remaining utility diversions transferred into the Infraco build scope.

### **Design**

6. TIE and Parsons Brinckerhoff entered into a System Design Services (SDS) agreement in September 2005 (CEC00839054).

Under the agreement, the design was to be provided in three phases, namely, a Requirements Definition Phase, a Preliminary Design Phase and a Detailed Design Phase.

The SDS agreement included a programme for producing the design.

See, in that regard, the SDS agreement (i) clause 7 (pp30-31), (ii) Schedule 1, Appendix 2, "Programme Phasing Structure" (pp111-112) and (iii) Schedule 4, "Programme" (at p248 onwards).

In particular, Preliminary Design for the sectors comprising phase 1a of the tram project (Edinburgh Airport to Ocean Terminal) would be approved by dates ranging from 30 November 2005 and 28 February 2006, with Detailed Design for these sectors to be approved by dates ranging between 30 March 2006 and 30 September 2006.

The Requirements Definition phase was carried out between September and December 2005.

There were, however, difficulties and delays in progressing the Preliminary Design and Detailed Design according to the timescale set out in the original design programme.

In particular, a Preliminary Design package was issued by the SDS provider to TIE around late 2006 and Detailed Design remained incomplete both at the end of 2007 and when the Infraco contract was entered into in May 2008.

(1) By way of overview, and to the extent within your knowledge, what was your understanding of the main difficulties and delays encountered in carrying out the design work and the main reasons for these difficulties and delays?

This should be addressed by one of the design managers involved. However, my understanding is that many of the existing CEC and SUC (Statutory Utility Company) drawings of underground services were not accurate, existing services were not always installed to the correct

depth, and the GPR services carried out in support of the design did not in all cases discover all existing underground obstructions.

(2) What difficulties did slippage in the design programme cause you as programme manager for the tram project?

From recollection, main sections of the design programme were subject to continual slippage thus eroding any programme float that existed as a buffer between completion of utility diversions and commencement of infrastructure works.

(3) In general, what were your views in 2006 and 2007 on whether the various revised design programmes produced by SDS were realistic and would be achieved? Did there ever come a time when you were confident that the revised design programme would be achieved?

It was widely recognised that to achieve the dates being forecast in the SDS Design programmes would be a major challenge. This was subsequently proven with the continuous submission of SDS Design programmes indicating month on month slippage.

I cannot recall if there was ever a time that I was confident that a revised programme would be achieved as from memory the infrastructure design continued deep into the timescale of the Infrastructure programme.

(4) We note that clause 7.1.1 of the SDS agreement (page 30) refers to a “Master Project Programme”. Was a Master Programme in place when you first started working on the tram project?

Due to the passage of time, as well as the overlap with my time working with Turner & Townsend, I cannot now recall the extent to which the Master Programme existed when I joined the Project.

#### **Utilities**

7. In October 2006 TIE and Alfred McAlpine Infrastructure Services Limited (AMIS) (later Carillion) entered into a Multi-Utilities Diversion Framework Agreement (MUDFA) (CAR00000300).

Under the programme (CAR00005833), pre-construction services were to be carried out between October and December 2006 and MUDFA utility diversions were to be carried out between March 2007 and June 2008.

In or around April 2007 a revised MUDFA programme was produced which showed the utility diversion works commencing in July 2007 and finishing by the end of 2008.

In the event, while the utility diversion works commenced in July 2007 there were difficulties and delays in progressing the works.

(1) What was your understanding of the main difficulties and delays encountered in carrying out the MUDFA works and the main reasons for these difficulties and delays?



My understanding is that many of the existing CEC and SUC drawings of underground services were not accurate, existing services were not always installed to the correct depth, and the GPR services carried out in support of the design did not in all cases discover all existing underground obstructions.

(2) What difficulties did slippage in the MUDFA programme cause you as programme manager?

From recollection, main sections of the MUDFA programme were subject to continual slippage thus eroding any programme float that existed as a buffer between completion of utility diversions and commencement of infrastructure works.

(3) In general, what were your views in late 2006 and 2007 on whether the original programme (and the revised programme) for the MUDFA works was realistic and would be achieved? Were you ever of the view that the MUDFA works would be completed in accordance with the original programme (and the revised programme)? Did your views in that regard change at any time (and, if so, when and why)?

It was widely recognised that to achieve the dates being forecast in the SDS Design programmes would be a major challenge. This was subsequently proven with the continuous submission of SDS Design programmes indicating month on month slippage. I cannot recall if there was ever a time that I was confident that a revised programme would be achieved as from memory the utility diversions continued deep into the timescale of the Infrastructure programme.

### **Risk**

8. In relation to risk:

(1) Who was responsible for managing and monitoring risk in the tram project? Did you have any responsibilities in that regard (including, for example, in relation to risks arising from programme slippage)?

This responsibility lay with the Risk Manager, with whom I interacted to ensure that programme risks were identified and mitigation plans put in place.

(2) What were considered to be the main risks arising from programme slippage?

Design slippage impacted both utility diversions and infrastructure build, Utility diversion slippage impacted infrastructure build. Slippage of dates generally also had the potential to impact road closures, delays through requirements to keep roads open or closed for reasons such as August Fringe, Christmas festivals, Royal Highland show or high-profile visits to the city.

Some of the other factors taken into consideration were removal of trees versus nesting seasons, badger and other wildlife mating seasons, cycles of treatments for invasive species and requirement for Network Rail possessions, all of which were easily impacted by schedule delays.

(3) What steps were taken to avoid or reduce these risks?

Programme calendars were developed to avoid certain activities from taking place during particular periods. Integrated logic was developed to avoid major road junctions or alternative diversion routes from having programmed works at the same time. Regular contact was maintained with emergency services to ensure that routes were available both through the city centre in particular but also through worksites where required.

(4) Were the steps taken to avoid or reduce these risks successful (and, if not, why not)?

All of the mitigation and risk reduction put in place had effect to one level or another. Some risks were easily mitigated where others required much more complex solutions.

(5) In general, how did the approach to managing risk in the tram project (including the risks arising from programme slippage) compare with the approach to risk adopted in other projects you have worked on?

The Tram project in my opinion had a stronger approach than other projects I have been involved in. This included attitude to risk, with input and understanding by major stakeholders of the risks involved, and the identified solutions, and mitigation.

**In the following sections we look in more detail at particular events between 2004 and 2011. Please, of course, feel free to refer back to your previous answers if you consider that you have already dealt with these matters in your response to the above questions.**

**EVENTS BETWEEN 2006 AND MAY 2008**

**2006**

9. As we understand it, you were originally employed on the Edinburgh tram project by the TSS provider.

(1) Is that correct? When did you first work on the tram project? What was your role, duties and responsibilities?

Previously answered in Q2 above.



(2) What were your general impressions of the tram project while you were employed by TSS?

My general first impressions were that I had become involved in a complex and challenging project that would see me work on subject matters that I had not encountered before. I further understood that the project was staffed by knowledgeable people who understood many of the challenges facing them.

(3) What were your views on TIE during that period, including TIE's project management of the tram project and the experience and expertise of TIE and its employees?

Being new to this type of project, I was impressed with the knowledge of the staff, their commitment to the delivery of the project and the expertise that was available from which I could gather information.

(4) To what extent, if at all, were your views and impressions of the tram project and TIE shared by others in TSS?

I think many understood that it would be challenging to deliver such a complex project in the heart of a major city, although there was a great team ethic and togetherness.

(5) Do you have any other comments on events relating to the tram project during your employment with TSS?

No.

10. In an e-mail dated 31 March 2006 you noted, *"I recognise that we have been asked not to be too negative about the performance to date of SDS, but would like to record the following .... As we discussed yesterday I have serious concerns wrt the SDS, as yet incomplete, schedule"* (TIE00258055, with attachment, TIE00258056).

In the final bullet point in your e-mail you stated, *"I have created a forecast line based on the previous 6 months averaged earned hours which would indicate that it will be nearer Feb 2008 rather than Feb 2007 before the design is complete if they continue at present rate"*.

(1) Do you remember who (and why) had asked you not to be too negative about the performance of SDS? Did that request cause you any concerns?

I do not remember in what context I would have been asked 'not to be too negative' or by whom, but I would guess that this would be focused on not alienating a contractor who was already behind schedule.

(2) It would be helpful if you could explain the main points you were making in your e-mail dated 31 March 2006?

The point I was attempting to make was that the information reported by SDS at a programme level was not under-pinned by the available data supporting it, and I had a concern that SDS were not progressed as far as they were reporting.

(3) Were your concerns in relation to the design schedule/programme ever addressed to your satisfaction?

These concerns were continually addressed with SDS but as was later proven the design continued much longer than originally anticipated.

(4) You forwarded that e-mail to Ailsa McGregor, TIE, on 1 March 2007 and stated, “*Note that in March 06 I was predicting it would be Feb 08 before they were finished and nobody would listen ...*” (CEC01794117). To whom did you discuss your concerns around March 2006? What was their response?

The concerns I discussed were covered in the email dated 31 March 2006 (TIE00258055, with attachment, TIE00258056). This email was addressed to Pat Lyden, who was at that time the TIE programme manager, and to Silviu Rosu, my line manager at Turner & Townsend. I do not now recall what their response may have been, though it would be useful to see any email reply from them.

## 2007

11. By e-mail dated 10 January 2007 (CEC01826194) you sent Matthew Crosse, TIE, an Overview Chart tracking SDS Design Deliverables by Preliminary/Detailed Design grouped by Section and Sub-Sections (CEC01826194).

(1) What was the purpose of that document?

It would appear that the purpose of this document was to share with the TIE Project Director information previously shared with other members of the team, that the submitted SDS data indicated slippage in a number of areas.

(2) Do you have any comments on the document?

The attachment is in fact CEC01826195. An Overview Chart was prepared on a monthly basis. It showed the delta against the baseline by highlighting areas of slippage in red and areas of improvement in green.

12. By e-mail dated 19 January 2007 (CEC01799928) you sent Matthew Crosse certain proposals for accelerating design progress in order to

CEC01826194  
should be  
CEC01826195



inform TIE's programme information and reduce pressure on the SDS programme.

(1) It would be helpful if you could explain what had prompted your e-mail including why there was a need to accelerate design progress?

I do not now recall, though I guess this was a proposal to look at ways of providing mitigation to an already under pressure schedule by consciously allowing delay to identified areas of design to allow more critical areas to be prioritised.

(2) What were your main proposals?

See answer above.

(3) Were they adopted? If so, were they successful?

I do not recall if this proposal was adopted.

13. By e-mail dated 27 April 2007 (CEC01625056) you noted further slippage in the SDS programme and attached your overview review of the SDS Design Programme version 14 which had just been received (CEC01625058) and a report by John McAloon showing movement activity by activity (CEC01625057).

By e-mail dated 10 May 2007 (CEC01626309), you attached a copy of the Master Programme (CEC01626310) and noted slippage in various dates, including completion of design in section 01 (Newhaven Road to Haymarket) from 12 December 2007 to 31 January 2008, completion of design in section 02 (Haymarket to Roseburn Junction) from 1 November 2007 to 13 February 2008 and completion of design in section 7 (Gogar to Edinburgh Airport) from 12 November 2007 to 30 January 2008.

It appears that it was anticipated that all detailed design for phase 1a (excluding Balgreen Road Bridge) would be completed by 1 February 2008 and that all detailed design for phase 1a (including Balgreen Road Bridge) would be completed by 15 May 2008 (page 10 of the Master Programme).

The intended award of the Infraco contract remained at December 2007.

(1) Do you have any comments on these e-mails and attachments, including the general trend of the design programme and its effect on the master programme?

At this point it was fairly obvious that the SDS Design programme continued to suffer slippage month on month, and it was readily identifiable that there was slippage greater than the elapsed days since the last provided programme, therefore in my opinion eroding confidence in what was being presented.

(2) What was your understanding around this time of the main difficulties and delays affecting the tram project?

My understanding was that the originally identified underlying issues of the existing CEC drawings of underground services were not accurate, existing services were not in many instances installed to the correct depth and the GPR services carried out in support of the design did not in all cases discover all existing underground obstructions continued to present problems.

(3) How confident were you around this time that the design and utilities programmes would be met and that the Infraco contract would be procured in accordance with the procurement programme?

It was recognised that delivery of the design and utilities programmes in the months remaining prior to the scheduled Infraco award remained a serious challenge.

(4) Did you have any concerns in relation to these matters? If so, did you discuss any such concerns with others within TSS and/or TIE (and, if so, what was their response)?

My role was to provide as accurate information as could be presented to support and inform the decision making process. As noted in the emails already referenced, my opinion on the likely outcome to scheduled dates was quite clear.

(5) Are you aware of whether there was any discussion within TIE of how a fixed price could be obtained for the Infraco contract if some of the design was not due to be completed until after the award of the Infraco contract?

No, I am not aware of any discussions that may have taken place regarding this scenario.

14. By e-mail dated 30 May 2007 (TIE00068340) you noted further slippage in design and attached an overview document (TIE00068343), a Design Schedule Analysis (TIE00068341) and a graph (TIE00068343).

By internal e-mail dated 18 June 2007 (PBH00011528) Jason Chandler, Parsons Brinckerhoff stated that *“the rebaselined plan must now be used to monitor our works rather than the old plan”*.

(1) What is your understanding of Mr Chandler’s e-mail? Was a re-baselined design plan/programme produced around that time? If so, what effect did that have on the master programme? In general, was design produced within the timescales in the re-baselined design plan/programme?

I understand Jason Chandler’s email to be an instruction to the internal SDS design team that he had an agreement with Tony Glazebrook to



adopt a re-baselined schedule and that this was to replace the original schedule that I was reporting slippage against.

15. We understand that sometime in 2007 you were employed by TIE as Project Manager?

(1) Is that correct i.e. did your employment transfer from TSS to TIE? If so, when and why did that occur?

Previously answered in Q2 above.

(2) What was your role, duties and responsibilities in TIE?

Previously answered in Q2 above.

16. An e-mail dated 11 September 2007 from Willie Gallagher (TIE00042331) noted that while he was waiting to see the SDS deliverables for that week, from a meeting he had had that morning it did not look positive.

In an e-mail dated 13 September 2007 (TIE00042330), David Crawley noted that your team did not have all of the data, and was monitoring against a different version of the programme to Mr Crawley, which would result in two reports at variance based on apparently the same data.

(1) Why did your team not have all of the data and, apparently, were monitoring against a different version of the programme to Mr Crawley? Were these matters addressed?

It may be at this juncture that there had been no formal acceptance of the 'different version' of the programme in circulation or that this programme had not been issued to my team. I do not recall this particular issue.

(2) Do you have any other comments?

No.

17. In an e-mail dated 9 October 2007 to Mark Hamill, Risk Manager, TIE (TIE00349463), you discussed the programme and the Quantified Risk Allowance (QRA).

(1) It would be helpful if you could explain the interaction between the master programme and the QRA?

This email was to explain how the activities in the risk plan were linked to the corresponding activities where the risk was deemed likely to impact.

Every month I as Programme Manager would sit down with the Risk Manager and with the owners of the specific risks in the risk register, which would normally include Graeme Barclay as the Utilities Manager, Frank McFadden as the Infraco Manager, the Design Manager (which changed between Ailsa McGregor, David Crawley, Damian Sharp and Tony Glazebrook) and Susan Clark, who was the Deputy Project Director. The purpose of this was to review and assess whether the risks were still current, whether they had been mitigated, their criticality and impact. The results from this review with each risk owner would then be updated to the Risk Register.

(2) Who was responsible for identifying and quantifying risks arising from programme slippage? How was that done in practice?

The project team as a whole were responsible for identifying risks with the risk owners identifying where the risks were most likely to impact and a project view on best case / worst case / most likely impacts.

(3) Your e-mail refers to the question of determining the float maintained by each set of activities. It would be helpful if you could explain how that was done? Did there come a time when there ceased to be float between activities? If so, when, how and by whom were the risks arising from a lack of float identified and quantified? What was your involvement in that exercise?

As noted in the email (TIE00349463) the amount of float was calculated as being the delta between the latest completion of MUDFA activities in an Intermediate Section, and the commencement of Infraco activities in the same area. Any areas where all available float had been eroded would have resulted in an impact to Infraco dates and would have been reported as the information became available. This would be raised at the monthly meetings as previously outlined. There was a Project report each month to which I had input. Susan Clark collated the information for this report.

18. By e-mail dated 26 November 2007 (PBH00031753), you sent David Crawley, Engineering and Approvals Director, TIE, a list of SDS Issue for Construction dates from version 22 of the design programme where the IFC date was either after the Infraco programmed construction start date or close to it (PBH00031754).

(1) It would be helpful if you could explain the purpose of the document attached to your e-mail and what it showed?

The purpose of this document was to highlight areas of concern where the commencement of Infraco works was at risk based on the forecast completion of design for that area/section.

19. In an e-mail dated 5 December 2007 to Steven Bell (CEC01493998), you noted that there had been a slippage in the design programme of



approximately 20,000 deliverable days over a 140 day window between 2 July and 19 November 2007 (the attachment is CEC01493999).

(1) It would be helpful if you could explain what you meant by there being slippage of approximately 20,000 deliverable days during that period?

Without reference to the data used at that time I cannot recall with any clarity how we arrived at that calculation. My assumption now would be that it is the cumulative movement of each design deliverable over the SDS Design Programmes through V17 to V23 inclusive. This calculation may have been on the basis that none of the individual items of slippage were concurrent.

(2) How confident were you around this time that design would be completed in accordance with the version of the design programme then in force?

Given the continual slippage through-out the lifetime of the design, completion remained a big challenge.

#### **2008 (January to May)**

20. By e-mail dated 31 January 2008 (CEC01448017), you provided Jim McEwan, TIE, with updates of how the design for a number of items identified as critical by BBS (i.e. structures and other items) impacted upon the agreed Infracore programme. A number of designs were noted to be critical or near critical.

(see also Jim McEwan's e-mail dated 18 February 2008, CEC01457442, attaching the document TIE had supplied to BBS advising on the status of the critical issues, CEC01457443).

(1) It would be helpful if you could explain the main points arising from your e-mail dated 31 January 2008?

I was responding to Jim McEwan's email regarding whether or not there was scope to reschedule some of the items, or whether it was critical that they happened within the identified timeframes. My email is clear that many of them were critical. The build sequence was clearly dictated by the contractor, particularly for example in relation to the structures around Murrayfield.

(2) How confident were you around that time that design would be produced in accordance with the design programme then in force (version 25)?

It is impossible to recall my particular confidence level for a particular month as the design programme changed every month. However, each month's revision had significant movement in the wrong direction, which was clearly a cause for concern.

(3) What contingencies were put in place by TIE in the event that design was not produced in accordance with the design programme and caused delays to the construction programme?

TIE would look at resequencing, which would not always be an option. There was so much complexity in this design programme that TIE could not, in my view, have gone to another designer to complete particular parts of the design, by contrast with the way in which TIE were able to instruct other MUDFA contractors to complete parts of the utilities diversions.

(4) In the event, was design produced for these critical items according to the design programme then in force?

I cannot answer that question now without access to the documentation around the issue of the IFC drawings.

21. A progress report for a proposed meeting of the Tram Project Board on 12 March 2008 (CEC01246825) noted: *“SDS submissions to CEC for their approvals are now timed such that, in some cases, construction is programmed to commence before approval has been completed”* (p12) and *“Design. The delivery of design to meet the construction schedules for various structures is causing concern and detailed reviews and discussions are underway with SDS, CEC and BBS to provide solutions”* (p19).

(1) What were your awareness of, and views on, these matters?

I would have been aware of these issues from the programme updates. The programme logic would not have allowed for construction to be programmed to commence before approval has been completed: once this information was fed into the software, subsequent activities would be impacted leading to either an erosion of the float or else making the item critical and pushing the date out.

(2) Did they cause you any concerns?

We were all concerned about the delivery of the design throughout the project. As I have previously stated, there was slippage each month from SDS.

(3) To what extent were these matters discussed within TIE (and between whom)?

I would have discussed these matters with the Design Managers and with Susan Clark.

22. You were involved in an e-mail exchange on 26 March 2008 (CEC01488798) which ended with an e-mail by Damian Sharp that noted,



*“Design is not complete until the section wide assurance is done – that is how the Design Management Plan works. Overall there is a risk that the design of a particular bit could be affected by changes elsewhere in the section. Given that we set up the Design Management Plan in this way it is probably true that it would be at our risk to take elements out for IFC before the section wide design is assured”.*

Tony Glazebrook responded to your e-mail, *“Absolutely! Something is fundamentally wrong with their [i.e. SDS] programme which they need to examine and correct”* (CEC01492845).

(the attachment referred to in your e-mail is TIE00247399)

(1) What was your understanding of, and views on, the matters in this e-mail exchange including the quote from Mr Sharp noted above?

There would be a number of IFC drawings within each section. Assurance was carried out for the whole section for all design packs. We would have been at this point under pressure to finalise and issue IFC packs to support the Infraco award and therefore considering options and mitigation on how best to achieve this in an incremental way.

(2) Was there something fundamentally wrong with SDS’s design programme? If so, what was wrong? Was it ever corrected?

The attachment in my email TIE00247399 provides an example of what was ‘fundamentally wrong’ with SDS’s design programme: it has Section 1 Design Assurance Review in October 2008 even though one of the items in that section, Tower Place Bridge, is not due to be completed until December 2008. You would have to look at the subsequent versions of the SDS design to see whether that was corrected.

23. A Joint Meeting of the TPB and TEL Board took place on 9 April 2008 (CEC00079902).

The minutes noted (page 5, para 3.1) that Steven Bell presented the agreed plan and phasing for the next stages of the MUDFA works and that he confirmed that *“despite an anticipated slippage of approximately five weeks, the alignment with the Infraco programme was maintained”*. Reasons for the delays in certain areas were: greater congested services than anticipated, Statutory Utility Companies issue of locating own assets; and AMIS resource level below the Rev 06 programme (para 3.2). Currently 30% of expected works were completed.

(1) What was your awareness and understanding of these matters around that time?

I have previously outlined the issues with congested services and the issue with the SUCs locating their own assets. I am unable to comment about the AMIS resource level.

24. Infraco contract close took place on 14 and 15 May 2008, as part of which a number of contracts were signed, including the Infraco contract

(CEC00036952).

By way of overview, what was your understanding of the following matters at contract close:

- (1) The extent to which detailed design was complete (and all necessary statutory approvals and consents had been obtained), the extent to which these matters were outstanding and when the detailed design would be completed (and all approvals and consents obtained)?
- (2) The extent to which utilities diversions were complete, the extent to which these works were outstanding and when these works would be completed?

In respect of both questions, all of these would have been recorded and I would have been aware of them at the time, though I cannot say what the figures were without access to the relevant documentation.

- (3) The likely effect on the Infraco works and contract (and the cost of the tram project) if the outstanding design (and approvals and consents) and outstanding utilities diversion works were not completed within the anticipated timescale?

It was clear that the likely effect would be to extend the programme and increase the costs.

- (4) How confident were you at financial close that the design and utility works would be completed in accordance with the design and utility programmes then in force?

I cannot now recall what my particular level of confidence was at that point in time, though I can say that as the scope of outstanding work diminishes, confidence levels naturally increase. Without access to the detail of what was outstanding at that time, I cannot give a more precise response.

25. You appear to have been involved in, or responsible for, reviewing the Infraco Schedule Part 15 (Programme) (see e.g. (i) Graeme Bissett's e-mail dated 25 March 2008, CEC01431194, with attachment, CEC01431195, (ii) Jim McEwan's e-mail dated 15 April 2008, CEC01425505, with attachment, CEC01425506) and (iii) your e-mail dated 24 April 2008 to Joanne Glover, DLA, DLA00006427).

Infraco Schedule Part 15 (Programme) comprised:

- Schedule Part 15 (USB00000079).
- Schedule Part 15a, Infraco Construction Programme (USB00000080).
- Schedule Part 15b, Programming Assumptions (USB00000081).
- Schedule Part 15c, Proposed Schedule of Works to Seek Dispensation from CoCP (USB00000036).
- Schedule Part 15d, Programme – On Street Construction Methodology (USB00000082).



- Schedule Part 15e, SDS Design Programme (USB00000083).

(1) What was your input into and involvement in reviewing Schedule 15 of the Infraco contract?

I would have reviewed the Schedule and reported back to Susan Clark.

I note that my email to Joanne Glover highlights two changes which are not related to Schedule 15.

(2) Why did Schedule 15 comprise a number of documents, rather than just a document showing the construction programme? Was that usual or unusual when compared with other construction projects you have worked on?

As this was the first infrastructure project I worked on, my previous experience in oil and gas is not directly comparable.

(3) Infraco Schedule Part 15 (USB00000079) states, *“The Infraco Construction Programme dated 29/04/08 is based on V26 of the SDS design programme. Since this programme was produced, SDS has provided an update to the design programme. It was agreed that any variation between the SDS Design Delivery Programme and the Infraco Construction Programme would be dealt with as a Notified Departure to the extent that such variation adversely affects the achievement of the Infraco Construction Programme”*. What was your understanding of that matter? Who within TIE was responsible for quantifying the likely value of that Notified Departure prior to financial close? How was that done? Was the inclusion of that provision in the Programme schedule usual or unusual when compared with other construction projects you have worked on?

I was not specifically aware of this issue being classed as a Notified Departure, though I would have advised of any delay from version 26. I do not know who within TIE was responsible for quantifying the value of a Notified Departure or how it was done. I was not, as a matter of course, involved in contractual issues.

(4) How confident were you at contract close that the Programming Assumptions set out in Schedule Part 15b, Programming Assumptions (USB00000081), would not be departed from?

Follow previous design slippage, I would have anticipated further slippage for design. Even so, I anticipated adhering to the overall programme, completing the contracted work to schedule, but having to compensate for design slippage.

26. The pricing provisions of the Infraco contract were contained within Schedule part 4 (USB00000032). The Schedule contained (in clause 3.4) a number of Pricing Assumptions, a variation to which may result in a Notified Departure.

(1) Did you see a copy of Infraco Schedule Part 4 prior to financial close? If so, did it cause you any concerns?

(2) If you first saw a copy of Infraco Schedule Part 4 after financial close what were your thoughts on reading it?

I do not recall seeing this document; however, if I had any concerns, I would have expressed them at the time.

27. We note the following documents which appear to have been produced by TIE and provided to Transport Scotland, namely:

- *"ETN – Summary High Level Programme"* dated 7 May 2008 (CEC02085357) (which appears to show the completion dates for phase 1a for design as January 2009, for utilities as April 2009 and for Infraco construction and approvals as February 2011).
- *"ETN – Summary Milestone Programme"* dated 7 May 2008 (CEC02085358) (which appears to show the completion dates for phase 1a for utilities as February 2009).
- *"ETN – 12 Week Look-Ahead Programme (Periods 02-03-04)"* dated 7 May 2008 (CEC02085355) (which appeared to show the completion date for phase 1a design as January 2009 and phase 1a utilities as January 2009).

(1) It would be helpful if you could explain what each of these documents showed? Were you involved in their production? What was the purpose of each these documents? To what use were they put?

These documents show the progress of work in each section at summary level. I produced them, or someone on my team did. They were used to inform TIE in regard to progress.

(2) Do you have any comments on these documents?

I would require access to the software to make any further comments in respect of these documents.

(3) The first and second documents noted above appear to be two to three page summaries of the full master programme. Is that correct? Was the full master programme (running to 70 to 80 pages) sent to Transport Scotland (and CEC) around this time? If not, why not?

Yes, those documents are summaries. Whether or not the full Master Programme was distributed to Transport Scotland and CEC will be a matter of record with them.

**2008 (June to December)**



28. Following contract close, a major dispute arose between TIE and BSC in relation to the interpretation and application of the Infraco contract. To the extent within your knowledge, and by way of overview:

(1) What was your understanding of the main matters in dispute and the main reasons for, or underlying causes of, the dispute?

I understood that one of the main points of dispute almost immediately following contract award was the depth of the track foundation and that Bilfinger wanted to redesign the track depth. This undoubtedly meant that there would be additional requirement for existing utility diversion to a greater depth.

There also appeared to be a significant difference of opinion as to when Bilfinger had access to the site to commence infrastructure works. The Infraco construction site was divided by tram-stops. My understanding was that access was available by sub-section i.e. between tram-stops; whereas Bilfinger's understanding seemed to be that access should be available through intermediate sections i.e. between multiple tram-stops. At one intermediate section (from Murrayfield to South Gyle, about six tram-stops), only a Scottish power and BT cable were required to be diverted, but BSC refused to start works until the cables were removed. I think this issue may have been taken to adjudication.

(2) What impact did the dispute have on your role as programme manager?

The dispute had a detrimental effect on programme as it obviously delayed the infrastructure commencement in areas where all utilities had already been diverted.

29. The Construction Director's Report for the meeting of the Utilities sub-committee on 4 June 2008 (CEC01302139) noted under Overall Performance to Date, that a total of 15288 metres (against a planned 24322 metres had been undertaken), including 86 chambers (out of 140 planned chambers).

Under Period Progress it was noted that there had been improvements in Leith Walk (Foot) and Shandwick Place where outputs were circa 80%, but that remaining sections indicated similar outputs as before, at circa 65%. Overall progress in the period was 56% of planned progress. Cumulative progress was 6 weeks behind, and 2 weeks against the critical path.

By e-mail dated 3 June 2008 (CEC01288728) Tara Edgar circulated that report.

In an e-mail on 3 June (in the same chain) Willie Gallagher stated *"I have just reviewed this report. It worries me that all is not well. You would never have picked this up from the TPB formal report, there are issues all over the place"*.

In another e-mail on 3 June (in the same chain) Graeme Bissett stated, *"I do think the reporting here and in the TPB papers (which I assume is the TS Report) is not sufficiently detailed to disclose the vital signs. For example, the Committee Report says we are nearly 40% behind on physical progress, but there is nothing I can see which relates this in a rationalized way to the commentary that programme is 6 weeks behind and will have just two weeks Infraco impact; nor is there a cum cost versus related budget analysis which should relate to the physical progress"*



*and programme”.*

The Tram Project Board met on 4 June 2008 (USB00000005 at page 5). The minutes noted (page 7) that Mr Bell appraised the Board of current MUDFA progress *“including the close out programmes, the current two week impact on the Infraco critical path and Revision 7 of the programme”* (slides presented to the meeting, CEC01312258 at page 6, noted that Revision 7 of the Programme was being finalised to enable any impact to be mitigated).

(1) What was your awareness and understanding of these matters?

*As Programme Manager I would have been aware of any delays and subsequent impacts that the revised forecast completion dates for utility diversions would have on the Infraco programme. The details of the delays were managed by MUDFA team, including the MUDFA planner, who was responsible for updating the Master Programme by feeding this information into it.*

(2) Do you consider that the difficulties and delays with the utilities works were properly reported to you prior to financial close, to enable you to properly take account of these delays in the master programme, including how any such delays might affect the Infraco construction programme?

*The delays were properly reported as known at the time. The Master Programme would have been informed by the latest information at the end of every reporting period. The knock-on impact of delays in utility diversions would therefore have been known in the Infraco programme.*

30. An e-mail dated 10 July 2008 from Stewart McGarrity (CEC01341456) reported that Transport Scotland were very unhappy about TIE’s four weekly report in that, in particular, it did not give them comfort or a clear picture as to how TIE were addressing programme slippage (see also Rebecca Andrew’s e-mail dated 27 August 2008, CEC01047161).

(1) What were your views on that matter?

*I do not recall this particular issue. However, I can confirm that we were always considering different options as to how best to present the data in a concise and robust format.*

31. The Tram Project Board met on 24 September 2008.

The minutes (CEC01210242) noted that slippage on the MUDFA programme from Rev 06 to Rev 07 was currently 4 months (page 6).

Slides for the meeting (CEC01155850) noted, under MUDFA, that *“Overall, programme is now predicting an end date of March 2009 with potential impacts on INFRACO particularly if BT overlaps are difficult to address”* (page 4).

Problems were noted with Design and Consents (page 8).

Factors contributing to programme slippage included Design Change V26-V31, Mobilisation and Delivery Infraco, Design/Progress/Change



V31-35 and MUDFA potential overlaps/conflicts (page 10).

(1) Did that accord with your general understanding of matters around that time? Do you have any other comments?

As I was not party to these discussions, it is difficult to comment. I note, however, that each MUDFA programme submission indicated that maintaining the required progress was proving to be a challenge. There was continuing slippage in the SDS design – the slides report, for instance, that the design was incomplete for Ocean Terminal. I would have been aware of the slippage at the time.

32. You were copied in on an e-mail dated 4 November 2008 from Colin Brady, Project Director, BSC (CEC01123742) which attached a document, “BSC-TIE Strategy for Resolution of Delay and Disruption Impacts in Period May-December 2008” (CEC01123743).

(1) What difficulties was the project experiencing around that time? What difficulties did that cause you in your role as Programme Manager?

MUDFA works were incomplete in areas that had previously been programmed for Infracore commencement. Those delays were being tracked, schedules were continually updated with current information, and forecast access dates were provided. However, as noted in response to Q28 above, Infracore were reluctant to move into an intermediate area until all utility diversions had been completed and intermediate areas could include numerous subsections.

(2) To what extent, if at all, were you involved in attempts to resolve these difficulties?

My involvement took the form of tracking current progress, advising on forecast MUDFA completion/Infracore commencement dates, and collaborating with the consortium planners to re-sequence and mitigate the programme as necessary.

(3) What were your views on the proposed strategy set out in the document attached to Mr Brady’s e-mail?

As the document notes, the agreements were made at director level, however, on the face of it the strategy appeared to be working and was driving toward solutions through a joined attempt to mitigate delay. The SDS design was novated to Infracore at contract award, so Infracore were responsible for design of the structures and infrastructure. There were instances where SDS design of structures clashed with the utilities already diverted and thus caused delays to Infracore work.

(4) Why were these proposals not adopted? Do you consider that they should have been?

I do not know; these decisions were taken at director level, so whether or not they adopted the proposals was their decision.



33. In an e-mail dated 16 November 2008 (TIE00248213), you noted that the live programme and the version sent to Transport Scotland were now so far apart that you were experiencing great difficulty in preparing a version for Transport Scotland.

You stated, *“Whilst understanding why we are reporting a 2011 OFRS [Open for Revenue Service] date to TS I am very uncomfortable that I am to all intents and purposes fabricating a programme to appease TS that may not stand-up to close scrutiny by auditors”*.

*“We have to get BSC to provide us with a programme to completion before the end of period 09 or generate one ourselves but either way we cannot continue to run two programmes that are so different”*.

(1) It would be helpful if you could explain your concerns as set out in your e-mail?

My concerns came from the fact that we had no robust information to work with. For that reason, we were second guessing whilst we awaited BSC’s programme submission. There was an element of attempting to predict or forecast what would arrive from BSC. Even so, we had to provide a joined up programme view for TS, so in some instances we were working without the best information. This was the sense in which the programme was “fabricated”.

(2) Why was TIE reporting to TS a 2011 OFRS date? What was your view at that time (and the views of others in TIE) as to whether a 2011 OFRS date was realistic?

In November 2008, along with many other people involved I continued to consider that an OFRS date of late 2011 was still achievable.

(3) Were your concerns in relation to the reporting of the programme to TS ever addressed to your satisfaction (and, if so, when and how)? We note in that regard, for example, that Transport Scotland appear to have been provided with the full Master Programme in January 2008 (CEC02085323) but then appear to have been provided with programme summaries and a 12 week look ahead programme (in the format noted in question 27 above) between February 2008 until around November 2008 onwards when Transport Scotland once again appear to have been again provided with a full Master Programme (see e.g. CEC02085393). Does that accord with your general recollection i.e. that Transport Scotland were provided with programme summaries (and a 12 week look ahead programme) between around February and October 2008? If so, why? Why were Transport Scotland then provided with the full Master Programme again from around November 2008 onwards?

TS were provided with a monthly update, but at this time I cannot recall whether contractually we were required to provide a full programme or a summary programme. In any case, we met regularly with TS representatives in both Haymarket and Glasgow to review programme and any issues arising. Although I have no distinct recollection, in general it is common in major projects to provide summary programmes routinely and to provide the full programme periodically to keep everyone up to date.



|  |
|--|
| <b>2009 TO 2011</b>  |
| <b>2009</b>  |
| <p>34. By way of overview:<br/> (1) What were the main tasks you were involved in in 2009?</p> <p>My role within TIE remained the same.</p> <p>(2) Were you involved in any of the attempts to resolve the dispute? If so, please explain your involvement?</p> <p>I was involved in some discussion with BSC at practical levels, for example the resolution of the Infracore programme or access to various areas for the commencement of Infracore works. Disputes of a commercially sensitive or contractual nature were held at a level higher and were dealt with by members of the senior management team.</p> <p>(3) What were the main difficulties experienced by you in 2009 as programme manager?</p> <p>The main difficulties were the continual need to revisit, reschedule, and identify mitigation strategies where possible to maintain as realistic a master schedule as possible.</p> |
| <b>2010</b>  |
| <p>35. By way of overview:<br/> (1) What were the main tasks you were involved in in 2010?</p> <p>My role within the project remained the same.</p> <p>(2) Were you involved in any of the attempts to resolve the dispute (e.g. the “Project Carlisle” proposals)? If so, please explain your involvement?</p> <p>I have no knowledge of “Project Carlisle” and had no involvement with disputes at a contractual level.</p> <p>(3) What were the main difficulties experienced by you in 2010 as programme manager?</p>  |

The main difficulties were the continual need to revisit, reschedule, and identify mitigation strategies where possible to maintain as realistic a master schedule as possible; it would have been becoming increasingly obvious that the 2011 OFRS deadline was under pressure.

36. On 23 February 2010 you provided Hazel Kennedy with an update on the Programme section for the Project Director's report (TIE00253816) (see also updates provided in March, TIE00253824, May, CEC00376146, July, TIE00253863, and August 2010, TIE00252297).  
(1) Do you have any general comments on the matters in these e-mails and their impact on the programme?

These updates identified major day-on-day delays, and are repeated on subsequent submissions. The matters that were raised in these emails and their impact on the programme are self-explanatory.

37. By letter dated 1 March 2010 (CEC00578330) Martin Foerder, BSC, wrote to Steven Bell, TIE, setting out BSC's position in relation to the Programme.

By letter dated 1 March 2010 (CEC00578329) Mr Foerder wrote to Mr Bell setting out BSC's position in relation to the Infraco Contract: Claims for Entitlement Pursuant to Clause 65.2.

By letter dated 8 March 2010 (CEC02086415) Mr Foerder wrote to Mr Bell in relation to the Infraco Contract: Programme (Revision 3).

(1) To what extent do you agree with what was set out in these letters (in particular, in so far as relating to the Programme and the main reasons for delay)?

BSC were arguing that the delay was caused by utilities; our position was that the delays were caused by BSC's reluctance to commence works in areas that were cleared for them to enter.

(2) Do you have any other comments?

No.

38. We note an e-mail exchange in March 2010 with Allan McPherson, Gordon Harris Partnership, Chartered Surveyors and Cost Consultants (TIE00253011).

(1) What services, if any, did that firm provide and why?

I have dealt with many contractors over the years, on this project and others since, and I have no recollection of these parties specifically.



39. By e-mail dated 30 March 2010 (CEC00621172) you noted that Steven Bell had expressed his lack of confidence in the progress figures reported for the period.

(1) Do you recall what was the problem and how it had arisen?

Steven Bell expressed concerns in regard to matters that had been progressed but not reported as such. These concerns can be seen in the email, which is self-explanatory.

(2) Did you have any concerns, at any stage, in relation to the accuracy and reliability of the progress figures being reported?

No. There may have been minor errors from time to time, but this information was being produced by my team and I had no concerns about it.

40. On 4 May 2010 you were copied in on an e-mail from Iain McAlister, Acutus, commenting on the causes of delay (TIE00899963).

By e-mail dated 27 June 2010 (CEC00411810) Robert Burt, Acutus, sent TIE a "Report on investigations into delays incurred to certain elements of the Infraco works" (CEC00411814).

(1) Why were Acutus instructed? What was the intended use of their report?

Acutus were engaged as a firm recognised for their expertise as forensic planning specialists. The intention was to determine who was responsible for delays with a view to apportioning time and costs.

(2) What was your involvement, if any, in this report?

I provided Acutus with historical information and raw data.

(3) What were your views on the conclusions reached by Acutus in their report including, in particular, in relation to the causes of, and apportionment for, the delays to the Infraco works?

I do not recall what I thought at the time, however, the matters were subsequently dealt with through adjudication.

(4) Was the report ever finalised and shared with BSC (and, if not, why not)?

I believe it was finalised, but because I was not involved in the process of adjudication I cannot say whether it was shared with BSC.

41. By e-mail dated 25 May 2010 (CEC00438719) you provided Joanne Glover, DLA, with comments and a list of Clause 65.10 correspondence.

(1) It would be helpful if you could explain the purpose of Ms Glover's e-mail and your response?

I do not recall this email exchange and am unable to answer this question.

42. By e-mail dated 4 June 2010 (CEC00442154) Susan Clark forwarded a document (CEC00442158) and commented that that was evidence of continual slippage of the design programme since version 31, when SDS were novated to Infraco.

(1) Do you agree? Do you have any other comments?

The document speaks for itself: every month there was significant slippage. There were a few significant delays, but not hundreds of them.

When SDS were novated to Infraco, the situation arose in which the very same individuals who had responsibility for the utilities design were then identifying clashes, of their own making, between that design and the Infraco works. An example of this occurred at South Gyle.

43. On 29 July 2010, Marshall Poulton, Head of Transport, CEC, produced a draft Project Assurance Review (CEC02086414).

(1) To what extent do you agree with what is said in the Programme section of the Review (pp9-18)?

From the section titled HISTORY on page 10 I generally agree with the author's statement over the first three paragraphs. The next paragraph reiterates comments I have made to other questions - BSC's interpretation of certain contract clauses meant that they considered that they were entitled to 'exclusive access' to sections of the route and therefore BSC were unwilling or reluctant to enter areas that were substantially complete. I think that this matter may have eventually gone to adjudication.

On the submission of the Infraco Rev.2 Programme SDS Design had been novated to BSC for a 12 month period therefore the programme should have been robust in terms of design completions for both any remaining utility diversions and for Infraco works.

At the submission of Rev.3 Programme in January 2010 SDS had been novated to BSC for fully 19 or 20 months.

I do recall there being a workshop and a submission of Rev 3A and 3B programme, but do not recall any detail of the contents.

I generally agree with Acutus' findings on page 12, particularly the following paragraphs:



Generally, BSC has complied with its obligations in relation to notification of delays that it claims are attributable to tie; it has universally failed, however, in its obligation to notify tie of delays for which it carries liability. Not all of the notifications of delays were served in time.

BSC's contractual requirements to mitigate delay and put forward proposals for acceleration have not been met.

BSC has refused to commence work on certain sections of the route where utility diversions were incomplete, including sections where they did not present a physical or contractual obstacle to BSC progressing work. It would appear that many elements of the Infraco Works have been unnecessarily delayed by BSC's actions and inactions.

Actutus' findings are generally self-explanatory. They indicate where mitigation could have been realised and concur with my own view that BSC were reluctant to commence Infraco works in a manner that would protect the agreed programme.

(2) Do you have any other comments?

Mr Poulton refers to '*the limited and conflicting information supplied to date by tie*', which I assume he makes in a professional role as author of this report. I do not recall Mr Poulton airing this concern at the time and would like to comment that, in all submissions made by TIE referencing programme submissions, all currently known data was used in forming opinions.

It would have been helpful if the emails referenced in Mr Poulton's report had been included for information.

## 2011

44. A full master programme produced for Transport Scotland just before the March 2011 Mar Hall mediation, "*Transport Scotland Full Programme Period 12 – OFRS 22 Oct 2013*" dated 4 March 2011 (CEC02085497), appears to show completion of the design for phase 1a in November 2011 (seemingly, based on version 55 of the design programme), completion of the phase 1a utility works in June 2011 and completion of the Infraco programme in October 2013.

(1) Were you involved in the preparation of that programme?

Yes.

(2) If so, do you have any comments on that programme?

The programme reflected the known status at that time.

(3) How confident were you at that time that the completion dates for the different works would be met?

The dates shown in the programme reflected the best estimation of completion at the time.

45. Mediation talks took place at Mar Hall between 8 and 12 March 2011 between TIE, CEC and BSC.

TIE prepared a mediation statement (BFB00053300) as did BSC (CEC01927734).

We understand that a statement “ETN Mediation – Without Prejudice – Mar Hall Agreed Key Points of Principle” was signed by the parties on 10 March 2011 (the principles of which were then incorporated into a Heads of Terms document (CEC02084685).

(1) Were you present at Mar Hall? If so, what is your recollection of events that week? What was your input and involvement?

No.

(2) What were your views on the outcome of the mediation?

The programme was informed day to day by what was happening on the work sites; implementation of the Mar Hall agreement would have had effect only much later.

(3) To what extent were prolongation claims by BSC essentially accepted by TIE/CEC and factored into the sums agreed at Mar Hall?

I have no idea what sums may or may not have been factored in to any agreement reached at Mar Hall.

46. The programmes submitted to Transport Scotland from around July 2011 onwards appeared to show reasonably consistent estimated completion dates for the phase 1a design (January/February 2011), utility works (December 2011/February 2012) and Infracore programme (January/February 2014).

See, for example, the programmes submitted to Transport Scotland dated 21 July 2011 (CEC02085512), 16 August 2011 (CEC02085517), 19 September 2011 (CEC02085521) and 18 October 2011 (CEC02085524).



(1) Does that accord with your general recollection i.e. that there was relatively little, if any, slippage in the master programme after the Mar Hall mediation and settlement?

The design would have been complete by 2011.

(2) If so, what do you consider are the main reasons for that?

Working from completed designs was probably the main reason.

47. A full and final Settlement Agreement was entered into on 15 September 2011 (BFB00005464).

(1) Do you have any views on the settlement agreement?

I do not recall having seen it.

(2) Again, to what extent were prolongation claims by BSC essentially accepted by TIE/CEC and factored into the sums agreed at Mar Hall?

I was not party to Mar Hall.

48. In relation to your departure from TIE:

(1) For completeness, please confirm when and why you left TIE?

I was made redundant in October 2011 as part of TIE being wound down.

#### **EXTENSIONS OF TIME etc**

#### **SDS Contract**

49. We are unaware of TIE having formally agreed any Extensions of Time in relation to the SDS programme.

(1) Does that accord with your general recollection?

I cannot recall any formal EoT.

(2) If so, why was an Extension of Time not formally agreed in relation to the SDS programme?

I think that Damian Sharp or Tony Glazebrook would be better placed to answer this question.

(3) How was slippage in the SDS programme formally dealt with by TIE?

Damian Sharp or Tony Glazebrook would be better placed to speak to the formal steps taken; at a practical level, slippage was dealt with by feeding information into the master schedule.

#### **MUDFA Contract**

50. In relation to the MUDFA contract, we note the following:

- By letter dated 16 June 2008 (CAR00000022) Graeme Barclay, TIE, formally granted Carillion an Extension of Time of the substantial completion date to 28 November 2008.
- By letter dated 8 December 2008 (CEC01200503) Steve Beattie, Project Director, Carillion, enclosed a high level overview of draft Programme Rev 08, with a revised completion date of 16 October 2009, and sought an Extension of Time (EOT).
- On 19 and 23 March 2009 TIE and Carillion Utility Services Limited entered into a Settlement Agreement [CAR00000243]. Under the agreement, TIE agreed to pay Carillion the sum of £1.2 million, comprising £1,050,000 in respect of delay and disruption between October 2007 and 30 September 2008 and £150,000 for measurement items.
- By letter dated 24 March 2009 (CAR00000560) Steven Bell advised Steve Beattie, Carillion, that following agreement of the MUDFA Revision 7.9 Programme, TIE formally granted an extension of time to the substantial completion of the MUDFA works (to 1 April 2009) and the Longstop Date (to 3 August 2009).
- By letter dated 25 August 2009 (CEC00846312) Carillion advised that due to “*numerous items of additional works and delaying events*” a Further Extension of Time for Completion was required to 14 December 2009.
- By e-mail dated 4 September 2009 (CEC00790176) Philip Kolon of Carillion sent a “Schedule 4 Rates and Prices Submission Road Map” (CEC00790177) (in support of Carillion’s claim for a further Extension of Time).
- On 11 December 2009 and 13 January 2010 TIE and Carillion Utility Services Limited entered into an Exit Agreement (CAR00000145).
- Further to a mediation between the parties, on 10 November 2010 TIE and Carillion Utility Services Limited entered into a Settlement Agreement fully and finally settling certain claims between the parties under the MUDFA contract (TIE00094413). It was agreed that, in addition to the sums paid to date, TIE would make a further payment to Carillion of £5,824,000.

(1) Were you involved in these matters? If so, what was your involvement?

No I was not. I think Graham Barclay or John Casserley would be better placed to answer these questions.



(2) Does what is set out above with your general recollection of events?

I have no awareness of these events.

(3) What did you consider to be the main causes of the revised programmes and extensions of time for the MUDFA contract?

As stated in my responses to Q6, Q7 and Q13 above, the drawings were unreliable and the utilities were not where they were expected to be.

(4) Do you have any further comments?

No.

#### **Infraco Contract**

51. Mr Marshall's Project Assurance Review (CEC02086414) noted above summarises the Infraco revised Programmes/Extensions of Time as follows (section 5, Programming, pp9-11):

- BSC submitted a revised Programme Rev 1 with a 38 day extension, which extended the completion date to September 2011. This was agreed by TIE. (see also the minutes of the Tram Project Board on 18 November 2009, CEC00416111, page 7, which noted that the TPB approved the issue by TIE of a Change Order for a settlement of EOT 1 of £3.524 million, being 7.6 weeks EOT for the impact of SDS programme v26 to v31).
- In May 2009 BSC submitted a revised Programme Rev 2 (which was not agreed by TIE).
- In January (March?) 2010 BSC submitted a revised Programme Rev 3, which extended the completion date to January 2014 (which was not agreed by TIE).
- Following a joint workshop, BSC submitted two further revised programmes; Rev 3A that incorporated further mitigation measures and projected a revised completion date of Nov 2013; and Rev 3B that included all of the mitigation measures within 3A along with identified acceleration. Programme Rev 3B projected an overall contract completion date of July 2013.
- TIE did not accept Rev 3A or 3 B but offered a further 9 month extension that would result in a contract completion date of July 2012 (see also (i) letter dated 13 November 2009 from Steven Bell to Martin Foerder, DLA00001717, (ii) paper by Susan Clark on Programme Agreement and EOT for the meeting of the TPB on 18 November 2009, CEC00752774, which noted that the assessment of relief and costs was due "*predominantly as a result of delay to the MUDFA programme and other Employer delays*" and (iii) the minutes of the TPB on 18 November 2009, CEC00416111, page 7, which noted that the TPB approved the interim award of 9 months relief from Liquidated and Ascertained Damages and 6 months costs in relation to the Programme to Complete).

(1) Were you involved in these matters? If so, what was your involvement?

I fed information up-line but had no involvement in contractual or commercial aspects of the project.

(2) Does what is set out above with your general recollection of events?

That account seems generally accurate.

(3) What did you consider to be the main causes of the revised programmes and extensions of time for the Infraco contract?

I refer to my answer to Q6 above.

(4) What do you consider to be the main causes of the delays in progressing the Infraco works?

I refer to my answer to Q7 above.

(5) Do you have any further comments?

No.

#### **PROJECT MANAGEMENT, GOVERNANCE AND MAIN CONTRACTORS**

52. In relation to project management and governance:

(1) Did you have any concerns, at any stage, in relation to TIE, either as an organisation or in relation to senior personnel within TIE?

No.

(2) Did you have any concerns, at any stage, in relation to TIE's overall management of the tram project?

No.



(3) Did you have any concerns, at any stage, in relation to any of the other bodies and organisations responsible for the delivery of the tram project (including e.g. the Tram Project Board, CEC, TEL, Transport Scotland or the Scottish Government)?

I had no concerns in relation to any of the bodies or organisations mentioned above. The organisation in relation to which I had concerns was BSC, because of their perceived reluctance to drive the project forward.

### **The Contractors**

53. In relation to the main contractors involved in the tram project (including, in particular, the design, utility and Infracore contractors) :

(1) Did you have any concerns at any stage in relation to the performance of any of the main contractors?

Yes. In relation to SDS work, the design programme was nowhere near being achieved, and this caused problems which rippled through the whole project. In relation to MUDFA work, there were as stated above problems with the utilities. When utilities were unexpectedly discovered, the design had to be modified to move them which gave rise to further delays.

(2) If so, what were your concerns and what did TIE do to seek to address them?

I am not able to speak to the decisions that were taken by the executives to address those problems. My responsibility was to look to the programme and develop mitigations as necessary.

(3) Were these steps successful and, if not, why not?

Since the delays mounted, each one more significant than the last, I would say that the steps were not successful. Perhaps the initial exploratory work was inadequate and additional exploration would have expedited the utility works.

### **FINAL THOUGHTS**

54. By way of final thoughts:

(1) How did your experience of the Edinburgh tram project compare with other projects you have worked on (both previously and subsequently)?

The tram project was one of the most challenging projects I have worked on and I am grateful to have had that opportunity.

(2) What do you consider were the main reasons for the failure to deliver the project in the time, within the budget and to the extent projected?

The poor quality of the utilities records impacted upon and delayed the design, which in turn delayed the project as a whole.

(3) Do you have any comments, with the benefit of hindsight, on how these failures might have been avoided?

Measures such as better record-keeping from the outset, and having a greater buffer between utility completion etc to allow for unforeseen circumstances, might have mitigated the problems.

(4) Do you have any comments, with the benefit of hindsight, on how the compilation, updating and reporting of the master programme (including the reporting of slippages to the programme) could have been improved?

If the tram project had been a true joint venture, then all the participants would have contributed to the Master Programme and their contributions would have improved the project as a whole. What the project really needed was for everyone to be working together.

(5) Are there any final comments you would like to make that fall within the Inquiry's Terms of Reference and which have not already been covered in your answers to the above questions?

No.



- (4) Do you have any comments, with the benefit of hindsight, on how the compilation, updating and reporting of the master programme (including the reporting of slippages to the programme) could have been improved?

If the tram project had been a true joint venture, then all the participants would have contributed to the Master Programme and their contributions would have improved the project as a whole. What the project really needed was for everyone to be working together.

- (5) Are there any final comments you would like to make that fall within the Inquiry's Terms of Reference and which have not already been covered in your answers to the above questions?

No.

I confirm that the facts to which I attest in the answers contained within this document, consisting of this and the preceding 31 pages are within my direct knowledge and are true. Where they are based on information provided to me by others, I confirm that they are true to the best of my knowledge, information and belief.

31 pages  
should be  
38 pages

Witness Signature .....  .....

Date of signing ..... 3rd September 2017 .....

## Supplementary Questions for Tom Hickman

1. By email dated 5 May 2008 (**CEC01294478**) you circulated a schedule (**CEC01294479**) of potential Notified Departures arising from the mismatch at Infraco contract close between the BBS construction programme and the SDS design programme. What consideration was given within Tie, and by whom, before contract close of the potential Notified Departures identified in that schedule? Was there any discussion within Tie (and, if so, between whom) of these potential Notified Departures? Who within Tie was responsible for quantifying these potential Notified Departures?
2. Of the approximately 78 potential Notified Departures identified in the schedule, eight are stated to have an impact on the programme, seven are stated to have a potential impact on the programme and the rest are stated not to have an impact on the programme. In relation to the potential Notified Departures that are stated not to have an impact on the programme, was that largely as a result of BBS reprogramming their works in order to avoid such an impact?
3. Prior to contract close, was it anticipated that the mismatch between the BBS construction programme and the SDS programme would result in one Notified Departure (e.g. as referred to in the Report on the Infraco Contract Suite, **CEC01338851**, page 4) or multiple Notified Departures (e.g. as listed in the schedule you prepared, as noted above)?
4. In the event, did the mismatch between the BBS construction programme and the SDS programme result in one INTC (Infraco Notice of Tie Change) or multiple INTCs? We understand, for example, that one INTC was intimated as a result of the mismatch at contract close between the construction and design programmes (see INTC1 – **CEC01288310**) and that further INTCs were issued following each revision of the design programme i.e. revisions 32 to 56 (see e.g. the Infraco Change Register, **BFB00003297**, pages 73, 79, 80, 83, 84, 87 and 89). Is our understanding of matters in that regard correct?



Supplementary answers for Tom Hickman

1. The email referred to (CEC01294478) indicates who the information was shared with. I have no recollection if we formally reviewed this as a team, individually or whether or not the information was reviewed by each individual at face value.

The distribution on the email includes Programme Director / Deputy Project Director, Sectional Managers, Construction Managers, Design Managers, Quantity Surveyors, Risk Manager, Commercial Manager, project Director and others. I can only assume that this information was taken into consideration at the time by the parties directly involved in the contractual negotiations.

2. Of the c.63 potential notified departures indicated that are deemed not to have an impact on the programme, this is a mixture of some areas forecasting an improved IFC date at v31 than that reported at v26, and some that were re-programmed by BBS. I have no recollection of BBS being requested or advising that they had undertaken a re-programming exercise however that is not to say that this was not the case. This could have been purely down to BBS submitting a revised programme without consideration to v31. I have no way of recalling now what the driving factors were.

3. Other than identifying where there could be notified departures arising from the programme change between v26 and v31, I had little or no input into the decision making process for notified departures. I have no way of knowing what the thought process was on whether a single over-arching notified departure or multiple notified departures were expected.

4. I have no recollection whether or not this event resulted in one or multiple notified departures, however I assume that this will now be a matter of record.