

Dated:

The Edinburgh Tram Inquiry
Witness Statement of Steve Reynolds

My full name is Stephen Christopher Reynolds. My date of birth is [REDACTED]. My contact details are known to the Inquiry.

Statement:

Introduction

1. My immediate predecessor was David Hutchinson. He was the Project Director up until my appointment in early February 2007. The reason I was appointed was that it had been apparent, for probably two or three months, that the project was experiencing commercial difficulties from Parsons Brinckerhoff's (PB's) point of view. The project financial accounts were showing significant issues. As an organisation we had been looking at the project under the spotlight from late 2006. It was decided that the project needed more senior involvement. Because of the above reasons I was asked to step in and become the new Project Director from February 2007.
2. My duties and responsibilities as PB's Project Director on the Edinburgh Tram Project concerned, primarily, client relations. From the client's delivery point of view my role was to make sure the client was satisfied. It was up to me to be the single point of contact for TIE as our immediate client. It was up to me to develop a stronger relationship with TIE. From PB's perspective we wanted to gain a more rigorous control over the project. We wanted to deliver an acceptable commercial and technical result from PB's point of view.
3. I had a team reporting to me. It was Jason Chandler's role to carry out the delivery of the scope of work. He was the project manager responsible for

making sure PB actually delivered what was required. Alan Dolan was the Deputy Project Director. Alan assisted Jason. Alan had a particular responsibility for the utilities diversions works.

4. I was the figurehead. It was my responsibility to make sure that we were working properly with the client and built up a team relationship with the client. I made sure everybody was aware of what their obligations were. Jason was the actual executive responsible for delivering the scope. He was assisted by Alan and various other managers on the team sheet. My role was an executive role above Jason and Alan. Jason was doing the practical side of the work.
5. My role was to reset the vision. The project had become bogged down. It needed a fresh look to understand why there were problems. I wanted to reset the vision and make sure that the client appreciated that there needed to be a different way of doing things. Having reset the point of reference we wanted to get on with continuing to deliver (which was Jason's role as Deputy Project Director).
6. Prior to Edinburgh we had been involved with the Mersey Tram Project for Liverpool. That project was ultimately cancelled; however, we were involved with the early stages in terms of design. That project did not progress to anything like completion. There was significant experience within the team of producing detailed design. That said, I did not personally have experience of producing designs.
7. I did not have any exposure to the Mersey Tram Project. My only involvement with that project was at a very early stage when, as an organisation, we were concerned with bidding it. I was involved simply at Board level within PB. I was tangentially involved. I was certainly not involved with the detail of that project.
8. I have provided a copy of my CV to the Inquiry (CVS00000002), however, by way of brief background I graduated in Manchester in 1976 with a degree in

electronics. I worked for Phillips Telecommunications for a year or so then moved to British Rail Research in Derby with a post in train control and signalling. I spent eight years with British Rail. That was where I developed a specialist capability in systems engineering, safety critical application of electronics and software to high integrity transport systems. I moved to James Howden in 1986 in Glasgow to take on a management role in their wind turbine development business. That business was many years ahead of its time. You have wind turbines all over the place these days, but in those days we were limited to turbines in California and Scandinavia. I was appointed as the manager to look after the development of the electronics and control systems for the turbine programme. I ultimately took on the electrical and engineering aspects as well. I spent about 2½ to 3 years there. We were ahead of our time. The market for wind energy was not developing. Because of this I decided that I would move. I then took up a position with Kennedy and Donkin, a consultant engineering outfit based in Manchester. I progressed through a consultancy engineering post to having cross-sector responsibilities for water, rail transportation. I ultimately came to be responsible for the infrastructure business. In the meantime, the company had been through a number of changes of ownership. It was taken over by PB in 1998. At that point, I was responsible for what we were doing in rail, highways, buildings and environment. Four separate business units reported into me. We were 500 or 600 people strong at the point we were acquired by PB.

9. Following the takeover, I started to work with the new focus coming out of PB New York. That focus was on programme management for major capital programmes eg West Coast modernisation (that was a programme that PB secured a programme management position on). We looked at restructuring in 2005/06.
10. The Edinburgh Tram Project, at the end of 2006, was clearly running into problems. It was a major project. The decision taken by PB New York was to change my area of responsibility and move it away from a general management role. They and put me on the Edinburgh Tram Project as Project

Director with a specific remit. The Edinburgh Tram Project was a very significant project for PB. My role was, essentially, to recover the project.

11. There really was a step change in my career in very early 2007. I moved away from my responsibility for the Infrastructure business. We took a layer of management out. We were restructuring. From that point of view it was not a problem. I focused full-time on Edinburgh from 2007 until contract novation. In July 2007 we had won the contract in Manchester with Greater Manchester Passenger Transport Executive (now TFGM) for the programme management of the Metrolink tram expansion programme. . During May 2008, following novation in Edinburgh, I took on the Principal in Charge (PIC) role for Manchester. My time, at that point, in Edinburgh was reduced to part-time. I also worked part-time in Manchester. After this I gradually transitioned to my role on the Manchester project whilst maintaining an interest in Edinburgh. My role on Edinburgh was significantly reduced in comparison to what it had been through the 2007/2008 period.
12. In October 2009 PB were acquired by Balfour Beatty. Not so long after that I picked up the responsibility for the company's major projects commercial services business. However, I retained the PIC role in Manchester. By that time the Edinburgh role was significantly reduced and the focus was on growing the major projects commercial services business. I retained that role through to the acquisition by WSP in late 2014.
13. I am now the Head of Discipline for Major Project Services at WSP. My role concerns everything to do with project management, construction management, risk management and project controls. I have retained my PIC role on the Manchester project.
14. Before my role on Mersey, I did not have any light rail experience at all. I had heavy rail experience. That experience is certainly relevant to aspects of what we are doing with light rail these days. There wasn't much light rail work in the UK up until the point of my involvement on the Edinburgh Tram Project. Manchester was the first of a new generation of tram projects. It was started in

1992 and was extended in 2000. When we won the work in Manchester in 2007 it was the first of the really significant expansion plans for that network. That expansion had been in development at the same time as the work that was being carried out on the Edinburgh Tram Project.

15. Croydon was a tram project that went ahead. There were a number of other Tram projects (eg Nottingham / Sheffield, which both plateaued). The real thrust for further development was spearheaded by Manchester. That project was delayed because of funding and so it did not quite happen in 2004/2005, but it did kick off in 2007.
16. My day-to-day involvement on the Edinburgh Tram Project ended in early 2011. I finished working full time on the Edinburgh Tram Project in June 2008. After we had novated I was probably only spending a couple of days a week on the Edinburgh Tram Project. By early 2011 my role was more of a visiting role. There was a Project Manager in Edinburgh who reported to me, but my day-to-day involvement had ceased. That change in role coincided with the successful mediation. Up until that point there were a number of detailed issues which arose. Those issues were fundamentally handled by Jason Chandler and then his successor.
17. I refer to my CV found at (CVS00000002). I was the Director responsible for Infrastructure which covered rail, highways environment and buildings. Our quality inspection services predominantly focussed on the power sector. ESRM stands for Environment Safety and Risk Management. That is involved in many development projects. That is a cross sector skill set. The same can be said for building and design management. Aviation was a very small part of the portfolio. We had some work over in Israel in aviation. In theory it is a global industry with lots of opportunity. PB never really managed to maximise that opportunity.
18. From 2007 all the way through mid-2008 my principal place of work was Edinburgh. After that it changed to Manchester. There is still an awful lot of work coming out of Manchester. I am still there on the team sheet as the PIC.

At the time of this statement, there are further extensions planned. We are just closing out the negotiations on the next extension. That will take us through to 2021. Manchester is basically a spider system (you have got various legs). People are now talking about linking the legs to put an orbital layer on the network. This is a very interesting aspect and contrasts with Edinburgh. Having got over the early phases in the 1990s, people realised what a good system Manchester was. People were virtually clamouring for more. The general public was right behind the expansion. I think that is a difference between Manchester and Edinburgh.

19. It is very difficult to put specific days aside for a particular project. At the end of the day you are always trying to satisfy the client. However, clients do not plan their time to allow for what you are doing on other projects. You have got to balance your time to make sure you are attending the various meetings required. You have got the ability to control some issues but in reality your workload is a mixture. Some things can be formally in the calendar going forward if they are governance meetings, however, particular issues that you have got to deal with they tend to be less controllable in terms of setting the programme going forward. It is all about maintaining the balance between projects and utilising the management team that is reporting to you in the most effective fashion. It would be wrong to say, for example, that I would put aside two whole days for the Edinburgh Tram Project. I can say that in terms of an average but not in terms of specific days put aside. It was not as if I could put down the Manchester project and pick up the Edinburgh project for Thursday / Friday. It does not work like that.

20. My role on the Manchester and Edinburgh projects were not broadly the same. The two contracts were entirely different. The contract for Manchester was as delivery partner, which was a Department of Transport inspired position from a procurement strategy point of view. TFGM had decided to appoint a delivery partner to bring the expertise in light rail and in programme management to assist them in the delivery of the capital programme. They recognised the need for a robust programme management organisation. That is what PB's acquisition had given to us (they had a very strong CV coming

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out of North America in major programme management coupled with the expertise in rail and highways). We had a programme management role. Any detailed design delivery was the responsibility of the supply chain. We were responsible for creating the tender documents to go out to tender to secure a design construct contractor. We were there working with the client in a management capacity.

21. On the Edinburgh Tram Project it was quite different. We were appointed as the design provider and, as I understand it, TIE had been constituted to take on the responsibility for the management of capital transport schemes. TIE was fulfilling the function that we fulfilled in Manchester and we were appointed as the detailed design provider. The procurement strategy was different inasmuch as TIE decided to procure the design separately and then have that product novated to the construction contractor. In Manchester design and construction were procured in a design build arrangement from the supply chain. There are numerous differences between the two engagements.
22. It would be wrong to assume that PB's designers at PB were doing both projects at the same time. Our only design role in Manchester was a design management requirement. There was absolutely no overlap.
23. On the Manchester Tram Project we had a tram project board alongside various committees. The project board was chaired by TFGM. In principle it was not dissimilar to Edinburgh if you look at the TIE constitution. One difference would be that TIE was set up with an Executive Chairman whereas TFGM had a Chief Executive. There are detailed differences like that but, in terms of delivering a capital programme, in principle they were both fairly similar. In summary, in terms of governance they were both fairly similar but completely different in terms of procurement strategy.
24. There were not similar problems and issues which arose on both projects. In Manchester there was an appetite and a desire for an expansion of the existing system. We were dealing with a group of stakeholders who understood what had to be done to achieve a tram system implementation.

Manchester was a phased implementation. Before we were appointed to deliver phase 3, in 1990 and 2000, phase 1 and phase 2 had been completed. The early parts of phase 3 concerned changing heavy rail alignment to light rail alignment. We were dealing with corridors that were already there. From a technical point of view that was easier than ploughing a tramline down Leith Walk. It was phased to deliver the easy stuff first.

25. Manchester delivered something that the general public could see was of real value. This meant that, when it came to the more difficult sections, people accepted there was a price to be paid. The public was right behind the initiative in Manchester. Realistic time frames were set alongside realistic approaches. With Manchester, there was a very significant focus on stakeholder engagement ie with local government and the various third parties. That was done to absolutely ensure that the intent was clear. This was particularly so with the approvals and consents process. A practical approach was organised to secure the required approvals and consents.
26. In Edinburgh there had not been a tram system. There was probably a greater section of the community that did not want a tram system. There was a lack of understanding, arguably, of the planning and consents approach. There was not a pragmatic approach to delivering planning consents for the scheme. The Edinburgh Tram Project became bogged down with what you could argue was an overly detailed approach to planning.
27. Manchester was different because it was an integrated management team. A team was formed which brought together the different skills required. We worked together and co-located to oversee the delivery. The Edinburgh Tram Project was not like that. It was much more of a supplier / client ring-fenced approach to delivery.
28. During the early stages PB staff did not work alongside TIE / CEC staff in an integrated delivery team. It was only later in 2007 that we moved over to City Point. It became apparent that there was a problem with securing planning consents from CEC. That problem was due to there being a gulf between PB

and CEC. Because of this a decision was taken along to co-locate to make sure that the planning approvals people were alongside the people preparing the designs. Post late 2007 there were more of a joint understanding.

29. The numbers of people involved within PB varied over time. The Edinburgh management team consisted of roughly 40 to 45 people. At any one time the actual design provision was being done remotely. There could be up to 150 PB people involved at any one time. Over and above that there were probably another 40 or 50 Halcrow people involved. The numbers of people involved varied significantly through the various phases and priorities. It would not be possible, now, to put exact figures on the numbers of people involved at PB. The accounting system we were using at the time has since been shut down following our acquisition by WSP.
30. From PB's perspective, the number of people from TIE and CEC actively involved in bringing through the designs and the approvals and the consents process varied from time to time. We were all located over two floors at City Point. TIE and CEC would be better informed as to the number of people involved from their end. It would be better to ask TIE. I could not comment on numbers of people involved in the project at CEC.
31. We were not really all that close to CEC. I met with the likes of Duncan Fraser fairly regularly, however, I do not have a firm presentation of exactly who they were deploying and when. CEC were kept at an arm's length from us.
32. There is a gap on my CV. Between 2000 and 2007 I was the Director responsible for infrastructure at PB. I have provided a full CV to address this issue.
33. I note the SDS organisation chart as provided at October 2007. (CEC01503444). The legend shows all the various offices where our staff came from. 'Core' is the people who were actually located in City Point in Edinburgh. All of those the persons with a black circle bullet beside their name were based in Edinburgh. If you added all those persons up, you would get to

40 or 45 persons depending on which day of the week it was. All the others were based elsewhere. There was a broad range of people from different areas of PB located in Edinburgh. The key offices for PB were Manchester, London, Birmingham, Newcastle and Godalming. We had a significant buildings presence in Bristol but there were other smaller offices. Glasgow / Inverness are somebody's home location. Croydon and Leeds were not big offices. This chart shows the different locations.

34. If a person is tagged as 'Core' in Edinburgh, like Jason Chandler for example, they are working full-time in Edinburgh. Jason was only working on the Edinburgh Tram Project. The people working in other offices were essentially the design teams.
35. I was not involved in the decision to subcontract to Halcrow. That decision was made before my time. What was contracted was everything to do with structures and roads to Halcrow. Some of that was subsequently pulled back to PB control because of resourcing. The Halcrow team were based in different locations. They had a place in Abercrombie House in Edinburgh. Not everything was done in Edinburgh. They had some people in Glasgow and others based in different locations. The number of persons working with us from Halcrow was in the magnitude of 40 to 50.
36. Certain planning issues were subcontracted to White. I do not know what planning issues were subcontracted. All I am aware of is that White was a local very small organisation that was utilised for its local knowledge. They were used before my active involvement in the project.
37. It is usual practice to have staff located in a number of different offices. You do this because you have particular centres of expertise. You leave those centres together so that you have everybody with a certain expertise working together. That allows you to maintain discipline. That allows you to call on them to deliver when you need them. That structure means that you have a very strong approach to what we call interdisciplinary design management. You can see that in the chart I discussed earlier, the people responsible for

pulling those different design solutions together were grouped together. In my view, we did that particularly well.

38. Having persons located in different offices did not cause any difficulties. We had monthly meetings with the design team leaders. Whilst you have got the production team located remotely, the leader would then come to Edinburgh on a regular basis. That process facilitated proper interaction. Locating all of the PB staff working on one project in one office is a tall order. If you are in a programme management capacity, like we are in Manchester, then you can have everybody in the one place. However, if you are requiring production of design or if you happen to have a product manufacturing facility you would not do that locally. That tends to be that difference. You would try to co-locate the client relations and interface from a management perspective but below that you would draw from remote locations. That is invariably the case. That is what happened on the Edinburgh Tram Project.
39. If it is a major project you pull together lots of different disciplines. It would not be feasible to have everything in the one place in that scenario. There is not a requirement for everybody to be doing something all at the same time. That is not the way it works. It tends to be phased. You call on different disciplines at different times.

The SDS contract (September 2005)

40. The SDS Contract (CEC00839054) was not entered into until September 2005. My only involvement at the point that the SDS contract was entered into was as a Board member of PB. The Edinburgh Tram Project contract came to the PB Board for sign off. My signature is on the SDS contract. I signed purely in my Board governance capacity. I was not involved in everything that had been done pre-contract. I was not involved in the detailed negotiations leading up to December 2005. I am aware the SDS contract was let later than was intended; however, I would not be able to say why that was. The start of my involvement really began in 2007. I did come to Edinburgh in late 2006 to give

a PB corporate presentation; however, my first formal involvement came at the beginning of February 2007. Before then I was only really touching the project from an executive position.

41. I am not aware of why the SDS contract was not entered into until September 2005. One of the only consequences of the delay in entering the SDS contract would be that the requirements definition phase was curtailed. As far as I understand things, there was not a commensurate delay to the completion of that phase. The delay certainly put pressure on the mobilisation (which is always a key part on these projects) and on the end-date for the requirements definition phase. Any shortfall in the requirements definition was taken up in the preliminary design phase. That phase did complete as we had intended at the end of June 2006. The delay probably resulted in the overlap between the requirements definition and the preliminary design. However, with the best will in the world, that is going to happen anyway. I do not believe that had any lasting problem from a design delivery point of view.
42. In terms of the SDS contract (CEC00839054), I did not have any involvement with the structuring, negotiation or drafting of that contract. Looking at the SDS contract now, the design services to be provided are as set out in schedule 1. I was not involved with the creation of that schedule. The person involved in the negotiations of the structure of the contract would have been Mike Jenkins (PB, Business Unit Director for the rail business). There was no detailed review of the contract undertaken by me in the lead up to signature.
43. The design services provided by SDS under the contract were fairly standard. There were four phases. The first thing to do was to establish, as unambiguously as possible, what requirements there were for the scheme ie what needed to be built, how it was going to be operated and what the overall intent of the Business Case was. The Business Case was created by others. However, it was made available to us to inform the definition of the more detailed requirements. During the period where the baseline was established the preliminary design was developed. It is at that point you start to get a feel for what the final product is going to look like. Once you have got that

approval you are supposed to be full speed ahead into the detailing of that preliminary design. The intent on the Edinburgh Tram Project was that the detailed design would be completed by us as the design provider.

44. You will often hear people talking about design build contracts (where the contractor has got the responsibility for delivering the design and the construction). The Edinburgh Tram Project was very different. The procurement strategy was to separately procure the design as a package and then make it available for subsequent use by other contractors. PB's role was to provide the design. We were the SDS provider. The responsibility for the design was intended to be novated to the INFRACO. There was an element of construction support that was included subsequent to detailed design completion. The above is my understanding of the intent of the clause setting out the scope of services; however, I was not involved in the actual negotiation of the clause itself. That would have been undertaken by Mike Jenkins.
45. I note that paragraph 2.33 of schedule 1 of the SDS contract provided that the SDS provider was responsible for undertaking and reporting on various specified surveys necessary to inform the design of the tram network. I cannot comment on what surveys were undertaken by or on behalf of PB. I was not close enough to the detail at the time. The person to speak to about the very early phase of the requirements definition would be Alan Dolan.
46. I note paragraph 3.2 of schedule 1 of the SDS contract. I am able to comment on what design services in relation to utilities were to be provided by SDS because of what happened subsequently. This is a very interesting paragraph. I was not involved at this stage. I certainly was not involved in the drafting of this particular clause. This clause is key to gaining an understanding of what subsequently happened with the utility diversions. It is key to understanding our concerns about the perceived obligations to undertake critical design. Critical design ultimately became concerning where we had particular pinch points eg where there were multiple utilities and we were trying to route all of them through a fairly tight location. In those instances the integrated design

became critical. We were responsible for working with the information provided by the utility companies to create the integrated critical design. Other aspects of the design (eg connections to a water main) were not down to us.

47. Paragraph 3.2.1 talks about "*undertaking critical design, developing a strategy for utility diversions to minimise diversion requirements and outturn costs.*" The SDS contract did not envisage that all utility design would be undertaken by PB. When you distinguish between what is critical design and what is not there is a separate obligation for the Statutory Utility Companies (SUCs). With the benefit of hindsight, I would say that this paragraph could have been better structured and more clearly presented. During my tenure there was clearly a lot of pressure on utility diversions. TIE were putting pressure on me for the delays. I then presented the contracts back to TIE. I informed TIE that they had to put in place the agreements with the SUCs. One example that comes to mind is Scottish Water. The response from TIE was that they did not realise that was their obligation. There was a lack of understanding within TIE of the contractual structure around utilities. There was a lack of appreciation in TIE as to exactly where the obligations lay for utilities design. TIE had the notion that we were responsible for all of those agreements and that design. We were not. There were agreements in place between the SUCs and TIE which outlined their responsibilities.
48. As we moved forward into the detailed design programme, the whole question of integration of utilities and alignment design became fundamental. There has to be a close linkage between the two. If you take Picardy Place, where there were several redesigns carried out because of CEC changes to requirements, each of the redesigns meant that the utilities diversions designs had to be revisited. Edinburgh is better than Manchester because you tend to have wider boulevards. Nevertheless there is pressure on where you can put the utility services and where you can divert them to. That is very much an integral exercise.
49. I was not involved in forming PB's strategy concerning the utility diversions ie the strategy to minimise diversion requirements and outturn costs. The person

Involved with that was Alan Dolan. I cannot remember whether the SDS contract contained a timescale, or programme, for the production of utilities designed by PB. Alan Dolan would be able to comment on this area.

50. The management services provided by SDS purely concerned the management of the delivery of our defined scope. We had nothing to do with programme management. That was TIE's responsibility.

Programme

51. I would have to look at the SDS contract to comment on the agreed programme when the SDS contract was entered into for carrying out the SDS services, including the requirements definition, preliminary design and detailed design phases. I was not involved in the creation of that programme. The agreed programme was part of the contract. The contract sets out the milestone dates for requirements, preliminary and detailed design and then the subsequent phases. It would all just be a matter of fact as it is contained within the document. I note schedule 1 of the SDS contract and pages 111 to 112 where the Programme Phasing Structure is set out (CEC00839054). By the time I was involved we were not using these definitions because a number of changes had happened. We were talking about line 1 / line 2 definitions and the phase 1a / phase 1b definitions against the programme. I do not recognise the dates set out in this document. I suspect that is because, by the time I was in Edinburgh, we had recast the delivery.
52. There was a new programme put in place following my arrival. There were regular updates to the programme. This is an early document which was later superseded. There is a later programme which sets out the requirements definition as being completed by the end of 2005 and the preliminary design being completed by mid-2006. I cannot recall when the detailed design was due to be completed by. I recall that we were scheduled to go into service by May 2011, having let the INFRACO contract along the way. All that said any comment I would be making is in hindsight because I had no involvement in the programme at the time this document was produced. The use of the

phrase "Approved" in this programme would have meant approved by the approval authorities, which was CEC and the stakeholders. Detailed design needs to be fully approved. Preliminary design is approved in principle by the stakeholders.

53. In my experience 20 days is an entirely reasonable period for a client to review a preliminary design. That is the timescale usually used in the industry. That length of time is by no means unusual. If you bear in mind you are looking at the preliminary design being a six month period then any longer than 20 days would seriously impact the effort allocation. 20 days is entirely reasonable.
54. By the time I was involved that whole sector terminology had changed so it is not really something that I could comment on. I can comment on the chunks, the requirements, the preliminary and the detail. Sector split is not something I was close to at all. The whole sector categorisation is different from the way that we delivered the preliminary design and detailed design. This is a document that I am not familiar with. By the time I was on the project it had been superseded with a different classification of sectional design.
55. I note clause 7.1.1 which refers to the master project programme. TIE, as the project manager, was responsible for defining the master project programme. TIE, as the programme manager, would have the programming responsibility for everything that had to come together. I could not honestly comment on whether a master project programme was agreed and in place when the SDS contract was entered into. You would need to speak to Alan Dolan for comment on that. I would be able to say that there may have been a document that called itself "*the master project programme*" but I would not be able to discuss the detail of it.
56. Clause 7.12 was an obligation throughout the contract. We updated our programme on a monthly cycle. The 'master project programme' is defined on page 13 of the SDS contract. It means the project programme to be prepared, maintained, updated and amended from time to time by TIE and notified to the

SDS provider. Page 15 provides a definition of 'Programme' as the programme set out in schedule 4 (Programme) as maintained, updated and amended from time to time by the SDS provider in accordance with the agreement. Our programme was updated on a monthly basis. I can only comment from the perspective of the definitions in the contract itself. I was not involved with the negotiation of the contract.

57. Clause 7.12 pertains to the whole contract. During the period I was involved we were still working in line with that clause. What I cannot say, because I was not there, was whether the programme was updated in accordance with that obligation by either TIE in relation to the master project programme or us in relation to our programme. What was not clear was the evolution of the master project programme by TIE. One of the concerns we had was that the master project programme was not being maintained.

58. I note clause 7.2 of the SDS contract states "*The SDS provider should carry out the services required in respect of the Requirements Definition Phase, the System-Wide Preliminary Design Requirements, the Preliminary Design Phase, and the Detailed Design Phase in the order of "criticality" (with "A" being the most critical), sequence and dates shown in the Programme Phasing Structure PROVIDED ALWAYS that the Client may at any time require the SDS Provider to stop, amend ...*" I understood "criticality" as being something that was derived from TIE's management of the master project programme. The master project programme would have determined the criticality against which we would then be required to deliver. In summary, it was TIE's obligation to decide what services were critical and on what basis.

Approvals and the consents

59. I refer to the so-called draft Final Business Case version 2 dated November 2006 (CEC00115183). At paragraph 10.53, page 153 it states "*Ultimately, the SDS contractor is responsible for planning consents being appropriate for the scheme*". There was a responsibility for SDS to obtain the necessary statutory approvals and consents. That was our responsibility. There were sanctions

under the SDS contract for poor performance. That said, paragraph 10.53 goes on to say *"However, the fundamentals of the success of planning applications will be determined by the's (and CEC's) preferences for the specification of the system, and therefore the risk of the success of the planning process must remain at least partially with the public sector, albeit with some of the financial risk of increased costs passed to SDS and ultimately to Infracò..."* In summary, if you go back to the SDS contract there is an obligation on SDS for approvals and consents but the Final Business Case recognises that it is not something that we could do in isolation.

60. With the benefit of hindsight, the inclusion of the word *"preferences"* shows particularly good foresight. What tended to happen was preferences were introduced too late in the process by CEC. Those preferences required changes to design to secure approvals and consent which everyone said was an SDS obligation. We would reply and ask whether the changes were reasonable. We would say, more importantly from the perspective of the overall good of the scheme you are risking going around in circles, delaying and impacting the delivery of the programme. CEC thought that they had transferred the risk to SDS and they were able to exercise that privilege. However, they had to be careful that they were not disrupting the whole programme. That is, arguably, what subsequently happened.

Price and payment

61. In terms of the main provisions in relation to price and payment of fees, all I can really do is refer to the schedule in the SDS contract which sets out the pricing schedule in a high level of detail. I was not involved in the drafting of that schedule. The main payment milestones also appear in that schedule. There were no incentives for meeting the milestones early or on time. There was an overall liability clause but there were not specific penalties related to milestones.

Other

62. I do not know who was TIE's SDS representative during the term of the contract. The fact I do not know that suggests it was not something that was maintained. In terms of PB, I was declared as the Project Director. I was the representative with a small "r", but I was not formally updated as the representative with a capital "R".
63. The person who was my primary point of call at TIE when I joined was Matthew Crosse. He had recently been appointed the TIE Project Director. My day-to-day contact was Matthew. I subsequently developed a formal working relationship with Willie Gallagher. Formally my point of contact was Matthew as the Project Director. That point of contact changed after Steven Bell was appointed Project Director following Matthew's departure. Matthew Crosse was Project Director up until novation (April 2008).
64. I would refer to the Final Business Case (paragraph 7.112, page 94 **CEC00115183**) to gain an understanding of the purpose of the proposed novation of the SDS contract to the INFRACO contractor and the extent to which design required to be completed for novation to occur. The Final Business Case sets out clearly the procurement strategy. That strategy was based on procuring the design separately from the INFRACO. Paragraph 7.112 sets out the thinking. There are supporting clauses elsewhere in the document that set out the risks. My understanding is solely derived from reading the Final Business Case. At that point, in late 2006, I was starting to take an interest. My view was that the Final Business Case had been pretty thoroughly researched. There are always pros and cons. Clearly an awful lot of thought had gone into the whys and wherefores. The SDS contract mirrored the philosophy set out in the Final Business Case. It was absolutely clear that the intent was for there to be a 100% completed design prior to novation.
65. I was not there at the time of the SDS contract being negotiated. My understanding subsequently, when dealing with the novation, was that it was INFRACO's obligation to develop the design. The SDS design provider was

responsible for delivering a constructible design but, depending on who the INFRACO was (had it been Laing O'Rourke, Balfour Beatty or Bilfinger Berger) there would be differences because of preferred suppliers. There might be a number of off-the-shelf solutions that an individual INFRACO would want incorporated. There would be design development to match the design with the INFRACO's preferred product at the point of novation. It was INFRACO's obligation to take the design into construction. When you take a paper design product into a constructible real world entity there are always differences. Those differences are dependent on who is the successful party bidding for INFRACO.

66. There was a constructible design at the point of novation. What INFRACO was required to do was to develop the design and apply it to their particular approach to construction. It is one thing having a design and another implementing it. A good example of this was what subsequently happened with the trackform. BBS were talking about a more of an 'off-the-shelf' trackform solution, whereas other contractors may prefer an approach based on 'cast in situ'.
67. PB were providing a packaged design but there were limits to the envelope. There were aspects of that design that needed to be 100% complete. There were aspects of design necessary to complete the whole system. INFRACO would then have to incorporate that. We had very little responsibility for systems design. In the event, Siemens were the successful partner. They were responsible for designing the electrical systems. There would be points of interface with our 100% complete civils design where Siemens would take on the tram control system design of their own accord. In summary, the overall system design was not 100% complete because it required the INFRACO to achieve things over and above our obligations. Our SDS provided design was supposed to be 100% complete in itself.
68. I note page 5 of the SDS contract. An example of further design work that would remain to be completed once the detailed design had been completed

by SDS (and all necessary approvals and consents had been obtained) was the electrical systems. That was intended to be done by Siemens.

69. I note that schedule 2 of the SDS contract lists key PB personnel. When I started working on the project in February 2007, David Simmons was definitely there. He was Halcrow. I do not recall David Calver being there. Andy Dixon was there. Rick Finc was not. Colin MacDonald was there in February, but not in October 2007. I do not think there were issues with consistency of the personnel from PB's perspective throughout the design period. There were no issues. We had a very strong process for interdisciplinary design management. We had a large enough team to make sure we could accommodate changes in management personnel.
70. It is very interesting to look back at the SDS contract with the benefit of hindsight and look at what happened at novation. The key change at novation was to do with responsibility for securing approvals and consents. That was the area that gave me most cause for concern in terms of the formal contract.
71. The main concern, which became apparent when I arrived in February 2007, was the way that TIE was interpreting the SDS contract. They were imposing far more of an obligation on the SDS provider than was sensible or reasonable. That was my blanket concern with regards to the way the contract was being administered.
72. When you look at the Final Business Case, you realise that the intent of the Final Business Case was not really properly articulated in the SDS contract. The Edinburgh Tram Project was a situation where, and I have seen this before, the client imagines they have transferred risk and goes away happy. In reality, however, it is the client that needs the scheme and if the contract does not facilitate that scheme delivery then the risk remains with them.
73. I remember a particular job I was involved in concerning a power station. We were responsible for the gas pipeline to the power station. Another part of the business was to be responsible for the power station itself. I remember

distinctly sitting in a meeting with the client. The client said that they had managed to get the risk tied down through the appointment of a particular industry expert. What ultimately happened was that the industry expert went bust. The client then found themselves suddenly realising that they had not transferred the risk at all. It was a similar situation on the Edinburgh Tram Project. As a client, you have got to be careful not to think, through some academic point in the contract you are seeking to apply, you have managed to transfer risk. The client has to be aware that delaying scheme completion means that they may not transfer risk at all.

74. There was a conflict between the intention in the contract and the practical realities of the contract. The Edinburgh SDS contract was a bespoke contract, Mersey tram was a bespoke contract and Manchester is a bespoke contract. Bespoke contracts often lead to problems. In this case DLA advised the client that they had done the right thing. The contract was undeniably drafted with the right intentions. However, because you are not using a standard form you have managed to introduce things which depend very heavily on the culture for administering the contract. There were standard forms that could have been deployed but, as a contractor, you take the contract that is proposed and negotiated. You use that as a starting point.
75. I think the risk with bespoke contracts is that you focus on specifics to the detriment of the consistency of the whole package. In the example of the Edinburgh Tram Project SDS contract, pulling out the obligation on securing approvals and consents did not adequately represent the reality of how that obligation would be delivered. It did not consider the unintended consequences on the rest of the scheme development. I think, in general, a bespoke contract runs the risk of highlighting a specific to the exclusion of the general intent. The above would be a matter of opinion from my own experience.
76. The way to avoid issues, such as the problems we faced with obtaining approvals and consents, is to introduce a collaborative culture across all parties so that everyone is then focused on the ultimate intent, rather than

getting side-lined with specifics. That is my own personal view. I have seen that work in Manchester. I have experienced issues as a result of bespoke contracts that have not caused problems because everybody was working together.

77. In my view the Business Case was a good document. A key plank of it was the early appointment of Transdev. They were appointed to deliver an intelligent customer focus from an ultimate operations standpoint.
78. We were, as the SDS provider, the party primarily responsible for obtaining the views of the various stakeholders so they could be incorporated into the design. I do not know whether we were in direct correspondence with the SUC's, Network Rail, Forth Ports and BAA. I was not there at that time. That, again, would be for Alan Dolan to comment on. I suspect that we would have been in contact but I was not involved in that aspect. I wouldn't be able to comment on what extent, if at all, the matter of obtaining various stakeholder views so that they could be incorporated into the design was addressed during this phase of the SDS contract. I was not involved with the structuring of the contract and would not be able to comment on that aspect.
79. It was our responsibility to obtain the views of the various stakeholders. That was spelt out in the SDS contract. With regards to industry practice, that responsibility would usually be assigned the best party who was able to obtain the views of the different stakeholders. In the case of the Edinburgh Tram Project the best person able to do that was the programme manager (which was TIE). On the Manchester Tram Project it is the same ie It is the programme manager who undertakes this role. In Manchester the programme management team has a stakeholder engagement team. Views are secured through that team. Any powers that are required to build the scheme are also secured through that team. It may then be left to the contractor to secure the detailed consents. It would usually be a client responsibility, having regard to good industry practice, to secure those views.

80. In summary, in terms of good industry practice, it should be the programme manager who is responsible for obtaining the views of the stakeholders. The person at PB who would be able to provide further insight into this area of the contract would be Mike Jenkins.
81. I would not know the exact materials and instructions that informed the design that required to be carried out. All that was before my time. This was all put together before my active involvement started. The materials and instructions were provided by TIE as part of the tendering process. We were given access to a data room by TIE. That was all before my time. That said I am aware of some of the materials and instructions from subsequent investigations into some of the changes that were required.
82. I was not involved with the road design and structures design. I was not involved in the actual formation of that subcontract. That was the headline scope for the 40 to 50 Halcrow individuals spread across their offices.
83. I do not know the detail surrounding Scott Wilson Railways Limited's appointment as Technical Support Services (TSS) provider because I was not involved with that. My understanding is that TSS were to be involved in a design assurance role. In the event, TSS reviewed the preliminary design submitted by PB. Their role was a technical specialist advisory body to TIE. The design was handed to TIE and then they used the support of TSS to analyse the design. That contractual nexus meant that there was no direct contract relationship between TSS and PB.
84. It was early 2007 when TIE decided to change our design assurance process to become far more self-assured. Before then we had been engaged to provide a design to TIE which would then be assessed utilising TSS in an advisory capacity. When David Crawley came on the scene for TIE it was decided that the more efficient way of doing things would be for us to self-assure and provide all the assurance documentation. That change in process dramatically reduced the role of TSS. I do not know why David Crawley took

that decision. You would need to ask him. At the time my understanding was that it was to make the whole process more efficient.

85. PB weren't involved in any way in producing design for the EARL project. I am not aware of any interrelationship between the design for EARL and the design for the tram project. The two projects were handled separately. The only thing I am aware of is that following the cancellation of EARL there was the introduction of the Gogar interchange onto the tram alignment to facilitate a link from the heavy rail network via the tram to the airport. The cancellation of EARL did cause and contribute to the delay and additional cost of producing the design for the tram project because it introduced a fairly significant change at Gogar.
86. I am struggling to think of any interaction between the EARL line and the tram project line. The only thing I am aware of is subsequently it was decided that CEC still needed an interchange. Ultimately EARL's cancellation led to the Gogarburn interchange. That created more work for PB. The Gogarburn interchange work was significant but it was happening at the same time as other things that were happening. I do not recall whether it had any sort of dominant contribution to the delay. That is not my recollection. The interchange was just part and parcel of the changes to the scheme.

Requirements Definition Phase (September to December 2005)

87. The primary purpose of the Requirements Definition (RD) phase was to set the baseline for the design. The RD phase was to make sure all the requirements had been collated in the one place so that they could be interrelated. Those requirements then formed the basis for the preliminary design. I am unable to comment on what happened during the RD phase because I was not there. I am not able to say what detailed consultation was undertaken. All I know is we produced a number of reports to complete the RD phase. I am further not able to comment on the consultations with various stakeholders during the RD phase. I know that there were problems getting the documentation complete within the concerted time frame but I have not

got a detailed understanding of that issue. All this was under Alan Dolan's control. I was not actively involved at all in this late 2005 period. I cannot therefore comment on the extent of TIE and CEC's participation in the RD phase. The agreed timescale for completing the RD phase was met. The documents were delivered by the end of December within the concertinaed phase.

88. It would be a matter of record what drawings, reports and other documents were produced by PB as comprising the RD deliverable. I was not involved in that. I was not there to receive TIE's response to the deliverables. I am aware of subsequent points of concern but I cannot really comment on the response at the time because I was not there.
89. I note my email dated 26 July 2007 (**PBH00027328**) where I state "*at several points on this contract we really didn't perform very well and whilst I hadn't been made aware of the poor quality of the Requirements Definition Report that statement has now been confirmed to me*". This email came against the background of the baseline production of design deliverables. At that point everything was getting better. At the time our main concern was our cost to complete and the additional costs that we were incurring. Greg Ayres, my Managing Director, was concerned with this issue. My response back to Greg covers the various issues in relation to the claim and what we should do with my time on the integrated design review strategy. What I am saying is that if we acknowledge that that is a driver we have got to make some adjustments to the claim that we were making. I am not willing to accept that perceived shortcomings in the RD report resulted in the preliminary design being late. What did happen, as a consequence of the concertinaing, was that some of the RD report was not as comprehensive as they should have been. This issue was addressed at that early phase of the preliminary design period.
90. I cannot say definitively in what respect, or respects, the RD report was of poor quality. My general view would be that it was not sufficiently detailed across the whole range of requirements. My understanding is that there were 40-odd documents that had been produced against a very tight deadline and

rework was required after submission. The reason for the poor quality of the report was simply the time pressure of trying to produce such a comprehensive document in a very short time period. My understanding of the consequences (and again I was not there at the time) was that the documents that required rework were reworked early in 2006. However, that did not adversely impact the preliminary design phase. I would not be able to comment on the specifics of what I meant by "poor quality". My statement was a blanket statement. My awareness came off the back of a blanket comment from TIE. I have no recollection of the specifics.

Decision in January 2006 to build the tram network in phases

91. I note the report to Council in January 2006 (CEC02083547). I note the section of line comprising phase 1a is shown in schedule 1, appendix 2, "Programme Phasing Structure" of the SDS contract (CEC00839054) (pp111-112) under the stages ARP (Airport to Gogarburn), DHY (Depot to Haymarket) and HOT (Haymarket to Ocean Terminal). We did not produce design for section 4 because that bit was removed at a very early stage. We produced design for all other sections and lines 1 and 2. That terminology gradually fell out of use and became phase 1a and phase 1b. Section 4 was between Newhaven and Granton. It was the top bit, not the whole way down to Roseburn.

92. PB proceeded with the designs for the other sections, including 1b, because we were instructed to do so by the programme manager ie TIE. Section 4 was removed and we were told not to do that by TIE. TIE instructed us to continue with everything else. During the preliminary design phase the design for phase 1a and 1b was carried out together. That was the same during the detailed design phase. Belatedly there was discussion about completing all of the preliminary and detailed design for phase 1a before carrying out any further design for phase 1b. That discussion came fairly late on in 2007. I cannot actually recall when the first talk about splitting occurred. It must have been late in 2007.

93. There was a time before 2008 when design work was only undertaken for phase 1a. That was about December 2007. It was after preferred bidder. It is a matter of record that progressively more pressure was being placed on funding. That said the Audit Scotland Report in mid-2007 was pretty complimentary. That report did not give any real indication of any serious problems. The atmosphere was very positive. At that stage we had the whole design team together. It became more efficient to complete the whole thing in one go than to delay completion of the section from Roseburn.
94. It was around November 2007 that we stopped work on phase 1b. We delivered Granton tram stop design on 14 November 2007. I think this was our last work on that phase. We did a report on the separation of 1a from 1b discussing what would have to be constructed at the 1b junction to make subsequent expansion less disruptive. That went in on 2 November 2007. That was just before the INFRACO negotiations. BBS were declared preferred bidder in October of 2007. Our report went in just after the declaration of BBS as preferred bidder.

Preliminary Design Phase January to June 2006

95. I note that the letter dated 5 December 2005 from Ian Kendall (PBH00027647) stated that the contract duration for execution of both the preliminary and detailed design was not altered by the issue of the Master Project Programme or Procurement Key Milestones. I would agree that the durations remained the same. However, the open question then became "*what was the start point and the end point?*" I do not know whether there was an agreement to change the dates set out in the SDS contract for the approval of the preliminary design. If there was it that was before my time. My understanding was that the preliminary design was to be delivered by June 2006. That is the date I always worked on. I do not know why June 2006 was picked. June 2006 was the date that was always related to me as the agreed completion date for the preliminary design.

96. A preliminary design would take a set of the requirements and set out how the scheme would lock together. However, that would be done without going into a high level of detail. It would be done to a level where you could demonstrate the practicality of transforming the requirements into a working tram system for structures, trackform, etc.
97. I would not be able to provide a detailed response on what work was carried out by PB during the PD phase between January 2006 and June 2006. I was not there during that period. All I can say is that the work undertaken was done to produce the preliminary design report across various aspects of design. From my experience of preliminary design durations on other projects that period of time would be sufficient to deliver the Edinburgh preliminary design.
98. I cannot comment on what consultation with the various stakeholders PB carried out during that period. I was not there during that period. Likewise I cannot comment on the extent TIE and CEC participated in the preliminary design phase during that period. I am not aware of there being any difficulties during that period in producing the preliminary design package.
99. The drawings and reports and other documents produced by PB as comprising the preliminary design deliverables is set out in the preliminary design report. That would be a matter of record. My understanding was that TIE did not respond on the preliminary design deliverables in the time required ie within the 20 days. The subsequent review of this showed that TIE had sought to revisit some of the fundamental principles underlying the scheme intent. Rather than taking the preliminary design as the line in the sand to then move on to detailed design, what actually happened was that the preliminary design was reviewed and TIE (and some of the major stakeholders) took it as the opportunity to revisit the scheme requirements.
100. The preliminary design period is really why I later became involved. What we had was the approval bodies refusing to approve the preliminary design and looking for other options. We had to adhere to the charrettes process because

there was a clause setting out approvals being at SDS's risk. The charrettes process generated lots of increased cost for us. TIE's view was that it was a fixed price contract. TIE thought that PB had to do everything that they instructed. I did make comments in subsequent correspondence about our "failure to perform." However, those comments are to do with our failure to perform from our own commercial perspective. We did not protect our commercial position. One very key thing that I had to do when I arrived was to convince TIE that they were not at liberty to keep changing the scope in the way that they had been. TIE thought that the SDS contract was a fixed price contract. I informed TIE that there was a justification for us claiming additional money for change. TIE's thinking was that they were at liberty to rethink, look at different options and introduce change at SDS's cost. That was a fundamental problem with the way TIE administered the contract.

101. TIE's governance structure resulted in problems in this area. TIE was not really an independent programme manager. TIE was still an arm's length body of CEC. CEC insisted that things had to be changed. If there had been an independent programme manager they would have been able to say to CEC that they had to refer back to the requirements specification. They would have pointed out that the PB offer was compliant and therefore PB could go forward with it. That did not happen. TIE came in line with what CEC were proposing. That introduced all sorts of delay to the programme.
102. In summary, if a well-established project manager had been put in place that was independent of CEC or was not an arm's length company created by CEC it would have assisted the process. There would have been a completely different approach. It is not unreasonable for CEC to look at what was delivered and realise, on reflection, that they would prefer something else. That is perfectly fine. However, what was not done was TIE then did not make CEC aware of the resultant impact of their change request in terms of additional money and delay to programme. If TIE reminded CEC of that it clearly was not taken on board because we continued to go through this period of reiteration and continued change. That period did have very significant impact on programme.

July 2006 to June 2007

103. My understanding of the reason for the difficulties and delay in agreeing the preliminary design and progressing the detailed design was that it was down to CEC trying to take the opportunity to revisit some of the signature aspects and to revisit the redesign with a view to introducing gold plating. CEC's requests were addressed through the charrettes process. The issue was ultimately addressed by us highlighting the impact on programme of the different iterations. My understanding is that TSS reviewed the preliminary design. I am not aware whether they were involved in any of the charrettes process.
104. It was down to us, when agreeing and progressing design, to take into account the wishes of a number of different stakeholders. We were required to take those wishes into account. The various stakeholders I refer to include TIE, CEC (as client and as statutory authority), the SUCs, Forth Ports, Network Rail, BAA, RBS and SRU. However, there is a comment contained in the Final Business Case that states that there was also a need for TIE to be involved as well.
105. In practice there was a delay in obtaining agreement with the other stakeholders. That delay was primarily due to CEC's involvement. The delays resulted in the convening of the critical issues meetings. That resulted in a joint approach between TIE and us in securing the agreement from the likes of Forth Ports, RBS, BAA, SRU etc. It did not become a joint exercise between SDS, TIE and CEC until February / March 2007. There had already been significant delay with us attempting to work with the other parties to make the design changes that were required by that point.
106. Any delays on the part of PB were against the background of the changes introduced by CEC. CEC were insisting on changes to the design as it was developing. The impact of that was that it was not possible to secure the agreements. You cannot secure agreement on something that is not

complete. It was primarily the CEC interventions that slowed the process down. There were repeated iterations to the preliminary design. That caused a difficulty with closing out the basis for moving forward into detailed design. That caused delay to the programme.

107. The third party agreements were a major issue. They caused serious delay. The absence of third party agreements had a knock on effect when we got to novation inasmuch as the design was not 100% complete. There was a minimum of six months delay introduced by CEC's changes. It could have been as much as a year. That was the whole period between June 2006 and June 2007. I am on record in June 2007 as saying in relation to these and similar topics we have been iterating the design and there is little to be gained by continuing to do so. We need to agree that we are moving on. It was a pivotal point in the whole programme. It would not be stretching it to say that there was a year's delay introduced because of the revisiting of the scheme fundamentals. The revisiting of the design fundamentals by CEC and the difficulties with getting the third party agreements agreed cannot be pulled apart from one another.
108. A significant part of the charrettes process with CEC, TIE and TEL was the requirement for new agreements between TIE and / or CEC with third parties as a result of the changes. There were new agreements required with Forth Ports, SRU and RBS because of detailed changes to particular aspects of the scheme alignment amongst other areas. The charrettes process was a major part of the delay. That process also caused changes to the agreements with the major third parties. Those changes were brought about by CEC and / or TIE.
109. I refer to the document dated 31 May 2007 which sets out PB's claim for additional costs for additional management and supervision services between July 2006 and April 2007 (CEC02085580). The design programme changes were to do with those issues that I have just talked about. The main issues were changes due to charrettes, changes due to the additional third party agreements, additional services due to changes required by TIE in relation to

the tram design manual and difficulties with obtaining consents. We said that we could not be held liable because the design had been delivered in accordance with the contract and consent had been unreasonably withheld. There were a number of examples of that. These include changes due to EARL, TIE's failure to accept and review the preliminary design in a timely manner and changes due to third party developers' emerging designs. There were examples where, along the route, developers had secured planning permission from CEC for designs that conflicted with the base scheme for tram. CEC did not maintain an integrated approach. TIE failed to update the master project programme. Those were the key heads of claim.

110. The programme changed by virtue of the different aspects we were doing in that period. I refer to the email exchange between myself and David Crawley dated around 2 July 2007 (PBH00026295). This email exchange comes at the end of this period. I am saying that we have been exposed to iteration and disruption. At this point we had essentially stopped because things were just not getting any clearer. David Crawley is asking whether, where TIE have got an instruction to confirm the arrangement, changes can be accommodated within the design standards which form part of the SDS contract. In response I am confirming that I am remobilising those areas of design activities which were being held having received the formal instruction from TIE. However, I also state *"The concern in my mind was, as we discussed yesterday, that the instruction as received did not correlate closely with the intent that I had perceived from the meeting on the 21st Specifically my stance, certainly after the forceful presentation by Wille at the last DPD, had been along the lines of it's now nearly twelve months since the PD was delivered - tomorrow is in fact the 12 month anniversary date - and with the extended consultation on design options through that period..."* I then go on to state *"we have to recognise that what has been submitted is likely so close to optimum that there is nowhere else to go. Without doubt the major risk right now is not that the design may be 99% optimum rather than 100%; the fact is that even if it were possible to reach the theoretical 100% it would take so long to achieve that the programme would be extended to the point where the scheme would be cancelled."* This is me putting a line in the sand and David Crawley coming

back agreeing with it and accepting my interpretation. I am thanking him for the pragmatic stance. In summary, we informing TIE that we had been through a whole year of going round the houses and that we could not continue. I am saying that if we continued in this manner then the programme would be absolutely blown out of the water. As it was, we had already gone beyond the point where it was impossible to complete 100% SDS design prior to novation in any sensible time frame. If we had taken the notes that came from TIE or CEC at face value and the instruction to optimise where practicable the design further as a result of observations arising from the modelling exercise (ie traffic modelling) that would have put us back to square one. We would have continued going round the houses. We had to stop it. Following this email exchange design delivery started to pick up. That can be evidenced by the charts.

111. I refer to the email exchange dated 9 November 2007 from me to David Crawley which concerns a design development procurement subcommittee (DPD) meeting that took place on 30 August 2007 (TIE0035961). The minute for that meeting can be found at (CEC01644467). I normally got invited to the DPD but I was on leave at the time of that particular meeting. I later saw the minutes for the meeting. In that minute David Crawley stated that his view was that progress would continue to improve provided TIE stayed on top of SDS. I took issue with David's comment and the fact that the minute failed to report the very real achievements that has been made since the end of June. Looking back on the critical issues initiative, by mid-June the position became so serious that we decided we had to call a halt to further optioneering. Having proposed this approach, with the buy-in of all parties, the delivery rate from TIE to SDS of the design packages accelerated significantly. The first SDS programme release following the meeting on 21 June was 2 July. The accompanying chart demonstrated a very strong performance against the target. We informed TIE that we had wasted a lot of time between June 2006 and June 2007 going round and round in circles. We called a halt. Having called a halt the design deliverable progress improved substantially. This correspondence is the proof that PB were adopting a proactive approach.

112. This notion that TIE required someone to stay on top of SDS is set out in the minute at paragraph 6.2 of the DPD minutes (TIE00035961). However, if you go on to look at paragraphs 6.3, 6.4, 6.5 of the minute it talks about other issues that were still holding us up. The real picture is there in the self-same minutes. It was those stakeholder issues that needed to be looked before we could produce the design.
113. Following my email of 29 June 2007 (PBH00026295) our design delivery picked up dramatically because we were no longer fettered with the various stakeholders delaying us. The pick-up in design delivery shows that when we were left alone to get on with the design, as they understood was instructed rather than putting in additional design; we were able to meet our commitments.
114. We were responsible for instructing site investigations. What that might reveal would then be a split according to the party responsible. A particular difficulty concerning a particular site investigation that comes to mind is the difficulty we had completing Princes Street. That was because of the sheer fact it was so busy. It was not possible to complete.
115. The difficulties or delays concerning site investigations probably did not materially contribute to a delay on the trackform concrete base design since this design would have been predominantly dependent upon the specification of the trackform solution selected by the INFRACO much later in the programme. It may have introduced some complication for the MUDFA programme although with the complexities inherent in the diverse scope of the MUDFA works this would not have been a major factor. I think that the site investigations were subcontracted but I cannot recall.
116. There was more of a focus on value engineering after June 2007. Within the period of July 2006 to June 2007 it concerned the major structures eg the Edinburgh Park Viaduct. It was very difficult in that period to realise any value engineering because of the conflicting inputs from the various stakeholders. Value engineering goes on in any project. It did not really have a real priority

because it was normal course of business during this period. Come October / November it became close to top of the agenda.

117. Achieving the value engineering was difficult because of the conflicting requirements coming in from the various stakeholders throughout that period eg the charrettes and the issues we were having with CEC. It is one thing going for value engineering but another if you have then got the signature architect wanting a different sort of approach. The two approaches were not meshing. It was difficult to meet the third party agreements because of the changes that CEC were making. Those changes meant it was difficult to complete the design to the point where value engineering as an exercise achieved savings.
118. The need to find value engineering savings was subsumed within the whole period of delay. I would not single it out in particular as something that caused a delay. I am not aware of any value engineering works that actually achieved savings during this period.
119. The design for phase 1b, whether infrastructure or utility design, was carried out at the same time as phase 1a. It was all done together. The design concerned everything to do with the scope of services defined by the SDS contract. In any event, having a complete design for phase 1b is an asset in itself. When it was shelved that is exactly what happened. That phase 1b design will still be there somewhere on the shelf. That design is not something that is not of use in the future. That part of the alignment is unlikely to have changed in the interim (whereas something like Leith Walk has changed).
120. I note the TIE monthly progress report for February 2007 (CEC01790790). At page 16 it notes *"The TPB [Tram Project Board] agreed that following feedback from TS [Transport Scotland] on project funding, the project should reprioritise work on phase 1a only"*. Around this time design work was not reprioritised on phase 1a only. Work continued on section 3 of phase 1b. Section 4, however, was shelved. Work continued on section 3 because TIE instructed us to do so.

121. Carrying out design for phase 1b did not divert time or resources that could have been spent on addressing the difficulties and progressing the detailed design for phase 1a. That part of the work was part of the composite team approach. There was no adverse impact because of that. There was no diversion of time or resources within PB. We had a team in place that was large enough to cover both 1a and 1b. We had a section leader for phase 1b. Below him there were individual designers. Some of the design work undertaken was common across the whole system and some of it was more specific. There were people dedicated to phase 1b. There was no diversion of resource from 1a to cover 1b. There were separate designers dealing with each phase separately.

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122. I note the minutes of the TPB on 23 October 2006 (TIE00059601). At page 3 it notes *"SDS performance was highlighted as a major concern with both resource and quality of work being questioned"* and that Willie Gallagher had met with the Chief Executive of PB *"and received commitment that resource would be increased and quality issues flushed out"*. I note that TIE's SDS Manager's monthly report for November 2006 (TIE00074137) notes at paragraph 2.0 that a review of the preliminary design inter disciplinary check had identified *"some major deviation from the SDS procedures. It would appear that rather than achieving appropriate inter disciplinary solutions issues have been rolled forward to the DD phase of the project"*. I note that at page 2 of the minutes of the DPD on 8 November 2006 (CEC01761606) it notes that there is no confidence in SDS's delivery and lengthy discussions with senior SDS staff had taken place in relation to an apparent *"lack of accurate internal reporting"* and concerns in relation to *"co-ordination, working resource and management"*. I note that at page 14 the progress report by Andie Harper, Tram Project Director, for October 2006 (CEC01803371) notes: (1) Numerous meetings had been held with SDS senior management in an attempt to address issues associated with progress of design, prioritisation of the detailed design programme, quality of product, resourcing to meet the

programme and non-compliance issues; and (2) AMIS had written to the project advising that the quality of design was "far below" what they would have expected at this stage and that that may have an impact on their ability to deliver their first programme. I note the monthly progress report for the TPB on 11 December 2006 (CEC01360998) notes at page 10 that the first two tranches of detailed design for utilities were delivered late. I note the minutes of the DPD on 16 January 2007 (CEC01766256) at page 2 noted concerns in relation to "the complexity of SDS internal set-up where information takes significant time to be updated". I note the e-mail dated 19 January 2007 from Willie Gallagher to Tom O'Neill, CEO, PB (CEC01826306) noting concerns about "missed deadlines and communication issues at all levels" and the need for a new full time Director for the project, who would be on-site five days a week. I note my e-mail dated 31 January 2007 to Greg Ayres, PB's Managing Director (PBH00020960). I note my e-mail of 1 February 2007 (PBH00020993) which noted "The project management structure is confused, commercial control is inadequate and in simple terms the overall management of the project ... has been poor". I note my e-mail dated 4 February 2007 (PBH00021050) which referred to the need for a "rescue" process. I note my e-mail dated 8 February 2007 from Jason Chandler (PBH00021173). I note my e-mail dated 28 February 2007 to Greg Ayres (PBH00021622) in which I note that there had been a "failure to face up to the facts" and "a failure to face up to reality last summer on Mr Jenkin's part leading to misinformation on the state of the job from about Sep 06 on". I note my e-mail dated 2 March 2007 (PBH00021654) which commented on "PB reporting performance over the last nine months". I note my e-mail dated 14 March 2007 (PBH00021850) commenting on the performance of David Hutchison. I note my e-mail dated 16 May 2007 (PBH00024369) which referred to "very much the hang-dog attitude that got us into such a mess in Edinburgh". I note my e-mail dated 26 July 2007 (PBH00027328) which noted that "at several points on this contract we really didn't perform very well". I note PB's draft "Lessons Learned" document produced in September 2007 (PBH00028567) and (PBH00028568).

123. I was appointed primarily to recover PB's commercial position, so my focus at that time was very much on PB's commercial management of the project. It was evident at this point that we had become side-tracked through that prolonged period from June 2006 to February 2007. It was clear to me that we had not protected our commercial position. My initial impression was that we had not handled the change control process effectively to protect PB's interests. Having arrived in Edinburgh I was not in any position to take a view from a technical perspective on what had been done. My focus was on where we were going commercially from a PB bottom-line standpoint.
124. My general view was that TIE were administering the SDS contract in an unreasonable fashion. They assumed that we were obliged to deliver far more at our cost than was reasonable. My view was that, from PB's perspective, we had not protected our commercial position adequately.
125. I came into the project afresh. I did not become involved in the detail until the very early part of February 2007. From my perspective, there was no reason to doubt that the designs were fit for purpose. The first time I saw the minutes of the TPB of 23 January 2007 (CEC00689788) and Matthew Crosse's comments at pages 5 to 6 was when the document was provided to me by the inquiry. I can only comment from reviewing this document now. Matthew Crosse's comments came in January 2007. By the time the next TPB was convened, I was there. I was invited to that meeting. What was apparent then was the singling out of SDS for criticism without acknowledgement of the problems that SDS were dealing with through the period subsequent to the submission of the preliminary design.
126. The key concerns related to delivery to programme. TIE were responsible for the overall programme. The quality of the design provided was not properly assessed by TIE when the preliminary design was produced. These were both recognised as challenging areas. To be fair to Matthew, he had only just arrived at this point. He would be grappling with the same contextual issues as me. We did pick these issues up at the February 2007 TPB where I was diverting attention away from SDS in isolation. A review of those minutes

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would need to be undertaken to understand the whole context of Matthew's comments.

127. I note that the minutes show Willie Gallagher appraising the Board on the planned visit on 6 February of a senior PB Board Director. That PB Board Director would be me.
128. You would need to ask TIE whether PB delivered in terms of what they were looking for. My introduction moved things on and generated a more collaborative environment. I would interpret Matthew Crosse's comments as a very 'early doors'. He does not take a broad view on all the issues involved on both sides. If you move forward by a month and look at the presentation Matthew was taking a far more balanced view. He acknowledged TIE's deficiencies and looked at how we had changed things around on design delivery. In that light you can see that this was a very early assessment.
129. On 13 February 2007 there was a DPD meeting which included discussion of programme delays and the key issues driving those delays. I discuss this meeting in my weekly report dated 12 February 2007 (PBH00021529). 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 stage. I discuss this meeting in my weekly report dated 16 February 2007 (PBH00021398).
130. 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.
131. For instance the presentation recognised 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*

9# *that risk will be, or has been transferred.* A copy of my presentation can be found at (PBH00021285).

132. Whilst TIE made certain allegations regarding PB, they recognised 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."* I refer to this in the same presentation.
133. I also refer in my presentation to the importance of resolving and closing down critical issues was recognised.
134. It was agreed to convene weekly meetings with all relevant parties with a view to clearing the logjam quickly.
135. I do not accept that there were failings on the part of SDS prior to my involvement with the tram project. However, nobody is ever perfect. Was the client paying for a perfect service? No, they were not. The management of the whole programme was not as precise as it could have been. *"Fallings"* is an interesting word. Were there things that we would do differently with the benefit of hindsight? Yes, but I am not prepared to accept that there were failings at this point. I think that you need to adopt the bigger dimension.
136. I do not think, with the benefit of hindsight, that there were areas that PB could have approached differently. I actually think we probably did too much. You could argue that, contractually, we should have stopped following the production of the preliminary design report. We should have awaited TIE's approval. However, we did not do that. We carried on in good faith and created some very high quality design. I do not accept that there were failings on the part of SDS. SDS had the good of the scheme at heart and actually went beyond what was our obligation.
137. Nobody was seeking to scupper the scheme. However, there were actions that were taken by TIE and CEC that did not take proper consideration of the

consequences. TIE, as programme manager, did not challenge the stakeholders' requests for change. I recall that at a later TPB (I cannot remember which one - it was in either March or April) there was pressure on SDS. A statement was made along the lines of "SDS is delayed in completing a number of design packages." It was after that meeting I took Willie Gallagher to one side and said "look, you are telling me I am delayed completing. I am telling you I cannot even start because TEL, for one, cannot tell me which way they want the buses to be turning off Princes Street; CEC cannot tell me 'x'..." I cannot remember the specific examples. I specifically remember that there were whole questions on the alignment as to what TEL was doing with bus integration that were just not being closed down. It was at that point, which must have been March / April that Willie started to appreciate that you could not look at SDS deliverables on a programme in isolation. You had to look at what was required before the SDS design could be completed.

138. I do not want to be criticising anybody. I certainly do not want to be criticising Willie Gallagher because I think he was one of the most effective chairmen I have ever worked with. I think everybody was in a difficult environment because the governance structure was wrong. By that I mean that CEC still had a major influence over TIE. TIE was supposed to be the independent programme manager but they were not really being allowed to be. I do not think that TIE had the experience to enable them to challenge the stakeholder requirements that were put in after the preliminary design. TIE did not have experience of a major construction programme.
139. In terms of my experience of newly created arms-length organisations delivering a project of this magnitude, one or two examples come to mind. Network Rail has got experience of the rail infrastructure. HS2 is an interesting one at the moment where HS2 is doing the programme management themselves in-house. However, they are relying on the recruitment of individuals with the right skills. That is a much bigger organisation so you have got some sort of level of protection there. TIE tried to appoint the appropriate individuals within a much smaller organisation. That is far more difficult to do. It would have arguably been better for CEC to have

appointed an experienced programme manager who had strength and depth. I cannot think of a good example of an arms-length company with any experience delivering a project of this magnitude.

140. I note that the minutes of the DPD on 13 February 2007 (CEC01790790) note at page 5 a presentation (PBH00021285) by me and Matthew Crosse on "*plans for improving design matters and the changed approach to engineering*". This is the presentation I have already talked about. The change proposed was to replace the TSS assurance regime with self-assurance.
141. To my recollection it was David Crawley who came up with the proposal on self-assurance. David had a background on Docklands Light Rail. His view was that it would be far more efficient if we were instructed to have a self-assurance approach. In my experience, that approach is not unusual. That approach is quite normal. That process is adopted on Manchester with Laing O'Rourke. They have a self-assurance capacity on their deliverables. David's proposed changes were implemented and they were effective. TSS's role was reduced substantially. I cannot recall whether they were withdrawn. I know that one senior TSS representative stayed around for a while but whether that was just in an individual capacity or on behalf of TSS I am not sure.
142. The changes sped up things. They worked very well. They worked well because, at this point, TIE had now got people with the experience in David Crawley and Tony Glazebrook. We worked very closely with them from this point onwards. There was also the introduction of Mathew Crosse. We were starting to deal with individuals who were able to appreciate the challenges that we were facing. The flow of information between the stakeholders substantially improved. I was fortunate in that regard because that was just after I had come on board. There were people who were actually able to relate to my concerns. That meant that the client-relations remit, which was absolutely fundamental to what I was trying to do, became much easier.
143. I note the letter dated 15 February 2007 (PBH00009783) where Halcrow wrote to PB in relation to the need for PB, as lead consultant, to take the lead

on "inter-disciplinary design co-ordination" in relation to the tramway cross section, which was noted to be "a further example of PB's failure to address the necessary systems integration and systems engineering issues". I do not recall this letter. Looking at this letter now, I think this is a contract positioning statement by Halcrow. Interdisciplinary design coordination was not exactly in its early stages but the processes still had to be refined. I would take this letter as Halcrow setting out their contract position. There was certainly not any problem moving forward. It was just a matter of ensuring the responsibilities were properly executed. I do not recall any further problem in this area. This letter is just saying, on interdisciplinary design coordination, that Halcrow had an obligation to provide design. PB had control of interdisciplinary design coordination. I take this letter to be part of the cut and thrust of working on a project such as this. Halcrow were under pressure on delivery. I think this letter is more positioning than anything particularly substantial. We certainly did not fail to address systems integration and engineering aspects moving forward. As far as I am aware, there was no follow-up to this. It was just taken on board as part of the normal project management and delineation of different responsibilities. I do not think this letter is an example of PB causing delays. This is refining the various inputs in that interdisciplinary design process which took place over a considerable period. It is just making sure the various parties are deploying themselves efficiently and in terms of the contract. This is just a Halcrow subcontract letter.

144. I note the letter dated 16 February 2007 from Halcrow (PBH00009588). This is Halcrow ensuring the correct contractual process is followed. Halcrow are bringing to our attention the impact of TIE's delays on the utility diversion design submissions. This is Halcrow formally stating that the SUCs are failing to review designs within 20 days. It is absolutely the case that the delay in obtaining information and / or agreements with the SUCs caused delays to the development of the design. It was TIE's responsibility to manage the SUCs to deliver the reviews within the 20 day period. It was TIE's responsibility to obtain the information. The information required from the SUCs, either in the form of original information or responses to design submissions from us, was part of the contracts that TIE had with the SUCs. TIE's delay in obtaining

information and agreements from the SUCs certainly did cause delay to the development and approval of the design. It certainly caused delays to the development and approval of the design and caused rework. Did it delay the tram project overall? I would argue it probably was not the dominant cause of that delay. In hindsight, looking back at all the issues that I encountered with the tram project, this was not one of the major issues which contributed to the delay.

145. I note Matthew Crosse's email dated 27 February 2007 (CEC01793690) and my email dated 26 February 2007. I do recall referring to a programme re-prioritisation meeting as "a surreal day by anyone's standards". I remember making the statement because it was a very odd day. I refer to the meeting my weekly report on 23 February 2007 (PBH00025993). In particular I refer to section 3 on page 1 where I summarise what was discussed at the meeting. I state:

- *The programmes currently presented cannot be delivered.*
- *The Infraco Consolidated Bid milestone, (referred to above), is dependent upon the provision of detailed design information from SDS. (Principally roads and pavings levels and final alignment definition). The provision of this information has been delayed (due in large part to delay and resolution of the Critical Issues). In recognition of the delays incurred to date, the Consolidated Bid milestone should be slipped by between six and eight weeks.*
- *Pressure to be maintained on the resolution of Critical Issues with the stakeholders such as our deliverables can be completed. A further delay of four and six weeks has been allowed for this exercise to conclude.*
- *The TIE Value Engineering initiative will introduce a delay between four and eight weeks – and will likely impact the completion of the detailed design deliverables.*
- *TIE requires more float to ensure satisfaction negotiation of the Infraco contract. A delay between eight and twelve weeks is envisaged.*

- *The utility diversion programme should be modified to align more closely with the deliverables from the SDS contract.*

146. The meeting came at a fairly pivotal point. It was not long after Matthew had been appointed. That meeting was the point of realisation on TIE's part that these issues were introducing significant delay. Virtually all of section 3 is devoted to that same meeting. The bullet points I quote above set out the problems SDS were having. During the meeting there was recognition from Matthew Crosse that these were the causes of the delays. Matthew was anxious to derive a worst case scenario. Following my arrival, he wanted to assess things, put the delays on the table and find a way to move forward.
147. I described the meeting as a "*surreal meeting*" because of the way things were laid out. The meeting was held in a room with a large blank wall. David Crawley, for whom I have got the greatest respect, was putting post-it notes on the wall about all the various issues and then linking them. Jason Chandler whispered to me at one point "*have you seen that film A Beautiful Mind?*" The meeting was dream-like in that regard. That was why I described it as surreal. However, to be fair, the technique worked. I recall the meeting vividly.
148. I note that in my report I have reminded TIE of the urgent need to realign the employers' requirement and discussed that the utility diversion programme should be modified to align more closely in light of the changes.
149. On 22 February 2007 there was a day-long meeting was chaired by David Crawley to define '*an achievable and aligned programme for the Tram Project*'. The discussion included design, utilities, value engineering 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 employer's requirements. 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.

150. I note the internal email dated 23 February 2007 from Alan Lee (PB) (PBH00009610). I note the email dated 8 March 2007 from Keith Hawksworth to me (PBH00021708). As at 23 February 2007 we were overrunning. We still had not got certainty on many items of the scope. We were engaged in rework and the changes were not being paid for. Overall we had to attend to our cost expenditure. We were at a point where we had a significantly negative margin. I am not aware that anything of significance was culled. The whole problem was that we had a plan which said, at this point, there would be design completion on the systems engineering and systems assurance aspects. The plan assumed that this would have been closed out on delivery and that would have been that. However, because we were going through these repeated iterations, the systems engineering was only tagging along. At this stage we were going through the same process repeated times. We could not afford to do that.
151. TIE and CEC needed to realise that they could not make changes that didn't contribute to the delivery of a compliant solution. We had to make sure we absolutely curtailed our efforts to things that were appropriate to delivering compliant solutions. Alan Lee discusses this issue in his email. He says *"During this review, it has become clear that much time can be saved if some of the work could be better coordinated and the scope of works for the respective teams agreed up front. Time is spent chasing information, agreeing design review processes and performing tasks that were not in the original SE&A scope of work (although they were best placed to perform those tasks). If history is used as a benchmark, then continuing this trend could result in the need for an additional 320 hours being required to support the remaining SE scope of work. I suggest focusing on key tasks and closing them out."* (PBH00009610). Alan is discussing the issue of never getting to the point of closure. PB's management team were saying that we had to control budgets. Alan is reminding them that we still had to be careful as there were certain things that still required to be done. Alan has looked at it and said high,

medium, low are transferable and then redefined the budget on the back of that. In my view if things are not contractually required, then it need not be there.

152. Tasks identified as high risk would not have been culled from PB's tasks. I have no idea what was identified as high risk. Nothing was culled that would have been high risk. I am not aware of what tasks were high risk nor would I think they would be culled if they were.
153. I note Alan Lee's comment "*The latter meaning the work could be reallocated to other project staff, with low utilisation and potentially cheaper costs.*" That may have come about by virtue of the phasing of the work. It would only be done as appropriate. It is absolutely usual for that sort of thing to happen.
154. The cost cutting and reorganisation within PB refers to tasks being shared out within that particular small team. That would not have been discussed with TIE because that was just us delivering the solution. What was discussed with TIE was the need to secure change orders for the changed programme. It would not have been put in terms of cost cutting. It would have been put in terms of getting variations to cover the extended scope of works.
155. There was a concern in relation to what PB may have to prove if there was an investigation. You have got to make sure, particularly with systems assurance, that you are executing the work in line with industry standards. You have got to make sure that you have delivered that work in a competent way. That is the best practice approach. An investigation is an extreme event but you have always got to make sure that you have delivered an assurance role independently of the project delivery. Alan means, when he uses the word "*Investigation*" something that would follow an accident on the scheme ie an industry investigation if there was a failing that was attributed to the design.
156. The cost cutting and reorganisation by PB did not affect the services provided by PB under the SDS contract. That can be demonstrated by the fact that we got paid for what we did. At all times we had to be compliant. We maintained

that approach throughout. We were absolutely not cutting corners. There is ample evidence to support that from the whole approach to design assurance to not allowing TIE to cut corners at later stages in the project. This was particularly the case with trackform design where we maintained a very robust industry standard approach in the face of criticism from TIE that costs could be reduced if we adopted a lower cost solution. We absolutely were not cutting corners. The proof of the pudding is what is running in Edinburgh today. It is a quality solution.

157. I note the revised critical issues log prepared on 27 February 2007 (PBH00021607). Every week on a Friday morning I attended a meeting which Dave Crawley chaired concerning critical issues. The majority of the issues concerned CEC and TIE changed third-party agreements. I note the first issue concerned Forth Ports. They were proposing to have a substation on the same set as the tram substation. That was a TIE agreement that had been changed since the preliminary design. This was a TIE agreement with a third party. If you look at the critical issues log for 30 March 2007 (PBH00022323) it says "On 12/12/06, Forth Ports provided to SDS electronic file of proposed road layout at Western Harbour development. Layout provided is in conflict with Forth Ports Agreement. Letter issued to tie on 21/12/06 seeking clarification" and "On 16/2/07, Forth Ports indicated that they wish to accelerate one of their roads projects that will directly impact the tram designs. Change notice from tie required." From these logs you can see that the section 1a critical issues were largely to do with Forth Ports.
158. I note the section where it states "Preliminary Design comments from CEC require works outside the limits of deviation within the Forth Ports property". The Act only allowed for the tram to become structured within the limits of deviation. We issued a request for information to TIE and we were awaiting a response. Things like that took forever.
159. I note the section where it states "CURRENT SUC REQUIREMENT IS TO REMOVE UTILITIES FROM CONSTITUTION STREET AND RELOCATE ONTO PARALLEL STREETS OUT WITH LOD. CHANGE ORDER

REQUIRED." LOD stands for limits of deviation. Again we were waiting on TIE.

160. I note the log states in relation to 1B *"THE TRAM SYSTEM REQUIRES A SITE ON LEITH WALK FOR RADIO COMMUNICATIONS. SDS ISSUED RFI ON 16/11/06 TO CONFIRM IF THERE ARE ANY CEC OWNED FACILITIES THAT CAN BE USED."* The tram system required a site on Leith Walk for radio communications. We issued a request for information in November 2006 to TIE to confirm whether there were any CEC facilities that could be used. That response was still outstanding at that date.
161. I note the log states in relation to Section 1D *"TEL TO PROVIDE LAYOUT REQUIREMENTS OF BUS STOPS ALONG PRINCES STREET PER COORDINATION MEETING ON 02/11/06."* We had made that request back in November. We were four months on with issues that the major stakeholders under TIE's management were simply not responding to.
162. I note the log states in relation to Section 3a *"COLTBRIDGE VIADUCT - RED CHARETTE OUTPUT & PLANNING SUMMIT REQUIREMENTS."* We were still awaiting planning approval. That was a very high risk notwithstanding that was ultimately not going to be to be built.
163. I note the log states in relation to Section 5A *"SIDE AGREEMENT WITH SRU STILL NOT FINALISED/SIGNED. SDS REQUIRE AGREEMENT TO PROCEED AND CHANGE ORDER FOR ADDITIONAL DESIGN WORKS. SDS WORKING AT RISK UNTIL SIDE AGREEMENT RESOLVED."* That agreement was still not finalised or signed by TIE.
164. All this went on forever. The third-party relationships were under TIE's control. The agreements were just not being resolved. It was the third parties, the CEC changes and TIE's management which were holding up designs. You can see from this log that there were 80-84 critical issues and we were in March 2007. Some of the delays were being caused by TIE's management of the third-party agreements. TIE controlled that agreements process. To be

fair to TIE, some of this was Forth Ports wielding their might and not falling in line with the third-party agreement. There is nothing in this critical issues log concerning things that were caused by PB. I think David Crawley would support that. This is all to do with TIE not effectively dealing with the stakeholders.

165. We resolved these issues through the weekly critical issues meetings and the reference logs. At those meetings were people from CEC / TIE (typically Lindsay Murphy, Tony Glazebrook, Damien Sharp, David Crawley and Susan Clarke) and senior level PB (typically me, Jason, Chandler, Alan Dolan). It varied a bit depending on who was available. It was senior levels from both organisations. Attendance did not extend to any of the third parties eg Forth Ports or SRU. It was only ourselves and individuals from the TIE / CEC family. When the various critical design issues were resolved they were simply carried forward to and reflected in the detail design.
166. I note the email dated 7 March 2007 from Jason Chandler (PBH00009854). There were elements where I had to get involved with Halcrow at a very senior level. David Watters was the Director of Halcrow. There were times when we felt that Halcrow was not prioritising the work as we would have liked. This is just normal project management ie keeping on top of Halcrow. Halcrow did respond and they did deliver. The section 5b roads was a pretty minimal package from recollection. It would not have been critical of anything. I think, from memory, 5a was at Murrayfield. It was a fairly small package in that area. It would have been roads and drainage, probably no more.
167. There was a letter from me to Halcrow which calls on David Watters in relation to resources. After that letter was sent things certainly got better. We did have pinch points in relation to utilities but they were not on the critical path. The issue with Halcrow was not a critical issue. There were management challenges, certainly, but the deliverables were fine. The structures deliverables that Halcrow produced were superb. As were the roads designs. Halcrow did have problems with the same approvals. On the utilities they had problems with the late submission from the SUCs. It would not be fair to

castigate Halcrow. Halcrow did not affect PB's provision. There was no problem whatsoever with the structures. We overcame the problems of the utility delays and roads. The predominant factor was CEC's lack of timely approval.

168. I refer my email to Jason Chandler on 21 January 2008 (PBH00015934). This email was written following a critical issues meeting the previous Friday. You might conclude that this email came at a particular low point. The critical issues approach did deliver real benefit. There were 85 critical issues in March 2007 and there were not 85 in January 2008. However, even then, some of the intractable ones were still there. The problem was TIE not managing the third-party agreement process. We were dismayed that there were so many issues on the table that had been there six months previous. However, that was all to do with TIE not closing out the issues with the third parties. Some of the issues rumbled on for months. Prior to the Edinburgh Tram Project and since I have not experienced a situation where it took so long for third-party agreements to be resolved by the client.
169. I went out on a limb in June / July with the statement "*we are remobilising and we have got to get this thing finished*". It is difficult when you are not in the management role. If you are in the management role you can devise interim solutions to get around particular issues. TIE did not do that. I do not want to be seen to be criticising people but if you just look at the facts there were things that could have been done. The focus in January 2008 was absolutely on novation and INFRACO contract award. I think that TIE was too small an outfit trying to do too many things. With regards to the third-party agreements, PB's hands were tied because we did not have direct access to the third parties. We had no contractual standing with the third parties. We were one step removed from being able to actively resolve the issues.
170. I note Greg Ayres' email dated 23 March 2007 (PBH00022128). In March 2007 I had been there about month and a bit. At this point we were still battling to get our voice heard on the administration of the change control process. I refer to my weekly report dated 23 March 2007 (PBH00026006). At

section 2 I describe a meeting held with Greg, Matthew Crosse and David Crawley. I state *"some of the critical issues from TIE's perspective, also touched on PB's current commercial concerns. Matthew again adopted a position of much of the problem being down to PB in signing up to a contract without sufficient attention to detail, either technical or commercial. It would appear that the advice Matthew is receiving is focussing his attention on the fixed price nature of the SDS contract and this is being represented to PB as an obligation to do whatever may be required to secure approvals and consent. Whether Matthew genuinely believes this to be the case or whether the approach is more a result of TIE's under-funded position is debatable, but either way it is a significant hurdle which must be overcome as we move forward with the change control and prolongation negotiations"*. At this point I still had not convinced TIE that they had to stop giving us change instructions. TIE were still saying that anything they wanted was down to us. I recall that Trudi Craggs (D&W) once said to PB something along the lines of *"well, if I want a bag of crisps, you have got to go and get me one."* That was my impression of the perception within TIE / CEC.

171. The contract was too open-ended. It is a matter of opinion whether TIE misunderstood the contract. The impression that I got was that the contract was being delivered quite successfully up to the point where the preliminary design was submitted. There was then a hesitation by CEC followed by their requirement to revisit the fundamentals. Rather than stand up to that and see it for what it was, TIE then decided that they could fall back on the contract and make it SDS's problem rather than TIE's. TIE did not take the longer-term view that that would ultimately come back to being TIE's problem. In my opinion, the open-ended nature of the commitment (ie to basically do whatever was required) was applied in an unreasonable fashion until probably about a month beyond March 2007. After then, I finally got TIE to realise that they needed to be paying for the additional requirements. My impression was that the awareness was not there at TIE that PB, under the contract, should not be doing these extra items.

172. PB's concerns at this stage in relation to our commercial position were addressed through me sitting down with Matthew Crosse, Trudi Craggs and Ailsa McGregor and informing them that they were not administering things in a reasonable fashion. I made sure that our change control register was up to date and absolutely comprehensively presented. I then picked some very good examples to go into detail with Matthew and his team. I report that in my weekly report dated 23 March 2007 at section 6 (PBH00026006). Section 6 talks about change control.
173. We did undertake detailed design between July 2006 and March 2007 but that process was frustrated to a certain extent. We had a chart showing the status of design package completion. That chart ran through the period from start to completion. The chart focused on the detail design packages because that was the primary delivery obligation. The work had been packaged up into 300 or so different detailed design packages. Our detailed SDS programme was based on milestones for each of those packages. In terms of whether assessing things in this manner is the norm; it comes back to one of the unique aspects the Edinburgh Tram Project. The design was being procured as a separate entity so it got that focus. If it was being procured as part of a design-build contract it perhaps would not have been split out in that way. Packaging it up into a whole schedule of packages is not unusual.
174. There is a difficulty analysing progress in percentage terms. 300 packages were created but each of the packages was not exactly the same size. You will hear people talk about earned value analysis (which is a particular hobbyhorse of mine). Value analysis entails people trying to project a completion date based on what is gone before. In my view, if you are manufacturing cans of baked beans you can probably take last week's production rate as a pretty good indication of what is going to happen next week. However, if you are doing a unique design you not comparing like for like eg if I have completed a design for Roseburn Corridor last week what does that tell me about Edinburgh Airport next week? Absolutely nothing. The weighting is entirely different. The best that you can do is package it up and say which packages you are going to deliver. You then have got to assess

each package on its own merit and caveat the forecast eg it depends on me having access to TIE / TEL or Forth Ports etc. You state that the forecast is given on that basis. You have got to look at each of the 300 packages in specific terms. Having done that you can then create a progress chart.

175. You have to recognise that different packages are of different sizes and complexities. You may have ten to do in a week and achieve nine; however, the fact that that one may be enormous or it may be minuscule skews the understanding. Providing a percentage does not display the under-riding issues that are at hand with the packages that are not resolved.
176. We use this concept now on value looking backwards ie so you delivered a package you are due to be paid for it. Looking forward we use a quantified risk assessment to take account of a more complex view of what has got to be done going forward. On Manchester we would not work on the basis of having 30% to do etc. It tends to be more tricky than that. However, I can tell you, at end of March 2007, there were 73 packages completed out of a total of 325. That comes to approximately 22%. However, of the 78% that is left, some of those might be major packages that still need to be done. Added to that, some of the packages cannot be touched until the very end in any course because some of them were system-wide. Because of this the criticality was less than it might appear.
177. The changes, whether as a result of the charrettes, change orders or informal discussions, in late 2006 and early 2007 substantially resulted in the detailed design being required to be redrawn during that period.
178. I note the email to Transdev, PB and D&W dated 23 March 2007 (CEC01628233) where David Crawley attached a list of outstanding major critical issues to be discussed at a meeting on 29 March 2007 (CEC01628234). This is David and TIE understanding that we needed to be making progress rather than looking for perfection. This is what he means when he states "*Some of these issues are long-standing and require decisions to be made now. The consensus of view is that a decision, even if*

sub-optimal in the first instance, will allow faster progress to be made ..."
(CEC01628233). This email comes out of the critical issues meeting. This is David saying that they had got to go for something even if it was suboptimal to allow faster progress. David is recognising that there has got to be a different approach, notwithstanding CEC's desire to have perfection on approvals. This is David picking up on my pressure in a large part and saying we have got to get these things sorted. David is agreeing and trying to broaden the parties actually being actioned. The organisations represented at that meeting were TIE, D&W, PB, Transdev and CEC.

179. Section 5 of my weekly report dated 30 March 2007 (PBH00026005) sets out what happened at the meeting. I note that I state "*A constructive approach was adopted by all with the result that a common understanding of each of the high impact issues was achieved. Provisional decisions were reached on a number of issues, and actions were also agreed for the remainder. The next meeting is scheduled for two weeks' time at which point confirmation or otherwise of the clearance of many of the issues will be received.*" I presume that it was the case that people were tasked with going away and taking on board their issues.
180. I note the email dated 2 April 2007 (CEC01670358) where Willie Gallagher forwarded an email from Matthew Crosse attaching a joint note agreed between TIE and SDS entitled "*Summary of the actions agreed to address SDS commercial issues*" (CEC01670359). I note the joint note was followed by a meeting on 20 April 2007 between me and Matthew Crosse (CEC01624377). For background to these events I refer to section 6.3 of my weekly report dated 20 April 2007 (PBH00026003). This section shows TIE finally realised what a fixed-price contract really is. We agreed a special weekly commercial review meeting with a view to resolving change control issues (as mentioned in section 1 of the "*Summary of the actions agreed to address SDS commercial issues*" (CEC01670359)) This was me now getting recognition that things like Baird Drive and the Depot Access Road bridge should now be on the table for discussion. Moving forward from this meeting we had a change control process that recognised that change was an

entitlement as far as PB was concerned. There was a recognition that any matters arising, including the question whether the case constitutes change of the contract scope, would be dealt with at the first commercial review meeting. This meeting saw a sea change. I had been working for two-and-a-half months get to this point. It took a little while but then Matthew saw sense. This was a significant improvement.

181. On top of the subject matter about detailed change we discussed the prolongation that we were experiencing because of people continually making changes. From this point on we started to review the case for an extension of time. There was an acknowledgement on TIE's part that we had an entitlement to an extension of time claim. The note was needed because it was such a change of approach in TIE's administration of the SDS contract. The purpose of the document was to show that everybody on the TIE side appreciated that things were now different.

182. Following this note there was the prolongation claim, the weekly change control meetings and an amicable resolution of change control issues. This was the start of Matthew Crosse appreciating that the contract had to be administered more reasonably. Section 6.3 of my weekly report of 20 April 2007 shows contemporaneous evidence of the change in approach from Matthew. I state "*This would appear to be a shift in position from the previous fixed price all inclusive stance and may reflect a growing appreciation that there is a valid case for recompense for PB in at least part of the unresolved v/o total. It may also be due to him now being better advised than previously with the introduction of Crawley and Glazebrook as experienced engineering professionals*" (PBH00026003).

183. I note the report to CEC's Internal Planning Group (IPG) on 17 April 2007 (CEC01565482). There was discussion at that stage of bringing forward prior approval submissions because it was evident that the programme was slipping. It was actually SDS's idea to try and bring forward prior approvals to maintain the programme and to also encourage completion of the design. It was envisaged that the prior approval submissions would be based on the

detailed design. This document comes in April 2007. It came after David Crawley's correspondence of 23 March 2007 (CEC01628233) where he was essentially saying let us not go for perfection and we have got to move this forward. This report is synchronous with that. Our view was that, with that group of individuals behind changing the pressure, this should be achievable.

184. The key point is that the MUDFA programme was not aligned with the SDS programme. I note the reference at paragraph 2.1 of the IPG report states *"This delay, along with the constraints from Forth Ports, has meant that the main utility diversion work will not commence until July 2007."* This is the misalignment between the real SDS programme taking account of constraints from Forth Ports in that instance and the MUDFA programme. This is where you come back to the master programme not being maintained.
185. There was a very lengthy review undertaken followed by a report from Audit Scotland around July 2007. At the end of the section in the report on tram in Clause 67 it says *"Given the current uncertainty, Transport Scotland has ordered that utility diversions work be halted with a view exceptions. In such circumstances, delivering the project's term becomes more challenging the longer work is delayed. TIE has also expressed concern that the longer there is uncertainty as to whether the project will proceed, the greater the risk that potential contractors will become disillusioned with the project and we will lose key members of staff."* There are two points relating to this extract. The first is the real political dimension to what was going on here. The second is the outside intervention in the utilities programme. That was clearly a fundamental part of the master programme going forward. This report followed the period where TIE suspended work on Utility Diversions whilst the auditing process was on-going. In terms of our own programme that caused disruption. That pause was accommodated. The whole utilities programming was not the smoothest exercise. It was not the biggest thing we had to deal with but it was significant in relation to the alignment of the MUDFA programme and the SDS programme.

186. It was TIE's responsibility to accommodate the pause. It was down to them to manage the consequences. The key issue was misalignment for a number of reasons. The reference above in the IPG shows that they did not recognise the absence of the Forth Ports input.
187. The obtaining of the approvals and consents directly from the utility companies was absolutely an issue. I know there was one point where an SUC had four weeks to respond and they came back and said they could not do anything within eight weeks. The impact of that on the detailed design was substantial. It was TIE's job to manage that process. By the time we got to novation in May 2008, the residual utilities work was not huge on paper but the utilities diversions problems still impacted pretty heavily on the consortium later on (as I understand it).
188. I note the minutes of the TPB on 19 April 2007 (CEC01015822). There are always going to be unexpected utilities. Records which go back many years are not wonderful. You cannot always pick up utilities with surveys. Everybody suffers from unexpected utilities or simply unexpected ground conditions. You are always going to have issues. Unexpected utilities certainly contributed to delay. It certainly impacted the BBS construction programme (as I understand it). I know BBS later made a significant issue of this. The impact of the utility problems was presented by BBS during the mediation. From PB's perspective there was nothing unusual in that there were unexpected utilities. It did not have a particularly significant impact on the critical design exercise that we were obliged to undertake.
189. I note the letter dated 1 May 2007 by Alan Dolan (CEC01664017). Alan is saying he was concerned regarding the delay to the initiation of utility diversion work programme. These issues were addressed through closer integration between ourselves and Graeme Barclay. I know I got dragged into MUDFA issues. Essentially Alan is talking about a critical issue which has to be resolved through the critical issues process. The consequence was closer interaction between us and Graeme Barclay. This was all, again, us looking to TIE to manage programme reprioritisation. This was TIE's responsibility as

they were the master in charge of the master programme. I got drawn into the discussions on this subsequent to May. I recall further regular meetings with Graeme over a period of time. I note that my weekly report dated 4 May 2007 at section 8 states *"The performance of the MUDFA contract is causing concern within TIE and pressure is currently being applied to SDS to ensure effective interaction between the two contracts. It would appear that criticism of SDS quality can easily be refuted, but problems are being experienced due to SUCs not being able to meet the review periods previously agreed, (with all parties including TIE) on the master programme. This is delaying the production of deliverables by SDS which are required by MUDFA to progress the utilities diversion works. We are currently working closely with MUDFA and the SUCs to ensure the release of sufficient information to allow work on the ground to proceed, thereby avoiding claims for delay by MUDFA."* (PBH00026001). This weekly report came three days after the letter by Alan Dolan. If you then move on to 11 May at Section 8 (and this report must have been immediately after I got involved) I state *"Previous assertions of poor quality of SDS deliverables have been shown to be ill-founded, with the first responses from the SUCs confirming acceptance of the SDS designs. PB has offered a revised programme for the delivery of Utility design packages to TIE with a view to achieving closer alignment with TIE's MUDFA construction programme. This is under review by TIE with initial reaction being favourable. The MUDFA construction programme has had to be delayed by TIE pending resolution of the local Government issues with Willie Gallagher wishing not to be seen as spending public money on a scheme which could still be cancelled."* This comment feeds into the Audit Scotland comment. This document is contemporaneous evidence that the issue of MUDFA alignment was dealt with in and around 11 May 2008 through doing what we did ie throwing the senior people at it and getting the issue resolved.

190. The issues in Alan Dolan's letter did cause or contribute to a delay in producing the utility designs or in undertaking the works. However, a lot of it was stopped anyway because of the Audit. There was a bigger picture at that time. It did not turn out to be on the critical path. Perhaps it should have been, but it did not.

191. I note my email of 4 May 2007 to Geoff Gilbert (**PBH00010817**). My comments go back to the surreal meeting when the programme was reviewed where CEC was not involved. I was particularly concerned because the whole programme was heavily dependent on CEC being involved in the approvals process. What I cannot remember is why I appreciated it was for a very good reason, which is a bit of a shame. You have got to ask the question whether CEC did not want to be there or whether TIE were omitting CEC. I note that the Scottish election was on the 15 May 2007. I would be speculating if I said that this was the reason that TIE did not want CEC involved. As far as I am aware CEC were later involved because I have seen other correspondence between CEC and TIE provided by the Inquiry. However, CEC weren't involved in any formal way with us.

192. I note the letter dated 5 May 2007 from David Crawley to me (**PBH00024068**). There was not any change around that time from PB producing utility diversion design to utility companies producing design. All there was TIE coming to understand the division of responsibility between ourselves and the SUCs in relation to producing design. The specific design that the SUCs were undertaking would be the standard interface design with their own systems. It would really depend on who the SUC was. If it was BT, BT did all the design for their particular apparatus. If it was water and gas, as far as I am aware, it would be a standard connection design. As I said earlier, the critical design, ie where things were coming together, was down to us to integrate. It was my understanding that our design was only to the point at which it was actually diverted and the bit where it was actually connected onto the mains was handed over to the SUCs. That is the basis I always worked on with TIE. That was always my tack with TIE. To be fair to everybody the division of responsibility from a design perspective was not particularly well clarified but clearly there had to be some limit. At some point when moving utilities the design is back with the utility companies. I believe the letter dated 5 May 2007 from David Crawley to me (**PBH00024068**), arises from the issue of the division of responsibility between the SDS Provider Party and the SUCs.

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193. I note the internal PB email chain dated 8 / 9 May 2007 (PBH00010898). I also note the internal PB emails dated 11 May 2007 (PBH00010947). At this time we were busy. We were stretched because of delays to programme caused by us having to accommodate the late changes. What Jason Chandler was doing here was making sure that people understood the importance of continuing to deliver on Edinburgh. We were maintaining the project management pressure in an atmosphere where design information was being drip-fed. We were having to accommodate the change brought about by others. Looking at this we were stretched because there was a bid for another job that was requiring effort. This is Jason saying that we cannot let our existing commitments slip. This is saying that the bid is important but having said to people that you will be delivering you still have to deliver. It was a matter of saying that we needed the resources to overcome the situation.
194. I note Jason says *"I am sorry to bang on but we are getting extreme pressure from both PB internally to report accurately and tie are expecting us to sign in blood against the latest update of the plan that relies upon your input, we are also attempting to resolve costs to complete that also relies on you."* This shows that there is yet another plan which was slipping and there was a new plan that we had to sign up to. This is Jason saying we have got to keep the effort focused on the Edinburgh project.
195. I would say this is an example of PB endeavouring to maintain supply to Edinburgh when the goal posts were changing and maintaining our commitment to deliver. Those activities would have been scheduled far earlier if they weren't delayed due to the actions of TIE and CEC. The realignment of resources had no impact on quality. We continued to endeavour to ensure the critical path was not impacted through proper resource management. I do not recall what further resources were put towards the project. That would have been handled locally.
196. I note the internal PB email dated 11 May 2007 by Brian Thompson (PBH00024190). This email is yet one more example of what we were saying. There was a boundary to what we would be involved in. There were assets

over which Scottish Water had ownership and would be looking after them themselves. This email shows PB were making sure we maintained the input to Edinburgh to the detriment of some of the other things that we were doing. I note the second paragraph of Brian Thompson's email where he says "*The reason I feel it necessary to re-state this is that we are sacrificing the development of a key part of the Highways business for this project, so I do not wish to be questioned upon our commitment*" This is our highways group saying that we are delivering what TIE needs and it is impacting other things that they should be doing. I would absolutely agree with his statement where Brian says "*I assume that there is a weakness in the MUDFA contract... Alternatively, I would have expected the Water Authority to take responsibility for the detailed design (paid) as it is in their own interest that they maintain the quality and supply of their system.*" This is not an example of PB taking on too much where they should not have been. This is PB recognising the overriding importance of the Edinburgh project. This is PB's other work suffering because we were committing resources to Edinburgh. We were pointing out the contradictory nature of the SDS contract and highlighting this point that I keep making ie there was an element of utilities design that remains under the ownership of the SUCs and not PB. It was only sensible that PB came back to the "*critical design*" that we were responsible and re-stated that ordinary design rested with the SUCs. I would have expected this area to have been explicitly stated in the contract but it was not. The responsibilities should have been explicitly set out in the SDS contract in order. That would have provided clarity as to scope.

197. I note the minutes of the DPD on 7 June 2007 (CEC01528966). On Thursday 7 June 2007, I gave a further presentation to the DPD 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 slippage, primarily focused at TIE, CEC, Transdev and TEL. I discuss Willie's comments in my weekly report dated 8 June 2007 (PBH00025424). 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.

198. I note my email to Keith Hawksworth and Greg Ayers of 8 June 2007 (PBH0005423) which attaches my weekly report dated 1 June (PBH00025997). That weekly report is dated incorrectly. It should be dated 8 June 2007. I note section 2 entitled "*Client Relations*". That section is contemporaneous evidence of what was going on at that time. In that section I state "*The focus this week has been on preparing for the DPD meeting held on Thursday. In the absence of David Crawley I was asked to present the SDS Programme update. My presentation focused on the reasons for slippage (from the analysis included in last week's weekly report). Willie Gallagher's reaction was one of frustration that the programme is not being achieved and he expressed his dissatisfaction with all parties at the meeting, including tie, CEC, Transdev, and Transport Edinburgh Ltd, (TEL). I had made it clear that PB should shoulder a small part of the responsibility for slippage over the last four weeks, but by tying a large proportion of the slippage to the outstanding Critical Issues I was able to demonstrate that all parties need to change their approach if the project is to be completed successfully. I believe this message was understood and certainly Duncan Fraser as CEC representative has already taken on board the urgent need for issues to be unlocked...I requested a separate session with Willie Gallagher after the main meeting to which he also invited Matthew. I reiterated the message that whilst PB clearly has to continue to meet its delivery commitments tie needs to be fully aware of the need for the other stakeholders, primarily CEC and TEL, to work harder to resolve issues which are currently holding up design progress. Willie's response was that he was only the Chairman of tie, not a Director, and not a Manager. He then stated that he expects both Matthew and I to manage*

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the project through to a successful conclusion by ensuring all the stakeholders are engaged to the extent required to pull the programme back on track. His suggestion of joint responsibility for what is really a tie project management responsibility should be debated at a more appropriate time but I didn't argue the point at what was a constructive and thoughtful ten minute session between the three of us. Willie has suggested we reconvene at some point over the next two weeks once he is clear of the Audit and that would be a better time for me to reinforce the points relating to wider stakeholder responsibility and the need for tie to execute its project management role more effectively. Talking with Matthew after the two sessions he expressed himself pleased that the issues of programme slippage had now been aired fully and that the facts had been presented in such a way that no-one, especially CEC and TEL, could avoid responsibility. Clearly he must carry some of the responsibility for this not having occurred before now. In summary, the working relationship with Matthew, (and with David Crawley), is strengthening and provided Willie takes the time fully to understand the analysis of the current position PB should come out of this stronger altogether." This entry in my weekly report came at the point when the audit was happening. I recall Willie being clearly very engaged with what was going on with the audit.

199. The meeting was on the Friday following the debate in parliament the previous Thursday where the decision was made to execute the audit. I state that in section 1 of my weekly report. By this point I was starting to develop a very close working relationship with Willie for whom I had a lot of respect. At that stage there was more of a feeling of getting through things together with TIE for the good of the scheme. It was a challenging time for the project. There was an element of cautious mentality on this project. We were still in final negotiations on our prolongation claim.
200. Audit Scotland produced their report on 20 June. This shows that they produced it pretty rapidly. I refer to section 1 of my weekly report on 22 June 2007 (PBH00026052) where I state "*The Audit Scotland report on TIE and the Tram and EARL Projects was published on Wednesday. I have included a*

copy of the findings as an attachment to this Report... Press speculation has continued with opinion swinging between the extremes of continued funding for Tram and cancellation. The SNP has reaffirmed its cancellation policy but there remains uncertainty as to whether that can be enacted without parliamentary approval. The parliamentary debate on the subject is now scheduled for next Wednesday, the 27th... Meanwhile TIE has initiated the structure on the budget review with the focus on what type of organisation is likely to be required in future. The clear inference to be drawn from the material I have seen is an acceptance that EARL is to be cancelled and that overheads need to be reduced to a level more appropriate for what would then be a one-project company. A target of mid July has been set for the completion of the revised budget." Following this we got confirmation on 29 June that the tram project was not going to be cancelled.

201. I note the draft update report by David Crawley and Tony Glazebrook that was presented to the meeting of the DPD on 7 June 2007 (CEC01528966 page 58). By and large, at this point, agreement had been reached on the outstanding critical issues. Agreement had not been reached on Picardy Place for no other reason than Picardy Place kept changing. That was because CEC had aspirations for a major development at Picardy Place. That part of the design was always being reviewed by CEC. By and large the critical issues were cleared. The novation agreement clearly sets out the 33 outstanding detailed design packages (CEC01370880).
202. Picardy Place re-emerged as something which caused difficulties at a later stage. That was an area of the design that was continually changed. I suspect Forth Ports was something that caused difficulties later on (but you would have to ask BBS about that). I think everything else was sorted. I would say that substantially everything was sorted out ahead of novation.
203. The issue with Picardy Place was that a developer wanted to put a hotel up there. It was a difficult location to begin with because there were sight lines for the cathedral, because of the utility diversions and because the alignment required to go downhill. There was also need for a cycle corridor. The design

went to CEC. They came back and said that they wanted to redevelop and redesign. The shape of the development then changed. From recollection we did three detailed designs for Picardy Place, none of which has ever been built. The changes were all to do with developer aspirations or getting the best value of the site by CEC. I think you could probably say, with the exception of Forth Ports and Picardy Place, everything else was okay.

204. I note that David Crawley and Tony Glazebrook's draft report discussed the variances between the baseline and actual deliverables and the root causes (page 60). The chart on page 61 is actually my own chart. The reasons for the delay with the scheduled deliverables, or what was delivered in June, were almost all to do with section 3 of this report (page 60). I would agree that the root causes of the variance were the unresolved critical issues, the changeover from TIE and delay within SDS internal process (insomuch as we had to undertake corrective action). I imagine when David and Tony say "*delay within SDS internal process ... (corrective action for which has now taken place by SDS)*" they are referring to the delay of the design assurance statements. I would accept that there was a delay there. There were two things to be delivered by SDS - the package deliverables and the design assurance statements to the respective sections. I am struggling to think what else would have been a delay within SDS internal process. Tony and David may be referring to document control. If you have got a delay in document control it might cost you a week. I can accept that as logically being a potential issue but it was by no means the overriding factor that caused the variance.
205. I note section at 3 entitled 'Design Assurance' states "*Agreement has now been reached with SDS on the provision of designs accompanied by design assurance documentation. This will result in packages of designs being supplied, section by section, in a form which is self-consistent, complete (or if not, with defined status), with interdependencies already reviewed and with associated approvals.*" I do not think this is evidence that internally within PB there were delays. The first one of those was not to be completed until September 2007 so that is not part of the issue. The overriding issue was the things that featured in the change request register. That register was pretty

extensive. The unresolved critical issues were key to the delay. I would include within the unresolved critical issues 'a failure to control the stakeholders and third-party agreements.'

206. I note Greg Ayres email to me dated 15 June 2007 (PBH00025674). I do not know why this email is entitled "*Matthew's chocolates*". I note that Greg Ayres states "*CLAIM: the prolongation was acknowledged as well presented and worthy of consideration. Gilbert is taking legal advice. We were asked not to run the FINAL through doc control until after the Audit Scotland report is submitted to Cabinet mid next week.*" In all honesty, I do not recall that. I assume it was all part of the meeting the day before. This was just normal course of business. This email comes about at the point that we got agreement in principle on our claim. It appears from this email that we were asked not to finally put our claim through until the Audit Scotland report was out of the way. I suspect that this was just because TIE wanted to address their priorities. Clearly the Audit Scotland action was a priority over and above what we were doing.
207. I note that Greg states "*design which we can throw over to Infraco (yet get paid for).*" This is Greg taking account of the incomplete nature of the design and what was going to happen when we came to novation if we were still not complete. At novation we would be working for INFRACO. There would be the question of payment later on rather than under the agreement with TIE. I think this is all anticipating design being incomplete. In June 2007 everybody was focused on trying to get to INFRACO award before the end of the year / early 2008. In June 2007, the design was no better than 30% complete. There was still quite a bit to do. The forecast was saying that at end of December 282 out of the 330 deliverables would be complete. There was going to be design work required to be completed under INFRACO that we would still have to get paid for. That would be my interpretation of Greg's statement.
208. There were concerns as to payment post the point of novation. That was a big issue at the time. We were starting to become concerned about novation at this point because of the difficulties we had had. This email is before the June

agreement concerning what was going to happen at novation. This email is from the period when we started to discuss novation. Our concerns surrounded the different obligations under the novation agreement. There were more onerous elements post-novation than there were pre-novation. The agreement was drafted so that INFRACO did not lose interest in having the design wrapped up.

209. Novation was quite a challenging topic in its own right. At the time of this email we were still talking with INFRACO about getting the money paid over on our prolongation claim. This was prior to that claim's absolute endorsement by the TPB. It was a difficult period for us. There were concerns about the financial viability of our involvement at this point. We were not making a profit at this time. We could see the situation getting worse post-novation in terms of profits and losses. There was a real concern at the point of novation as to the profit line for PB. The situation was resolved by pressing home the claims for prolongation and for the additional work. It was resolved through ensuring that the novation agreement tied down the liabilities in respect of being paid for change being paid and for the realignment of the employer's requirements. It was resolved through making sure the risks were properly identified and spelled out. The claims were ultimately put in prior to the point of novation.
210. I note Greg Ayres' email dated 28 June 2007 (PBH00026252). This in part is flagging what I have talked about earlier in my statement ie where the division of responsibility between the various parties lay in respect of the utilities. TIE were suggesting that we were responsible for delivering bills of quantities for the utility diversions. That was absolutely not our responsibility. This email is part of the continuing theme of lack of clarity about exactly who was responsible for which aspects of the design. My view was that we were responsible for critical design, SUCs had a responsibility for the basic design, MUDFA were coordinating the delivery of the programme and TIE was managing the whole piece. This goes back to the issue of a lack of clarity on the issue within the contract. This issue would have been resolved had there been clarity within the contract. If the lack of clarity had been resolved it certainly would have helped with a number of the issues we faced.

211. I refer to my email dated 28 September 2007 to Willie Gallagher entitled "Presentation" (CEC01714281). This email originally discusses a presentation on the vision from the tram network. However, Willie has used that email as a vehicle for responding to me. Willie had been as concerned about MUDFA as I was. He was concerned about assurances on dates being hit and AMIS preparing a claim. At this point the entire TIE management team were now fully aware of the need to resolve the SUC and programme issues. I state "Thank you very much for your email. Following receipt of your email from yesterday I undertook a thorough review with my team and this email summarises my findings. Whilst I was unable to attend the MUDFA Sub-committee Meeting on Wednesday, I was present for the discussion on MUDFA which took place at last Friday's Critical Issues Meeting, and I have also had a number of conversations with Steven Bell on the subject. Let me say immediately that I fully appreciate and share your concern over the delays to production of the IFC drawings. I believe the challenge is to introduce changes to current methods of working such that all parties are properly engaged and committed to delivering in line with the Utilities Diversion design and construction targets... The programme for production of the IFC drawings by SDS depends critically on the commitment of the SUCs. At the time PB was bidding for the SDS Contract we were provided via the Data Room with Draft Agreements (drawn up by DLA) between tie Limited, the City of Edinburgh Council, and each of the SUCs. These Agreements had been prepared in recognition of the fact that SDS would require information from the SUCs in order to complete the utilities diversions designs. The Agreements call for each of the SUCs to provide detailed information for this purpose and also highlight the need for that information to be made available sensibly in advance of the award of the MUDFA Contract. In the event the response from the SUCs was patchy. Information was provided in the required timeframe by a number of SUCs but in several cases proved not to be to the expected level of detail. One SUC, BT Openreach recognised the need for detailed information but has repeatedly failed to meet required sectional completion dates to the extent that several packages are still outstanding long after the MUDFA Contract was awarded. Given the need for composite drawings to be produced by SDS, detailing not just the specifics of the individual utility

designs but also the integration between them, this failure by BT has resulted in serious delay to all subsequent milestones, including final delivery of the IFC drawings." I quote this extract because it is important. This correspondence highlights to TIE why the delays are not all down to SDS. This email to Willie Gallagher sets out my response to his view that the delays with the designs were down to PB. I outline the various issues that, from PB's perspective, were causing the delays and highlight that these things were out of our control. This is a pretty comprehensive response with actions for TIE set out at the end of the email. At this point these issues were coming to a head. I note that having set all that out to Willie (who sent it on Andrew Fitchie at DLA) Stephen Bell confirms that they had been talking about the critical issues.

212. In summary, my views on the ambiguity regarding the interface and responsibility matrix between SDS, Halcrow, the SUCs, MUDFA and TIE are set out in my email of 28 September. I appreciate that my email of 28 September post-dates the June assertion by Greg Ayres but it is still relevant.
213. The other email which is relevant is my email dated 29 September 2008 to Steven Bell which discusses MUDFA responsibility for preparing as-built drawings (CEC01132100). This email is relevant to this whole issue of confused responsibility. The email comes much later on, well beyond novation, however it is still relevant in terms of clause 2.1 of the SDS contract. I state "*I would like to draw your attention to Schedule One of the SDS Contract which defines the Scope of Services and at clause 3.2.1 states: The SDS Provider shall provide assistance to TIE with the management of an advanced utilities diversion programme. This shall include: Preparation of documentation (excluding the contract terms) associated with the proposal to appoint a single service agreement with a specialist contractor to carry out advanced utility diversions; With clause 3.2.1, bullet 6 as context it seems to me that the "SDS comments and referenced extracts from another contract" are entirely relevant to the argument. Simply put PB, as part of its obligations under the SDS Contract, provided assistance in the preparation of the MUDFA documentation. At that time the responsibility for preparation of as-*

built drawings was clearly identified as being that of the MUDFA Contractor. We know that because the MUDFA contract contains the straightforward and unambiguous clause stipulating an obligation on the MUDFA contractor to prepare as-built drawings. As we have discussed, if the SDS Agreement contained such a definitive clause PB would be preparing as-built drawings. It doesn't. Moreover, not only is the wording of the MUDFA contract consistent with PB's argument; it is, perhaps more importantly, perfectly reasonable: Why wouldn't the MUDFA contractor be responsible for preparation of the as-builts? Put differently why would the SDS Provider be responsible for preparing as-builts for which the information produced by the SDS Provider represents only a part of the work constructed?" The detail is less important in this email however I quote this extract in my statement because it shows the fact that there was a dispute over who was doing what with the utilities. There is a running theme through quite a lot of this issue. That theme is that the root cause was the lack of the contract clarity. In my experience, there is usually clarity on this issue within the contract.

214. You would need to speak to whoever was involved at TIE with the SUC contracts before PB's involvement to understand the SUC contracts. The SUC contracts predated our involvement in 2005. The utilities documents were not in the data room. They were agreements entered into by TIE with the SUCs. There were certainly agreements in place before we were contracted. There was a bit of a scope gap in the overall definition between MUDFA, ourselves and the SUCs. That is evidenced by the fact that there were several areas of debate over what was actually included in the scope.
215. Fundamentally there was no clarity within the SDS contract on this issue and that had an impact further down the line in terms of who had responsibility for the design and various elements of the utility diversion. This was a particular area that was in TIE's remit. TIE should have bottomed all this out with the utility companies. TIE should have had all the SUC agreements in place before the SDS contract was signed.

216. I note my email dated 29 June 2007 to David Crawley (PBH00026295). The concern I had here was that CEC would continue to frustrate the approvals process. The key thing for us was that if we had continued to optimise the design where practicable we would have continued to go around the loop of continuing iterations. I think the second paragraph in my email neatly sums up my concern.

Detailed Design (July 2007 to May 2008)

217. Before commenting on percentages of completion it is worth saying that the package are not of equal weight. Therefore, a percentage figure based on the number of packages can be misleading. I am not able to provide percentages for completion of detailed design for phase 1a and phase 1b separately. However, I can provide a figure for phase 1a and phase 1b combined.
218. By the end of July we had completed 125 packages from a cumulative target of 325. That produces a completion percentage for the detailed design of phase 1a and 1b together of 38%. This is a percentage figure based on the delivered packages which, in themselves, were not of equal weight. I am not able to pull out utility design separate from the other design and, in turn, provide a completion percentage at this date. I do not have that data available to me.
219. I note David Crawley's e-mail dated 26 April 2007 (PBH00010843); TIE's, Design Management Plan, version 4, dated 13 September 2007, (CEC01511907); and the proforma PB Design Assurance Statement, (CEC01511908). The key point in David Crawley's email is set out at point 4 where he states "*Notwithstanding the need to package inter-dependent designs for review, designs should still be submitted to the extant programme as individual items even though their status cannot be confirmed until after receipt of the design assurance information*". What David is describing here is the process of grouping the designs into section packages which are self-assured. That was a change to the process. We were not reducing the

number of packages that we were self-assuring at this point; rather, we were reformatting the packages. We were combining those 335 deliverables. We were grouping those into packages which followed, by and large, the sections ie section 1a, section 1b etc. Those self-assured packages were ultimately provided to the approval bodies with the Interdisciplinary design information when they were ready for formal handover.

220. An example of the format of a design assurance statement can be seen at (CEC01511908). That style makes it reasonably clear what we were producing following the changes. The changes were made to improve efficiency and to provide a composite set of designs for a particular area at one single time. That made the downstream acceptance process very much slicker. What we were doing was delaying the assurance until that whole section was available. The start point for the assurance may have been later but the period for acceptance was correspondingly shorter because you could see everything coupled together. In essence, the approval body was now looking at similar issues concerning similar designs all at the same time.
221. The absolute number of design packages due to be delivered by SDS by the end of January 2008 was 335. The design assured packages due were around the 22 mark. The total design packages comprised all of the phase 1a detailed design. Document (WED00000163) refers.
222. In July 2007 we were forecasting the delivery of packages against version 17 of the design. By the end of January 2008 we envisaged that 294 of the 325 packages would be produced. Those design packages comprised all of phase 1a. By the time we got to the end of January 2008, there would still have been some structures outstanding. The design packages did not comprise all of the phase 1a design. There were some system wide deliverables, structures and designs that were not included in the packages. In rough terms, of the 325 packages about 90 to 92% were projected to be completed by January 2008 in July 2007. Again, that percentage figure needs to be caveated by fact that the weighting of those deliverables was not the same.

223. There was a list of 33 items in total that were not projected to be completed by January 2008. Of those 33, 17 of the deliverables were system-wide and relating to substantive structures deliverables. I have provided a copy of Appendix Part 4 to the SDS Contract Novation Agreement. This document sets out the status of the deliverables to be provided by the SDS Supplier at the time of Novation.
224. My email to David Crawley on 9 November 2007 entitled "*Deliverables Tracker Chart*" is a good a record of what was going on (PBH00014195). I state "*As promised, the latest S-curve which Jason will be able to provide further clarification on. I believe we are now starting to see the impact of some of the continuing delays in Section 1.*" The attachment to this email shows that I had extracted the list of deliverables and highlighted the deliverables that would not be provided within 2008. I also undertook a comparison with the positions reported up to 5 October. The attached sheet shows the deliverables which had slipped over the 31 December boundary. This email and its attachments provides a pretty useful snapshot at a fairly critical point in the programme.
225. By way of overview, the things that were slipping between July 2007 and January 2008 in terms of design packages were the Cathedral Lane substation, the hard and soft landscaping for section 1a and 1c, the roads design for section 1a, the Picardy Place tram stop and the Ocean terminal tram stop (that was outstanding due to Forth Ports). There were also problems in Section 5 at Russell Road Retaining wall and in section 7 at Gogarburn Culvert.
226. I note the minutes of the DPD dated 5 July 2007 (PBH00027525). I note the papers included for the meeting of the DPD on 5 July 2007 included a progress report (CEC01528966 p8). TIE's procurement programme was realistic and achievable. I refer to my weekly report dated 6 July 2007 (PBH00026535). At section 7.1 I state "*The report on progress provided at this week's DPD centred on the "dashboard" of deliverables achieved with reference to Version 14 of the SDS programme dated 09 April 2007. We are*

now at Version 16 and unsurprisingly since a large number of Critical Issues were still outstanding through the period progress at V16 was behind that planned at V14. However, the underperformance V16 vs V15 is less than had been the case at V15 vs V14. As reported above, this improvement was highlighted at DPD by David Crawley. Clearly now that the Critical Issues have been unlocked the challenge is to deliver the remaining works in line with expectations. A special meeting has been called for Wednesday next week to build on communications sent out this week to the Design Team Leaders to ensure all concerned are aligned with the strategy to complete the contract" You can conclude from this extract of my report that the deliverables were realistic and achievable but it was going to require continued pressure. The challenge was to deliver the remaining works in line with expectations. It was a matter of driving that progress. It had to be managed.

227. *I note at section 5 of the same weekly report I state "This week's meeting to action clearance of the remaining Critical Issues was held on Thursday. Table 1 shows performance achieved in clearing the high, medium, and low design impact issues since w/c 19 February. The Critical Issues special initiative can now be considered complete so this is the last report featuring the clearance table. Future reports will deal with any noteworthy issues as they arise. The two remaining items on the Register are: One in Section 1A awaiting information from Forth Ports; One in Section 5A due to the continuing delay in CEC and the Scottish Rugby Union reaching agreement on land proposals... The formal instruction received from TIE to proceed with the design following the clearance of the large number of Critical Issues over the last two weeks contained some ambiguity on ownership of the risk that further rework may be required at junctions should the results of any future traffic modelling be unacceptable to CEC. As already reported, my stance had been that with the refinement of the Preliminary Design over a twelve month period what was now on table should be considered optimum. On this basis, even if potential problems were identified from the modelling runs the only feasible approach would be to deal with these by means other than changing the tram design. This had been accepted so when the instruction was received and found to contain a note to the effect that FB would still be liable for any rework*

I responded to David Crawley and secured his written agreement that all such risk remains with TIE. Finally, then, we are now at the point where the barriers to completing the detailed design have been removed and should it subsequently be decided to introduce changes to address traffic modelling concerns these will be to TIE's account. The point which I also made very strongly to do with the real risk being further delay to programme – to the point where the scheme would be in jeopardy – has also been accepted by all parties and reinforced by Willie Gallagher at this week's DPD. As recently as one month ago that wouldn't have happened." This extract is important because it backs up what I have discussed earlier in my statement in that it was the Forth Ports' third party agreement and the SRU third party agreement that were still outstanding at this stage. These were the only two critical issues remaining as at 6 July 2007.

228. This whole area concerns the issue of CEC getting back in line as far as approvals and consents were concerned. That was tackled both by me and David Crawley. It did take time for this issue to sink in as a problem with Willie Gallagher. Back in February TIE's view was that the delay was all SDS's fault. Ultimately, we came to a point where TIE understood far more clearly the impact of the stakeholder management on the critical issues. It is correct to say that the slow realisation of this problem (ie CEC making changes) by TIE added to the delays in getting the project done. TIE's management of the programme did add further delays.
229. Paragraph 2, section 1 of my weekly report dated 6 July 2007 talks about reductions in price and Value Engineering. This section shows that, all of a sudden, there was a realisation on TIE's part that everything was too expensive. There was a realisation on TIE's part that a lot of time had been spent moving away from the preliminary design towards high-end architectural solutions. The penny had dropped with TIE at this point that the gold plating had gone too far.
230. In July 2007 I do not think I had really started to focus on when the INFRACO bidder would undertake due diligence of the design. At this point I was more

concerned about design completion than design due diligence. In July 2007 I was probably a couple of months ahead of when I started to form a view on INFRACO. My main focus at this time was completing design rather than dealing with the issue of INFRACO. At that point the INFRACO tender evaluation was largely being conducted by TIE. The requirement for INFRACO to undertake due diligence would not be something for PB to be concerned with at this stage. The main focus for us was completing our scope of work. It was over to TIE to figure out how to deal with any INFRACO acceptance or otherwise on that scope.

231. Delaying signature of the INFRACO contract would have been of benefit to us. It would have meant that TIE would have had a more complete design at novation. There was a balance. The issue of balance came into play a little bit later on when I discussed it with Willie Gallagher. If you delayed contract award for too long the price would have gone up and you would have had CEC / the Scottish Government thinking that the project was never going to happen. The scheme would have been put in jeopardy. You had to get to a minimum point on design completion.
232. What could have been done was delaying novation until some later point after TIE had signed the contract with the INFRACO. There would have been a benefit in doing that. I still think that would have been a better approach to adopt. It would have allowed PB alone to finalise the design and allowed INFRACO to deal with the advance works activity and look at the utilities. As I understand it the utilities later became a significant problem for INFRACO. If novation had been delayed we could have been completing the design to a greater level of completion. That may have been a better approach to have adopted.
233. For no reason there was an awful lot of time spent on looking at novation in that whole run up to INFRACO contract award. It took weeks. However, had we said *"we will carry on and we will novate at a point of completion rather than at a point in time"* a lot of that effort could probably have been saved. All this is with the benefit of hindsight. If you look at what was going on at the

time, January 2008 was forecast as the date for novation and INFRACO contract award. There were at least five, probably six, revisions to the milestone as time moved on.

234. I note the internal PB email dated 5 July 2007 from Mungo Stacy (PBH00011816). The heart of this email is that we were, again, as a consequence of having to continually change the designs expending effort doing planning drawings only for that to be aborted. At this point in time there had been a lot of expenditure but still no final completion of the planning drawings.

235. I note the email dated 6 July 2007 by Scott Ney of PB (TIE00044022). This email shows SDS requesting appropriate representation at the Road Design Working Group Meetings. Scott Ney was responsible for section 1. Scott's email came at the point where there was the start of an increasing trend on delivering. TSS are agreeing with that and are saying that SDS are now going to take the chair responsibility on those meetings. This email shows the point where things had been resolved. It is at this point that we started moving forward and began to willingly chair the meetings. It would be absolutely right to suggest that this email is evidence of stakeholders coming forward with proposed changes and causing a delay. To a degree it was our responsibility to consult with them and obtain the agreement of the different stakeholders in relation to roads design. However that responsibility was in the context of the third party agreements (which were being managed by TIE). This was part of the critical issues initiative where we had to work with TIE to unlock progress.

236. If the design solution was compliant with the third party agreement then TIE / CEC absolutely had the power to unilaterally impose a design solution even if the agreement of the other stakeholders could not be obtained. The problem was, however, that the third party agreements were not in place so the design solutions could not be imposed. This was the case with the SRU agreement. With Forth Ports the issue was more to do with changes having been made post agreement. There was potentially a lack of firmness with the position

there on TIE / CEC's part following the move away from the third party agreement.

237. By email dated 11 July 2007 (PBH00026671) I sent Greg Ayers copies of letters that I had sent to Halcrow (PBH00026672) and TIE (PBH00026673). I note my email dated 24 July 2007 (PBH00012226) concerning the delivery of the section 1b utility drawings. I note my email dated 26 July 2007 to Greg Ayres (PBH00027328) and my email dated 2 August 2007 from Ian Clark (CEC01678587). The issue with Halcrow on utilities came back in large part to the failure of the SUCs to deliver the information on time. We had a programme of work and Halcrow's subcontractor had been programmed in at a certain time. Quite frequently, the submission of the deliverables they needed in order to execute their works was late in coming forth from TIE / CEC. The impact of that was that Halcrow's staff would get put on to other things whilst they were waiting for the deliverables. We would then, when the information finally arrived, have to put the pressure on Halcrow to deliver. The delays were not entirely Halcrow's fault by any means. It was all to do with staffing availability as and when the material became available to work on.
238. Quite understandably, at points in the programme, TIE were applying pressure to obtain the section 1b utility drawings. That necessitated me talking at high level with Halcrow and asking them to prioritise their associated design for that section for everybody's good. If you look through the correspondence, there are statements that would back that up.
239. The simple fact was that it was essential that the 20 July date was met. It was important to meet this date not simply to comply with our MUDFA obligations but more importantly to improve our reputation at a time where we were working hard to recover our commercial position. Whatever the validity of the criticism of Halcrow, it was important that we were seen to respond to TIE because, at the time, my main focus was getting the commercial position resolved. In light of this, I was admitting to Graeme Barclay that there was a problem with the delivery from Halcrow. I was also saying that I had taken that up with Halcrow's Executive Director, received assurances and that we were

doing all we could to put the pressure on Halcrow. That said, whilst I was acknowledging our shortcomings with Graeme Barclay, I was questioning his emotive statement that the agreement was no longer viable. I am highlighting to him that the MUDFA design progress tracker reveals a failure by others to deliver information against a considerable number of due dates. An example of this was the C4 information. I state in my letter to Graeme Barclay (PBH00026673) *"I am content to acknowledge SDS' failure to deliver on time in the specific case of the Section 1A drawings but my review of the MUDFA "Design Progress Tracker" reveals a failure by others to deliver against a considerable number of due dates. Provision of C4 information from the SUCs appears to me to show repeated failure to deliver to programme, for example"*. This extract is not an example of me trying to score points, it is an example of me highlighting that we have got to get to the point where everybody is working against a programme. Whilst the situation is not explicitly highlighted in this letter, whilst Halcrow were waiting for information to arrive it was quite reasonable that they were undertaking work elsewhere. In summary, we had a programme that had not got sufficient float to deal with these sorts of issues. There was a failure to deliver these drawings on time because the responses from the SUCs were not coming forward. That was something which TIE was managing.

240. It is not for me to speak for Halcrow but putting aside the work to pick up the SUC information as soon as it came in is not part of how you deliver against a fixed price. You can do that if the client is prepared to pay you for waiting time. However, at this point this was a client who had not even confirmed they were prepared to pay for reasonable change. At this point, TIE were not showing reasonable commercial management of the programme. The problems were ultimately recovered through putting the pressure on both TIE and Halcrow and bringing everybody together in a properly integrated programme with due float. It was a TIE obligation to apply the pressure on the SUCs. The pressure to manage the SUCs is explicitly stated in the SUC agreements. What is not explicitly stated in there is the level of design that you might be expecting from the SUCs or the management thereof.

241. It is difficult to extract whether this issue in itself caused delay and / or additional expense in undertaking the utility diversion works. At this point some of the works were on hold because of the funding question. I do not think there is one single factor that caused delay. These issues need to be placed within the bigger picture at the time. They were not the driving factor.
242. The correspondence quoted above is all to do with section 1b. We were dealing with the very confined spaces. Those spaces were the problem areas. You would have to go back to the programme of actual achievement versus the TIE master programme to find out whether there were delays in producing the utility drawings in time and of sufficient quality for the other sections of the design. I think the issues with Halcrow were more specifically to do with section 1 because section 2 was out past Haymarket. Whilst there might have been delays I do not think you can necessarily infer that the delays were due to incompetence. A lot of the delay was due to physical constraint ie the confined nature of the utilities in section 1.
243. I note that by email to Scott Ney dated 12 July 2007 (CEC01626383) Geoff Gilbert attached a Tender Query Form from BBS (CEC01626384). This email and attachment came at an early stage in the process. At this time BBS were starting to become familiar with the status of the design. Nobody, BBS or otherwise, would have had sufficient information to produce an accurate price and programme. This was because the design was not complete. The root causes of that design not being complete were the changes being made by CEC. Picardy Place is an example of this. Picardy Place was subject to change with CEC and the different requirements due to their intended potential development of the area. We were not in a position to issue a design for Picardy Place, let alone a complete design, because of CEC's changes to the third party agreements. The secondary issue that resulted in the designs not being able to be completed was the delay in the information coming forward from the SUCs. Again Picardy Place is a good example. The requirement from CEC had to be firm before we could take into account what might be needed to be done with the utilities and what we might have to do with the integrated alignment design. The pinch point was CEC's failure to

decide what to do with Picardy Place. This is just one example of areas where CEC's actions were delaying our delivery of the design. Others include the whole Forth Ports area alignment, the area surrounding Murrayfield concerning the SRU and RBS. By 12 July many of the critical issues in our control would have been resolved but there was still design work required to be completed pending a resolution by CEC and TIE of what the requirement actually was.

244. Many of the third party agreements, in large part, were complete by this point (excluding SRU and RBS). There was a delay on some of the critical agreements but Picardy Place was yet to be resolved because we did not know what CEC wanted to do with it. That situation resulted in a serious pinch point.
245. Looking at BBS's Tender Query Form (CEC01626384) then and now I do not think there is any exaggeration in what they are saying. BBS were at a fairly early stage in the process. To an extent they were asking questions of clarification in order to gain a better understanding eg can Shandwick Place be closed to all traffic except bus at the start of the tram way construction. If you knew Shandwick Place in more detail, and why would they at that point, anything could potentially be done but it was a matter of how you would achieve it. This is BBS trying to get a better understanding of the scheme intent. This form is part of an entirely reasonable clarification process. If you are invited to provide a tender with a fixed price you need to understand the detail. I do not think that this document is evidence of commercial posturing on BBS's part. I think this is a genuine attempt by BBS to gain clarification.
246. I note the minutes of the DPD on 2 August 2007 (CEC01530449). I note the progress report presented to the DPD (PBH00027525). I have previously highlighted the template for a design assurance statement (CEC01511908). This document provides a clear picture of what was required to compile the design assurance packages. That included the drawings associated with the individual deliverables. Page 11, paragraph 2 of the progress report shows that the individual deliverables were being subdivided into more digestible

packages. There was an amalgamation of all the design work we were doing. This extract shows that we were taking a different cut of the deliverables. I do not know exactly how many drawings there were in the 18 "self-assured" design packages. There were lots.

247. I note the report to CEC's IPG dated 30 August 2007 (CEC01566864) notes at paragraph 2.3, page 31 "*This will become a significant work stream for CEC and will be very labour intensive. It is anticipated that this will involve reviewing potentially as many as 16,000 drawings and 600 reports. It is critical that this will commence in early September, however TIE have still to confirm this.*" 16,000 drawings is a serious exaggeration. I would have thought you would be talking less than 10,000 but I really do not know. It depends on the complexity of the particular section and the detail. It is all to do with the long lines, your roads, your trackform designs across that whole run and the individual structures designs. I would have thought you would be struggling to get to 10,000 in August 2007. I think there was a reasonable concern about the volume of material that would be submitted but I think the 16,000 figure is an exaggeration. I caveat my comments above by saying that this is TIE reporting to CEC. PB were not in attendance at this IPG. Up until the Inquiry presenting me with the documentation for this statement, I had never seen an IPG report. I am not sure where CEC came up with the figure of 16,000 drawings. It would have been too early to have been this definitive. If you said, say for the sake of argument, you have got 12 design assurance statements, it would be of the order of 500 drawings per statement. The 16,000 figure is way over.
248. By August 2007, TSS was out of the equation because, by that point, EARL had been cancelled. Scott Wilson, in their capacity on the EARL project, had been instructed by TIE to demobilise. I discuss that at section 1 of my weekly report dated 6 July 2007 (PBH00026535). At this stage CEC continued with the prior approvals and technical approvals. The approval body still had to carry out the specific approvals that were required. There was not too much change on CEC's part. I would be speculating what work was to be undertaken by TIE at this stage. I imagine TIE's role would be down to sample

checking and making sure that what we were providing was consistent with the self-assurance approach. I do not know how much work TIE put into reviewing what was submitted. The focus would have been the continuation with the prior approvals and technical approvals tasks. CEC were probably carrying all of the load on prior approvals and quite a lot of the load on technical approvals as well. At this point we were working in the same offices as CEC. CEC had introduced some staff into City Point. We were collocated with those staff. That was valuable because that meant CEC had a local presence. The co-location of CEC staff helped considerably.

249. My view at the time as to whether version 17 of the design programme was realistic and achievable was the same as it was some months previous. My view was that it was realistic and achievable but it had to be managed through.
250. I note David Crawley's comments at page 7 of the minutes of the DPD on 2 August 2007 (CEC01530449) where he explained the concept of "*just in time*" delivery and the fact "*there is no margin for error*". These are obviously not my own words. These were the circumstances that we were operating in because so much time had been lost previously in order to maintain pressure on an INFRACO contract award early in 2008. Following that, it simply had to be case of 'as soon as the design is available it is delivered.' David Crawley's comments are not my words. You could argue "*no margin for error*" does not really provide the right impression. That statement assumes there was an acceptable target. In reality it was the other way about, the target was set as a consequence of the amount of work outstanding. David's "*just in time*" comment is a reflection of where we were. Everyone was working flat out to deliver design. It was not like we were suddenly working to a sensible programme, we were working to a programme that was as a consequence of previous delays. Because of the previous delays we were having to deliver as much as we could in a very short time frame. Essentially, the float had been lost through delays caused by things outwith our control.

251. From memory, and I might be wrong, the structural design elements were given a lower priority than other elements because they may be required to be modified later on to take account of whichever contractor was appointed ie so that the design would align with that contractor's preferred method of construction. The categorisation of the structural design elements as lower priority was a consequence of having previously gone around in circles with TIE / CEC when they were looking for gold plated designs. TIE / CEC at this point had now come to the recognition that they could not afford to be continuing to do that.
252. The decision to re-prioritise the structural design elements was related to the decision to carry out a Value Engineering exercise in relation to structures. That was because, by virtue of Value Engineering, some of the structures may well have to change. In fact, that is what ultimately happened. An example of this was the Edinburgh Park Viaduct. That was changed back to something that was much more related to what we had originally put into the preliminary design. I think it was David Crawley, from memory, who picked up the likely need to deliver value engineering. The structures were an obvious place to start.
253. I note David Crawley's email dated 19 July 2007 (CEC01627050). Design work was still being carried out on section 3 (ie phase 1b). It was around November 2007 that we stopped design work on section 3. There is an important email dated 19 July 2007 from Jason Chandler to Andy Conway of CEC (CEC01627048). Jason states "*We are working as best we can to mitigate the way that the design has progressed or not progressed I should say, due to the long-term failure to resolve critical issues. The main problem here is that SDS are being pushed to complete a detailed design to meet procurement programme dates whilst also leaving the door open for changes to be made post completion of the modelling works. In an ideal world we would wait for all modelling to be complete before completing the design but this would add unacceptable delays to the programme and delivery, unfortunately this would mean that the design would be completed later and the design for the whole route would land for review and approval in one*

package which would be a very tall order for yourselves and TIE as the reviewers." This email was in response to an email from Andy Conway earlier that same day at 10:19 where Andy states "*The minutes don't reflect the Council's main point – we were promised that the new design submission packages would include all relevant info ... in fact, the words used by SDS were that we would receive 'everything', plus a design assurance statement. This is not now the case, and I really don't see how CEC will be able to approve an incomplete design, particularly when you consider the impact of the stage 2 Road Safety Audit.*" Jason's response is basically criticising misplaced procurement programme pressure. This is confirmed later on in David Crawley's email to me on 20 July 2007 at 07:00. I assume we covered my response to David in a subsequent meeting.

254. Were TIE to have taken the decision, at the earliest possible opportunity, not to proceed with the designs on 1b that would have arguably had a financial and commercial implication for us. It would have arguably focused the design spend. We would have taken effort off that design. TIE could have saved some money if they had taken that decision earlier, albeit not a very large sum of money. That said, had that decision been taken earlier it would not have meant that the designs for section 1a would have been completed earlier. The hold on phase 1a was due the critical issues. Even if TIE had taken that section out of the programme earlier we would still have been engaged in some fairly long design work on phase 1a. It would not have shortened the phase 1a programme. However, if TIE had taken that decision earlier they would have reduced the overall cost of the design.
255. Carrying on with the design for section 1b when not being able to complete the design on section 1a might mean TIE / CEC would have an asset on the shelf. As far as I was aware, that was the thinking.
256. Carrying on with design work with section 1b did not cause a delay. It had minimal financial implications for the project. The detailed design part of our contract was roughly a £11m fee. By August 2007 a lot of the detailed design for section 1b was done anyway. Had the decision been taken earlier to halt

work on section you may have saved a £1m (it probably would have been no more than that).

257. I think if you go back to what the standard industry approach would be, it is entirely sensible to have completed, as TIE did, the design for section 1b. That section was pretty isolated. It was not an on-street section and it was not going to get modified - in a large part anyway. I think it was an entirely reasonable decision to continue with design on section 1b.
258. The structures were certainly delayed. I cannot recall specifically the structures being removed from the section packages, but they must have been, by virtue of the fact some of them were so late in comparison with the rest of the package. The delay of the design for the structures did not store up problems for a later date. In fact, the delay probably helped because it allowed the rest of the section to be completed and genuinely difficult problems like Tower Place Bridge and Victoria Bridge to then be focused on. There were specific technical challenges with Tower Place Bridge. There is still work on-going there now. Tower Place Bridge is still identified as a particular design challenge, even where we are today. I think it was entirely reasonable to remove the structures out of the design deliverables packages. It is my view that the removal of the structures from the design deliverables packages reduced problems.
259. The removal of the structure of the design deliverables packages did mean that BBS did not have a design to price; however, the removal was also a benefit to them. It meant that BBS had more of an influence over what the design should be. You would have expected then the economies of BBS's preferred methods of construction would come into play (provided they collaborated effectively with TIE). I do not agree with the assertion that the removal of the structures "stored up" problems for a later date. We never had any problems with the technical approvals for the structures. They were all very effectively completed.

260. We did what we did throughout the programme. We applied the appropriate number of staff to deliver the programme. Increasing staff numbers would not have speeded things up in any course because we were still waiting for the approvals and the third party agreements. Doubling the staff would just have meant we would have had twice as many people waiting. I think David Crawley, in his email (CEC01627050), is not seriously suggesting we double the number of design staff. He is just enquiring whether an increase in staff would be a sensible approach. That was one of David's qualities. He was able to think outside the box.
261. I note the email dated 19 July 2007 from Andy Conway (CEC) (CEC01627048) and the later email in the same chain dated 20 July 2007 from David Crawley. I note Andy Conway's email dated 20 July 2007 to Jason Chandler (CEC01675827). The interesting part of this email exchange is Jason's response to Andy Conway on 19 July 2007 where the critical element is referenced. Jason's email explains why the circumstances of meeting the procurement project dates meant that we had got to keep pressing forward. David Crawley effectively echoes Jason's sentiment in his email of 20 July 2007 to me. My interpretation of that email is that he is saying that we all have to move forward, we cannot hang about for perfect solutions and that that time has long since passed.
262. These emails are very interesting from a cultural point of view. No one would argue with Andy Conway's dedication to securing a quality tram system. However, I note he says in his email dated 20 July 2007 "*I still believe that the design assurance proposal won't resolve as many issues as people first thought, particularly with regard to obtaining the technical approvals from CEC*". You could criticise that as being a very blinkered view on the world. He is ignoring the fact that in securing that perfect technical approval the whole programme is going significantly into delay. You can see that wider view being portrayed by David Crawley. We were stuck in the middle trying to move things along. There was a tension. CEC wanted something that specific and because of this they were delaying us securing technical approvals. At the

same time we wanted the momentum to maintain the overall tram programme and had a programme which demanded we all moved forward more quickly.

263. It is very interesting to compare and contrast what was done in Edinburgh with what was typically done in Manchester. The attention to detail from CEC as the approver for the tram stops, for example, went down into the real minutiae of the very slabs that were laid out and how the tram stop furniture was laid out. CEC looked at the design with a very high degree of precision. However, Manchester was completely the opposite. You built a tram stop and then you would sort it out as you went along. The approach taken in Manchester still resulted with a quality product. However, you did not need to spend week after week after week having it all mapped out neatly in your mind and on paper. There was an ingrained culture with CEC. The people at CEC were uncomfortable moving away from what they saw as them doing a quality job. That culture had a horrendous impact on the programme as we have seen.
264. The email exchanges above show the conflict, for want of a better word, between TIE trying to move forward the programme and CEC, as the approval body, having the ability to stop it. They also show us in the middle trying to deal with how best to deliver a compromise.
265. My personal view, on the evidence of some of the things that happened, there were people in CEC who did not really want the tram system. If I take things more positively, I think it was down to inexperience and not appreciating the consequence of trying to apply an age old approach to local planning. CEC did not realise that they had to look at the bigger picture. They did not appreciate that it was not absolutely necessary to sort all the problems out before you started building.
266. The situation with planning was obvious as an outsider. I would come in, get on the bus at the airport and the bus would drive along the road. It was amazing that the bus was not shaken apart at the end because there were so many holes down Corstorphine Road. I would look at the quality of what was out there on the ground and contrast that with the quality that was being

expected by CEC on the design (which was inch perfect). I would think *"hang on, what we are being asked to produce here is way in excess of what is actually out there in the real world."* CEC were looking for perfection and they were holding everything up as a consequence through bringing in change.

267. CEC, in my opinion, was the major party responsible for the delay to the whole programme. That is not a criticism of the individuals who were working diligently on what they thought was the primary requirement. My comment is more a comment that somebody was not making CEC look at the bigger picture. If there had been an independent programme manager they would have been able to do that. There was an attempt to change the culture at CEC at novation. The overriding importance of CEC technical approvals was actually downgraded at novation. The focus became much more on compliance with the requirements. The culture became ensuring that the end result complied and not taking a pedantic approach to approvals. Pre-novation, CEC as the approval body certainly held the whip hand. TIE was not able to change that. In part TIE was not able to change that because, at the end of the day, they were subservient to CEC.

268. I note my email dated 26 July 2007 (PBH00012299) where I set out what had been discussed at a meeting with Geoff Gilbert on 25 July in relation to claims by PB for changes and additional work. I note that on 7 August 2007 I sent Geoff Gilbert a letter (PBH00003596) setting out PB's response to the points made by TIE. I note that Geoff Gilbert's email dated 24 August 2007 (CEC01630084) which sets out the principles of a draft agreement (whereby TIE would pay PB £2.5m in full and final settlement of the claims). I note that a letter was also sent that day (CEC01692910). I note that by email dated 6 September 2007 (PBH00036744) I noted that PB were in general agreement with the principles of settlement set out in Mr Gilbert's email. The claims by PB were to do with design change, various other changes and prolongation. I have already highlighted the various other changes earlier on in my statement ie changes due to the charrettes with CEC / TIE / TEL, changes due to the additional third party agreements, changes required by TIE, the approach to delivering consents from CEC, some changes due to EARL, TIE's failure to

accept and review the preliminary design in a timely manner, changes due to the third party developers' emerging designs and the failure by TIE to update the master project programme. Those were the heads of claim that we were presenting. The tie letter, (CEC01692910), makes reference to consideration of the need to issue a Persistent Breach Notice. It should be noted that this subject had been raised in earlier conversation by Geoff Gilbert and I had made my clear my views that there were absolutely no grounds for such a notice. None was issued.

269. The TPB ratified the agreement in September 2007 that is how it was given effect. At the outset of the claims it was myself and Matthew Crosse who were discussing whether we had an entitlement to a claim. We finally got over that hurdle. The responsibility for discussing the claims was passed to Geoff Gilbert in August 2007. I then worked with Geoff Gilbert very closely. We got to the point of agreement in principle. That agreement in principle was then ratified by TPB. Subsequent to that we were then paid a sum of money.
270. I note the internal PB email dated 27 July 2007 by Alan Dolan (PBH00012299). This email is to do with the design team leader being moved. Alan is saying that we cannot let the highways division do something in isolation. He is then saying to me that if I agree that David Crosse (the highways design team leader) cannot leave the project then he would sort out the consequences. All Alan is saying here is that we have got to keep on top of the interaction between the divisions. There was no serious problem. The DTLs worked pretty effectively together. Alan states there is "*a problem between the PB Divisions (Rail versus Roads).*" This is just an unfortunate choice of words. The main thrust of this email exchange is "*should we let David, as the design team leader, move on*" and if I agree then Alan will pick up the visit to Newcastle to take on the consequences. In summary my understanding of this matter is simply that there was a proposed design team leader change. There was not a problem between the PB divisions.
271. Geoff Gilbert's email to me dated 24 August 2007 (PBH00036744) sets out the claim. Having gone through those various heads of claim, Geoff was

writing to me with a proposal. He states "This addresses all delay, prolongation, disruption issues arising from the various Heads of Claim" which are "Critical Issues, Changes, Charrettes, Additional Scope, Consents, Third Party Agreements and Third Party Developer Emerging Designs etc. All these claims are extinguished and there will be no further delay, prolongation or disruption claims from SDS Provider in respect of any issues arising up to and including 18 August 2007 under the Heads of Claim detailed in your submissions or otherwise." My reply to Geoff in this email chain comes later on because I was on leave. My response was essentially saying that PB were pleased to advise we were in general agreement, that there were a couple of things to sort out with Halcrow and that we would like to change some of the payment terms. I then say that I trust that Geoff will put the proposed settlement to the TPB and look forward to receiving the draft legal settlement. Then there is a detailed point from me about one of the changes that was not covered by the claim, but would have to be pursued as a separate change. The PB claim arose due to the large volume of change introduced by tie, much of it subsequent to the completion of the Preliminary Design when all design matters should have been "frozen". These issues resulted in substantial additional work, disruption to, and prolongation of the SDS programme. As a direct consequence completion of the detailed design was seriously delayed. Discussions on the merits of the claim ultimately resulted in an agreed settlement at the sum noted in, and under the terms of payment set out in, the Geoff Gilbert email of 24 August 2007. I have made available my reply to that email dated 06 September 2007. (Ref PBH00036744). With reference to the topic "Late provision of survey information and ground investigation data" I do not believe this led to any increases in cost. Nor did it delay the scheme. As indicated by the 07 August letter these issues were known well in advance of the point at which tie's position concerning transfer of ground risk had to be formalised with the Infracore.

272. I note the letter dated 7 August 2007 by Ailsa McGregor (TIE) (CEC01628923). This is TIE looking for a formal confirmation under the contract that we have got the sufficient resources available to complete. By August 2007 we were well advanced with the designs. That meant that Kim

Dorrington could safely be demobilised. Jonathan Bloe was changed for David Gibb. Jes Hanson's role had concluded by that point. Paul Wilson was the section design manager for section 3 ie phase 1b. At this stage things were coming to an end. I cannot remember the detail of the other four positions. I note Ailsa's comment *"Please can you confirm the names of the replacements as a matter of urgency"*. There should be a response from me to that. By 7 August 2007 we were comfortable that we were on a delivery trend that was succeeding. Because of that we were able to start to demobilise. This process had always been the part of our plan.

273. It was very much the case that there were sufficient key SDS staff working on the project at that time. The emphasis was now shifting to the interaction with BBS. However, senior people like Alan Dolan, Jason Chandler, Bruce Ennion Scott Ney, Kate Shuddle and I were still there. The section design manager for section 1b had gone but that was not critical. There were people with the history and knowledge of the project who had remained. That was one aspect of this project. Collin MacDonald, through that 2007 period, was the only person who left voluntarily. Everybody else stuck with it. We were comfortable in the end with the coverage.
274. I note the progress report by David Crawley for the TPB on 9 August 2007 (CEC01565001, p35, para 4.0) noted *"The 18 fully self-consistent packages will be delivered rather late to meet procurement milestones for Infracos pricing purposes so it has been agreed that key elements of them will be supplied earlier to the Infracos to facilitate the best possible pricing certainty from them"*. The objective was to provide as much clarification material to the bidders as we could. Partial presentation of the design packages was an entirely reasonable thing to do. It was achievable. Essentially we were saying *"this is the state of completion. Here you are, INFRACO, this is something to work on"*. This process was certainly achievable. There were one or two document control hiccups between the different systems but, barring those mechanics, it was not a problem. I am not aware whether the proposal was discussed and agreed with the INFRACO bidders. I was not involved with

INFRACO at this stage. I was not formerly introduced to INFRACO until after the preferred bidder stage.

275. I note that on 20 August 2007 Steven Bell sent an email to David Watters (Halcrow) (PBH00028336) in relation to Halcrow's underperformance on utilities design. Steven Bell is actually going out on a limb in this email. The accusation of him being out of his depth is an interesting one. Steven Bell was clearly under pressure. I agree that he should not have written directly to Halcrow. That was the formal position but I am not going to make too much of that. I was working pretty closely with Steven Bell so I did not have a particular concern. David Watters makes the comment in his email dated 20 August 2011 *"This is very disappointing but perhaps not a surprise. I/we will have to deal with this at both the SDS level and the Halcrow level. His interpretation of aspects of our discussion is disingenuous"*. I take this comment to mean that there was an overemphasis by TIE on the Halcrow side of the coin and a lessening of the importance of Scottish Water. Steven Bell's earlier comment where he states *"the separate issue of the relationship with Scottish Water"* is wrong. It was not a separate issue. The relationship with Scottish Water was integral to the whole question of delivery of the complete suite of design. This is TIE failing to deal with the contractual obligation of the SUCs to deliver material to a particular programme. Having failed to exert that management control TIE were then attempting to deal with the consequences through placing undue pressure on SDS. We were all working hard to try and accommodate accelerated delivery but David Watters was under undue pressure because of the inability of TIE to predict programme dates with any confidence. It is important to realise that, come INFRACO contract award, a lot of this had been cleared up. This area was not the primary cause of the critical path delay by any means. It was not on the critical path. The Inquiry should not be asking whether Halcrow's performance on utilities design improved but rather whether TIE's performance on utility design improved. TIE needed to enforce those agreements. That is the issue that was at hand in this email exchange.

276. I note the report to CEC's IPG dated 30 August 2007 (CEC01566861) and that it notes, under Detailed Design Technical Review Process at paragraph 2.3 *"This will become a significant work stream for CEC and will be very labour intensive. It is anticipated that this will involve reviewing potentially as many as 16,000 drawings and 600 reports. It is critical that this will commence in early September, however TIE have still to confirm this"* and that at paragraph 6.3 *"A revised Prior Approvals programme has now been prepared by TIE/SDS. This would extend until June 2008 ..."* I have already discussed this document earlier on in my statement. The number of drawings and reports noted as requiring to be reviewed by CEC is an exaggeration. I do not recall seeing this document at that time but 16,000 drawings can be cross checked against what was actually on the document control system. The review by CEC did commence in or about early September. It was my understanding that a revised prior approvals programme had been prepared by TIE / SDS which would extend until June 2008.
277. The risk that detailed design may need to be changed in order to obtain all prior approvals and consents was a continuing risk. That was a continuing risk all the way up to novation with the change of contract terms. The party requesting the changes would have been largely CEC. There was still, in August 2007, a risk that CEC would continue to demand change as a consequence of the way they were applying the approvals process. TIE, in their capacity as overall programme manager, was the party managing CEC's changes. All we could do was what we were doing ie try to emphasise the consequences of CEC's approach. We were driving the input to the prior approvals process. We were responsible for making sure the deliverables were available in a progressive fashion.
278. It would have been possible for INFRACO to provide a fixed price before the design was completed but that price would have been inflated to take account of the risk that things may change subsequently. In other words, if it had been a fixed price it would have been a higher price.

279. I refer to the DPD minutes for 30 August 2007 (CEC01644467). This needs to be compared to the later DPD report in December which appears not to focus on blaming SDS. These minutes come after 12 July 2007. I think I have demonstrated in my statement, beyond doubt, that missed delivery dates were as a consequence of the critical issues not being resolved. We were not in a position to start the delivery until they had been resolved. The Inquiry has highlighted to me paragraph 6.2. This is where I did take exception to what was being said. At paragraph 6.2 it states "*Decline in lack of progress has been arrested.*" The decline in process had been arrested because we had unlocked the critical issues and because we had told CEC that we were going to finish the design and not wait around for perfection. My emails and attachments to David Crawley in response to this minute (TIE00035961 and CEC01566988) was because of his follow on comment where he says "*DCr's view is that it will continue to improve providing we stay on top of SDS and give them no excuse not to deliver.*" In my emails I am questioning David Crawley. As I said at the time, there is the accusation there that somehow we were not delivering. However, if you look at paragraph 6.3 in the very same minute it states "*SRU – Barry Cross is available to assist with the issues relating to ensuring SRU apply for planning permission.*" This minute is dated in August 2007. We are two years in and we still do not have planning permission for SRU. That is an example of critical issues not being resolved and holding SDS up. At paragraph 6.4 it states "*Section 1a – Bridges (Tower Place & Victorian Dock) – There is a question of betterment by requiring to provide walkways. DF on behalf of CEC confirmed the funding required for this betterment. Circa £2.5m will be funding additional to the £45m currently provided for the ETP.*" We are two years in and CEC are still playing around with two of the biggest structures on the whole alignment. That was causing us a delay. At paragraph 6.5 it states "*Lindsay Road. The redesign of Forth Ports request has caused significant delay to Section 1 Design Delivery.*" Again this is an example of critical issues that were holding up SDS. These minutes present a notion that somehow the delay was our fault; however, in the very same minutes the reasons for the problems that we were experiencing are highlighted. I note that the email dated 16 September 2007 (CEC01641999) referred to a proposed meeting between Willie Gallagher and

Tom O'Neill (PB). I do recall this meeting, Tom O'Neill was our chief exec in New York. Willie maintained a communication and a working relationship with Tom. He occasionally visited Tom. There was a high level interaction between Willie as client and Tom as the most senior person in the PB organisation. The purpose of the meeting was simply for Willie to obtain an update on progress. Willie was trying, not unreasonably from his point of view, to turn the screw and make sure Tom O'Neill was keeping the pressure on us as the team in Edinburgh. I note Willie Gallagher's letter dated 4 October 2007 (PBH00029051). This letter was part of what I discussed with the TPB and the governance on the claim succession. Willie is recording the claim settlement and seeking assurances that we remained committed. He is acknowledging the now much improved expectation of success. He is raising his concerns over MUDFA and he is saying "*in TIE's view SDS's approach the performance has been very poor.*" He is taking, in his view, a balanced approach to the meeting with Tom O'Neill. However, Willie was still holding us responsible for some of the MUDFA issues. This is an example where you can see a misunderstanding of TIE's contractual relationship. Willie is saying SDS had failed to engage with the utility companies. It was TIE's obligation to engage the utility companies. We took the opportunity in this meeting and correspondence to highlight the importance of the MUDFA issue. Then he is talking about some concerns over the claims culture. In his letter, Willie is taking the opportunity to flag some positives and some concerns that he still has got. He is trying to maintain the relationship with SDS.

280. The undoubted truth is that the TPB, being somewhat removed from working with us, were of the view that SDS was failing. At this stage we had demonstrated to everybody else the impact of the delays on the critical issues and that that was the factor that should be focused on. I highlight the meeting to refute Willie's MUDFA argument in my weekly report dated 28 September 2007 (PBH00029122). Reading this letter now it appears to show that the TPB is insisting that Willie raises these issues. If you read between the lines, it appears that the TPB is not particularly pleased with having to pay £2.5m. This letter demonstrates the disconnect between the TPB and what was going on the ground.

281. I note the report to CEC's IPG on 27 September 2007 (CEC01561544). I note at paragraph 3.3 it states with regards to the Detailed Design Review Process "*Initial meetings were held on 7 and 13 September to discuss and agree the review process, which is being split into two separate areas; Planning and Policy related or technical. A trial submission highlighted some serious gaps in the quality of information being brought forward at this stage. CEC have emphasised that this needs to be resolved as a matter of urgency ...*" and at paragraph 7.6 it states with regards to Planning Prior Approvals "*A revised Prior Approvals programme was tabled by TIE on 6th September. This differs to the previously agreed programme which extended until the end June (as outlined in the previous Report) in that a significant proportion of the Prior Approval determination dates have been brought forward to the end December/end January. This reflects the need to have Prior Approvals in place in advance of the letting of the Infraco contract.*" The first time I saw this document was when the Inquiry presented it to me. There may well have been gaps but those were gaps forced on us by circumstances out of our control. I presume the IPG entailed the TPB reporting to CEC in a joint meeting.
282. It is interesting that there is a reference in passing to Picardy Place in this report. In September 2007 there should have been alarm bells and red flags around that issue. It was a continuing issue at this point. I have already discussed earlier in my statement an exchange with David Crawley in June 2007 where he was saying that TIE / CEC have got to stop changing things and get on with this. However, here we are in September and TIE / CEC still cannot make their minds up over the design. At this stage we had not even got a final decision on the alternative. The emphasis David Crawley was highlighting, on the basis of this report to CEC's IPG does not seem to be filtering through to CEC.
283. I note the statement "*A trial submission highlighted some serious gaps on the quality of information.*" It could be inferred, because that issue is highlighted here, that those gaps are deemed to be serious by CEC. This is all to do with the same issue I have discussed earlier in my statement. CEC were looking

for the perfect product to approve. There was a lack of appreciation of the bigger picture.

284. The revised prior approvals programme bringing a significant proportion of prior approval dates to the end of December / end January would have been something we would have used our reasonable endeavours to meet. If you tie the programme to the deliverables schedule that we were working to, we were keeping a very close management on that and the prior approvals would have followed in due course. The revised programme was realistic and achievable if the parties were co-operating. The ability to meet that programme was not solely down to us. CEC had to avoid making further changes to allow us to achieve that. I do not recall that revised programme and why the dates were brought forward. I was not a party to this IPG so I cannot comment on the specifics. We would have worked with TIE to deliver what we were charged with.

285. I note Tom O'Neill's e-mail dated 5 October (PBH00029220). He notes that the meeting's major point of focus was the utility relocation. So, despite what might be in Willie's letter, which was enforced by the TPB, the real issue was utility relocations. This is Willie not using the contract to best effect. Tom is saying to Willie that PB would look at the issue. My response back to Tom is that, in reality, the party wholly responsible for measuring the contact and interaction with the utility companies was TIE. I point out that the draft Business Case states this philosophy and that, in practice, that philosophy has been implemented in the MUDFA contract strategy through the legal agreements between TIE and each of the utility companies. I point out that PB had the responsibility for completing the designs to construction standard but with the clear proviso that TIE has secured the effective collaboration of the utility companies in advance (which TIE had failed to do). I recognise that, that said, we all needed to work together to ensure we do that. I later state *"Over the past month I have had to remind both Matthew Crosse as tie Project Director and Steven Bell, tie's Manager responsible for MUDFA Contract Management, of the true scope of PB's role in relation to Utilities design. I have had to do this with Matthew to counter suggestions from him that tie may*

claim against PB should the MUDFA drawing delivery dates slip seriously. His linking PB responsibility for delivery of drawings with responsibility for driving the Utility Companies to provide information indicates that he was unaware of the tie legal agreements with the Utility Companies." Willie's letter displays the confusion on TIE's part surrounding where the obligation of utility design lay. You can equally see me being pretty adamant on our true level of obligation, which ultimately was carried through. Ultimately Steven Bell had to accept the crux of what I was saying.

286. In summary, it would be right to say that Willie, as representative to the TPB, is approaching our chief exec of PB without a clear understanding as to where the obligations lay with regards to certain aspects of the contract and asking SDS to do things that they were not necessarily required to do under the terms of the contract. My later email is me recognising that progress needed to be made but that could only be made in conjunction with TIE obtaining the agreements with the SUCs. Willie was in a very difficult position. Clearly the MUDFA delivery was a very important aspect of the whole programme. It was an area that was still causing problems even in September. I can understand the frustration. Getting it all out on the table was positive because it meant we could move forward. However, there had to be a better appreciation on TIE's part. You could argue that Willie was badly advised by his team. I think there was more than an element of that. It appeared to me at the time that Mathew Crosse had not appreciated the contractual relationship with the SUCs. Nobody's perfect. Nobody knows everything but there's got to be an acceptance of a more collaborative approach. That approach was certainly lacking from the TPB. This attempt by the TPB to place all the blame on SDS was, I think, reflective of the cultural problem that was undermining the delivery of the whole programme.

287. I do know for a fact that Matthew Crosse was not aware of the SUC agreement. However, I do recall an occasion when I met with Matthew and he said going to sue PB on the issue of utilities design. I recall that he was presented five minutes later with the SUC agreements and informed that he *"might like to read them"*.

288. I note the email from Susan Clark (TIE) to me dated 29 October 2010 (CEC01454003). I note TIE listed a number of technical topics that BBS wished to discuss in relation to due diligence. I note my email dated 31 October 2007 (PBH00003635) where I expressed concerns in relation to the meetings with BBS. I note my letter dated 6 November (PBH00030679). I note Bruce Ennion's email of the same date (PBH00030235). I note that while Susan Clark has sent her email to me she has copied in David Crawley, Damian Sharp and Andy Steel. Andy Steel was the sole remaining person who had come from TSS. He had been retained because he was an individual with a light rail background. Before I can answer Susan's email, David jumps in and says he is uncomfortable following BBS's agenda. I note that my email follows David's and I state that I am uncomfortable as well and there's a need for a detailed agenda. I note comment that there is a case for targeted objectives and a need for high priorities. I go on to state "*The other concern I have in relation to these meetings, apart from them being proposed at very short notice, is that they will require the attendance of a number of specialists who are currently engaged 100% with the completion of the detailed design. The master programme was conceived on the basis that detailed design would be substantially complete prior to the negotiations with the Preferred Bidder and under that scenario the involvement of the design specialists would have been easy to achieve and less of their time would have been required. We are now attempting to conduct the Preferred Bidder meetings under very different conditions. I also fear that we are in danger of becoming bogged down in questions to do with the completion of the design rather than with "due diligence" as originally contemplated.*" This extract is important because what we were doing here is calling into question the approach proposed by Susan Clark. There are other emails around this time which demonstrate that TIE's management of the BBS clarification sessions was poor. That is what Bruce is expressing concerns about in his email dated 6 November (PBH00030235). Bruce Ennion was a senior consultant. He was very experienced in light rail development. I think I am right in saying he had been on the Mersey Tram job as well. My email dated 31 October 2007 (PBH00003635) is me formalising my concerns surrounding the meetings with

same date
should be 31
October 2007

6 November
should be
31 October

BBS to Matthew Crosse. This is basically me setting out a plea for TIE to get better control of the whole process of clarification with BBS.

289. In summary, this correspondence collectively shows PB expressing serious concern over TIE's conduct of the meetings with BBS (who at this time were the preferred bidder). TIE was simply not controlling the clarification process. We went back with our concern to David Crawley that we were playing to BBS's agenda rather than TIE's agenda. That was absolutely what was happening. The possible consequence of PB playing to BBS's agenda rather than TIE's was that TIE may not secure the scheme that they required ie secure a compliant fit for purpose solution which reflected the demands of the Edinburgh stakeholders rather than INFRACO.

290. It was a secondary issue that resources would need to be split if we were devoting too much time to due diligence with BBS. That was a consequence, again, of TIE not sticking to the schedule. If they had then everybody would have been able to plan the resource allocation. I am trying to avoid using the word shambolic but this is the way it was for a couple of weeks. TIE were simply not controlling the BBS clarification meetings. You can see from that concern reflected in the amount I have written in my emails. We were seriously concerned about this issue.

291. My recollection is that our concerns were addressed through Jim McEwan becoming more involved. Subsequent to his involvement there was a far greater corralling of the exercise. It probably took us a month to get to that stage. I note in my weekly report dated 9 November 2007 (PBH00030825) I state at section 1 *"For the second week running the emphasis has been on the Preferred Bidder meetings with BBS. I have had to raise concerns with tie again over the conduct of these meetings and have now written formally to Matthew Crosse to highlight the disruption caused to our activities by the continued rescheduling of dates at very short notice."* In my weekly report of 30 November 2007 (PBH00032092) I state at page 2 under section 1 *"In discussion this week with Scott McFadzen, BBS Project Director, he suggested to me that TIE's procurement process is in disarray – no comment*

back from me – and that in his opinion he is unlikely to be signing a contract before April. In reality, contract signature date, whilst important, is lower in the priorities than securing the agreement to fund by 31 December.” I then go on to discuss Willie Gallagher's concerns about the lack of apparent convergence on an acceptable price. My view at that time was that BBS were continuing to run the clock down because TIE had not got control of the process. These reports show that at the end of November 2007 my concerns had only been addressed in part.

292. It is interesting that in my weekly report of 30 November 2007 (PBH00032092) I am revisiting the issue of CEC technical approval aspects and Picardy Place. This can be seen in the last paragraph on page 1. This shows that at 30 November 2007 the alarm bells were still not ringing with CEC with regards to Picardy Place and the Forth Ports area. This issue should have been ended in June and we were still not there.
293. Our main concern at this stage was TIE's lack of control of BBS and on procurement. TIE did not have that plan in place. It took several weeks to come to anything like a reasonable meeting of the minds. This did not cause a delay with the completion of the design. We were still pressing on with the design. What TIE's lack of control did do was cause delay with the award of the INFRACO contract. Weeks were going past without any tangible progress with the negotiation with BBS.
294. I note the internal PB emails dated 1 and 2 November 2007 (PBH00013984) noting slippage on the structures deliverables. By this stage the structures were the most significant packages left. I note that Paul McQuade states *“the alignment for the section through Balgreen Road to the Training Pitches was only received on 15 October, some 3 months after it was originally programmed, due mainly to the interface with Network Rail and their Airdrie-Bathgate scheme requirements. This affects the design of approx. six structures with a consequent delay.”* The delay here was as a consequence of the delay with the third party agreement there. The delay with that agreement resulted in a delay to six structures. This is a fairly calm email from Paul

McQuade. He is trying to be realistic. We were stretched at this point, without doubt, but we were still suffering the consequences on a number of those structures of the delays. That is confirmed if you look at the tracker.

295. Resources were stretched but that was due to the knock-on impact of the delays caused by the changes required, some of them to do with third party agreements. The initial reason for the slippage was the delays in securing final design and a definition. The upside here is these were fairly lengthy design activities in any event. You would have the opportunity to pull back any delay. The steps undertaken to remedy the situation was to make sure resources were deployed as they became available. We tried to deal with the consequences of the delay to programme through placing resources where we had certainty of design requirement ie extra resources ultimately brought in.
296. With regards to whether the structures deliverables were issued within the agreed timescale, it depends on how you define the agreed timescale. They were subsequently issued but, as with everything else, the agreed timescales changed. I would agree that we had some pressures on resources but we attended to that through the management of the team. We pulled back the slippage and delivered the result.
297. I note that in David Crawley's emails dated 5 November 2007 David Crawley notes problems in relation to TIE (and CEC's) access to design documents and drawings (TIE00038114). I note the internal PB email thread dated 8 to 16 November in relation to document control (PBH00031284). I recall there being some teething problems with the document control interface ie the drawing registers. It was not difficult to agree the process. Pauline Penn was our document control manager. She had been given the task of revising the process. Pauline took issue with TIE's requirement for a process change. TIE were saying that everything we had submitted was on their SharePoint site but we were getting feedback from elsewhere that it was not. In short, there were mismatches between the document control systems which came to light as part of the exercise to get information across to BBS. This problem had

arisen because of a disconnect between the IT systems (which we then worked hard to resolve). It was ultimately turned around. There was a problem with the TIE SharePoint server. Pauline Penn worked with Alan Dolan to clear the issue and get the document registers up-to-date. The issue was resolved within two weeks.

298. I note the TIE / PB emails dated 28 and 29 November 2007 (PBH00032057) concerning the issue of document management. To an extent this would be BBS playing the game ie making the most of any perceived gaps in the information to maximise their commercial position. These emails show Lindsay Murphy from TIE saying to us that she has received the call from BBS concerning the structures. Lindsay's asking for any work in progress and Scott Ney's going back saying "*SDS have previously advised that we are not providing AutoCAD files on this draft information, and this has been discussed in detail with TIE previously. WIP MX information for Roads and Track was provided to TIE on 20 November information drop. MX for available earthworks was provided at 23 November information drop. The caveats to this were clearly outlined in the respective letters for each.*" We are saying on those structures in question (S21 through S29) have been provided with TIE, some of it quite a long time back, in April. Lindsay says "*thanks, can we respond to BBS*". BBS were seeking to maximise their position. They were flagging up any areas where they felt there was not complete information. In this instance the information had been provided by us to TIE. It appears that there was a potential communication gap between TIE and BBS. This was all happening very rapidly. I think it was addressed pretty quickly. I discuss this issue in section 1 of my weekly report dated 30 November 2007 (PBH00032092). I state that I had talked with Willie Gallagher. I state "*I shared with him my views on BBS continuing to run the clock down by making apparently reasonable requests for further design information when in reality they have more information than they can assimilate.*" I think the important conclusion that we can draw from this was that relations were not particularly constructive at the time. Both parties, TIE and BBS, were trying to establish a position and TIE's lack of control of the process was not helping to bring the parties together. The lack of control meant that the INFRACO contract

negotiations become protracted and repeatedly went beyond deadlines imposed by TIE. I base my comments from the recorded detail of the target dates for the INFRACO contract award and my experience of what was happening in the meetings that were being conducted.

299. I note the report to CEC's IPG on 15 November 2007 (CEC01398241) noted at paragraph 3.3 under Detailed Design Review Process *"Reviews of the individual disciplines of the detailed design continue. The packages have yet to be coordinated by the designers therefore the value of these reviews is limited and all packages will require resubmission when complete and fully coordinated by the designers and TIE. Further delays to the design programme are becoming apparent with all technical reviews programmed to complete after financial close. CEC have emphasised that this needs to be resolved as a matter of urgency ... The latest programme, V21 is still not approved by CEC and consultation is required between CEC, TIE, SDS and BBS before an approved programme can be produced."* I did not attend this IPG. It would have been very helpful if I had seen these documents at the time because this would have confirmed to me CEC's fairly robust stance on approvals. What this report demonstrates is what I have already talked about ie CEC were still maintaining a very rigid approach to the approvals process. CEC were an arm's length approval body. I have had experience of approval bodies having a requirement for detailed approval but only in circumstances where they have sufficient resources and there has been an appreciation of wider context. One way in which CEC could have been controlled was through a dedicated project manager, with experience, managing expectations.
300. The extent design packages were required to be resubmitted when complete / fully accepted by the designers and TIE depends upon which part of the programme you are talking about. There were repeated submissions on road programmes. I would say there was a significant amount of resubmission there. We had a lot of problems with tram stops. There was an overly detailed approach to the approval or non-approval of tram stop designs by CEC. That really was quite disturbing because at least with the road you could understand there was a point of view that was being portrayed. With the tram

stops it just seemed like blockers were unreasonably being put in the way by CEC.

301. The main issues discussed in relation to novation, from PB's perspective, both with TIE and BBS was the lack of a complete design. Discussions also surrounded the consequences of that set of circumstances. The concern BBS had was the lack of complete design. I refer to my weekly report dated 7 December 2007 (PBH00032472). In section 1 I state "*Willie himself has been pressurising BBS to provide more complete information in support of the offer. Willie tells me he has been countering BBS's attempts to use incomplete design as a reason for incompleteness of the offer, with reminders on BBS's own observations on the high quality of the material received from SDS to date.*" This extract is a relevant observation both in relation to pricing and in relation to novation. I then refer to section 1 of my weekly report of 14 December 2007 (PBH00032887) where I state "*There was no weekly meeting between Willie Gallagher and me this week due to Willie having to go to Wiesbaden, (BBS Office), on Thursday to pursue closure of the negotiations with BBS. The reason for this unplanned visit was BBS's failure to meet the stipulated date for the submission of a final price and programme for the Infraco bid. BBS has still not submitted the required information and indications from other meetings this week suggest a delay of six weeks may occur. As is often the case with the closing stages of bids of this nature a lot of work is being done by many different people and I believe a clear picture of the real position will only emerge over the next few days. The deadline of 31 December for funding commitment remains in place, but it is not clear (to me) whether provisions exist for this deadline to be extended by CEC. Even if this were possible the most serious consequence of any extension of time to financial close would be on overall programme end date. A second significant consequence would be the additional cost of maintaining the tie management team for the longer duration.*" This extract is important because it shows that there was an imminent failure to meet the first deadline for a final price.
302. During this period there were concerns from PB's perspective as to how things were going to be managed through post-novation. I state later on in my

weekly report dated 14 December 2007 (PBH00032887) at section 2.1.2 "*Nor has BBS provided any further input that I have seen to the development of the thinking behind the tie novation plan, despite being proposed signatories to the plan.*" This extract shows that there was a period of delay on the novation plan. I refer to section 1 of my weekly report dated 21 December 2007 (PBH00033141). This section gives you a flavour of what was going on at the time. At section 1.3 I describe a discussion with Willie Gallagher about whether a delay to novation might be sensible. I note my e-mail dated 7 January 2008 (PBH00033339) where I note "*The sensible course of action which everyone except TIE understands is to delay novation to the point where the design is nearer 100% complete – to be fair even Gallagher sees this as a potential option*". I think I can safely say that I did discuss the option of delaying novation with Willie Gallagher. TIE's response was that this was just another factor to be considered in the round of discussions. Willie, from recollection, certainly accepted it as a point to be considered. What happened subsequently was that novation occurred at the time coincident period rather than the deliverables completion period.

303. I was pushing this issue because we were very concerned of the risk. It was at this time that I was starting to get to work more personally with Richard Walker. I realised, post novation, it was going to be a different contractual relationship. To commit to the obligations of the Novation Agreement in the absence of a 100% complete design placed us at some risk. We would sooner have completed that design supply. That would have meant that we were clean as far as the contract was concerned. That was our primary concern.
304. Section 1.2 of my weekly report dated 21 December 2007 relates to a conversation I had with Richard Walker (PBH00033141). Richard appreciated there were several issues which were not covered by the scope of work. I have already discussed the issue of additional construction support activity. Richard was concerned that BBS did not have the resources to deploy to the assurance of the construction to make sure that the design that we designed was actually being built. We were already talking at this stage about the need for additional services. We were keen to forge the working relationship.

305. I note the email dated 19 November 2007 from Matthew Crosse to me (PBH00014454) discussing an apparent hold up in BBS obtaining access to drawings. I further note the "Frustration Central" emails by TIE and PB staff around that time (PBH00031360). Frankly we were disappointed. Matthew Crosse was disappointed. There was more than meets the eye concerning BBS's purported problems with access to drawings. BBS were asking for unfettered access to our Hummingbird Document Management System. What I am saying is *"Hummingbird is not an option and nor should it be required"*. My reasoning here was to protect both TIE and ourselves because there was a lot of commercially sensitive information on that system. Because of this it was my view BBS should not have access to it. I go on to state *"We are working hard to provide design information, as requested, but I feel that BBS is clouding the issue with apparently reasonable requests which may be appropriate for a design and build contract but are peripheral to the object of a price certainty for the Infracore contract under the circumstances envisaged by the Business Case. Price certainty here can be improved by focusing on design completion although perhaps the key focus now should be closer interrogation of the BBS offer, especially in the light of the potential changes to Employer Requirements"*. What I am really saying is that BBS are requesting unfettered access to our document control system in order to get the drawings. We are saying that that was not the way to do things. The other point is, it should have been clear to BBS from the previous due diligence periods, through the competitive period, that we had detailed information available on our systems. It would have been much more helpful if they had identified their needs at that point rather than long after the event. Last minute requests were, in reality, particularly disruptive and diverted attention away from the main objective of reviewing the BBS offer against the ITT. That was what should be happening at the moment. It should have been TIE, having selected the preferred bidder, clarifying the offer to the point of acceptance. What we were getting diverted with was BBS looking for yet more information. The situation was resolved through giving access to BBS to reasonable but ring-fenced information. The problem was BBS wanting unfettered access, which we were not prepared to give them. All this correspondence boils down to was BBS looking for more than they were entitled to. We resolved the issue

through sorting out the process with TIE. We were probably doing more than we should reasonably have been expected to do.

306. I note my email dated 20 November 2007 to Matthew Crosse (PBH00031415) where I discuss *"the potential change to Employer Requirements."* Back in February, shortly after I had arrived, it became apparent there was a mismatch between what we had derived as the Employer's Requirements and what TIE had been developing without reference back to us. I refer to my weekly report dated 23 February 2007 (PBH00021529). This report goes back to the surreal meeting I have discussed earlier on in my statement. At that meeting we reminded TIE of the urgent need for realignment of the Employer's Requirements. I discuss this at section 3 of my report. Back in February we provided a report to TIE on that misalignment at that point.
307. I refer to my weekly report dated 30 November 2007 (PBH00032092). I am again discussing the issue of the Employer's Requirements with TIE. The diagram included in the section entitled 'Employer's Requirements' was intended to show the evolution of the position ie it shows the misalignment of the technical specifications and the Employer's Requirements. TIE had made revisions to the Employer's Requirements. We were now on to version 2. We had made TIE aware of the misalignment back in February 2007. Rather than addressing the problem and resolving it at that time, TIE continued to make revisions. In the meantime we were continuing to develop the design. We then got to the point of the preferred bidder's offer came in and the Employer's Requirements that TIE had produced were misaligned with our SDS Design. That was the current state of play and the preferred bidder's offer did not align with the ERs or the SDS Design.
308. What was then proposed was that the Employer's Requirements would be updated. TIE updated the requirements to match the preferred bidder offer (which is an interesting way to do it). However, that left them with a preferred bidder offer that was out of line with what the SDS provider had provided. It was a serious issue that the bid did not align with the SDS design.

309. My weekly report dated 23 February 2007 (PBH00021529) is documentary evidence to showing that, in February 2007, TIE were aware that the Employer's Requirements were misaligned with the SDS Design. This weekly report shows that it was an issue I had flagged to TIE. At that point, TIE did not do anything to try to overcome the misalignment. The issue only became front and centre in November. That was the point when TIE were entering into serious negotiations with BBS.
310. The misalignment was confined to particular areas but I think you could argue it was very significant. I suppose, if you were taking an objective view, you would say the misalignment was moderate but it was certainly more than minor. TIE should have kept control the alignment of the Employer's Requirements. It was fundamental to the development of the scheme. I have not experienced, in the past in other projects, the Employer's Requirements being misaligned so late in the day nor the approach taken to redraft the requirements to align with the preferred bidder.
311. In terms of the problems that approach caused, the worry here was that, as far as we could tell, TIE were proposing to revise the requirements without fully consulting CEC. That concern is flagged up in the correspondence. The problem it causes is that if it is the contractor who is changing the requirements, they are highly unlikely to be changing them for something more onerous. In other words, you are going to be relaxing them in order to align with the offer that is coming from BBS. This is another example of TIE dancing to BBS's tune rather than enforcing their own scheme demand. Potentially, aligning the requirements with BBS would have an impact on CEC in terms of overall budgets further down the line. It was quite serious for CEC because, essentially, they were taking on more risk.
312. There were numerous exchanges between ourselves and TIE on the best approach to take to address the issue with the Employer's Requirements prior to the novation of the SDS contract. Ultimately, TIE instructed us to implement design changes to align our design with the revised requirements. In my experience, I have never had the situation where we are revising the design to

make it align to the revised requirements. Further steps were taken after novation to design or redesign in order to address that misalignment. That is referred to in clause 4.6 of the Novation Agreement (CEC01331671). In this clause, TIE warrants it has issued initial instructions in the form of letters to the SDS provider in relation to addressing any misalignment between the deliverables completed prior to the date of the agreement and the Employer's Requirements in the INFRACO proposals. On completion of the alignment the SDS provider will confirm to TIE and the INFRACO that such deliverables should be consistent with those requirements. This shows that we still had work outstanding. This clause reflects the situation that on the day before, maybe even on the day of novation, TIE had issued instructions that instructed changes to our design. It was not possible to enact those changes before novation because they were received so late. Whilst the instruction was received from TIE, the work was carried out for BBS after novation. That was £1m worth of change in round terms. It was significant and involved PB charging TIE extra. That could have been avoided had the work been undertaken back in February. TIE would have saved a proportion of that sum had that work been undertaken earlier.

313. The issue of the misalignment of SDS Design, the Employer's Requirements and the BBS offer certainly increased cost in the design completion process. It also caused delays because the work had to be carried out post-novation when the design should have been complete pre-novation. I think it was certainly a very serious issue. In the scheme of things, it would have been the cause of a number of months of delay. Ultimately, the scheme requirement was to go from Ocean Terminal to the Airport. That has never been delivered. Delivering those requirements was fundamental and they were being diluted.
314. There were three issues surrounding the realignment of the Employer's Requirements. Cost, programming and quality. Was the quality of the scheme being reduced by the realignment of the Employer's Requirements? Yes it was. The realignment of the Employer's Requirements was an issue that was overtaken by other events; however, it was a significant issue at the time. The

main impact of the realignment, in terms of PB's resources, was post-novation.

315. I note Damian Sharp's email dated 11 November 2007 from Damian Sharp, TIE (CEC01481849). I note the internal TIE email dated 6 December 2007 (CEC01482817). I note the internal PB emails dated 21 November 2007 (PBH00014500). I note the email and attachments dated 26 November 2007 from David Crawley (PBH00031752, PBH00031753 and PBH00031754). As of 11 November, we were about 40 deliverables behind where we had planned to be. We were behind on tram stops on some of the structures. Several of the designs for the tram stops were delivered late. That was down to CEC not providing approvals. A quarter of delay was due to tram stop approvals being withheld. There were delays to some of the structures because they had been impacted by the Value Engineering exercise.
316. I note David Crawley's remark reported by Scott Ney in his email to Jason Chandler dated 20 November 2007 (PBH00014500). He states "*Last week, David Crawley came out with "1000 days" of cumulative delay on the last period on deliverables (one of a couple of liberties tie took with folks not there).*" There was constant deliberation and a lack of general decision making on TIE / CEC's part.
317. In general, we had maintained good progress from July. We were being held up, unreasonably in our view, on the tram stops. There was a tension on structures Value Engineering. That was delaying the design for the structures. Because the design deliverables were being delayed that then had a knock on effect on the prior approvals process. The main items outstanding were the tram stops and some of the structures. At this point there were quite a few structures outstanding eg South Gyle Access Bridge, Gogarburn Bridge, Edinburgh Park Viaduct Final and Balgreen Road. There were quite a few of the designs for the structures still to be completed. However, you have to appreciate those were probably the most detailed elements. If you are talking about weighting of packages, a big structures package is of considerable weight. In my view, the design deliverables were still outstanding because of

11 November
2007 should be
22 November
2007

CEC unreasonably withholding consents on tram stops and because of the Value Engineering exercise on the structures.

318. The plan to overcome the outstanding deliverables was basically to keep going. In November we were just about at the stage where the Value Engineering, with regards to the structures, had been dealt with. The meetings with Jim McEwan on that subject were around that point in November. We were able to move after that. We resolved the issue surrounding the tram stops through repeated discourse with TIE. In the event, the tram stops were submitted (by and large). There were one or two outstanding, eg Picardy Place and Forth Ports, but the other ones were not impacted by those wider issues. The design, prior approval and construction programmes were realigned post-novation.
319. As at 25 November 2007 we had completed approximately 80% of the deliverables (taking phase 1a and 1b together). I do not know what percentage of the approvals and consents for phase 1a and 1b had been obtained. I do not know what percentage of utility design for phase 1a and 1b was complete. I do not have the data for that. It would probably be very difficult to extract that data.
320. I refer to Damian Sharp's letter to me dated 22 November 2007 (PBH00015241). I think it is clear we have to admit we dropped the ball on EMC. We have to admit on this occasion that was one particular item in the scope that we did not do particularly well on. With the singular example of the EMC I do not consider that there were failings on the part of SDS during 2007 and early 2008. I think it is evident from some of the later correspondence that towards the end of 2007 there was a far greater appreciation that SDS were being held by others in mid-2007.
321. I note the minutes of the TPB on 7 December 2007 (CEC01526422) and note that at paragraph 3.2 Steven Bell is highlighting that "*Slow design delivery requires prioritisation within key streams to help BBS programme*". I note the progress report presented to the meeting (CEC01387400) notes at paragraph

1.2.3 "To 23rd November, of the 344 design deliverables, 236 have been delivered, representing 63% of the tram system design. 66% of phase 1a detailed design is now complete and it is expected that about 75% will be complete by the date of placement of the construction contract in Jan 2008 ... SDS design process will be discussed with Tom O'Neill, the PB President, on the 5th December." The percentage completed figure in this document is low. It was not as low as 63%. It was more between 70% and 80%. Some slippage had occurred between V20 and V21 but progress had been recorded. V22 was confirmed at the end of November. In terms of paragraph 1.2.2, I would agree with the statement that "Some slippage occurred between V20 and V21 but the rate of progress has been recovered. This slippage is mostly due to the continuing impact of section 1A delays." I note the section states "Heads of terms have now been agreed with Forth Ports and design is progressing on this basis..." This shows how late in the process we were with the third party agreements. I think the percentages are understated. TIE are saying there are 344 packages. I would say there were 325 on the log that we were using. I would not disagree with the intent and the message noted at paragraph 1.2.3. We had managed to recover progress. By this point we were seeing that TIE was actually acknowledging the continuing impact of section 1a delays. There was no longer any attempt by TIE to throw it all at SDS.

322. There was a review meeting between senior executives at TIE and PB probably every two to three months. I do not actually recall the one referred to in paragraph 1.2.3. At that time I was certainly meeting a lot with Willie Gallagher. The general view was that everything was going in the right direction but we could not afford to be complacent. In terms of documentary evidence, I have nothing from around that time in relation to the meeting that's reported in this paragraph. I suspect that means there were not any significant problems that were laid at our door.
323. On 7 December 2007 PB produced a report on the consequences of a phase 1a / 1b separation (CEC00309294). The design of 1b was continued to completion as an asset. The report was procured to make sure that phase 1a was constructed with the appropriate amount of interface to a subsequent

construction of phase 1b. I refer to my weekly report dated 7 December 2007 (PBH00032472). I note section 3.3 which is entitled 'Procurement'. I note the second paragraph down in this section which reports a conversation I had with Willie Gallagher. There was not a sensible civils offer in place up until this point. I found out subsequently that the BBS offer at this stage did not include a detailed offer for the civil works design. I do not think that was apparent at that stage. My recollection was that we were discussing how we were going to get to the target date and that that reference to the 75% fixed was formed on the basis of my discussions with Richard Walker about what BBS were prepared to offer. I cannot recall where the 97% would have come from. The way I am reporting it here is that that would have come from Richard Walker telling me that was what TIE had been demanding. Willie did not explicitly say to me personally that TIE were demanding a 97% fixed price. Nor was he admitting to me personally that BBS were looking for something more around the figure of 75%. However, my direct discussions with Richard Walker highlighted to me the relative positions of both parties.

324. At this stage I was flagging where I saw risks to TIE. What was absolutely essential for me at the time was to get novated, on the right terms, and get novated as quickly as possible. We were spending money and still being delayed. It was in our interests to get the Novation Agreement signed. After that we could move forward under a different commercial arrangement. What I was flagging was the risks in achieving the INFRACO contract award and the knock on risks to us subsequent to novation.
325. I note I state under section 3.3 *"Willie appears to be working on the basis that he has a sufficiently positive presentation to make to Council and that assuming the contract can be started well with significant progress made over the first nine months or so the question will have moved from the price for this offer for Phase 1a of the scheme to questions over affordability and funding for subsequent phases."* It was not a direct concern that Willie would be presenting the 97% because that had not come to me from Willie. It would have been a concern that the presentation to Council, whilst it could have been positive, may not have been presented in a risk-assessed way. That

would have been my concern. There was a concern arising from my discussions with BBS that their presentation of what could be provided was not in line with the demand.

326. All I can really comment on is BBS's stance. Their stance was that there were a number of risks and deliverables which could not be priced to a sensible fixed price. That was one of BBS's concerns at the time. What I cannot comment on is why, if indeed it were the case, TIE would have been expecting a 97% fixed price at that point, given the incomplete status of the design. All I had was the BBS assertion that that was indeed TIE's position. I did not hear the 97% figure from directly from Willie. Clearly, TIE would be pushing BBS for as much of a fixed price as they possibly could. I would say that, at that time, a 97% fixed price would have resulted in a very high price because it would have accommodated an awful lot of risk.
327. I note the report presented to CEC's IPG on 11 December 2007 (CEC01398245) noted under the title 'Planning Prior Approvals' 1 planning permission and 5 prior approvals had been granted, 4 prior approvals were currently under consideration and 52 batches remained to be submitted for prior approval. At paragraph 4.2 it states "*Of the batches received, a number have been put on hold awaiting revised details from the designers. There is concern that prior approvals may have to be revisited if there are substantial changes in design coming from inter-disciplinary coordination, technical approvals or value engineering.*" I was not party to this meeting or report so I was not aware of that concern having been expressed at the time. Looking at this report now it keeps coming back to whether CEC was prepared to grant approvals. If they were not prepared to do that then they would indeed have had to have been revisited. It all comes back to what approach CEC were taking to approving the designs.
328. I note it is stated that "*a number have been put on hold awaiting revised details from the designers*". Again, I was not at the meeting and I do not know what CEC's approach was to dealing with these batches. I did not have a view on that at the time because I did not have access to this meeting or report.

329. I note that by email dated 14 December 2007 (CEC01397774) Duncan Fraser (CEC) referred to a presentation by TIE the previous day and asked certain questions about the Quantified Risk Allowance, including querying the provision made for the likely change in scope given the incomplete / outstanding design, approvals and consents. He states *"The scope of the works is not clear to CEC and specifically the quality and quantity and status of designs on which BBS have based their price. Also none of the designs are approved (none technically and only four out of 61 prior approval packages) hence the scope is likely to change, hence provision should be made for this"*. Geoff Gilbert replies *"I have previously explained the interrelationship between emerging detail design, Employer's Requirements and Infraco Proposals works and how price certainty is obtained out of this process and are in the process of delivering such certainty. Therefore, please advise what scope changes you anticipate arising out of the prior approvals and technical approvals. The overall scope of the scheme is surely now fixed, is it not?"* I had been working with Geoff for the best part of a year by this point. This appears to be the point where he finally started listening to me. We actually worked very closely together. I was not aware of this correspondence at the time. I certainly was not party to it. You can infer from the emails a certain level of frustration with CEC continuing to suggest the design was in some way incomplete. All of this is speculation in hindsight because I was not at the presentation at the time.
330. As far as we were concerned we had said the scope had to be fixed back in July. It was evident at this point in December that scope change was continuing to be introduced. It was not a happy state of affairs from that point of view. There was every risk that the scope could change again. Looking at this correspondence now it is clearly of great concern that CEC were still not aware that their continued changes were affecting the scope. It is of grave concern that CEC were still engaging in activities that were not progressing the tram scheme as expeditiously as they should have been at this stage. We are in December 2007. The INFRACO contract was due to be signed on 28 January 2008. CEC were continuing to make changes and because of this there was a risk that the scope would continue to change (as it did with

Picardy Place). We were still at the point where we had outstanding a number of deliverables and, depending on the CEC approach, there could still be further change. I think, to be fair to TIE, in some ways this issue was not the main focus. Their focus was on getting the INFRACO deal signed.

331. I absolutely dispute that there were failings on our part. There were failings on the part of the approval bodies. Those failings had a significant impact on programme. I would absolutely say that the failings were on the part of CEC and TIE and that it was those bodies that caused the delay and increased the cost to the Edinburgh Tram Project.
332. There was a lack of engagement by TIE / CEC. There was a lack of attending to the management of the master programme. The correspondence highlighted to me by the Inquiry is looking at PB deliverable dates and judging failure of PB against an achievement of that date or not. This has been done in isolation without looking at the prerequisites required by PB to deliver the service. The Inquiry appears to have not regarded the issues as a whole.
333. I recall a conversation I had with Willie Gallagher where he said *"are you telling me I do not have a design for Prince's Street delivered?"* I responded by saying *"I cannot even start it because you are not telling me what I want to do with the bus movements"*. I recall the dawning on Willie's face and that was back in February 2007. It then took some time for the other parties to appreciate reality. I am sure that, to this day, several of the people who worked at TIE still will not appreciate that reality. I would say that we were scapegoated. At a working level, we had a pretty good relationship with most people. Our people were operating in very difficult circumstances. In my view, the key problem was the approach taken by CEC.

2008

334. I note the TIE SDS's project manager's report for January 2008 (CEC01529677). This correspondence came about as a result of the fact that

the best design information that was presented to BBS was Version 22. That design formed the basis of their offer and, therefore, their construction programme. However, as we moved beyond the end of November we still had the issues with the tram stops and the other approval issues. This meant that there was divergence in certain areas and a move away from Version 22. That resulted in a knock-on effect to BBS's offer.

335. I note the email dated 10 January 2008 from Andy Conway (PBH00015670). This appears to be to do with CEC's internal approvals process. This email only came to me after it had been going round the houses within CEC. I presume this email is to do with CEC resources but that would just be interpreting after the event. I do not recall this issue or email.
336. I note the email dated 10 January 2008 from Greg Ayres to Willie Gallagher (TIE00035246). I am not included as a recipient of this email. Interpreting the correspondence now, this is all down to novating on the basis of an incomplete design and the fact that that will leave open questions as to how that design is going to be completed by the INFRACO. There would have been commercial consequences in doing that. There would be commercial consequences as a result of us remaining to working for TIE rather than being novated to the INFRACO. Whilst I was not included on the circulation this email, I think that is what we were concerned about here.
337. It was our suggestion that it may be better to delay novation. There were two competing views - you either novate on a date which is the date of INFRACO award or you novate on a state of completion which is somewhere closer to 100% completion of the SDS contract. There was a debate as to which of those approaches should be taken. If the decision had been taken that we should complete and be working for TIE then that would have put TIE in a stronger position when attempting to get the best commercial offer from BBS. Novating an incomplete design meant BBS was adding price to cover the risk arising from an incomplete design. The decision that TIE took, to novate the design before completion, meant that they were losing the expertise that we were providing them with as their contracted body.

338. There would have been a commercial advantage in novation being proceeded with as soon as possible from PB's perspective. One view would be that the earlier we could novate then the less the prolongation would have been through working with TIE. Novating early allowed us the opportunity to pick up a new commercial agreement with BBS. That said, taking that view provides bit of a narrower focus. Looking at the situation from the perspective of the overall good for the project it would have been better to delay the novation.

339. I note my weekly report dated 11 January 2008 (PBH00033477). At paragraph 1.1 I state *"It is fair to say that PB commands a very strong position up to the point of novation and it is important that we use that strength to protect our interests and improve our commercial position"*. What I meant by that is set out in the first half of that very same paragraph where I state *"In the current circumstances Willie is requesting of all parties that they put maximum effort into achieving the 28 January deadline and he has made the direct offer to me to become involved in any problems which arise from PB's perspective over the next three weeks. That may be necessary given the need to agree contract valuations; a further claim for prolongation costs; and the wording of a novation statement."* The contract valuations and agreement to PB's claim for prolongation costs was a condition of novation. That is set out in clause 8 of the Novation Agreement found at (CEC01331671). That clause essentially states that the SDS provider acknowledges that all fees and expenses properly provided under the SDS agreement up to the date of this agreement have been paid by TIE other than payments which may become due. What I meant by *"PB commands a very strong position up to the point of novation to maintain our commercial settlement for any claims for prolongation or change"* was that everything had to be done by that point. This report shows us protecting our commercial position. The situation put us in a strong position. It was important that we used that situation to protect our interests on what was a seriously problematic project. We did get settlement for prolongation and change. We got a reasonable settlement with TIE prior to novation so we were able to enter into the Novation Agreement. There were a number of claims for prolongation and there were other changes that had to be accepted and paid for by TIE before novation.

340. During my conversation with Willie Gallagher (referred to in my weekly report of 11 January 2008) we were saying there may be a benefit for TIE if they retained SDS working for them to complete the design. Had that been done then that may have reduced the variability of the BBS offer. It would have made pricing more certain. The significant programme risks were the fact that the design was unapproved. That meant that the approval bodies, under the terms and conditions as they were, had the right to reject and cause re-work. That, in itself, introduced significant prolongation. Those issues certainly landed with TIE because it resulted in the changes to clause 8 (the payment clause), document reference (WED00000164) refers.
341. I refer to Andrew Fitchie's email dated 26 January 2008 (CEC01541671). I note he states "*Since we met Steve Reynolds and his team a week ago Thursday, I have not seen any evidence of PB taking up the gauntlet. They were to produce a programme to support tie to close and novation and there is none.*" This email can be cross referenced with my weekly report dated 11 January 2008 (which I think should be dated 18 January 2008) (PBH00033850). At section 2.1.2 I state "*Two meetings have taken place between PB and tie this week on the subject of novation and one between BBS and tie. The second tie / PB meeting also had tie's lawyers from DLA in attendance. The meetings addressed the topics I had advised to tie last week and which I had supplied in the form of a report on the subject from PB's perspective. I believe we have an understanding between tie, DLA and PB as to what PB requires to be changed before novation. The next meeting on the subject is intended to be convened next week with all parties, tie, DLA, BBS, and PB in attendance. The immediate objective is for tie to issue a modified Novation Agreement.*" This report comes two or three weeks on from the earlier meeting with Willie where TIE reconfirmed its intent to invoke novation at the point of Financial Close. I go on to state "*DLA accepts that the original intent was that novation would be invoked at some point after completion of the deliverables from the SDS contract. DLA is equally adamant that novation can be invoked in the current circumstances with certain (minor) amendments to the novation agreement contained in the SDS contract at Schedule 8...I understand from discussions with BBS that BBS has a number of issues to be*

addressed by TIE in respect of novation and both BBS and PB appear to have similar views on the required amendments to the contract documents...As a precursor to signing the novation agreement PB has to have sight of the Infraco contract to be signed by TIE and BBS. I understand that there are a large number of items still to be agreed on the scope of that contract and that BBS is carrying out a formal commercial review on Monday next week. In the meantime DLA has committed to provide PB with a copy of the current version of the Infraco contract by early next week." I then refer to my weekly report dated 25 January 2008 (PBH00034156). At section 2.1.2 I state "Geoff Gilbert has now provided me with a copy of a TIE programme focused on achieving a final draft for a novation agreement by 18 February. A meeting has been scheduled for next Tuesday to review the current plans for novation and with a view to addressing the concerns which still remain in relation to the wording of any agreement and the timing of its execution." These extracts show that there was a couple of levels of disconnect. TIE were to produce a programme to support TIE to close of novation and I was told there wasn't one. However, Geoff Gilbert had provided me with a copy of the TIE programme within a week.

342. I refer to an internal email from me to our senior team dated 16 May 2008 ([]). This email came after novation. I state "*The Infraco SDS contract documentation is currently being prepared for publication and a full document will be available to us shortly. In the meantime, following what I have been relating to you about the change in order of precedence on approvals, you should be aware of the attached detail revision to Clause 4.8. It is possible that this revision will impact the approvals process significantly and we will work with BBS to ensure that we achieve a harmonious solution with CEC and the other approval bodies. In advance of the discussions which will be needed with all parties to achieve that, please advise when problems arise so that we can maintain a consistent stance under our new obligations. Please note as a general observation that now we have been novated our interests are closely aligned with those of BBS and the aim is for us to work together for the good of the project and for the benefit of our stakeholders. Richard Walker and I fully understand that the joint approach can only be achieved through the*

development of strong professional working relationships and to that end he and I are currently making arrangement for team get-togethers."

343. I refer to Clause 4.8 of the signed SDS Contract. That clause states *"If it should be found that the Deliverables do not fulfil the requirements of this Agreement or the needs of any Approval Bodies, the SDS Provider shall at its own expense amend the Deliverable. Such amendment shall be made in accordance with Schedule 9 (Review Procedure) and such amendment and rectification shall ensure that the Deliverable shall satisfy the requirements of this Agreement and any Approval Bodies."* (CEC00839054). The open-ended nature of this clause resulted in the approval bodies being able to define their needs at any point, being able to change those needs at any point and leave any of the associated costs in re-working the design with us. This clause was a completely unreasonable clause. On my insistence, prior to novation, this clause was changed. That change was reflected at page 20 at 4.8 of the Novation Agreement. In that clause it states the SDS contract is changed to read at clause 4.8 *"The SDS provider shall amend the Deliverable. Such amendment shall be at the SDS Provider's cost except where such amendment is required in order for the Deliverable to meet the requirements of any Approval Bodies, where such requirements are: inconsistent with or in addition to the Infraco Proposals or the Employer's Requirements;... not reasonable given the nature of the Approval Body; or not reasonably foreseeable within the context of the Infraco's Proposals and or the Employer's Requirements, in which case such amendment should be a Client Change."* (CEC01370880). The reason we made this change was so that we could set boundaries around the approval bodies' need for change. We wanted to make sure that future changes were not going to be at the whim of the approval body and instead only down to us.

344. In summary, the terms of the SDS contract allowed CEC to request changes and impose needs at any point and then require SDS to make changes to the design. That was an unreasonable clause because it meant we were not just delivering design to the Employer's Requirements, we had an obligation imposed by that clause to change design if the needs of the approval bodies

were revised. That meant there was a very open-ended approach to design delivery. We had been dealing with that problem for the prior year and a half. The change to clause 4.8 in the SDS contract closed that problem at the point of the Novation Agreement. We had brought this issue to TIE's attention in early 2007. We had made TIE aware of the consequences of CEC not carefully exercising that right ie continued prolongation of the programme. We did not suggest that the SDS contract should be formally changed at that point but we did say the contract should be administered in a more reasonable fashion. Because that right was not administered in a reasonable fashion we brought in the claim that we should be paid for change rather than be expected to do anything at our own cost. In our view that approach by the client was unreasonable.

345. I do not recall people referring to that clause specifically in February 2007 but that was the clause in the contract that made people at TIE and CEC say things along the lines of *"well, this is a fixed price job and you have got to do everything at your cost."* That clause allowed approval to be withheld, for whatever reason, at our cost. We insisted that this was an unreasonable approach and that the client had to appreciate they had to pay for change. The client's approach changed around April but we were still left with that clause hanging out until we got to novation. That was when that clause was formally rewritten.
346. I note my email dated 21 January 2008 to Jason Chandler (PBH00015934). I note my comment that *"TIE is completely disorganised and a number of very key issues are just being allowed to float"*. This correspondence came about as a result of the problems we had with the Employer's Requirements, the critical issues and TIE's management. At the time there were also unresolved issues surrounding BBS and novation. In summary, my concerns in this email are mostly about Employer's Requirements and the remaining critical issues.
347. I note my email dated 23 January 2008 to Willie Gallagher (PBH00003634). This is me saying to TIE, make sure your Employer's Requirements reflect what the stakeholders actually want and can afford, make sure they are

consistent within themselves, assess the conformance of the SDS design against those modified Employer's Requirements and assess the compliance of the BBS offer against the Employer's Requirements. I am pointing out to Willie in this email that TIE only had alignment between the SDS design and the BBS offer. At this point we had had sight of a number of iterations of the Employer's Requirements but we were yet to run through them and sort them out. What we are saying in this email is that whatever the Employer's Requirements say they have to be suitable for CEC. I make Willie aware that if we did not address this issue then the financial proposal would slip. I go on to state *"By delaying now for a short period and given that the advance works contract is already in place as I understand it with the Infracore there is no reason why the overall programme should suffer. Indeed, by attending to these matters now we can also look to reduce risk for all parties in the future."* This email shows me, after the frustration with the correspondence with Matthew, flagging the issue up to Willie and essentially saying *"look, you have got to do something about this"*. The fact I went straight to Willie Gallagher just demonstrates the level of my concern.

348. In the last paragraph we offer PB's services to assist with the Employer's Requirements. That offer was not taken up by TIE; however, we did work with Matthew Crosse to get to a sensible point with the Employer's Requirements. It was Matthew Crosse who managed the process of sorting out the Employer's Requirements. He was certainly the figurehead on that process. I refer to section 2.1.1 my weekly report dated 25 January 2008 (PBH00034156) where I state *"The Employer's Requirements topic has consumed further significant effort this week with Matthew Crosse persisting in his requests for PB to provide written confirmation that the SDS Design can be considered compliant with the latest version of tie's revised Employer's Requirements. As reported previously I have consistently refused to agree to this on the basis that the request is unreasonable in the context of a still-changing unwieldy set of potentially inconsistent documentation. Finally today, Friday, tie has realised that I am not going to change my mind and David Crawley has intervened to support my stance. What has now been agreed is that PB will provide a clause-by-clause statement against version 3.1 of the*

document - (tie is currently working on version 3.3) - indicating our views on the content of each clause. The expectation of PB providing any blanket commitment has now disappeared. It will then be up to tie to determine the status of the overall document... The issues to be resolved in relation to CEC views on the revised requirements and misalignment of the BBS offer with the Requirements and in comparison with the SDS Design remain but these are now acknowledged as issues for tie to resolve." This section is relevant to understanding where we were with regards to the Employer's Requirements at that stage.

349. I note the minutes of a joint meeting of the TPB / TIE Board and TEL Board on 23 January 2008 (CEC01246826). I note that at paragraph 5.5 states "*Willie Gallagher explained that obtaining consents were causing tension for the SDS novation, as BBS had differing expectations of the level of design completion prior to novation and are concerned about programme impacts arising from approvals delays. For this reason, it was essential to obtain a full approvals programme from CEC and WG stated that engagement was taking place with Andrew Holmes and Alan Henderson to this end*". I was not party to this meeting or minute. With the benefit of hindsight this appears to show Willie now taking the appropriate line. This extract confirms what I have been discussing for some time in my statement ie there was a programme impact arising from approvals delays. This appears to show the onus now being placed on CEC to deliver an approvals programme.
350. This minute is from January 2008. It should not have taken several months to get to that common understanding. To be fair to Willie he was having to deal with all sorts of political issues, funding issues and the discussions with numerous bodies. Had TIE taken a different tack earlier things would have been different. If you wind the clock forward to 2011 the mediation agreement brought about a significant change to CEC's approach. That resulted in the scheme being delivered successfully.
351. I suppose the encouraging thing was that, after this meeting, we were able to then work very closely to secure a sensible INFRACO contract and novation

agreement. I recall Jim McEwan informing me that TIE would not have been able to get to INFRACO signature without my help. We ultimately got to the point where doing the right thing was acknowledged.

352. With the benefit of hindsight you could argue that the Business Case was too ambitious for a city that did not have any experience of light rail. Indeed, this was a country that did not have any experience of light rail. If you go back to Manchester, what happened in the 1990s was essentially a transfer of alignment from heavy rail to light rail. There was a very small amount of infill to deliver the whole system. There was not the same level of disruption. A major construction programme was not required. An operating system was delivered with relatively minimal impact. As a result of that people realised the benefits and wanted more. With the Edinburgh Tram Project we were looking at a very major scheme going in in one go. Because of this it was not a surprise that not all the people were signed up to the project and that TIE / CEC were not necessarily able to apply the skills required to deliver what was a real challenge by anybody's imagination.
353. I note that by email dated 23 January 2008 (PBH00016254) TIE produced a table entitled "*IDC and Approvals Issues, Impacts and Actions*" (PBH00016255). I recall this correspondence and table. I am sure this table did provide a reasonably accurate representation of outstanding design and approvals at that time. The table is a selection of issues in terms of the owners and dates. Those owners are almost exclusively TIE. This table very clearly shows that the issues were mostly down to TIE and that it was their job, as programme manager, to resolve them. There are repeated entries in the Action column stating "*TIE yet to instruct*" and "*TIE to confirm status*". You can draw from this table that the set of outstanding actions or issues were largely owned by TIE and it was their responsibility to resolve them. This table provides further evidence that there was information that we needed to be allowed to conclude things. This document supports what I had been saying over the prior 18 months with regards to things we were waiting on from other parties ie TIE and CEC.

354. I note the covering email from Damian Sharp dated 23 January 2007 attaching this table (PBH00016254). He is circulating the table to primarily his own team. He has singled out Scott Ney and Alan Dolan from SDS but otherwise it is to the owners of those actions ie TIE. I think this is another piece of evidence that adds weight to what I have been saying ie we were waiting for issues that were within TIE / CEC's control to be resolved before we continued with our design.
355. I refer to section 3.1.1 of my weekly report dated 25 January 2008 (PBH00034156) where I state *"Progress to completion of the programme for delivery of the detailed design packages has accelerated in line with the plan developed in early December... The cumulative total of packages delivered stands at 287 vs. 297 forecast – (from an at-completion total of 326) - with the difference entirely attributable to delays introduced by the client. Of the remaining 39 packages 18 are the major Structures packages which have always been at the end of the programme and 8 are systems assurance packages which can be finalised rapidly on completion of other design packages. This acceleration and the delay to novation from 28 January should ensure that PB is in a stronger position at novation than may have been feared with a consequent reduction in risk for the continuing relationship with BBS post financial close of the Infracore Contract."* This section provides a very good snapshot of where we were at that time. You can see that I am now starting to report on prior and technical approvals as well because we are starting to seek progress with those. Those approvals are covered in sections 3.1.2 and 3.1.3 of the same weekly report.
356. These sections show progress on the part of TIE and CEC in terms of getting the approvals through. The outstanding approvals were primarily the section 1 issues that CEC were holding back on. The table at 3.1.3 is simply a status position consequent on the approvals being submitted. What this table is not giving you is the plan for what should have been done. The table does show that about a third of the technical approvals were achieved. The important thing here is we are now not so much looking back at trended delivery, we are looking at what we needed to achieve before we get to novation and how

close we are to that. However, it is illustrative of the situation that, at the end of January, we still only had two-thirds of the technical approvals required. Those outstanding approvals were importing risk as far as BBS were concerned. Of the outstanding approvals 66 appear to be with CEC. This table echoes what I have been saying ie that the vast majority of the approvals are down to CEC. The vast majority are CEC.

357. I note that at section 3.1.2 with regards to prior approvals I state "6 secured from an at-completion total of 61" and this is at 25 January and three days to signature. There were 38 design packages still to be delivered as at 28 January 2008. I refer to the table entitled 'Version 17 + Analysis of Design Deliverables to tie' (PBH00016854). The major deliverables that were outstanding were the structures. They were all due at the back end. Things like system assurance are system-wide so you cannot do those until you have finalised the structures. You can only do your systems assurance once all the other aspects are together. The other items are tram stops, sub-stations and Picardy Place. At this time Ocean Terminal and the eastern end of Leith was still in. It was the middle bit that crossed to Granton that had gone.
358. The reasons for these packages not being delivered by 28 January 2008 was that we had already agreed that the major structures would be put back. If you look at the target dates on the structures we were talking about dates late into 2008. That was because of the complexity of the designs. Some of that was as a consequence of the value engineering.
359. Damian Sharp's email dated 29 January 2008 (PBH00016312) is Damian asking for clarification surrounding the way the deliverables had been packaged into the batches for technical approvals. I do not think that Damian is expressing a substantive concern. This is Damian making sure the mechanics of the deliverables were being put in place to facilitate the process downstream. We were working very closely with Damian. I did not have any concerns about his dedication. We may have, in this instance, shortcut things by sending things directly to CEC rather than through TIE. If we had done that it would have been to keep things moving. I note Damian states "I understand

that issues holding up applications for technical approval may lie within the ownership of tie and/or CEC so I will do all I can to ensure they are removed from the way and make sure that my colleagues understand clearly where their issues are holding up progress with technical approvals." This is TIE again, at Damian's level, recognising they have got to push to get those things unblocked. This email is again evidence that CEC were causing the delays.

360. At the end of January 2008 we had delivered 287 of 326 deliverables. We did occasionally add things. I calculate the percentage of deliverables for section 1a and 1b completed to be 88%. As I have already discussed, the percentage terms do not take into account what is within the remaining packages. I am able to comment on the percentage of approvals and consents outstanding. There were 73 out of the 246 still outstanding. That means approximately 29% of the approvals and consents were outstanding at this stage. I cannot comment on the utilities that were outstanding at this juncture because I do not have the data on the utilities.
361. I note that by letter dated 28 January 2008 (CEC01511117) Willie Gallagher sent Richard Walker of BBS a revised programme for INFRACO financial close. I refer to my weekly report dated 1 February 2008 (PBH00034458). At section 1.1 I state *"On the subject of SDS performance on the production of detailed design packages Willie was very impressed that we had achieved 96% of the target of 300 detailed design deliverables to be submitted to tie by the 28 January 2008 Infraco procurement milestone. He acknowledged that this had been a significant achievement especially as that target had been set as long ago as 03 July 2007."* 300 would have been the target by 1 February and we had achieved 96% of that. We did add or subtract things occasionally. I do not recall Richard Walker's letter. I probably did not have a view on whether the revised programme was realistic and achievable at this point because we were a bit of a hostage to fortune. It was all down to the negotiations between BBS and TIE. There were several factors in that process that I was not close to. I do not honestly think I had a view. As far as we were concerned, we had done essentially what we were committed to do ie be in a position to novate. Whether that would be required was dependent

on how TIE and BBS continued to deal with the negotiation. What we could not predict, particularly since we were an outside the party, was whether BBS really wanted to enter into the contract quickly. We did not know whether that was the case. Willie was obviously really keen to get things concluded as quickly as possible. I could not possibly have known whether that was also the case with BBS. It is issues like this that I could not be expected to have a view on. From our point of view we were where we needed to be. I cannot comment on whether the programme realistic because I was not close to the negotiations between TIE and BBS.

362. In my weekly report dated 15 February 2008 (PBH00034982) at paragraph 2.1.1 I state *"Following PB's completion of the review of the revised set of Employer's Requirements produced by tie as version 3.1 a five hour meeting was held with Matthew Crosse on Monday. Matthew is now to report back on his conclusions and I expect these to form part of the upcoming negotiations on novation and on agreement of scope to be completed with BBS. It is worth noting that tie is now working on version 3.3 of the Requirements with the intent that a final version be produced by Friday next week. The truth is that tie has lost control over the development of the Employer's Requirements... I have expressed (to Steven Bell) serious concern that there is likely to be a significant disconnect between the scope of the BBS Offer and the current status of the SDS Design."* What we are saying here is that there were a significant number of differences between the status of the design and the BBS offer. Those differences had been highlighted to us following BBS providing us with a copy of the systems scope of the scheme and our review of those documents. That review was an integral part of our novation planning process. That review highlighted the required changes prior to novation and resulted in our agreed variation for the extra £1m.

363. From a programme point of view BBS were basing their bid on version 22 of the design. Whilst there might have been then clarity of the design scope, there was still a disconnect from a programme perspective. In summary, our concern at the time was that we had not got a consistent offer from BBS. However, the misalignment was cured by instruction before novation. The

extra work was executed to deliberately revise design post-novation. There was an acceptance, pre-novation, that the changes had to be made.

364. I note the TIE SDS's project manager's report for February 2008 (CEC01521306). I note that at page 6 the report states "1. *Slippage between v22 of SDS programme on which construction programme based and v25 – causes clash with construction programme (Programme meeting 1/2 to establish corrective action and residual problems)... 2. Progress with blockers to design confirmation (Many lie with 3rd parties – continued emphasis on 3rd party resolution)*". This report shows that there was a disconnect between the base date design programme of Version 22 and the continuing delay to achieve novation. That resulted in the programmes moving out. Having said that, PB had already achieved a very large percentage of what was required at that point in time from a design point of view. I think perhaps the emphasis was shifting to progressing the blockers to the design ie there was an increased understanding that many of the blockers lay with third parties which were under the control of TIE.
365. I note the report refers to a programme meeting on 1 February to establish corrective action and residual problems. I have not got any account of a meeting taking place on that day in my weekly reports. I am not aware of whether any such meeting did take place.
366. I note the minutes of a joint meeting of the TPB and the TEL Board on 13 February 2008 (CEC01246825). I note at paragraph 4.3 under the section title 'CEC Technical Approvals' "*SB confirmed that the timetable for delivery will be part of the contract and briefings have taken place with key stakeholders. He also confirmed that the final design packages are now expected in late 2008 and that the critical designs will be identified and dealt with in the programme.*" I did not have a view of this statement at the time because I was not in attendance at this particular meeting. I was occasionally invited to these meetings. It was TIE who were in control of getting the information across to BBS at this point. Geoff Gilbert was leading a lot of the discussions. Jim McEwan was chairing the various contract negotiation

meetings that we were having. Looking at this document now it is correct to say that the final design packages were not expected until late 2008. This was because the design for the significant structures were not due to be completed until then. With every week that passed BBS got increasingly more information so that price certainty could improve. However, there were aspects that could not have a fixed price applied to. By way of context I refer to section 1.1 my weekly report dated 1 February 2008 (which is wrongly dated and should be dated 8 February 2008) (PBH00034733). I state "*I understand that several significant issues remain outstanding for agreement between tie and BBS and prolonged meetings have taken place this week with DLA as tie's Lawyers. Seemingly Siemens submitted a substantial price increase on Wednesday evening and this led to "fraught" discussion which resulted in the increase being reduced to a still-significant sum but one which I am told leaves the overall offer within bounds.*" This extract provides an indication of what was happening around that time. I was not party to the discussions between Siemens and TIE so I do not know why their bid would be going up as they were getting more information. I know that BB also put in a price increase but that was far later on.

PBH00034733
should be
PBI00000002

367. I note that on 18 February 2008 BBS produced a Design Due Diligence Summary Report, based on design information received by BBS by 14 December 2007 (DLA00006338). I note that that document states at page 3 "*more than 40% of the detailed design information*" had not been issued to BBS. I note my weekly report dated 23 November 2007 (PBH00031681) states at paragraph 3.1 "*We have now complied with the request for information on as-yet incomplete design packages to be provided to BBS. CDs containing some 200 pieces of documentation have been delivered. I have pointed out that this constitutes a set of additional deliverables and will take this up via the change control process.*" The design documentation PB provided to BBS was provided to enable them to complete their due diligence exercise. The information on those CDs would have been whatever was available at the time against deliverables that had not been formally submitted to TIE. I cannot recall the specific documentation provided.

368. There was an issue with presenting deliverables that had not been formally submitted and were a work in progress. BBS wanted to see that documentation to gain a greater appreciation of the state of the design. I think the information drop at that time gave BBS plenty to be going on with. I am not aware that there was anything else provided direct to BBS. It is correct to say that there was an opportunity for BBS to gain that further information through TIE because that information was being provided to TIE by PB. The clarification and responsibility rested with TIE. At this date there was still correspondence with TIE coming to me for clarification on certain points. What I am struggling with is why, if BBS felt so strongly on 14 December, they did not produce a report until 18 February. I do not recall seeing BB's Design Due Diligence Summary Report and I do not recall being made aware of it.
369. I note the comment by BBS in their Summary Report where it states *"However, the necessary pavement surveys have not been carried out. Therefore, the current design does only allow for full pavement reconstruction and no overlay. Provided that SDS are prepared to move away from full reconstruction everywhere, it is likely that it will take very long."* This was one of the tenets of the BBS offer. BBS wanted to do a much cheaper construction on the highway. We refused to endorse that because of the safety aspect. It was our view that the project needed full-depth reconstruction in many places to deliver a robust and safe track-form construction. This was one area that BBS were saying they were just going to skim the surface and drop the trackform in. They wanted to do this on the basis that the existing roads had been there for a long while and were carrying heavy loads with traffic. This is where, ultimately, much later than this, you get to excavating Princes Street and you see the voids under the surface. This confirmed that our position was right on this aspect of the design. The issue BBS are discussing here in their Executive Summary subsequently caused all sorts of problems.
370. I cannot really comment on whether 40% of the detailed design was outstanding in terms of what they had received from TIE. This is BBS's view. Presumably it is a matter of fact that they have not been issued with more than 40% of the design. This might be where you get into a discussion about

how you define the relative the weightings of each of the particular packages. The way in which you take into account the relative weightings has an effect on the percentage complete. You would need to understand the way in which BBS did their calculations to deliver that 40% to understand whether BBS's figure reflected what we viewed as having been delivered.

371. I note my weekly report dated 22 February 2008 (PBH00035769). At pages 7 and 8 I state *"One potential problem that may emerge is the required redesign work may be of sufficient magnitude to impact the construction programme. If that is deemed unacceptable then the alternative of BBS amending the offer to align with the SDS design would have to be considered, but I understand that such an approach would add significantly to BBS's price."* I refer to the second paragraph under the table where I state *"Having recognised the need for paid instruction to achieve alignment between the BBS Proposals and the SDS Design Geoff then asked that PB provide tie with the support required to achieve this. Geoff freely acknowledged that tie no longer has the technical capability in house to be able to undertake the exercise in isolation. (Tie's inability effectively to review the BBS Offer in the context of the SDS Design over the period since declaration of BBS as Preferred Bidder has contributed significantly to the slippage to the Infraco Contract Award date)."* These extracts show that we are dealing with the issue of TIE no longer having the technical ability to undertake the alignment exercise. These extracts indicate one of the reasons why we had slippage with the INFRACO contract award. We certainly discussed the relationship of the construction programme with the status of design completion with TIE. The response was, nevertheless, to change the design to align with the BBS offer. That was what was ultimately agreed.

372. I cannot remember what formed the basis for BBS understanding of their figures. A key part of that would have had to have been the trackform issue. If you were going to go for full depth reconstruction of the roadway then the price of the BBS offer would have gone up significantly. That approach would have been a requirement to comply with our design. I do not think the pricing assumptions in schedule 4 were a means to adjust the BBS price to reflect the

SDS design. Schedule 4 was to deal with uncertainty. That said I was not party to schedule 4 because that was a BBS / TIE vehicle. It was only later on in the process that we were even given sight of that schedule. It was not something in itself that affected us because it was in the INFRACO contract. The terms and conditions, of which it was a part, potentially impacted us. That was one of the reasons why we had the right to see the INFRACO contract before we signed the novation agreement. However, in itself that schedule had no effect on us.

373. I note Scott Ney's email to me dated 25 February 2008 (**PBH00035497**) attaching a draft "*SDS Contract Valuation*" (**PBH00035498**) listing the design packages that had been delivered as at that date. I note my email dated 19 February 2008 (**PBH00016853**) attaching a list of the remaining design packages (**PBH00016854**). I note Damian Sharp's email dated 29 January 2008 (**PBH00016312**).

"Scott Ney to me" should be my email to Scott Ney

374. I note my weekly report dated 29 February 2008 (**PBH00035854**). At paragraph 2.1.1 I state "*Substantial progress was made at a meeting on Tuesday in relation to the misalignment between the Employer's Requirements, the SDS Design, and the BBS Offer. We succeeded in securing a change of stance from tie in that any changes required to achieve alignment – pre or post novation - will now be instructed and paid for.*" I also noted "*in separate discussions with Richard Walker he has mused that if tie understood the likely true cost of building the scheme then it would be cancelled. This is not idle chat:- it is Richard's view of the strategy he has adopted to retain as much flexibility pre-contract with a view to securing substantial variations post-contract.*" This extract shows that the changes required to achieve alignment of the Employer's Requirements were formally given effect following a TIE instruction immediately prior to novation. The changes were carried out post-novation.

375. I refer to documents (**CEC01511678, CEC01511679 and CEC01511680**). My comments in relation to the discussion with Mr Walker and his declared strategy came against the background of what I said previously in the same

weekly report, namely "With regard to the technical scope, TIE concluded from a separate meeting on Thursday convened to review the Civils proposals that the current state of the BBS offer was seriously incomplete and, therefore, unacceptable. BBS's commercial manager stated that for BBS to comply fully with the SDS design could inflate the offer price by an amount in excess of £10m...An attempt was then made to water down this statement, but in separate discussions with Richard Walker he has mused that if TIE understood the likely true cost of building the scheme then it would be cancelled" (PBH00035854). Richard's comment came in an atmosphere of trying to stay within a budget sum. This is where you come back to the concern about a programme for doing one thing and a price for doing another (which was largely in relation to the value engineering). There were things that might have to be done which were not either programmed or costed eg no allowance was made from a time or cost point of view for a potential requirement for full depth reconstruction. There were concerns within PB that BBS was putting forward a solution that would not really be fit for purpose. I do recall talking with Willie Gallagher about trackform and Willie informing me that trackform had been a key part of the competitive assessment between BBS and Tramlines. This weekly report and Richard Walker's comments are very much salient to the issues that occurred later on from INFRACO's perspective concerning trackform. This issue was belatedly discussed in the document entitled 'Infraco Civils Proposals – PB Commentary' dated 27 March 2008 (PBH00019149). This document was drafted following our review of the INFRACO proposal. This document shows us undertaking a quick review of design completion with comments against the various sections of work. At page 6 we discuss the issue of trackform depth. This review would have flagged up to TIE some of our concerns on the INFRACO offer. PB did express their concerns to TIE about this issue. We made TIE aware that BBS were construing an offer based on a type of trackform that we would not recommend. We flagged this up to TIE. We were aware that BBS intended to inflate their offer post-novation and we were going to be progressing on a lower spec trackform. This is what this table shows TIE would have had access to this table and that is confirmed by my email dated 27 March 2009 (PBH00019148) to Jim McEwan. I state "As discussed yesterday, I am

27 March 2009
should be
27 March 2008

pleased to be able to provide you with the PB Commentary of the BBS Civils Offer... The Commentary is structured by Discipline and I have rearranged the content of the Offer accordingly, with sub-section flags to indicate where the individual clauses apply... The Commentary highlights PB's assessment of responsibility for completing the design for the scope of work proposed by BBS... There are several items where PB has indicated a need for clarification from TIE on the status of the BBS Offer – essentially what is TIE's conclusion on acceptance of the offer in those areas?" This email shows us flagging up issues if the offer from BBS is accepted. I was rather hopeful, in sending my email and attached commentary that TIE would take on board these issues before proceeding into the construction phase. Ultimately, the issue regarding trackform was not addressed. There were issues further down the line with the trackform on Princes Street. Ultimately, that became an issue at the mediation at Mar Hall.

376. *As far as PB was concerned we did make TIE aware of this issue. I refer to my weekly report dated 29 February 2008 (PBH00035854). At page 2 I state "What is clear is that significant changes to the SDS design are being proposed, notably in the vertical alignment, which has potential knock-on to roads and track design. Add to this already known differences between SDS and BBS Trackform proposals and the extent to which changes may be required to accommodate the BBS proposals and it becomes clearer. During Tuesday's meeting a number of references had been made to Schedule 4 of the Infraco Contract. To date TIE has advised that Schedule 4 was a pricing document and intimated that it was of no relevance to PB's review of the novation proposals. At Tuesday's meeting it became clear that Civils design issues were also addressed in Schedule 4, so as part of the closing remarks that day PB requested a copy of Schedule 4 be provided." This extract is evidence of us making TIE aware of the issue. With regards to when we were finally provided with schedule 4, that was not ultimately provided by TIE until 26 March 2008. Evidence of this can be seen in Jim McEwan's email of that date (PBH00036809).*

377. At this time we were embroiled in daily meetings on novation. Our concerns surrounding BBS's offer had been relayed to TIE. We had relayed our views to TIE our view was on full-depth reconstruction requirements. Jason Chandler was heavily involved in that. On 11 February 2008 there was a meeting called specifically on trackform. The email from Matthew Crosse dated 08 February 2008 shows that Siemens, Transdev and TIE at a senior level were at least invited to that meeting on trackform. I refer to an email from me on 3 March 2008 to Julie Smith (who was one of the two secretaries / PAs) ([]). I state "*Julie, I believe Jason is fully committed on technical meetings tomorrow on full-depth reconstruction on track-form.*" This correspondence allows me to safely conclude that the subject was in play and we were trying to make TIE aware of the issue. Trackform was our most serious technical concern.
378. In terms of whether anyone in TIE or CEC was aware BBS's strategy to go in low and then claim on variations further down the line you only have to look at schedule 4 to appreciate that that was BBS's philosophy. I note the TIE SDS's project manager's report for March 2008 (CEC01526381) noted, under Key Issues and Concerns "*1. Slippage between v22 of SDS programme on which construction programme based and v26/v27 – causes clashes with construction programme (principles agreed but detailed meeting required w/c 3 March). 2. Production of critical design deliverables (daily programme meeting held). 3. Changes due to alignment of BBS offer and SDS design (confirmation of changes needed)*". I refer to my weekly report date 7 March 2008 (PBH00017343). I state "*One final point worthy of note. Despite the Civils Offer received on Friday not being an agreed document it is BBS's declared final basis of pricing – this I picked up from a discussion with Richard Walker on Friday evening. I asked him about the assertion that agreement had been reached with tie and he told me that the only agreement that had been reached was on a final price – caveated by the content of Schedule 4, the Civils Offer, and the other contract documents. So, the Civils Offer should be treated more as a set of pricing assumptions and should any aspects of the offer have to be amended BBS's price will change.*" This is evidence of PB flagging with BBS our serious concerns over the technical offer. I later go on

to state "... I believe the first action, rather than PB undertaking an assessment of misalignment, should be for tie to put the BBS proposals in front of CEC to see if they are acceptable. If CEC declares itself content that is the time for PB to embark on the misalignment assessment. To do so before receiving this endorsement would incur unnecessary cost and would simply move the real problem – the likely refusal of CEC to approve the revised design – some weeks beyond novation. That would introduce all sorts of contractual and commercial problems." This is again evidence that we were aware of the potential for misalignment and that we were making TIE aware of that issue also. Part of what I am discussing here is the issue with track depth but I am also talking about the whole INFRACO offer. I cannot comment whether CEC were made aware of the trackform issue. I do not know what happened in response to my recommendations. I can safely say one of our concerns with the BBS's offer was with the trackform and roads component and that was being expressed to TIE. PB can safely say that we did advise TIE of this issue.

379. My view of the misalignment between the design and the construction programme, the critical deliverables and the changes due to alignment of the BBS offer and the SDS design was that all these issues would continue to delay the award of the INFRACO contract. That delay in award meant that we were moving further away from the base date design.
380. There was a gap between version 22 and version 26 and 27. That gap did have a knock on effect on the construction programme. In early March we were still, as yet, to be sent a copy of schedule 4. I discuss the issue of the programme of works my weekly report dated 7 March 2008 under section 2.1.1 where I set out three key issues "*Completion of tie's negotiations with BBS to secure Final Offer... Agreement on the scope of work required to construct the scheme and PB's share of that scope of work, including any redesign to accommodate BBS's proposals in place of the current SDS Design... Agreement of the programme of works....*" (PBH00017343). By this time we were at the point where the Employer's Requirements issue had been

pretty well addressed. I am not aware of a detailed meeting held in the week commencing 3 March.

381. At this time we were aware schedule 4 existed but what was in it we did not know. Schedule 4 was really to do with pricing rather than a programme focus. It is focused on construction works price, provisional sums, planning engineering, utilities diversion schedule of rates, process for the agreement and value of variations.
382. There were several meetings a week at this stage which focused on closure, Financial Close and novation. The issue concerning the programme would have been on the agenda. Jim McEwan chaired those meetings. I cannot recall any specific items relating to those meetings but certainly programme integration was key to the novation agreement.
383. I note Tom Hickman's (TIE's Programme Manager) email dated 3 March 2008 (CEC01492877) Tom Hickman. He attached a spreadsheet to his email showing where the version 27 design programmes clashed with the BBS construction programme (CEC01492878). The issue was addressed through continuing negotiations on novation and at INFRACO close.
384. I note my email dated 6 March 2008 (CEC01488279) where I advised Damian Sharp of my views in respect of the issue of the misalignment of the Employer's Requirements, including that *"the level of detail on fundamental components of the BBS proposal and the obvious absence of an agreed way forward give me much cause for concern"* and noted a concern *"re programme definition since either of the two available options – SDS Changing the Design and BBS agreeing to build the SDS Design – may incur significant time requirements."* The starting point of this particular exchange goes back to January and March 2008 and the issue of track alignment. In my later email I highlight that there is an issue with the whole integration of the trackform. We are making TIE aware that, until we have that definitive offer, it is going to be difficult to agree a position on what design changes would be required. We needed clarification for us to be able to do that. At this point we

were now starting to get into the trackform integration question and whether the offer from BBS was acceptable. This all feeds back into what I discussed earlier in my statement. There was a question as to whether TIE were making sure that CEC, as the approval body, were comfortable with that the changed trackform. TIE here should have been aware of this issue right from the outset. I make that point in my email where I state *"The alarm bells on tender clarification were sounding as long ago as late October last year immediately after declaration of BBS as the Preferred Bidder and many of the topics on yesterday's agenda should have been addressed much earlier."* I distinctly recall a discussion with Willie Gallagher in early 2008 where I raised the BBS trackform offer as a concern. In reply he informed me that trackform was key to the competitive adjudication that selected BBS over Tramlines. This discussion indicated to me that TIE were aware of trackform as being an important component. The apparent slow response to our flagged concerns over the technical review of the BBS proposals and the very late submission of the so-called civils offer formed in our opinion the impression that TIE were not looking at the technical issues with the appropriate focus.

385. I note that by email dated 6 March 2008 (PBH00036034), Jim McEwan noted Willie Gallagher's concerns in relation to the finalisation of the novation agreement. I replied by email on the same date (CEC01543506) and exchanged emails with Greg Ayres on 7 March (PBH00036067). I note by email dated 11 March 2008 (DLA00006391) Willie Gallagher again noted his concerns. I note Greg Ayres responded by email the same day (CEC01464105). My weekly report dated 7 March 2008 looks at novation at section 2.1.1. That section deals with this particular round of correspondence. Jim McEwan's email of 6 March 2008 is telling me there was an email proposed to be sent to Tom O'Neill but he suggested that Willie hangs fire. This email from TIE is them putting the pressure on us to resolve novation. I note that in Willie's draft email (which he intended to send to Tom O'Neill) he states *"Two primary issues remain to be resolved and these are the matter of Liquidated damages (cap and run rate) and the matter of a Parent Company Guarantee from SDS as requested by BBS. My team are meeting with Steve Reynolds tomorrow to hopefully clear these issues, and I would look for your*

support in ensuring that a reasonable position is reached on these."

Subsequent to this correspondence we discussed its content with our lawyer Roddy Gordon of Watson and Burton. My email at 13:28 of the same day highlights that there are not just two issues. I am saying that we have made it clear to TIE that they needed to make sure that the negotiations with BBS were compliant. I am saying that TIE needed to define the scope of work and the programme. At this stage it was not possible to novate because of the absence of the defined scope and programme further to TIE's further negotiated and agreed scope and programme with BBS. That is why I then go on to state *"This is hardly worthy of response but will advise... Jim that Greg and I are sitting down tomorrow to review the position."* Following this email I go back to Jim McEwan and highlight that there are more than two issues and point out the problems surrounding scope and programme and our ability to complete the novation agreement (CEC01543506). In summary, our position was that there was no conclusion on the outstanding issues and therefore we could not sign up. I can see that my views were passed on by Greg Ayres to both TIE and Andrew Fitchie in his email dated (DLA00006391). It is clear that from the above correspondence that we had a deadline coming up. TIE were very anxious to get signature as quickly as possible. However, PB had concerns that there were items that had to be addressed, particularly in relation to the scope and programme of the INFRACO agreement. We were concerned that our concerns were not being resolved. They were not resolved until we had gone through another couple of months of detailed negotiations with INFRACO and TIE. Ultimately, the INFRACO Financial Close was put back to 14 / 15 May.

386. In terms of what were PB's main concerns at that time in relation to novation, it all comes back to us being asked to sign up and all we had to agree was liquidated damages and parent company guarantee. Our main concerns were that the agreement concerning the scope of the work to construct the scheme was not in place. This was particularly the case with INFRACO's offer. That offer showed that there was not an agreed programme. It would have been premature at best for us to be contemplating signing up in these circumstances.

387. In my weekly report dated 7 March 2007 (PBH00017343) at para 2.1.1 I noted that negotiations in respect of schedule 4 were continuing *"over the next two days"*. I note that in my weekly report dated 4 April 2008 (PBH00017966) I state *"Negotiations between TIE and BBS were advised as complete on Schedule 4 ... Thursday this week"*. It appears that agreement on schedule 4 would have been reached by 4 April 2008.
388. I note the progress report provided to the TPB on 12 March 2008 (CEC01246825) notes at page 12 *"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"* and at page 19 *"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"*. Looking at this document now I cannot tell you why, if we submitted in October 2007, in March 2008 we were still worried about CEC approving a Haymarket Station Viaduct. That was not a structure that had been held back. It may be a structure that was being subjected to value engineering. By March 2008 it certainly had already gone through and been delivered. We would have had an awareness back on 12 March that there was a serious misalignment between the SDS submissions and the construction programme and that they were misaligned to the extent where the dates had overtaken each other. It was a matter of creating a programme that meshed properly. These problems were ultimately resolved through the continuing negotiation of the INFRACO Financial Close. It took another two months from 12 March to resolve.
389. I note that the email dated 13 March 2008 by Carla Jones (PB) (PBH00017475) attached a marked up draft of a design / construction programme tracker (PBH00017476). The covering email is pretty clear. Carla is essentially saying *"if we have dates being targeted for the issue of construction drawings then we need the other third parties to accept reduced periods for approval and consent generally to adopt the assumptions made in deriving new dates."* We are in essence saying that CEC in particular will need

to agree to the changes proposed. At this stage PB was putting it on to TIE to accept that risk. We are also requesting in this email that we see the master programme. We are highlighting that if we are going to recover this part of the programme we can only do that through reduced approval periods.

390. I note that by email dated 26 March 2008 (PBH00036809) Jim McEwan sent me a draft of schedule 4 (PBH00036810). I note that in an email dated 27 March 2008 (PBH00017765) Bruce Ennion noted that he had "*grave concerns as to which way this is going!*" and attached a draft of schedule 4 with his comments (PBH00017766). PB required to see schedule 4 before agreeing the novation agreement. In clause 2 to the novation agreement we were releasing TIE and at clause 4 we were accepting liability to the INFRACO. We needed to know what the terms of the INFRACO agreement were and we had to warrant that we had seen the INFRACO contract. We had various meetings with TIE where we discussed technical issues and civils. In those meetings we did advise persons at TIE of our concerns in relation to schedule 4. There was a continuing negotiation to secure the INFRACO contract award on the basis of a clear definition of scope. TIE's response to our concerns regarding schedule 4 was that they were continuing to engage with negotiations and it was not yet available.
391. We had one-to-one negotiations directly with TIE but we also held joint negotiations throughout this period where BBS, DLA, our lawyers and Pinsent Masons were present. There were roundtable meetings which were held fairly regularly throughout this period ie the approach to INFRACO signature.
392. I note the Scott Ney's email dated 22 March 2008 (PBH00036696). At this time TIE were talking about an end date and an increased amount of work coming in ahead of that end date. There was a limit as to how many resources we could provide. Scott points out that Halcrow were already working long hours and, with the best will in the world, they will have other priorities as a business. We were dealing with moving goal posts. At this stage it was a matter of juggling priorities. If you take the wider context of that email, it says

there is an awful lot being done and with the best will in the world this is Scott's own personal opinion. He did not work for Halcrow. Essentially, Halcrow had a task to respond to and it was down to their management to deliver the results. From memory, I do not recall it being a critical problem.

393. I note that by email dated 27 March 2008 (PBH00019148) I sent TIE the PB's commentary on the BBS civils Offer (PBH00019149). I have already discussed this attachment earlier on in my statement. In terms of further detail, at page 6 of PB's commentary I state *"The SDS's alignment is designed to accommodate the most economical vertical and horizontal packages of the tram throughout its journey. It should also be noted that any change in the track alignment may impact on other aspects of the infrastructure e.g tram stops."* This is us highlighting to TIE that we had got a proposal from BBS to do something which may impact on other aspects of the design. As, I have discussed earlier in my statement I also discussed the issue concerning trackform. The main points are in this document. This document shows there was a lack of clarity over the proposals. We were raising questions as to how some of the detailed proposals might work together. This is an absolutely key document because the civils proposals, such as they were, were only received late in the process and we then had to comment on them.
394. I note that at page 3 it states *"Confirmation required that alignment is compatible with CAF Tram DKE and LOD."* DKE stands for 'Developed Kinetic Envelope' and LOD stands for 'Limits of Deviation'. At this stage of the process, it is up to BBS to confirm that the CAF tram was compatible with our alignment. The document later goes on to state at page 3 *"Subject to survey, pavement design to be developed and finalised to minimise work scope... Pavement design to be revised to a plane and re-surface (new regulating and surface course only) when survey information is available and where it confirms the feasibility of this design solution Note this activity is an alternative to the Vertical Alignment activity above)... PB cannot identify where this approach may apply. Clarification sought from tie."* TIE were the people who were approving this as a low cost solution. BBS had to justify their bid for this aspect and pay for the surveys. All this comes back to us being concerned

that some of the BBS proposals did not align with the Employer's Requirements. This misalignment resulted, in itself, in technical issues. All this taken together did not necessarily provide a consistent system design. Those inconsistencies are where you ended up with subsequent significant changes being required. This, in turn, affected the programme and had a cost impact on the delivery of a compliant civils design.

395. Part of the problem was that, post-novation, we had to significantly alter our own design so that we could accommodate BBS's proposals. We later on again had to ensure that TIE appreciated our trackform design. We had to become involved at that point to make sure a proper design was constructed for trackform. That situation did interplay with schedule 4.
396. I refer to the document **(CEC01438541)**. Essentially we produced a design and then BBS came in with their bid. The basis of their bid was on a different specification. We were then told by TIE to change our design to BBS's specification. There was certainly work undertaken post-novation to change our design rather than BBS conforming with the requirement. The requirement, by that point, had been changed. At novation everyone had to declare compliance with the requirements but our compliance was subsequent to carrying out the changes to the design.
397. I note my weekly report dated 28 March 2008 **(PBH00036973)** and in particular section 1.1. The programme review only touched on the topic of timescales required to accommodate the design revisions suggested by the BBS Offer. It remained the case that TIE had a price on the table which assumed approximately £12m of value engineering improvements would be delivered and a construction programme which did not reflect the design effort required to deliver those improvements. TIE appeared comfortable with this state of affairs and suggested the changes would be instructed on day one of the INFRACO contract to address the imbalance. In my opinion, I do not believe the major stakeholders, including CEC, were aware of the position. We wanted to ensure that the novation agreement was worded such that it protected us from any accusations of deception which could be levelled at TIE

In future. This perception could have arisen if CEC viewed us as signing up for a price for one thing and a programme for something else. We did not believe that TIE had communicated the disconnect between the programme and the price. We were signing up to a novation agreement that underpinned the INFRACO contract. We had to make sure the wording protected us.

398. There was a concern that that disconnect may not have been fully appreciated by CEC. That concern came from the background that the offer price assumed the value engineering improvements would be delivered. However, there was not any space on the programme to engineer those improvements. The fact I am saying "*TIE appears comfortable with this state of affairs*" suggests that I made everybody aware of that. With regards to use of the term "*deception*", I was referring to potential accusations of deception from CEC against TIE. That issue was covered in the novation agreement insofar as additional time would then be an entitlement. That was probably the extent of the wording. It was not PB's place to be communicating with the issue with CEC. That was TIE's job.
399. I note the TIE SDS's project manager's further report for March 2008 (for "period 13") (CEC01523027). The slippage in the programme and the changes were due to the continuing delay to award the INFRACO contract. The slippage and change was due to the on-going negotiations to align the BBS offer with the programme that SDS had created. In my weekly report dated 4 April 2008 (PBH00036973) at section 2.1., page 4, I state "*A detailed review of tie's requirements for SDS Programme delivery dates to align with the latest BBS programme was held on 28 March. A further meeting to wrap up the few remaining critical issues is to be arranged next week.*" I do not recall this meeting now but it is referred to in my weekly report. I do not recall who was at the meeting, what was discussed and what was agreed. From my email records of the time critical points of conflict from a scheduling viewpoint were tabled for discussion at the "further meeting".
400. I note the letter dated 31 March 2008 from David Leslie (Development Management Manager, Planning, CEC) sent to Willie Gallagher

(CEC01493318). I note it states *"It is extremely disappointing that TIE, as the Council's agent, has been unable to ensure that SDS have completed all the prior approvals prior to the bidding process, and that there still seems to be no effective control over the constantly-slipping timetable for Prior Approval submissions. This could create difficulties in the coming months where BBS have been forced to make assumptions in their bid which do not correlate with our own expectations ... It is ... of concern that the quality of so many submissions, despite a quality assurance checking system supposedly in place by TIE/SDS, remains very unsatisfactory, requiring extensive revisions or resubmissions as appropriate"*. I note that on 3 April 2008 Duncan Fraser sent a letter to Willie Gallagher setting out similar concerns by the Transport Department relating to Technical Approvals and Quality Control Issues (CEC01493639). This is correspondence which I was not included in. The first time I saw this correspondence was following the Inquiry providing it to me. There is an interesting comment there on page 2 of David Leslie's letter. He states *"We have reiterated this approach on several occasions in the past, particularly the need for submissions to conform to our policy background."* This is an example of CEC's very rigid approach. Later on in David Leslie's letter he states *"We are also concerned at occasional acerbic remarks in recent correspondence attempting to divest blame onto the planning process. We are happy to work constructively with TIE / SDS / BBS, but we cannot take responsibility for delays which result from quality deficiencies in the prior approval submissions or from failure to meet projected target dates for submission or supply of further details."* The roots of this are CEC's refusal to progress the preliminary design back in mid-2006. There was a continuing delay brought about by CEC's changes to design. This correspondence is dated 28 March 2008. It comes exceptionally late in the process. It almost comes across as a very defensive letter. It appears to be a letter which seeks to absolve CEC of any responsibility.

401. Duncan Fraser's letter to Willie Gallagher also comes very late in the day. It again appears to be correspondence showing CEC almost scrabbling to defend their position. Looking at the issues raised in this letter, anything like this should have been thought about 18 months previously. This letter is to do

with the continuing theme of traffic modelling. CEC have still to undertake this work. This can be evidenced where Duncan Fraser states *"It has got to be understood that modelling which has yet to be undertaken may identify modifications which are required to be made."* How much longer did CEC want? I do make reference to this issue in my weekly report dated 4 April 2008 (PBH00017966). Willie Gallagher is plainly picking up on these issues. At section 1.1 I state *"Accelerating the process for securing Prior and Technical Approvals from CEC. The Construction Programme is critically dependent upon the achievement of Approvals dates. Willie and I agreed that we would introduce a task force approach to the topic over the next two months, with representatives from PB, TIE, and CEC co-located and charged with delivery of the Approvals submissions and fostering effective consultation with CEC Planning Department. Post-novation BBS will need to review this initiative"*. This extract shows that Willie has acknowledged there is an issue but CEC are still adopting a position which is completely isolated from the reality and the priorities of the time. CEC were giving Willie a problem that he hardly needed at that point. They were almost being a barrier to progress. It was all very disappointing, I have to say. The steps that were taken to resolve the issue was this task force approach.

402. I note the TIE SDS's project manager's report for April 2008 (CEC01293923). A weekly senior meeting in support of the new joint approach to approvals did happen. The *"Design Mitigation Plan (interface with Infraco team)"* did not explicitly happen. Schedule 14 was just part of the suite of documents required to conclude the INFRACO contract.
403. I note that Bruce Ennion's email dated 1 April 2008 (PBH00037087) noted that the Employer's Requirements were now *"significantly diluted and open to interpretation"*. I was aware of this issue at the time. This came back the Employer's Requirements being changed to align with the BBS offer. There were areas where the BBS offer was not to the same standard as the SDS design. That meant the Employer's Requirements were being diluted. The trackform issue is an example of a different standard held by BBS. The BBS offer was not only not compliant with the Employer's Requirements but with

the required standards for construction also. We were concerned that that the approval bodies would not accept the changed design.

404. Who significantly diluted the Employer's Requirements would depend on who you view as instigating the dilution. The changes were instigated by TIE. The reason why was because the offer from BBS did not comply with the original requirements. The route chosen to achieve alignment, by TIE, was to modify the Employer's Requirements.
405. I note that by email dated 3 April 2008 (PBH00017943) Bruce Ennion attached a note of a meeting (PBH00017944) he had attended on 2 April with TIE and BBS. I note that that note states "*BBS are also concerned that 90% of the SDS 'design' may be held pending the completion of the last 10% and the associated SDS Assurance process....345 SDS design elements but only 35 SDS Deliverables...SDS responded by pointing out that the implications of incorporating the last 10% may have an impact on the earlier 90% and this was a matter of ownership of risk*". My understanding is that the last 10% concerned the final system-wide design. That may impact the earlier 90%. That indeed was a risk. There was an issue as to who was going to take ownership of that risk. This comes back to the fact that the design should have been 100% complete. Everything should have been wrapped up and then it would have been over to INFRACO. We were not operating in that environment. It was not a serious risk that that final 10% would have an impact on the earlier 90%. In the overall scheme of things that was not the main concern.
406. In the early stages, BBS did not want to have novation. It is also fair to say that, come this point, there was a certain weariness. That might have led to people thinking "*do we want to continue with this?*" This extract shows we were still debating significant issues several months on from the declaration of preferred bidder. That, in itself, demonstrates a lack of effective process.
407. I note my weekly report dated 4 April 2008 (PBH00017986). At section 1.3 I state "*Richard [Walker] and I are of one mind that the most important aspect*

of the novation process to be concluded is that of defining an unambiguous scope and programme, and defining a mechanism for dealing with changes to scope in the future". An unambiguous scope and programme was agreed prior to INFRACO financial close and SDS novation. That was set out in clauses 4.7 and 4.8 of the novation agreement. However, there were still change control provisions under the contract. A key part of these clauses was the development workshops. They were introduced at clauses 4.7 and 4.8. They were held to determine the development of the INFRACO proposals and the consequential amendments to the deliverables. We identified items to be finalised in the SDS / BBS alignment workshops. These items are set out in appendix 4 of the novation agreement. That was the mechanism that was defined in addition to the standard contract entitlement to change. TIE were aware of these matters and issues and the risks that arose from the changes. TIE and DLA were integral to the development of the approach to dealing with the issues. Whether CEC were informed, I do not know.

408. I note the report to CEC's IPG dated 16 April 2008 a (CEC01246992). I have already talked extensively about the potential for approvals to cause delay to the construction programme.
409. I discuss BBS's appetite for taking the job at section 1.3 of my weekly report dated 18 April 2008 (PBH00018333). I state "*Richard Walker indicated to me on Friday that he has concerns over the presentation of the INFRACO Contract deal to Council. Some weeks ago I had expressed my concerns that the price on the table from BBS did not align with the programme contained in the offer. For example, the price assumes that value engineering savings will be made whereas the programme has no allowance for the design and approvals time which would be required. I had suggested that tie would have to be careful in the form of presentation so as not to mislead CEC. Richard is now expressing (to me) similar concerns and has suggested that he will take this up with tie separately. To a large extent the current position is one of BBS's making where the offer is dependent upon a set of pricing assumptions which can be interpreted by the informed reader as a basis for price increase and programme prolongation. It may be that Richard is belatedly expressing*

worries which have more to do with his concern over working with tie as a client or may even be due to friction between Bilfinger Berger and Siemens. Whatever the reason I detect an air of uncertainty and last minute concern over whether BBS should be taking the job". I think my comments are a fair representation of what was going on at that time.

410. In the same weekly report at section 2.1.1 I state *"The lack of response from tie has meant that uncertainty remains over construction scope of work. The proposed compromise to deal with the current circumstances was that a detailed design workshop be convened to define the scope to the level of detail required prior to construction. This would be a three party workshop with tie in attendance and exerting control over the process from a cost and programme impact point of view. With an early May target for contract award such a workshop would have to be held post novation."* This is the first reference to the development workshops that were set out in clause 4.7 and 4.8 of the novation agreement. These extracts are relevant to the issues surrounding version 26 versus version 22 for pricing. I am not sure I was aware of this issue by 16 April 2008 but the more important thing was these development workshops were going to be held and that they would be having an impact on price and programme. The development workshops were needed to pick up on design development matters which influenced the approvals process.
411. I note the comment in the report to CEC's IPG dated 16 April 2008 ***"There is potential for the approvals to cause a delay to the construction programme"*** (original emphasis) (CEC01246992). This was all down to CEC's approach. We required a collaborative approach between BBS, CEC and TIE to manage what was obviously a very tight programme. That was my understanding at the time. What is relevant at this time is that TIE was producing a revised composite master programme for inclusion in the novation agreement. That is noted on 18 April 2008. I discuss this at section 2.1.2 of my weekly report dated 18 April 2008. With regards to version 22 versus version 26, TIE were delivering a new master programme at the time.

That should have addressed the issues that were highlighted in the report to the IPG dated 16 April 2008.

412. At section 1.1 of my weekly report dated 18 April 2008 (PBH00018333) I make reference to the fact that we got an unofficial copy of a letter from CEC referring to a tram design workbook. This features in the pdf attached to my weekly report (PBH00038875). We were very concerned when we saw this because there was potentially going to be a further change as a consequence of CEC's Urban Realm thinking at that time. TIE were concerned that that might have a material impact on the timescales for approvals and consents when everyone is aware that approvals are causing delays to the construction programme. This pdf and section of my weekly report is evidence of CEC, again, not having the focus on the tram construction. This was yet another point of concern that CEC were engaging with something that was not aligned with the primary focus from TIE to deliver INFRACO Financial Close. I note the comment in the IPG report about approvals having the potential to cause delays to the construction programme (CEC01246992). That was absolutely right when you look at other things going on in parallel under CEC's ownership.
413. I note my comments at section 1.3 in my weekly report dated 18 April 2008 (PBH00018333), para 1.3. At this time we had been working on trying to get INFRACO closed for several months. By this point, schedule 4 was really a focus of attention. Schedule 4 was all about pricing assumptions. TIE were very keen to get to the point, not unreasonably, where they had an affordable price to sign the contract on. There was increasing concern, in our minds, about the issues that were set out in schedule 4. However, schedule 4 was not our responsibility. It was BBS's responsibility. This is how my conversation with Richard Walker came about. It was clear to me from that conversation that he had similar concerns. What I state in my weekly report is that he was saying he would pick that up with TIE separately. My views were that the price that was being arrived at included a significant risk. I was concerned whether the scheme could be delivered for that price because of schedule 4.

414. In all honesty, all these sort of projects are fairly unique in terms of price. There were not that many light rail schemes at that time to provide a frame of reference against when considering price. Back in 2008, you were really only looking at Croydon, Nottingham and Manchester. There was not a solid set of reference data against which to judge the special requirements of this scheme. You could put together a fairly accurate cost estimate through bills of quantities; however, the only people who could really put the value proposition in place were the people who bid for the contracts. From a certain point of view the price negotiated with INFRACO was reasonable, however, there were risks. To judge whether those risks were significant you would only need to look at schedule 4. I do not have any evidence to show that I did express my concerns that the price on the table from BBS did not align with the programme contained in the offer. The team at the time had a pretty collective approach to what was going on. Jim McEwan led the negotiations on the INFRACO award and our own novation. Richard Walker (Bilfinger Berger), Mike Flynn (Siemens), myself and Jason Chandler were working together at this point. I am pretty sure I expressed my concerns surrounding the price on the table but I cannot honestly, with the passage of time, explicitly say I told Willie Gallagher or Jim McEwan. I think with schedule 4 there, it was self-evident that there were risks surrounding the agreed price.
415. The detailed design workshops were started because of the continuing issue of the misalignment between the SDS design, the Employer's Requirements (as they had evolved) and the BBS offer. That misalignment developed through the negotiations. The workshops were held to address those misalignments and to determine the best design solution. The workshops were held to make sure those three different points were closed out to a consistent position. There was an insistence that they be three party workshops with TIE in attendance exerting control over the process from a cost and programme impact point of view. That was because the risk post-novation was that TIE could lose its negotiating cards and suffer more risk from a cost and programme perspective. Having TIE there meant that we were going to be even more focused on what we agreed as the required

design solution. The grounds for the workshops was enshrined in the novation agreement. There were a number of meetings.

416. It would have been more beneficial to have held talks to overcome the discrepancies between the programme and the design much sooner before novation. However, with the political climate as it was, there was an imperative to get the contract signed. Provided everyone was working in good faith, those issues could be resolved at any time. The most significant issue was that there was the misalignment and it had to be addressed. The timing was secondary, provided, as I say, everybody acted in good faith.
417. I note Ian Brown's email dated 25 April 2008 (PBH00018646). This email is looking at what is outstanding at novation. What we were doing at this time was pulling together the position statement that would be incorporated within the novation agreement. This email is simply stating what is outstanding at novation on the depot and substations. This is where you come back to the issue of the tram stops. There was quite a bit outstanding. We were awaiting new instructions with CEC technical approvals on the critical path. The tram stops came in that latter phase through late 2007 and early 2008. They should have been wrapped up but there was a continuing detailed review prior to approvals. When compared to Manchester, it is unusual that this sort of thing was still on-going at this stage of a programme. In my view, a reference design could have been accepted with the obligation on the INFRACO to detail and deliver the tram stops. If necessary, INFRACO could have constructed the first one to be reviewed by TIE / CEC. Any issues would then be highlighted and then INFRACO could get on with the rest of them taking into account any changes requested by CEC. In my view, the pedantic reviewing of these tram stop designs by CEC was wholly inappropriate. It consumed significant amounts of time. We were now in April 2008. If you go back to the agreement that went in July 2007 for the completion of the design, these tram stops should have been completed far earlier than this. In my view, this was down to CEC taking an unreasonable approach on approvals. Ian was the design team leader responsible for the depot, landscaping and for

tram stops. This email shows him providing his input to be incorporated in the novation agreement.

418. You could argue CEC was trying to get perfection. In my opinion, this was inappropriate because of the resultant delays caused through trying to achieve that. In my view, in any case, you can never achieve perfection. There were far more significant issues that CEC should have been considering than the improvements to the tram stop design.
419. I note my weekly report dated 25 April 2008 (PBH00018668). I note section 2.1.2. The programme had been set up to deliver a BBS solution. However, at this stage the design workshops were still to take place. If there were agreements there that resulted in changes to the scope then that would then impact the programme going forward. Whilst, at this point, the project master programme reflected one reality, it would still be subject to change depending on the outcome of the design workshops. TIE and CEC had to be aware of the matters set out at section 2.1.2 of my weekly report and the risk arising from the change to the project master programme because they were involved in the negotiations that set up those very same workshops. TIE were an integral part of the agreement to hold the workshops. I honestly do not know whether CEC were aware of the potential disparity between the scope and the programme.
420. PB did not have any exposure to the communication between TIE and CEC. We did not have any programme management function at all. We were purely a supplier. We were having to respond to TIE instructions. It was TIE who was responsible for maintaining the project programme. We simply had to take on board instructions. We were not at the top table and this is where part of the problem lay. We were not there negotiating. We were not in a position to be able to influence the stakeholders and set out the consequences of some of the instructions. That was down to TIE to assess.
421. CEC were one stage removed. If they also had been at the table they would have been aware of the consequences of their changes. They would have

understood how they were affecting the programme. It was TIE's responsibility to enforce that programme management activity. Part of that responsibility was making sure that the stakeholders were fully aware of the consequences of what they were asking for. I was not there at the table but you could see that communication was not really working as well as it should have been.

422. In my email dated 30 April 2008 (PBH00018764) I advised Steven Bell that *"I am also concerned with initial feedback from meetings yesterday that there may be an expectation that PB should rework at its cost designs which have already been submitted and paid for in order to meet new BBS requirements. This comes back to achieving clarity of scope and I need to discuss this development with you"*. In the same email chain I state *"We need to include as part of the alignment pricing for the potentially lengthy debate with BBS re already delivered designs"*. There was one particular concern at this time. BBS had proposed, fairly early on in the negotiations, that they needed a construction support function aimed at ensuring what BBS built on site was in accordance with the design and was of a satisfactory quality. Their view was we were the only people, as the designer, who could provide that service so we were asked by BBS, and TIE agreed, to put together a proposal for it. That service was called *"Extended Construction Support Services"*. The first paragraph in my email was looking at trying to close out that scope of work and the resources needed for construction support. What I was saying was that I was not prepared to sign a novation agreement with that outstanding because there would be a significant cost associated with providing those resources. I am saying it is important that any agreement should be secured pre-contract. That agreement, in any event, was secured so this issue went away.
423. This email is just me putting a line in the sand that there should be an expectation that, if the alignment with BBS results in changes to designs already submitted, then that is not going to be at PB's cost. I was just making sure that Steven Bell was aware of those concerns. I was making Steven Bell aware that that had to be addressed. Steven Bell and I were working very closely at this point. My email was more of a matter of record than an

expression of serious concern as. My comment "*We need to include as part of the alignment pricing for the potentially lengthy debate with BBS re already delivered designs*" is just saying there will be a price to secure alignment and we need to make sure that this is covered in the pricing on top. We ultimately achieved that. Our concerns were addressed. Steven Bell was saying these were issues that had to be knocked on the head before we got to novation. I had a very close working relationship with Steve at the time.

424. I note the TIE SDS's project manager's report for May 2008 (CEC01365690) noted of the 310 planned design packages, 299 had been delivered. In July 2007 there was an agreement to remobilise against a plan going forward. The design packages were all set out on that. At that stage 310 design packages had been planned. Of the outstanding design packages some will have been the tram stops. I have discussed earlier in my statement that in January 2008 that the only one of the outstanding design issues was down to us. The rest were down to others. They were down to CEC and TIE and the third party agreements. The differential between the 310 and the 299 was probably entirely due to the fact we were waiting on other parties to be able to proceed.
425. The design packages noted above did not comprise all of the design required for phase 1a. There were structures outstanding. I refer to page 54 of the signed Novation Agreement (CEC01370880). This section of the novation agreement highlights the status as we novated and the key areas where work was required to be completed. My recollection of the structures that were outstanding over and above the design packages were structures like Tower Place Bridge, Victoria Dock Bridge, and the Lindsay Road retaining wall. Part of the reason why these structures were still outstanding was because of the agreement with TIE to hold back the structures as the last packages to complete. That was a factor. It then became a matter of how they could be phased into the design completion. Some of the structures had challenging problems for everyone to agree. Some of them were down to stakeholder changes which had led to delays eg Forth Ports. Some of them, like the Edinburgh Park Viaduct, were due to CEC change on the requirements. There was a mix of reasons why the structures were delayed. I would say that there

was about 10% of the design packages left to be delivered at novation. In summary of the 329 total number of packages, 33 were remaining.

426. The prioritisation of design packages and the way in which they were chosen goes back to TIE having control of the master programme and looking at the critical issues on the back of their regular reviews. It was TIE's role to programme the critical path they required. The order in which each package was being tackled was being dictated by TIE in their role as programme manager.
427. I note the minutes of the TPB dated 7 May 2008 (CEC00080738). I note that at paragraph 2.4 "... *David Mackay added that BBS could have simply signed the contract and added additional claims later*" and that at paragraph 2.5 "*AF [Andrew Fitchie] added that BB were extremely nervous about the state of design. However, this should reduce as the contract progresses and the risk of using it as a lever in a claim will reduce ...*" I only attended one TPB meeting in my entire time working on the project. There was a subcommittee that I attended on a number of occasions but I certainly did not attend this meeting. David Mackay is absolutely right in his comment. Whether you would call them claims or whether you would say they were provided for via schedule 4 is a nuanced point. The price was one yardstick and schedule 4 was another one. David Mackay's comment, reading this now, appears to show that TIE understood the position very clearly.
428. You could have several views on Andrew Fitchie's comment at paragraph 2.5. As far as we were aware, from working closely with BBS, there was quite a high degree of contentment with what our design was. Equally, you come back to the need for the workshops. There was obviously going to be a need for other design work to be completed. If anyone was nervous about the design reflecting what was going to be built then that would be a reasonable position. I do not think that BB were "*nervous*" about our design. They understood pretty precisely where the design was and what their design requirement was. There was work to be done to conclude a complete design but I do not think anybody was nervous about that.

429. There may have been posturing on BBS's part that I would not have had any access to or awareness of. I was aware that BBS had requested a price increase but, as to why or what the negotiations were around that, I was not involved.
430. I note that a letter dated 8 May 2008 by Greg Ayres to Willie Gallagher (CEC01294745) advised that PB had incurred significant additional costs as a result of the delay in novation and financial close, namely, management time and expenses of £39,750 a week from 1 April 2008 and costs of inefficient working of the design teams in excess of £1,500,000 (which costs were over and above the design change VO's (Variation Orders) that SDS and TIE had agreed during the last three months or so). I note the following emails dated 9 May 2008 between Mr Ayres and Mr Gallagher (PBH00038621). The matters noted in Mr Ayres' letter were resolved through a settlement agreement. There was an agreement to pay in recognition of those additional costs. There was an additional variation order put in place. TIE recognised that these changes had been made. There was a recognition because I think the first date set for novation and the INFRACO contract award might even have been late 2007. We had been week after week after week maintaining a presence. This was a very difficult time for us. We were experiencing significant additional costs. It was very difficult for me personally over this period and Greg Ayres, as my MD, had to get involved.
431. I spoke with Willie and we agreed a position which saw us get to an acceptable agreement. That resulted in another variation order. I had developed a very close working relationship with Willie. I recall the meeting I had with him. He was concerned with the way the issue came to light. I think it is fair to say that he did understand the reasoning behind our request for further payment. We were able to resolve quantum pretty rapidly. We agreed the value of the settlement agreement on 8 May 2008. I remember the weekend working in London because it was a serious problem for us. However, we did get it wrapped up and resolved before we got to the following week of novation. It was a difficult week for everybody.

432. By email dated 11 May 2008 (PBH00038653) I advised Greg Ayres of the issues, from PB's point of view, that required to be resolved before novation and financial close. The issues included "TIE to issue the instruction to PB to make the changes to bring about alignment with the revised Employer's Requirements" (bullet point 2). This is the instruction for us to carry out the work required to make our design align with TIE's revised Employer's Requirements. This resulted in an instruction of roundly £1m to achieve that. This is not something that is usually done so late in the day. Usually the Employer's Requirements would hold and the offer would be amended to align with them. There may be some minor revisions to Employer's Requirements but not significant revisions resulting in significant changes to the design
433. The collateral warranty was required because, whilst the novation agreement was worded as if TIE had never existed, from our point of view TIE had to continue. They had to continue to exist contractually because there were still some outstanding utilities, diversions and design work required. That work had to be directly provided to TIE. The contractual relationship had to be maintained because it was not something that was part of the INFRACO.
434. The fact that the alignment of the Employer's Requirements came so late in the day was just the way it was. We were negotiating a final INFRACO close out. This meant that the legal documents were moving around. The final instruction to bring about the design consistency was always going to be late in the day.
435. I note that by email dated 13 May 2008 (CEC01295126) Dennis Murray sent me an account as at novation (CEC01295127). The attachment is a statement of account for our contract with TIE. There are two sets of figures and entries in this account spreadsheet. Column C sets out the anticipated final values. Column D sets out what has been certified as at novation. Column E provides an overall contract sum. At this point the total contract value was £29.3m (of which £25.9m has been paid). Looking forward, we set out the costs for the extended construction support and what was called "additional design support." That was largely focused on helping Siemens secure consents. That

is why it is termed "consent support". Both these areas were provisional sums. We put in £1.675m as a provisional sum against those additional services. There was then the incentivisation, which was to do with completion of the remaining IFC drawings.

436. The incentive payment was not an incentive to novate. It was an incentive with a commensurate liability on completion of the IFC drawings. That is set out at clause 8.8 of the Novation Agreement (CEC01370880). It was not an incentive to novate because it essentially says "PB were required to agree to novation." It would be wrong to read between the lines and say PB asked for further payment because they were nervous about novating to BBS. We were not nervous. We had signed a contract. We had to novate. We had gone through months of negotiation to get to the point where we were comfortable to novate. It would be wrong to assume this £1m was to overcome any sense of nervousness. The payment was to ensure that there was an incentive deal on the provision of the remaining drawings.
437. Section 5.1.2 on page 85 of the executed Novation Agreement (CEC01370880) provides the status position at the point of novation in terms of detailed design packages. As mentioned before, I cannot separate the packages between sections 1a and 1b, however, the percentage complete would be 89.96%. To work out approvals and consents you would take 5.1.3 and 5.1.4 together. Of the 191 in total 52 were complete. That would provide a percentage complete figure of 27% complete. I do not have access to the data for the utilities design.
438. The figure of 27% is low in terms of consents approvals for a project at this stage. Consents were still awaited for the tram stops and everything else. That meant that we were entering into an INFRACO with a number of unapproved designs. A large proportion of the outstanding consents and approvals sat with the approval body ie CEC. It was largely CEC but not in totally.

439. I cannot broadly comment on the level of completion of utility design at the point of novation. Earlier on in my statement I have talked about issues with weighting of design packages. It is very difficult to put single figures on outstanding utilities because of the numbers of variables and unknowns. TIE should have that information from the MUDFA contract. That would be the real definitive source for that data. We were not responsible for all of that design. We were responsible just for the critical design.
440. The main provisions of the novation agreement (**CEC01370880**) were essentially that TIE had never existed and that everything we were obliged to do under contract going forward, retrospectively, had to be done as if it had been done for the INFRACO. In reality TIE continued to contractually exist from our point of view because of the link to them for the utilities. That was covered under the collateral warranty. The obligations under the SDS agreement did not change. The main provision was the change of contract the party TIE to BBS.
441. There was not a sub-contract entered into between SDS and BBS around the time of novation. I note my emails dated 28 and 29 January 2008 with Richard Walker (**PBH00034253**). I am struggling to remember this exchange of emails. This exchange appears to be us trying to deal with the consequences of the design being incomplete. Reading this exchange now with the benefit of knowing what was going on at the time, this exchange is about how we would deal with the fact that the design was not going to be 100% complete. We are discussing whether there will be a need for a design services sub-contract. What happened in the event was everything got rolled up and addressed through the novation agreement. The issue of the incomplete design was addressed in a different way. There was not a sub-contract entered into. It was just novation with the novation agreement terms being constructed to reflect the real world. Time moved on post January. The novation agreement and INFRACO contracts were ultimately structured to reflect the state of the design.

442. I note the email dated 4 March 2008 from Damian Sharp (PBH00035961) with attached draft direct contract, scope of services (PBH00035962). I note that Damian states in his email "*Andrew Fitchie is still working on the Ts and Cs that go with this but here is a short, simple scope of work for the direct agreement between SDS and TIE. It is based heavily on the original SDS scope for MUDFA and the wording of the settlement agreement in relation to.*" I presume that the draft direct scope of services was ultimately turned into a final draft and signed but I cannot recall this precisely. A collateral warranty was provided by SDS to TIE around that time. I think probably the sole purpose was to accommodate the additional MUDFA scope.
443. PB did not enter into any other agreements around that time as part of novation and INFRACO contract close. There were agreements later on but not around that time. There were no side agreements between PB and BBS that TIE were not aware of. It was absolutely not the case that PB used schedule 4, in conjunction with BBS, to our advantage post-novation. We insisted, upon the settlement of the final account, on the incorporation of the instruction to make sure we were aligned from the design point of view. We went to significant lengths to make sure that we had, following the novation agreement, the workshops. We were certainly not trying to hide anything. We were not fully aware of all the circumstances surrounding schedule 4. We certainly were not party to BBS's intent in respect of schedule 4 and there was certainly no collusion in respect of it.
444. I note the INFRACO contract included a Pricing Schedule (schedule 4) (USB00000032). Our understanding of the purpose of the Pricing Assumptions including, in particular, Pricing Assumption 3.4.1 was that TIE still bore many of the risks and liabilities. I would not necessarily say that those were risks and liabilities arose from the incomplete design. I would say they were arising from the terms and conditions of the contract awarded to INFRACO. In my view TIE did still hold risk arising from the incomplete design at novation. That is backed up by what happened next. It is certainly not as simple as all the risk being with one party. It is always the case, no matter how you have tried to transfer risk, that if you are the body who ultimately benefits

from what is being delivered you are the one with the risk. If you do not get a tram system TIE is at risk. The purpose of the agreement was that it was a point of reference so that anything that moved from that would then be subject to review.

445. PB had the right to see schedule 4 prior to signing the novation agreement but PB was not involved in the development of schedule 4. Schedule 4, itself, did not offer any benefits to PB post-novation. PB was the design provider. We would have been operating under instruction from the INFRACO as to what was required. Arguably there were disadvantages for PB as a result of schedule 4. Schedule 4 resulted, when there was design change, in us requiring to be there for longer beyond the point at which we should have exited.
446. Where there was a notified departure and there was a change in schedule 4 and further design was required, PB did pick up further money. That design change was paid for by BBS. It was part of the terms and conditions of the INFRACO contract that design change was accommodated. Any design change that was passed on to us would have resulted in us being paid to have those changes executed. The right was a continuation of our SDS provider contract. We were simply acting as the supplier to the INFRACO. If the INFRACO required design to be undertaken by us then that would be a service we would provide. We would be paid at the rates set out in the novation agreement. The novation agreement contemplates additional work being required and the terms and conditions of that additional work being executed. Schedule 4 brought no commercial advantage to us. We could not influence unnecessary change nor would we have wanted to.
447. The Pricing Assumption was essentially that the design we provided would be the design that was built. BBS assumed the Pricing Assumption was based on the design at BDDI. You then get into, I suppose, what you could call 'weasel words' about design development. I interpret the statement "*Normal development and completion of designs means the evolution of design through the stage of preliminary to construction stage and excludes changes to design principles, shape, form and outline spec*" to allow for refinement of

the design with any wholesale or substantial change forming the basis for additional payment to BBS. This is my own personal interpretation. My understanding was the INFRACO price was based on that BDDI design.

448. My understanding as to how the Pricing Assumptions in schedule 4 would operate in relation to any further design carried out after 25 November 2007 was that if the assumptions underpinning the INFRACO price were no longer valid, because the design had changed, then that would result in an immediate variation to the INFRACO contract value at INFRACO contract award. This would result in an immediate notified departure.
449. Logically it is correct to say that there was the potential for immediate notified departure from 25 November onwards. I do not know whether there were any substantive issues that would result in a notified departure. That was down to the INFRACO contract assessment.
450. I did not have any awareness that there would be notified departures directly after novation. That was all very much down to how BBS were negotiating. I did not have an understanding at that point. I did not have an expectation at that point that there would be notified departures. We were focused on making sure what we were doing was what was required.
451. I recall that, the weekend before close, it looked as though the deal would not go ahead. I was far more concerned with maintaining our position than I was about what INFRACO might be doing with notified departures. That really was not top of my agenda. I remember a call with Richard Walker. I was on a bus in London. It was the Saturday before novation and Richard rang me and, on the basis of that call, I thought there was a very high risk this was not going to happen. Yes, certainly, INFRACO were going for notified departures but that was not one of my concerns at the time.
452. There was a settling down period after novation. We would not have been promoting notified departures. We would not have been able to influence that. It was in INFRACO's court as to what they wanted to do with notified

departures. Post-novation we were there simply as the supplier. If further design work was required we would expect to be paid for it in line with the novation agreement.

453. Were it to be suggested to me that because schedule 4 allowed for notified departures it resulted in extra work and money for PB I would respond by saying that our main intent was to deliver a quality solution for the good of the project whilst working for our new contracting body, BBS. There was certainly no intent to try to milk the contract. We had been working on the project since 2005. In 2008 our main concern was to deliver a quality tram solution and we wanted to work with BBS to ensure that that was done. There was no scenario where somehow we were trying to dream up work that was not required for which we got paid. That just was not the way it was. We worked closely with BBS but we were still ultimately under TIE's programme management. It was down to TIE to be deal with INFRACO and agree what needed to be done and what did not need to be done. They informed INFRACO of their optimum solution through the three-party workshops. Our focus was on design optimisation and value engineering. Our focus was not on some skulduggery to gain more money.

454. I note that BDDI was defined in paragraph 2.3 of schedule 4 as meaning "*the design information drawings issue to INFRACO up to and including 25 November 2007*", however, Appendix H did not contain any list of drawings and, instead, simply stated, all the drawings available to INFRACO up to and including 25 November 2007. I do not recall being aware at the time of this statement. With the benefit of hindsight, there were a very large number of drawings. I suppose one of the dangers would have been if you had tried to transpose that into Appendix H there may have been mistakes made. I suppose you could say it should be clearer, rather than just saying "*The design information is issued to Infraco up until and including*". You would say the design information drawings logged in a drawings register etc. You would usually be more precise than this is. This is a little bit sloppy so to that extent it is unusual. You would normally expect reference to a database or a schedule.

I do not think it is unreasonable that the list was not replicated here but the list should have been referenced more precisely.

455. I do not recall there being any difficulties in identifying the drawings comprising the BDDI. Not from our point of view. There might have been difficulties in identifying drawings comprising the BDDI by BBS or by TIE but I would not be able to comment on that. We were clear as to what drawings comprised the BDDI were because we had a drawing register and document control system. At an early stage there were some mechanical difficulties in transferring the information to BBS but the information was still there. The mechanical difficulties were certainly resolved. There were some communication difficulties but we would have known absolutely what was in there from the document control system.
456. I am not aware why the BDDI was fixed with reference to 25 November 2007 rather than a later date. That was a TIE decision. With the benefit of hindsight, novation was repeatedly put back so the first date for novation, 25 November, would not have been a long way off the original intended contract close date. By May 2008, revisiting the BDDI would have resulted in even further delay. I am just interpreting these things after the event. I am not aware why it was fixed at 25 November. You could argue that a later date would have been beneficial because it would have provided a different pricing base. However, looking at what happened through that period, TIE had enough difficulties getting a civils design offer out of BBS. Potentially revisiting the BDDI would have put even further delay into the process. You have to balance one against the other. In any case, throughout the period in the lead up to novation designs were continually being passed to TIE. Whether they were passed on to BBS, I cannot say. I presume they were but I cannot definitively say that.
457. There was no assumption from PB's point of view that BBS were fully up-to-date as to the position of the design at the point of novation. That was not our problem. That was TIE's problem. Our obligation was to TIE. We were assisting TIE with any discussions they were having with BBS but we were not formally a party to those discussions.

458. I do not wholly agree with the proposition that, following novation, the situation was that (i) PB had a change instruction from TIE to produce further design to "cure" the misalignment noted above between SDS design and the Employer's Requirements; (ii) any change to design from that existing as at 25 November 2007 was potentially a notified departure to the INFRACO contract; and (iii) TIE had little or no control over these design changes as a result of the novation of the SDS contract to BBS. I agree that we were in possession of a change instruction. I agree that my understanding was that any change to design from that existing was potentially a notified departure. As regards TIE having little or no control over these design changes as a result of the novation of the SDS contract to BSC, that is not true because INFRACO themselves had a design responsibility under their contract. The SDS design was only part of the overall design for the tramway. INFRACO had the responsibility to complete the overall design with TIE as programme manager. TIE actually had a great deal of control over design change.
459. Post-novation TIE was still the programme manager. The relationship that had changed was between TIE and ourselves. The relationship between TIE and the INFRACO meant that TIE was the programme manager and it was INFRACO who were now delivering. TIE had absolute control over what was instructed. If there was a design change mooted because one of the stakeholders wanted to do something different, then it was up to TIE to arbitrate and determine what was required. INFRACO was not going to be implementing major change without TIE being aware of it.
460. The potential for an instant notified departure post 25 November 2007 was not my concern at all. That was between TIE and the INFRACO. We did not discuss with TIE the potential for problems between TIE and INFRACO with regards to notified departures. I was focused entirely on making sure we honoured our obligations and that we were protected. The definition of "notified departures" and the mechanism for those being enacted was not my concern.

461. The proposition that the situation gave PB and BBS a financial incentive to produce as many changes to the design as possible is almost insulting. I feel quite aggrieved that anybody might suggest that. You have to understand that PB is a global provider of transportation services. Our concern was reputation, pride in the job and delivering something that the city of Edinburgh required to the optimum. There can be absolutely no suggestion that we were trying to do something which would have been colluding against the city as the ultimate beneficiary. That was absolutely not the case. That is not the way PB goes about its business.

462. I do consider that the situation ought to have caused TIE and CEC concern. Looking at it from the broader perspective, there was a price on the table for one thing and there was a programme for something else. That should have caused TIE and CEC concern. Everybody's reputation suffers when a scheme is not delivered. That is of concern to us and a concern for the light rail industry more generally. Had Edinburgh not gone the way it did, it is quite possible Glasgow would have been looking at a light rail scheme. That is off the table now for years to come. It depends on how broadly you paint the picture. It was a complex series of events. TIE was, for all the right reasons, very keen to get the contract awarded in the best circumstances. It could be said that there should have been a better appreciation of the risk. I would agree that those risks should have been managed in a different way. Everything is always about risk. It is all about how you deal with risk that matters.

Detailed Design (June 2008 to March 2011)

463. Our responsibility for, and involvement in, the project did not change in any way after novation. I personally moved away from being essentially full time in Edinburgh to being part-time in Edinburgh. I took up new responsibilities in Manchester. PB's role did not change substantially. We were still employed under the SDS agreement. The only role change was that we now had a separate agreement with TIE for the utilities.

464. PB's staff changed only in line with the phasing of the programme as the work became complete. People moved away but there was nothing exceptional in terms of PB staff changing.
465. Design completed post-novation was completed in the same way as we had completed it pre-novation. It was the same organisation to a first approximation. It was to the same structure. All that changed was simply that the headline relationship was now with BBS rather than with TIE.
466. The extent that design was completed by ourselves and Halcrow was in line with what was left to do and as outlined by the novation agreement. Separate from that there was the wider design requirement enshrined in the INFRACO contract. That was in BBS's scope of work to deliver.
467. The only significant change for PB was that the order of priority from the approval bodies. The approval bodies were no longer at liberty to request change simply on the basis of their needs. Those changes had to be set against the Employer's Requirements. That was set out in clause 4.6 of the novation agreement. BBS had a very high degree of control over the process.
468. Looking at the design in the round, all the design work that Siemens were doing was carried out after novation. Separate from that there was our completion of the remaining design deliverables. There was a lot of work carried out by Siemens on their scope. That predominantly was the work required concerning the overhead line systems. That was not in our scope. There was a lot done post novation that was not PB design. From PB's perspective, the outstanding work was solely the design work associated or set out in the novation agreement as outstanding. We did enter into another agreement with BBS for a change in the phasing of some of the design. There were some changes eg the change for Gogar Interchange with Network Rail. That certainly evolved substantially after novation but there was no change brought about as a result of an agreement with BBS.

469. When we were novated we had an anticipated final account of about £32m. That ended up probably more like £50m. There was £20m to go in reality for the work post-novation. Of that amount of £3m related to the original contract. There was also a £1m payment to address the misalignment. I would say roughly 50% what ultimately turned out was known at novation. The other 50% was down to other factors. About 10% was down to incomplete design and 10% was due to addressing misalignment. I am struggling to get a figure on changes to design that were required to obtain statutory approvals and consents. I would have to go back to Bilfinger for that. Some of the design left to do was not down to us eg some was Siemens design.
470. I would say that the bulk of the work undertaken by PB post-novation concerned other factors than incomplete design eg design change, re-phasing of the design programme etc. Going back to the changes for things like track depth was certainly key because the original BBS intent could not be realised. There were changes to trackform which were key. The bulk of the work carried out post-novation was due to other factors because we had already done pretty well wrapping up on the original scope. We knew what we had to do to achieve alignment during the design of the Employer's Requirements. I would struggle to provide a figure on what ultimately transpired in achieving statutory approvals and consents.
471. Some of the change surrounded BBS agreeing with TIE directly to provide a lower spec design eg trackform. They did not have the bulk of the track design at a higher specification. What BBS had was an offer that was subsequently deemed unacceptable by CEC for technical reasons. All of that ultimately resulted in a change to the BBS trackform design. We were then asked to take part in achieving that redesign. That resulted in what is currently in place on Princes Street and elsewhere now. That design is radically different from what was first laid on Princes Street. We took on scope that was not envisaged in our original agreement eg the trackform design. The trackform design was envisaged as being the INFRACO's obligation (in particular Siemens). We ended up becoming involved in the trackform redesign because of our light rail expertise. We did take on additional duties post-novation.

472. When we first started working with BBS, there was this notion that it was going to be a design build arrangement ie we would be the designer in the design build scheme. I had to point out several times to BBS that we were the design provider. I had to point out to them that we were there to directly provide the design to INFRACO and then it was their responsibility to build it. Over time, with the changes that were required (trackform being a key example) it became more like a designer to the construction contractor relationship. That was not entirely what was envisaged by the Business Case. I think the potential difficulty was that people did not appreciate the differences in the two types of working relationships. We did have to spell out to BBS that we were responding to BBS's design requirements and delivering designs over and above what had been contemplated by the SDS agreement. One specific example of this was trackform. We became intimately involved with the redesign of the trackform despite the fact that that design was not in our original scope. That did create additional work for us. You could argue that was as a consequence of the original BBS offer not being fit for purpose.
473. I do not think I can comment on the dispute between TIE and BBS. I really was not close enough to it. We did not have a position in relation to the dispute. Post-novation, and during the dispute, our role was confined to delivering services to BBS. I do not think I can comment on the causes of the dispute because we were not involved in it. This was something that was being conducted between TIE and BBS. We were aware there were problems but we carried on doing what we were doing. To that extent, the dispute did not affect us other than introducing uncertainty of a programme. That did mean we had to be more flexible in the way we were working.
474. Our view was that it was a commercial dispute between BBS and TIE. We were working on the project as a technical provider so we did not have any direct involvement with the commercial aspect of the project. We were delivering the scope of service we were obliged. The only impact on us was on the programme. That meant we had to be more flexible and it meant we had to protect our own position in relation to prolongation. The dispute was

not something that we were involved with in any capacity. We were certainly seriously concerned that there was a dispute and everything was being dragged through the press. That was a cause for concern for everybody.

475. There was no collusion between ourselves and BBS in the background at all. That is not the way these things work. If you are part of a global organisation the last thing you need is some major dispute splashed across the press. It really does not do anybody any good.
476. Issued for construction drawings simply mean the detailed design drawings. The design becomes issued for construction once it has gone through the approval process and it has been through the interdisciplinary design checks. Issued for construction is after all the approvals and consents have been gained and things are moving on to the next step to physically use that design to construct something. The detailed design gets to a point of completion. It then goes through a post-interdisciplinary design review and checking. Post-BDDI you are talking about changes required to achieve the alignment of the design with the requirements. That meant the detailed design changed. It was down to BBS to take a view on whether revisions were required to previously submitted construction drawings.
477. There is no substantial difference between issued for construction design and detailed design. One feeds the other once it has all been approved. In the novation agreement, the incentive to get to the point where the issued for construction drawings are complete was the final step pre going into construction. There were points at which the detailed design was produced and we were awaiting the approvals and consents from CEC. There were changes made at that point which delayed the issued for construction drawings. If it was a change that was not initiated to achieve conformance with the requirement then this came back to clause 4.6 of the novation agreement. If CEC decided to change for some reason because their needs had changed but the requirement was the same then that was a notified departure. I cannot remember at what stage we were at novation with Picardy

Place but the substantial changes to Picardy Place occasioned by CEC would have ultimately constituted a notified departure.

478. I note the internal email chain dated 20 August 2008 between TIE and CEC officials (TIE00758117). There was a serious concern from Halcrow about the number of comments received from CEC on their designs. Our view was that CEC had a large part to play in this particular problem. Keith Rimmer wanted some urgent issue of TRO drawings but Halcrow were embroiled in the general approval process. These issues were resolved. This is another instance of late in the day delays and me being put under pressure in relation to delays. We worked with Halcrow to try and address the issue. The delays caused by CEC's approval process certainly caused problems. I know Halcrow felt very strongly that CEC was taking an unreasonable approach to approvals of their designs.

479. I think the issue discussed in the email exchange dated 29 September 2008 (CEC01132100) was not so much the problem with "As Built's". The issue was the problem TIE had with enforcing the MUDFA contract. I say quite clearly in my email to Steven Bell *"As we have discussed, if the SDS Agreement contained such a definitive clause PB would be preparing as-built drawings. It doesn't. Moreover, not only is the wording of the MUDFA contract consistent with PB's argument, it is perhaps, more importantly, perfectly reasonable. Why wouldn't the MUDFA contractor be responsible for preparation of the as-builts? Put differently, why would the SDS Provider be responsible for preparing the as-builts for which the information produced by the SDS provider represents only a part of the works constructed?"* This was an attempt by TIE to put a responsibility for a MUDFA issue on us that we did not actually carry. An "As Built" drawing is undertaken once all the work has been constructed. It is a final drawing which sets out what is built in the ground. In the instance of this email these "As Built" drawings were to do with the utilities. My argument was that it was down to MUDFA to produce those drawings rather than PB. I do not know what ultimately happened and how this was resolved. Looking at the email chain now Steven Bell obviously went away

and did something different. I note he passed on the chain to Dennis Murray (TIE's Commercial Financial Manager).

480. I note the list of matter noted in an email dated 29 October 2008 by Steven Bell (CEC01159795). This is a list constructed in the normal course of events. This email shows Steven driving the programme. I do not think there is anything untoward there. I would not say that this email evidences on-going problems with design. All these issues were under action. It would be a reasonable conclusion to say that all these issues were resolved because the tram was ultimately built.
481. I note my email dated 30 October 2008 to Jim McEwan (CEC01149381). I was talking to Jim McEwan fairly late on in 2008 and telling him *"we do not have a trackform design. We do not have an OLE design."* From our perspective this was not an on-going problem with our design because this was not SDS design. This was INFRACO design. I am highlighting here back to Jim McEwan that the INFRACO does not have a trackform design nor does it have an OLE design. I then discuss our concerns about the BT diversions. This email does set out SDS problems. This email shows a set of wider project issues for Jim to take on board. Jim must have asked me what my views were on project progress. None of these issues were actually to do with SDS. The issues were ultimately resolved. Siemens did get round to delivering an OLE design. I have already discussed in depth what happened with trackform. TIE had to take responsibility for the lack of an overall construction programme. You could argue that the problems with BBS design development went all the way through to the Mar Hall settlement. With regards to delays due to the need to move BT cables post-MUDFA installation, ultimately, I suppose that was not a problem because that bit was not built.
482. I note the email dated 30 April 2009 by Tony Glazebrook (TIE00037854). Design assurance statements (DAS) were provided for a complete section of work. The overall DAS required INFRACO input. I note from this email chain that there were differences of opinion between TIE and INFRACO at this point. I note the final paragraph of Tony's email dated 30 April which states

"SDS has failed to do this so far in any DAS offering, whether informal or formal. Their offerings usually come with the implication "the answers are all in there, go and find them". This has not proved to be the case." This is probably the wrong use of "SDS". If we are talking about the incorporation of INFRACO design, then that was not an SDS responsibility. That was an INFRACO responsibility. We might be carrying it out for INFRACO but as PB (ie not formally as the SDS). This is obviously Tony getting worked up over completion. That completion did depend on input from Siemens. I do not recall this as an issue at the time.

483. I note the email by Mackenzie Construction Ltd to BBS (**BFB00058190**) noted their *"growing anxiety ... regarding the quality, timing and presentation of design information necessary to allow us to proceed in line with the programme"* and that *"Apart from anything else it is very obvious that the Construction and Design are not at the same stage at the moment"*. This is a typical example of SDS being highlighted because we happen to be last in the chain. I have already showed in my statement that there are numerous items of correspondence that show we had been delayed because we were awaiting information from others. The usual suspects in terms of information before SDS could finalise were the statutory utility companies. If we are talking about trying to exceed the client's expectations in terms of completion date, that is something else again. That is looking at accelerating the programme. All the above correspondence displays is evidence of programme issues rather than design problems. These are all to do with where various tasks lie on the integrated programme which, in turn, was dependent on the prerequisites ahead of those particular activities. I certainly would not infer from this correspondence that the problems were down to SDS. The problems were down to TIE's management of the MUDFA contract.

484. I refer to document (**WED00000162**). I do not consider that there were failings on the part of SDS after novation. We worked diligently with BBS and with TIE separately to deliver our part of the team effort. The picture is far more complex than the correspondence which has been shown to me by the Inquiry. We were one party in a complex arrangement under the ultimate

control of TIE as programme manager. It was TIE's responsibility to make sure everything was all mapped out adequately with proper attention to the critical path. I would deny that there were any consequences of such failings because they were not our failings. I do not believe that perceived failings on the part of SDS caused delay or increased cost to the tram project. I do not believe anything that we did delayed the critical path in relation to everything else that was happening.

485. I note the document produced by TIE in March 2010 entitled "*Project Pitchfork*" (CEC00142766). I note it contains certain criticisms of PB at pages 6 and 27 / 28. The first time I saw this document was when it was provided to me by the Inquiry. I note at page 5 the document discusses "*Slow delivery of design*". I have already discussed at length that the slow delivery of design was because of the other stakeholders ie the other stakeholders not providing the information or repeated changes being requested. I would agree there was a slow delivery of design but from our perspective it was to do with the other stakeholders. This document does state "*Slow delivery of design*" but it does not go into the detail of whose design was slow ie whether it was from the SUCs or INFRACO etc. Just because it says "*design*", you cannot assume it is SDS. There were lots of other people responsible for design. I completely refute the statement in this document that "*Performance of the SDS supplier has been poor during the entirety of the relationship between TIE and SDS.*" We sought diligently to deal with a client who was not able to manage the programme with stakeholders who requested change which was not allowed. I think that everything I have discussed previously in this statement regarding the agreements in mid-2007 through to the subsequent documents provided from TIE in early 2008 shows that we were being held back by events completely beyond our control. I certainly do not accept that there was "*poor quality... design requiring multiple iterations*". This document appears to have been produced in early 2010. A lot of this did not have any further status after the Mar Hall agreement. This is a document written in isolation. We were not involved in the drafting of this document. We were not offered the opportunity to respond. This document is wholly inaccurate with regards to its views on SDS.

486. I refer to the bullets on page 28 (CEC00142766). *"Slow mobilisation at the start resulting in the replacement of the SDS Project Director and Project Manager."* The slow mobilisation was as a result of TIE in actually getting the contract awarded. *"Geographic spread of SDS designers."* I have already discussed earlier on in my statement that this was not a problem. You have the geographic spread to make sure you have the specialists available wherever they might come from. *"Early lack of co-ordination / communication between PB and CEC."* I cannot see how that could be our fault. That was an area that was down to TIE to manage. *"Poor relationships between PB and their main sub-contractor."* I would disagree with that. There were isolated instances of having to manage our subcontractor but there is nothing unusual in that. *"Late delivery of design."* That was due to the late provision of prerequisites by others. *"Poor quality of design requiring multiple iterations."* I do not accept that for one moment. We would say that any accusation based on what happened with the roads design with CEC was down to CEC's unreasonable withholding of approval. *"Lack of understanding of the approvals process."* Hardly. We drove that approvals process and we understood fully the consequences of the contract. I would not accept any of that and the fact it was written without any opportunity for us to have a view renders this document as not having any status. As far as I am concerned these statements smack almost of desperation. This document certainly does not present any reasonable apportionment of responsibility for what happened. It is a very long document. I certainly would not give this document too much credence in any case against SDS.

487. I note that by letter dated 4 June 2010 (CEC02980078) Anthony Rush wrote to Nick Flew (Managing Director, PB (Europe)). I note that by letter dated 5 August 2010 (CEC00337893) DLA wrote to PB expressing concern *"over the programme and cost implications of the unusually high volume of design changes or alleged design changes that are still appearing and causing claims related to design development"*. I note that DLA sent a further letter dated 18 August 2010, that PB responded by letter dated 27 August 2010 and DLA sent a further letter dated 2 September 2010 (CEC00220025). I note I

CEC02980078
should be
CEC00298078

responded by email dated 3 September 2010 (CEC00098294). Looking at this correspondence together I do not think that the Inquiry has a letter of 22 September back to DLA. That letter sets out our position quite clearly in relation to agreements with BBS. We had an agreement for accelerating designs, which I have mentioned previously, however, we state quite clearly in our response to DLA in that letter *"Whilst we are able to confirm that arrangements set up with the SDS agreement have been agreed and put in place, we reiterate, as previously set out in our letter to you dated 16 August, that the terms and conditions of the SDS agreement have not been amended in consequence. Your understanding is correct. These additional agreements are outwith the SDS agreement. It is not therefore the case that "these arrangements would have a direct bearing on the performance of the project design commission" which Parsons Brinckerhoff has been undertaking since October 2005. Nor do we understand the reasoning which would conclude that these agreements should be viewed as evidence of "a straightforward breach" of our contractual commitments under the SDS agreement and following. Furthermore, given that the additional agreements are outwith the SDS agreement, they are covered by commercial confidentiality. We are not able to share them with you without the sanction of all parties to the agreements. This is the reasoning for our declining to provide you with copies of the additional agreements to date. The inferences set out in your letter dated 2 September arising from non-disclosure of the additional agreements are unwarranted and the arguments which you have sought to base on these inferences can readily be refuted. We propose that a meeting be convened ..."* ([]). The only copy of this letter I can find is a draft version but I do recall it ultimately being sent. It would either have been from me or from our legal team. It all went away. The letter came during the dispute between TIE and BBS. It all seemed to us to be a bit of an unprofessional approach by both DLA and by TIE.

488. All this correspondence relates back to the fact that post-novation overall design was the obligation of INFRACO to complete. The irony here is that Anthony Rush refers to trackform. I remember a meeting with Anthony Rush where he was trying to force us to accept a low-cost trackform solution. At the

meeting was Jason Chandler, myself, Tony Rush and Steven Bell. We were put under tremendous pressure to accept a low-cost solution by TIE in that meeting. We refused to do that. We were ultimately proved to be right when Princes Street was opened up for construction and the ground showed that the quality of the ground did require the higher cost, higher quality solution we had provided. After that, we did not hear any more from Mr Rush. There was very significant pressure being put on a number of parties in mid-2010. Our understanding was that TIE was under severe pressure and this was an attempt to put in a bad light how we were working with BBS. We did not feel this approach was warranted at all.

489. There was an agreement for acceleration of certain aspects of the design between us and BBS outwith the SDS agreement. It would be wrong to suggest that we were doing anything other than trying to move the job along. The purpose and main terms of the agreement was to progress the job more quickly.
490. I do not think there was a meeting held to discuss the matters in these letters. I cannot recall one. After my letter everything seemed to go away. It must have been fairly shortly after this that work started to get to the point of the final settlement agreement. I cannot recall a meeting being held.
491. Logically all of the design for phase 1a and phase 1b was never completed and approved for no other reason Picardy Place had always been outstanding. The final requirement for Picardy Place was never completed by CEC. There must have been work that could not be completed because of Forth Ports as well. I think it depends on how you define "completion". There was a packaged product for 1b that was closed off in a logical fashion so you could say that was done. Whether it was all fully approved, I cannot remember. Given my experience of CEC I doubt it was fully approved.
492. I note that on 16 September 2010 Steven Bell sent me a letter (CEC00203046) entitled "*Novation Agreement/Collateral Warranty – Scope*". I cannot remember this letter. I have nothing contemporaneously from that time

to show I responded. From my perspective, looking at this now, this letter just re-states what is set out in the novation agreement. This letter probably came about because Steven was grappling at the time with problems with MUDFA. At this point, I was not there anything like full-time. I did still keep in touch though. We were working amicably. I suspect this is Steve figuring out exactly where the boundaries lay with the various obligations. I do not recall it being a major issue at all. I really cannot remember this letter and I cannot find anything in response.

493. We were not formally involved in the mediation discussions to try and settle the dispute between TIE and BSC at Mar Hall in March 2011. After the discussions had taken place, Jason Chandler and I were invited to have a meeting with BBS after the event. I do remember witnessing one session. We had been called along to meet with BBS. We were invited in to hear somebody say something. It was virtually nothing. It is fair to say we did not play a part in the discussions.
494. BBS were the ones negotiating with TIE. They were the ones who had an obligation to us under the terms of the INFRACO agreement. They had an obligation to make sure our interests were properly represented.
495. The meeting with BBS after Mar Hall was purely to allow us to gain a view on how the discussions were proceeding. The consequences of those discussions were then formalised in terms of what was done subsequently. The meeting was to provide us with an update. Prior to Mar Hall, through 2010, the parties were diverging. I suppose the question that was being discussed at the meeting was "*was this going to carry things forward?*" We were more looking at the bigger picture at the meeting. We did not look at anything in detail.
496. From our perspective, the outcome of Mar Hall was that the job started moving along. Colin Smith and the Leader of the Council, Sue Bruce, had obviously had a significant part to play in those negotiations. There was an

absolute change of culture. Things were driven through and everything started to move much more productively.

Detailed Design (April 2011 to completion)

497. Following the discussions at Mar Hall in March 2011, a Settlement Agreement was reached in September 2011 for completion of a line from the Airport to York Place. I do not recall any specifics as to how PB's interests were taken into account in the September 2011 Settlement Agreement. I was pretty well out of it by that point. I was still visiting but this was just formalisation of the scope required to completion. There were numerous instructions given by BSC for the delivery of design packages by PB in the period from April 2011. The instructions cover packages of work ranging in value from a few hundred pounds to several tens of thousands – as would be expected during this phase of scheme completion. PB did continue to complete the design during that period under instruction from BBS. I do not recall that there was anything untoward with regards to completing design during that period. There were several detail commercial issues which were addressed and resolved between the parties but nothing untoward.
498. I note that an email dated 22 March 2011 by Jason Chandler (**TIE00686402**) noted *"Issues between TIE and SDS relating to MUDFA and incentivisation"*. This email is about our concern over application for payment. We are saying that we have not got a response to our application for payment for 20 October relating to these issues. This is part of the separate agreement with TIE for our continuing support to the MUDFA programme. This is us pressing for payment against that entitlement. You would need to talk to Jason Chandler to obtain the precise detail behind that. This email concerns the matter of being paid for what we have done. I am assuming Jason then met with Steven Bell and it was resolved. It must have been resolved because we ultimately did not end up with any problem over payment.
499. I note the email dated 18 July 2011 by Simon Nesbitt of BB (**BFB00097314**) noted difficulties with Version 72 of the design programme and commented that *"SDS has continually failed to issue the Design Programme on time"*. I note that Mr Nesbitt raised similar concerns (in relation to Version 79 of the

design programme) in an email dated 21 December 2011 (BFB00098756). This correspondence is to do with the issue of the programme. We had implemented a change in planning resource. We were delayed issuing the programme. Jason Chandler is acknowledging that and saying that PB were putting additional planning support in place to get on with the programme as quickly as possible. Simon Nesbitt's comment that "SDS has continually failed to issue the Design Programme on time" is a bit of an exaggeration. There may have been one or two but we are at Version 72. This is 72 months in. This is Simon putting pressure on and making a point. It is the way BB, as a contractor, worked to put the pressure on us to recover the position. If it was suggested to me that this email is evidence that PB were continually failing to issue the design programme, I would say this was at a point where we had particular pressure on our planning resource. Yes, we might have been late but the working relationship between Jason and Kevin Russell got things back on track.

500. With regards to Simon Nesbitt's email dated 21 December 2011 concerning version 79 of the design programme. The programmes are a matter of formal record. They were important and BB did need the up-to-date programme on time in accordance with the contract. This is Bilfinger doing what you would expect in preparing the ground. We addressed those concerns.
501. I note the email dated 13 September 2011 from Simon Nesbitt (BFB00097924) noting further slippage in the design. I note Graeme Lang (Project Leader, PB) responded on 16 September 2011 (in the same chain). My understanding of what is being discussed in this correspondence is minimal. Graeme's email sets out the counter-argument. This correspondence is normal course of business between us and BBS as the construction consortium. BBS would be stating their frustrations because they were the contractor. They were pushing for completion. We are now past the point of the agreement having been reached so INFRACO now had more risk. They had to be completing on time. However, Graeme, our project manager at this point, responds back to BBS and says "With the successful conclusion of the contractual discussion, your assistance in unlocking the information flow from

CEC and Infracore will allow SDS to meet the overall outturn date for the close out of the design." This is Graeme recognising that BBS were having a go at us and having a go back. This is all part of normal course of business. I note Graeme says *"In addition, we require further instruction from Infracore and CEC regarding the design of York Place tramstop, St Andrew's Square Public Realm, Tower Place Bridge steps to allow the release of the design works."* This is Graeme saying in return to BBS's comment that they needed something from us that we needed something from them. This is all part of the continuing completion which was working pretty well. BBS now had more responsibility as a result of the Mar Hall agreements. They were at this point trying to make sure they maximised their returns.

Changes to the SDS contract

502. There were no changes to the SDS contract. The changes to the contract terms and conditions occurred at novation. The main change, as I have said, was to change the order of priority for approvals and consents. That was the only change to contract. There were detail changes to the scope of work through the change order process. The Employer's Requirements were changed following instruction from TIE. However, the terms and conditions of the SDS contract remained the same. The terms and conditions were only changed at novation.
503. PB's time and resources were taken up as a result of discussing and agreeing changes. That did affect the progress of the design. We spent time discussing the changes. However, when you spend time discussing changes you simultaneously spend time addressing and resolving outstanding design issues. The time spent sorting out the Employer's Requirements prior to novation did not really divert resources away from PB addressing and resolving outstanding design issues. The addressing of that issue was done at management level. The consequences of that instruction then had to be engineered. There was then time spent executing the instruction. That was something that was brought about by TIE.

504. I would agree that there was a lot of time spent talking about critical issues and approvals and consents that could have been better spent on getting on with the rest of the design. Rather than forever talking about the detail of a tram stop with TIE / CEC we could have been just getting it done and moving onto the next thing. We did spend a lot of time talking about things rather than spending time delivering. That was absolutely the case in the period up to mid-2007. That was when we drew the line and essentially called a halt.
505. With regards to claims, what we were doing was making sure we were administering the contract in line with delivering on our obligations and being rewarded for it. We were making sure that where change was instructed we were properly remunerated. Our attitude was that we really did not want to be making claims. We wanted to be agreeing change orders as we went along. The reason the first claim was required was because TIE had not taken a reasonable view of change under the contract provisions.
506. The process was that we were negotiating a reasonable position in relation to the effort expended in line with the obligations. What we were doing was administering the contract to arrive at a reasonable financial position. We had to put significant effort into defending our position because of the prolongation in the early days and the fact that TIE initially did not accept that the large volume of change constituted variation. Making claims was a long and arduous process. You have to make sure you are dealing with the changes as you go rather than having to make claims after the event.
507. My first email to John McNicolls dated 16 October 2007 (PBH00029500) sets out the cost of the EARL change. That work was started on 17 July 2007. This is my reminder to John who was my financial controller. This for us was an opportunity to get a quick payment of that sum of money with the project under financial pressure. My use of the phrase "*an opportunity to earn some fast bucks*" was made from a cash flow point of view. To put things into perspective, we were under tremendous financial pressure. The Edinburgh Tram Project was number 2 on PB's list of global problem projects. That was

the reason why I ended up drafting my weekly reports. My reports were sent to New York as we went along.

508. I note I state "*is this justifiable grounds for a claim?*" and use the phrase "*claim material*" in my email dated 29 October 2007 to Alan Dolan (PBH00030087). This email exchange came against the background of there being several on-going issues due to Forth Ports. This email exchange concerns a significant change down in the Forth Ports area. That had been alerted to Scott Ney (our section designer). I then asked Alan Dolan (our engineering manager) whether this was grounds for a claim or was it within the normal obligation. Alan is confirming that there were grounds for a claim. That design was on the critical issues list. We now needed an extension of time. Because of this we need to find the extra budget. This email exchange is an example of a significant change from one of the stakeholders which gave a right to claim additional monies.
509. I note David Gibb's email dated 6 December 2007 noting a concern by Jim Cahill that the "*printing presses*" will start churning out changes (PBH00014923). David Gibb was our local commercial manager at that time. We did get the certification for these changes. The main issue was that we were paying for all these changes. The job was changing around us. The change register was a long document. It does not surprise me that looking at these emails shows we were keeping on top of it. I make no apologies for making sure we are protecting our position through making claims where there was justifiable cause. Our primary intent was to make sure we had the change register kept up to date by both parties so there were no surprises. We were there to make a profit when it comes down to it. That did not happen on this job. We did, however, reduce our losses and made sure that we were administering the contract in a reasonable fashion. When a major stakeholder like Forth Ports is making substantial change then we had a right to make a claim.
510. This correspondence shows PB defending its contractual rights and making sure that TIE, as the client, adopted a reasonable position in administering the

change process under the contract. TIE did not do that for the first 18 months. TIE did not do that until I got there. My remit for being there was to recover our commercial position in light of a client that was not accepting change and thinking that "fixed price" meant they were only going to pay a fixed sum for whatever they wanted us to do, no matter how much change was involved.

Project Management and Governance (and final observations)

511. TIE as project manager were not given the independence they required to control the contracts and the programme. The main problem with the project management was that too much change was accepted by TIE as project manager. That led to a serious prolongation and, ultimately, the scope not being delivered. As far as governance was concerned, I think there was probably insufficient time given to getting expert advice on how the scheme should be delivered. The governance was probably too inward-looking. It did not look for best practice in delivering a light rail scheme. These are my observations made on the basis of my experience of other projects.
512. I think a pre-existing project management company would have delivered the independence required for the project management function to be delivered more productively. When you look at the way we do things in Manchester, the focus is very much on QRA. I did not see that being carried out on the Edinburgh Tram Project. I saw too much acceptance of the changes requested by the stakeholders. There appeared to be no counterpoint. It appeared that the stakeholders were not being told that their requested changes resulted in extra risk. As far as I could tell that feedback was not being given to stakeholders (albeit I appreciate that I was not party to all the negotiations between TIE and the various stakeholders). It seemed that the project started to run out of control after we had delivered the preliminary design. It was after then that significant change was requested through the charrettes process and everything else. That put a year's delay into things without any doubt.

513. 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.
514. From a stakeholder management perspective 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. 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. An example of such issues is tram stop 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. There were failures properly to apply TIE's contracts with the SUCs.
515. From a delivery management perspective: the contractual period for review of the preliminary design was prolonged by several months. There were numerous changes after completion against preliminary design and there were late change instructions which impacted on the completion of the design. 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. The TIE failure to drive forward detailed design was only overcome as a result of the SDS email to TIE (David Crawley) in June 2007. Delays were experienced in interface management, notably as a result of the emerging design for the EARL project. 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 did not work.

516. I would like to take this opportunity to make one positive comment which is that I held Willie Gallagher in very high regard. I thought he was an exceptionally good executive chairman in the way he conducted the TIE business. That should not go without being recognised.
517. TIE were not fully conversant with the provisions of the contracts with the statutory utility companies. I suppose the kindest thing to say would be that Steven Bell was inadequately advised on this issue and therefore took courses of action that probably were not the most effective. Like everybody else, he had a lot to grapple with. He was out of his depth on this particular issue. I would not raise that as a general observation. Steven worked very dligently, particularly once Matthew Cross had left the project in early 2008. Steven took on the load of getting the thing across the line with Jim McEwan. Steven and I worked very closely through that novation period. We worked very effectively together. We can all look at ourselves and find instances of being out of our depth.
518. A further issue was the role of CEC as distinct from TIE. 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. 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. 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.

519. PB are proud of what is running in Edinburgh. We think it is an exemplary system, albeit a third of what it should have been. We are proud of the design that is out there. That is demonstrated by the quality of the operation.
520. In general summary, the adverse consequences in time and cost with the Edinburgh Tram Project primarily arose due to the failure to apply the Business Case and the failure to apply sufficiently rigorous project management, particularly in respect of the management of stakeholders in relation to change. 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. 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.
521. All projects are unique. The key objective with projects like this is to ensure you meet public expectations. Unfortunately, due to the reasons I have already mentioned, public end dates were not met. That led to deterioration in confidence and led to problems with the culture. That was recovered at Mar Hall through the intervention of, particularly, Colin Smith and Sue Bruce.
522. When I compare the Edinburgh Tram Project to the Manchester Tram Project there are significant differences between the way the project was procured and delivered. It all comes back to the independence of project accountability from the project manager.

FURTHER COMMENTS

523. What I have continually come back to in this statement is that PB were being held due to events outwith our control. I believe that the documentation from early 2008 onwards shows that virtually all the delay relating to completion of

the design was as a result of us awaiting action by others. It is certainly true that at several points along that timeline we were being criticised unfairly.

524. I hope that the report produced by the Inquiry accentuates the positives. I hope that this Inquiry doesn't take away from those positives as that may affect the future development of further light rail for the city and for Scotland as a country. I hope the report provides objective criticism and looks at solutions going forward against the problems that undoubtedly were experienced. There was a lot of good work done. Inevitably, with a complex project, the whole can suffer because of problems in fairly isolated parts of the delivery.

525. I confirm that the facts to which I attest in this witness statement, consisting of this and the preceding 194 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.

Witness signature

A large black rectangular redaction box covering the signature of the witness.

Date of signing... 04 - MAY - 2017

October 2015



THE EDINBURGH TRAM INQUIRY
WITNESS STATEMENT OF STEVE REYNOLDS

CONTENTS

1. Introduction	3
2. Project Overview	6
3. Chronology of Events	11
4. Core Issues	33
5. Summary	39
6. Declaration	40

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 Infraco 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 Infracore scope of work; and the management of the procurement of Infracore.
- 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 Infracore 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