

Edinburgh Tram Inquiry Office Use Only

Witness Name: IAN WILLIAM KENDALL

Dated:

THE EDINBURGH TRAM INQUIRY

Witness Statement of Ian William Kendall

Introduction

1. My full name is Ian William Kendall. I am aged 57, my date of birth being [REDACTED]. My contact details are known to the Inquiry.

2. My role in the Edinburgh Tram Project (ETP) was as at Transport Initiatives Edinburgh Limited (TIE) between 2003 and 2006. During that time I was:

2.1 Procurement Director for TIE from September 2003 to July 2005; then

2.2 Tram Project Director of the ETP for TIE from August 2005 to May 2006.

3. My main duties and responsibilities were in relation to the conclusion of the Operations Contract, design of the ETP, planning for utilities diversions and in the procurement process for the Infrastructure Contract (Infraco).

Professional Background

4. I summarise my professional background before coming to the ETP below.

Qualifications

5. I hold a number of qualifications:

5.1 A Bachelor of Civil Engineering with honours from the Queensland University of Technology in Brisbane;

5.2 A Master of Engineering Science from the University of New South Wales (obtained 1987); and

5.3 A Master of Business degree obtained from Deakin University, Victoria, in 1987.

Professional Experience

6. I have worked on a number of rail related construction and engineering projects in Australia and New Zealand. In Australia, I worked for a company called John Holland which is the largest railway construction contractor in Australia.

7. I worked in business development for civil engineering projects and the division of the company concerned with rail works was part of the civil engineering unit. I was involved with the track maintenance works in central Melbourne where a significant tram system is there in operation and also on heavy rail around the country particularly in Queensland and Western Australia.

Croydon Tram Link

8. I came to the UK in 1995 and my main experience in this country relates to the Croydon Tram Link (CTL). The CTL was a 28 km tram scheme in South-East London running through Croydon, Wimbledon and Beckingham.

9. The CTL was conducted on a private finance initiative (PFI) model and involved a consortium of parties participating in the project, including:

9.1 A Design and Construction Contract (an infraco agreement) which went to a joint venture between Sir Robert MacAlpine and Amey plc.

9.2 A tram supply contract, awarded to Bombardier which was sub-contracted to the infraco agreement for Croydon.

9.3 An operations agreement that was run separately from the Croydon infraco agreement.

10. These arrangements all came under a consortium company called Tram Track Croydon Ltd (TTCL) and I was a director of TCL.

11. For the TCL, I was the Project Director on the delivery files. I was involved in the CTL throughout the process up to operation of the tram.

12. I then took a period of 15 months during which I worked in the City of London before joining Amey plc. There, I was Managing Director of Light Rail and Metro, for around three years during which I had on-going involvement in managing the operation of the CTL. I was involved as a director of the operating tram concession company for the next three years.

13. Through the CTL, I would have said that I was one of the few people in the country who had had the experience of being involved through the tendering process, the negotiation process, financing process, award process and delivery process and then into operations of tram system.

Roles at TIE

Recruitment

14. In around mid-2003, I had a discussion with Michael Buchan of Partnerships UK (PUK) who I knew from the CTL and Amey. He recommended that I make contact with Michael Howell who was involved in the ETP which was then going through feasibility work and the Parliamentary Bill process.

15. I then had a meeting with Michael Howell and, at that time, there was a process going on for TIE to appoint a permanent Chief Executive Officer (CEO). I applied and was interviewed in Edinburgh. I was unsuccessful but I had made enough impression, I suppose, that Michael Howell called me after he was appointed as the permanent Chief Executive of TIE. I then met with him again

and thereafter with Graeme Bissett and Alex Macaulay. Alex Macaulay was the Project Director of the ETP at that time. I believe that following those meetings it was agreed that I would join TIE on a consulting basis. I recall this was in about September 2003.

Roles at TIE

16. I was initially brought in as Procurement Director though at that stage it was really more Operations Director. I believe in minutes of the TIE Board minutes I was referred to as Operations Director and then Procurement Director.

17. I have an email of 29 July 2005 from Michael Howell (CEO of TIE) announcing my appointment as Tram Project Director replacing Alex Macaulay (the initial Tram Project Director) who relinquished the title and went on to other things at TIE. As of October 2005, I was described as “Project Director – Trams” in TIE’s Tram Team Organisational Chart (**CEC01856773**). That was my title until I left TIE in May 2006.

18. I then became Project Director until I left the ETP. At a certain point, a transition in the activities of TIE occurred. With the Operations Contract and Systems Design Services (SDS) Contract in place, we were moving from a Parliamentary process-driven operation in the main (which was excellently run by Alex Macaulay and Barry Cross) to a project delivery time methodology. For this, the skillset that I possess, became more compelling in terms of now needing to put the project into the market place, deal with contractors and deal with engineering companies. It was thought that I would be the best candidate to move into that position.

19. I have a consulting contract for the latter part of my involvement with TIE, done through my consulting company and dated 20 June 2005 with amendments in June 2006 (**CEC01710958**).

Initial reflections

20. Coming to TIE, I carried in my head a lot of information from my previous experience. I knew the way in which the CTL project had performed financially from top to bottom, inside out and upside down.

21. I knew how much the bid for the construction price was, I knew how much the construction contractor had lost, I knew how much they tried to claim from the concession company, I knew how much they did not win, I knew therefore the strength of the contracts that were existing there.

22. I remember being asked pointedly by Mark Bourke and Geoff Duke who were working for Alex Macaulay on the aspects of the project and with Andrew Callender (his Deputy Project Director) at that stage, about the costs of utilities diversions in city centres and how long things take and so I gave them some specific information which could only have come through my roles and helped, if you like, in that benchmarking process, however I would not have said that that was primarily the bulk of the work. Obviously Michael Howell was interested in understanding what I could do and how I could fit and they were talking about “when we move in can you be Construction Director basically looking at how the organisation could evolve”.

23. Obviously the primary focus, at that stage, was on Parliamentary approval and the passage of the Tram Bills through Parliament but until that happened, there was not, as yet, any overall procurement strategy and there was no overall budget funding for the project going forward. In fact after Michael Howell signed the Operations Agreement with Transdev on behalf of (what became) TIE, we had to effectively not start it because we did not have funding for it to do so.

Interactions within TIE

24. At TIE, I had lots of interactions with Michael Howell and Alex Macaulay, Graeme Bissett, Stewart McGarrity (after he came into the company) and perhaps to a lesser degree with Barry Cross. It changed over the time I worked there. Michael Howell was more involved in and interested in the Operations

Agreement; Alex Macaulay had his head down with Barry Cross (TIE's External Relations Director) on the Parliamentary process while we were doing the Operations Agreement so it was Michael Howell who I was talking to mostly for that.

25. When we were doing the procurement, there was a lot of interaction with Alex Macaulay. Then when I assumed the Project Director role there was a direct reporting upwards to Michael Howell and also relationships with others such as Graeme Bissett, Barry Cross, Stewart McGarrity (TIE's Finance Director), Gerry Henderson and Willie Fraser (of TIE).

26. In terms of reporting, I reported to Michael Howell, the CEO of TIE. The staff reporting to me included Barry Cross who was the Deputy Project Director (for the ETP) and whose focus was on the completion of the Parliamentary process, and the management of the City of Edinburgh Council (CEC) in all of its facets for the project. That was his strength and his main focus.

27. Willie Fraser was managing the closure of the Parliamentary process and the objections removal process: we had 300 objections that had to be removed. Stewart McGarrity was the ETP Finance Director. Stewart had a lot of input, as did I, with Graeme Bissett who was TIE's Finance Director. So there was a specific ETP Finance Director reporting to me and a TIE Finance Director and Stewart McGarrity reported to both.

Bonuses and incentives

28. From September 2003 to mid-2004, TIE did not have an incentive scheme. Around mid-2004, Michael Howell wanted to institute a bonus regime.

29. In my case, it turned out to be very simple. Michael and I agreed that, and I believe my day rate was £850 a day, that TIE would pay me £700 a day until we hit a series of targets. If at the end of the year, we had made those targets then TIE would make up the difference of £150 per day. I was okay with this.

30. In terms of setting the targets for me, I was then asked to agree a series of them with Alex Macaulay because I was working on the ETP and he was the Project Director. The targets related to things like the award of the Technical Support Services (TSS) contract, the award of the SDS contract and getting those things in place in 2005. They were related to milestones to be achieved in the programme in the calendar year.

31. In terms of other people's bonuses, I do not really know. The staff reporting to me who were TIE employees did not have a bonus scheme. It was not uncommon for people to be employed on that basis.

TIE's culture

32. TIE was pitched as a company where you could come and do multiple projects. It was not going to be a one trick pony and at that stage there were multiple projects going on including the congestion charging scheme (which Alex Macaulay was project managing as well), the Edinburgh Airport Rail Link (EARL), the tram project and some other smaller project management projects.

33. We spent time as the Management Team of TIE under Michael Howell, (myself, Graeme Bissett, Alex Macaulay, Susan Clark and others) working on strategy for what TIE could be. It was not that TIE would just be these projects then would collapse; we were all interested in TIE being developed further.

34. TIE was a small company which was evolving and developing because it was project specific. It was largely developing and being operated initially in silos but as projects moved forward then we had to evolve a project management culture. For example, I was challenged to develop a safety management plan and safety approach for the whole of TIE not just for my tram project and I was happy to do that.

35. In 2004 we had got the projects starting to run, and in 2005 we had more people coming in. We realised that we needed to further enhance and develop

the management systems to be able to run any of the projects . Certainly one of the things that I knew was that I needed to pull in people to improve skills through the TSS Contract for the ETP. The ETP was going so fast, our project and team were growing bigger and we were starting to dominate TIE.

36. At TIE, we ran some events which were trying to develop camaraderie, spirit and culture. We were trying to develop that.

37. I think that was working throughout 2005 but the wheels started to come off in 2006 due to, I believe, the imposition of Transport Edinburgh Limited (TEL)(I discuss this further at para 0 onwards and para 723 onwards of this statement.

Interactions outside TIE

38. There were a number of external parties I interacted with.

38.1 At DLA Piper, who were TIE's legal advisors, I dealt with Andrew Fitchie and Sharon Fitzgerald.

38.2 At PUK, Martin Buck and James Papps were my principal contacts. I had a good working relationship with them. This was one of James Papps' projects and they were supportive and helpful.

38.3 At Mott MacDonald, I dealt with David Hand and we also dealt with Faber Maunsell. Both were consulting engineering firms who provided support on the development of the ETP.

38.4 At Transdev, the tram operations company, I dealt with Andrew Wood who was their project director until he left the project. The relationship with Transdev was fine.

38.5 At Parsons Brinckerhoff (PB), we were dealing with David Hutchinson for the SDS contract; .

38.6 For the Technical Support Services (TSS) contract we dealt with Scott Wilson Railways Limited (SWR) and Turner & Townsend.

38.7 At CEC, I had a lot of dealings with Keith Rimmer and with Andrew Holmes. Keith Rimmer was in charge of the transport department of CEC. We explained procurement strategies, design strategies, how we were getting on, how the project was going, what our progress was and what the expectations of the programme and project were going to be with respect to the CEC. Andrew Holmes, who was City Development Director for CEC, and I interacted at Board level and, after I became Project Director, I think we had monthly meetings directly in his office.

38.8 In terms of the Scottish Executive, I was in touch with Damian Sharp and the rest of the team at Transport Scotland (TS).

38.9 At Grant Thornton, Katie Howatt was a financial advisor. That went well but their contract came up for renewal. I cannot remember exactly what the reason was but it then went to a new procurement process. Grant Thornton did not win the next stage and Price Waterhouse Cooper (PWC) did.

38.10 At Transport Edinburgh Limited (TEL) and Lothian Buses, the main contact was Neil Renilson.

Relationship with CEC

39. We worked with CEC on development of the procurement strategy and its execution and then directing the completion of the Parliamentary process including the review of the engineering safety management, cost management, revenue forecasting and contract preparation.

40. I would say that all worked well albeit that there were times of extremely high demand and stress. The relationship with Lothian Buses, however, was challenging from the beginning (I discuss this later in my statement at paras 719 and 722).

Relationship with Transport Scotland

41. For TS, we tried to make sure that we were able to explain the delivery strategy. We were subjected to a lot of review by Transport Scotland and its advisors as to whether or not we had understood and assessed the project to a level of their satisfaction. In other words: could we demonstrate factually that we were on top of it? That happened throughout the process and therefore I was involved with meetings with them.

42. There was an increasing level of scrutiny from TS. What was light scrutiny in 2004 had become heavy scrutiny by 2005.

Relationship with DLA Piper

43. DLA Piper worked well when they were managed well. We had a good relationship over the Operations Agreement, for example, the TSS procurement and the SDS contract.

44. There was a bit of stress in the SDS relationship as volume of work increased. There were two principal people working on it – Andrew Fitchie and Sharon Fitzgerald – and they delivered what we expected of them at the end of the day.

Relationship with SDS partners

45. The SDS area was the cause of pretty serious concern, as I explain in more detail below (at para 571 onwards). I would say the relationship was professional and they knew they had a problem and I knew they had a problem and our task was to try to resolve it.

Relationship with Lothian Buses

46. I do not think that Lothian Buses wanted the ETP to happen at all. I think I felt that in 2003. The first day I came in, somebody expressed their surprise that

we had allowed First Group through as one of the four competitors for the Operating Contract. They asked whether I understood the antipathy and animosity between Lothian Buses and First Group. My response was that I was not interested in that: my job was to deliver the tram project.

47. I think the Inquiry should review the evidence given to the Parliamentary Inquiry by Lothian Buses to determine exactly what they thought of the tram project (and I say more about this later in my statement at para 734 onwards and para 756).

Operations Contract

48. At the time I was appointed in around September 2003, the appointment of the operator under the tram Operator Contract was coming along and it was that assignment that I was primarily tasked with delivering.

49. In Croydon, I was involved with the PFI project which included an operations contract of 30 years won by First Group. I supposed therefore had the best experience and was assigned to run the procurement process for the Operations Contract. That was something I did until about May of 2004 when that contract was awarded to Transdev.

50. We went through tendering, an evaluation process, an award process, negotiations and finally we reached the decision that of the four bidders we preferred two of the four, those two being Transdev and First Group; we excluded Keolis and Serco. We recommended Transdev, that was accepted by the TIE Board and TIE entered into a contract with Transdev.

Procurement Process

Initial Reflections

51. I became involved in the development of the procurement strategy which had been worked on in outline and which was done through a working group

chaired by Alex Macaulay (the Procurement Working Group). Going through the procurement process, it had really started with PUK talking to me, even before I came into TIE, about what I thought might be a good way to go about getting this tram project to come together. What would we do to get the best risk transfer and an affordable project at the same time?

52. I had been sitting up in Peterhead, where I was running a waste management company, before I came to the ETP and had worked out the nuts and bolts of most of the procurement strategy that then got deployed.

53. That then unfolded over a number of months, it was not a five minute exercise. There were regular meetings, which Alex Macaulay chaired, and there was input from Katie Howatt from Grant Thornton, James Papps from Partnerships UK, Andrew Fitchie from DLA Piper and Sharon Fitzgerald also from DLA Piper. We worked through the ideas and set up an evaluation strategy in a risk methodology to review the impacts of the attributes. We reviewed the pros and cons for different procurement approaches, whether that be an NEC-type contract (the New Engineering Contract is an industry standard form contract r basis for contracting), a PFI bid and all of the shades of grey in the middle. We were reviewing and discussing and trying to find the right attributes. PUK was a key ally and supporter of TIE.

Initial Proposals

Cost estimates

54. I have been asked to consider what role I had in producing costs estimates for the ETP and who those were discussed with both inside and outside TIE.

55. I was not directly involved in the production of costs estimates. Mark Bourke, with Geoff Duke, was handling all of the risk management, the approach

to the Optimism Bias and the Treasury inspired budgetary process. They were working for Alex Macaulay.

56. They obviously had consultants working with them. Those were Mott McDonald and Faber Maunsell. Faber Maunsell's experience, in particular, had been very recent on the Nottingham tram project where they were the design engineers for Carillion. Nottingham had been a PFI project and Carillion lost a lot of money. Faber Maunsell knew that, although not exactly how much. The point is, that Faber Maunsell had relevant experience on the overall cost associated with and the engineering of trams in the UK.

57. At this time, I was in the main handling the procurement strategy (and other aspects of the project) and that process was running in parallel. While I was not directly involved in the production of estimates, there were internal and external discussions with myself and with Mark Bourke and Geoff Duke.

58. I initially provided a suite of cost information, which was private and confidential information, regarding CTL which had a number of factors in it. These would include things like the average cost per kilometre for utilities in a main street. Croydon had 3.5 kms of diversions and I wondered how would that play against other cost estimates. I provided that sort of benchmarking information that came out of CTL.

59. Predominantly preparation of costs estimates was done at the direction of Alex Macaulay and he had Andrew Callander (his Deputy Project Director), Geoff Duke and Mark Bourke. I cannot remember if Willie Fraser was in that team as well. They also had consultants producing reports one of which would have been a cost estimate.

60. I have been asked about the capital costs estimates produced in the second quarter of 2003, the relationship of those values to the costs figures in the Outline Business Case, produced in March 2006 (**CEC01856896**) and whether those figures were updated during my time at TIE.

61. The 2003 figures predate my arrival at TIE and must have been prepared under Alex Macaulay's team. I believe Michael Howell was interim CEO of TIE and Alex Macaulay was Project Director. Faber Maunsell and Mott MacDonald were engaged to support the development of the Parliamentary bills for Line 1 and Line 2 and the budgets will have come from them. I believe there will be a formal report on those estimates from the consultants.

62. In terms of how "solid" the costs estimates would have been and the information they would have been based on, I can only comment that Faber Maunsell was previously a consultant on the Nottingham tram project, had relevant experience from that and their general business, and that should have known about such matters.

63. In terms of the assumptions made about scope and design of the ETP that would have gone into the estimates, the primary assumptions would have been about the route, the number of stops, the number of trams, run times, how many bridges would be necessary, how much on street track works would be required and therefore how much the utilities budget would be. There would be estimates of delivery times for an overall programme, in other words could it be done? How long was it going to take to get this job built?

64. I have been asked whether the initial estimates formed the basis of the capital costs figures in the Outline Business Case, produced in March 2006 (**CEC01856896**)(at 5.3.1 to 5.3.3). By the stage of the Outline Business Case, other work had gone on and additional estimating had been carried out so I would say that these are not the same figures.

65. By March 2006, we were well within my period of involvement and we had, sometime previously, resolved and changed a number of things within the ETP which had required revisiting the budgets in terms of capital costs and part of those capital costs were already covered by contracts which TIE had entered into.

66. I have been asked how and by whom the estimates for capital costs were revised between 2003 and 2006. We had to revise the estimates for capital costs inflation. The government grant that had been committed by Ministers (subject to everything else coming into place), had been committed on an unindexed basis and that was in 2002 or thereabouts. By 2006 we had construction costs inflation of 5 per cent to 8 per year compounded over five years. And this would increase further over the two years to get the project up to the mid-point of the construction.

67. We were talking about a substantial difference between what £325m could buy in 2002 and what it could buy in the middle of construction or at the end of the construction/delivery process. I brought this to the attention of the Board on the first day of one of the Board meetings (I cannot remember which one). This inflation cost would have been a major problem which would have basically meant that the cessation of Line 2 at Murrayfield.

68. I have been referred to a set of appendices for the STAG Report on Line 2 dated 28 November 2003 (**SCP00000011**). That includes a Project Cost Report by Faber Maunsell (pg 286 onwards). I have been referred to figures dealing with cost and Optimism Bias from pg 296 of that report but from July or August [], those figures would have been under the responsibility of Gerry Anderson who was my commercial manager and had a couple of quantity surveyors working for him. Stewart McGarrity was also involved in revising the Business Case going forward. At the time, they both reported directly to me.

69. During my time, responsibility for updating the estimates lay with the board of TIE of which Michael Howell was CEO all throughout my tenure.

Benchmarking

70. I am aware that TIE carried out benchmarking of capital costs for the ETP against other UK tram schemes and I have been asked to discuss who and what

was involved in that exercise and whether these were reliable by reference to a number of documents which I mention below.

71. TIE carried out benchmarking of these capital costs against other operational tram schemes in the UK. For instance, these can be found in the following documents: STAG 2 Appraisal: Line One, Northern Loop, New Transport Initiative (para 8.3.4, at pg 215 of **CEC00632759**).

72. A lot of the benchmarking was focused on the CTL case as that data was available. Mott MacDonald had worked on and knew a lot about the Manchester tram scheme and Faber Maunsell had done a lot in relation to the Nottingham Scheme. That covered three of the four operating tram schemes that the UK had and that was as much information as we could get.

73. I believe that Mott McDonald and Faber Maunsell carried out the benchmarking but I provided information for them which would have been passed through Mark Bourke or Geoff Duke.

74. I do not believe that the full benchmarking reports would have been submitted to the board when the Draft Business Case came to be prepared. Instead, the out-turn costs estimates, which were high-level numbers, were what was primarily given to the board. The nuts and bolts would have been in reports, and those reports would have been available, but I cannot remember whether those reports went to the board.

75. Some of the benchmarking work makes reference to cost overruns of *“up to 25% of award construction cost”*. This figure is included in the STAG 2 Appraisals for both Line One (**CEC00632759**, at pg 215, para 8.3.4) and Line Two (**TRS00000043**, at pg 140, para 9.3.5). Award construction costs are the original sums to be found in the relevant contracts. I believe this 25 per cent figure came from the CTL. The face value of the CTL infrastructure contract in November 1996 was £180m. That contract ran over time by six months and there was a £40m overrun on costs. That means around a 22 per cent overrun on the

CTL and the 25 per cent figure was taking a conservative view of its performance. Knowing the CTL project as intimately as I did, I believed that the ETP could be done better than the CTL project.

76. The technical teams engaged on the project, Moss MacDonald and Faber Maunsell, both had experience in the development of tram schemes in the UK and the estimation of costs (see: STAG Appraisal for line 1 (**CEC00551591**), 10 September 2004) at pg 31; and see also the STAG appraisal for Line 2 (**TRS00000043** at pg 140).

77. I have been referred to a later version of the STAG Appraisal for line 1, dated 10 September 2004 (**CEC00551591**), which refers to the extensive experience of the technical teams advising on costs (at pg 31). This refers to the firms I have mentioned. Both Faber Maunsell and Mott MacDonald are international consulting engineering firms. David Hand, the Head of the Mott MacDonald team, ran the Global Light Rail/LRT Project Team or Teams for that firm and his team had previous experience and he had been involved in doing feasibility work for West London tram and perhaps also some other tram schemes. Faber Maunsell were similarly experienced and I have already referred to their Nottingham trams experience.

78. I have also been referred to certain documents which expressed reservations about:

78.1 capital costs varying due to the uniqueness of each scheme meaning that there were challenges in building up cost estimates for future schemes (see pg 111 of the Draft Interim Outline Business Case, dated 30 May 2005 (**CEC01875336**)); and

78.2 the use of PFI or Public Private Partnerships (PPP) to avoid costs and risks and the difficulty this created in achieving meaningful out-turn cost estimates (see pg 51 of the Preliminary Financial Case - Line 2, dated 4 December 2003, (**TRS00000016**)).

79. Reliance on experience of the previous tram projects was not, however, flippant. They provided the only available basis for benchmarking and they were supplemented by my personal experience of the CTL for which I had information that only a contracting party would have been expected to know about.

80. The consortium based model I had devised for the ETP was equivalent to what I had encountered with the CTL. In the CTL case, TTCL was a concession company that arranged external finance (under a headline agreement with Transport for London) and which incorporated all of the delivery and operations aspects (and maintenance) structured under a 99 year concession.

81. The engineers were working on the individual contracts for the ETP and were, of course, able to price items such as earthworks, bridge-building and figure out the respective costs of the civil works component, and then of the mechanical, electrical, signalling and overhead line equipment systems. However, in the context of a tram project, the problematic aspects of the project come from trying to fit those into the context of a city. In that respect, I had special knowledge and experience of the aspects of planning permissions, costs of street works (which could be up to 20 per cent of the total project costs) and those kinds of variable. I was able to feed this knowledge into the project and improve it.

82. Benchmarking data was a reliable part of the foundations of the cost estimates.

Optimism Bias

83. I was certainly well aware of TIE addressing the notion of Optimism Bias in its preparation of costs estimates. Mark Bourke was primarily responsible for TIE's treatment of Optimism Bias. I believe there were also regular reports on how it was being treated to the Board and there were discussions within the project team at TIE. We had many meetings about Optimism Bias with a number

of external groups including: PUK, Grant Thornton, PWC, the Scottish Executive and KPMG.

84. We were trying to get a budget that worked by predicting the costs of delivery and by how much the first estimates (ie the ones we have just been talking about), might be shown to be wrong because of changes that might occur in the contract's basis and its performance. I tried to bring my experience, primarily from the CTL, to bear and I looked at what was being predicted and projected. I found that the projections to be consistent with my experience.

Guidance on Optimism Bias

85. I was aware that there was guidance concerning Optimism Bias issued by HM Treasury and the Department for Transport (Treasury Green Book, **CEC02084256**; Treasury Supplementary Green Book, **CEC02084818**; and Department for Transport guidance, **CEC02084257**) and that this guidance changed during the time I spent at TIE.

86. I have been referred to a note of actions from the Tram Project Steering Group meeting on 9 October 2003 (**CEC01885972**) which notes, as an action point (para 2.6), that Grant Thornton and TIE were to determine how Optimism Bias was to be treated. I was not at that meeting and believe Alex Macaulay would be the best person to comment on this meeting.

87. While I cannot remember when I first became aware of this guidance, I do remember it coming up in discussions with PUK, with Grant Thornton (in 2003 and 2004) and with PWC after they later took over from the Grant Thornton team. I also believe that Alex Macaulay, Graeme Bissett and Stewart McGarrity were very much aware of it. We knew that ultimately if we were seeking funding from TS, then we would need to show them that what we were doing was satisfactory.

88. I think that the notion of increasing costs to counter a tendency towards optimism is a good guide. In terms of any modification to TIE's approach, we had a very strong risk management approach. We tried to manage the overall Optimism Bias within the business case in a professional way.

89. I believe that there was no Optimism Bias built into the cost estimates at the time when the Scottish Executive set its grant funding of £375m. I do not know why this was not included in that.

90. I do not, however, believe that this was the result of some pressure on the budget which would have led to Optimism Bias being excluded from those cost estimates. I think we were already aware of Optimism Bias but just knew it by other names. We knew it as cost overrun in the construction process, additional land acquisition costs, the effects of a poor or poorly administered contract, and changes of or misunderstandings in the scope of works contained within a contract. The concept of Optimism Bias was a basket of things which would cause a project to go from its original contract sum to a higher sum at completion. We did our best in accounting for each of those possibilities in the overall approach.

91. I have been referred to the Progress Report to the Scottish Parliament, dated 22 November 2005 (**TIE00090576**), which notes (at pg 11) that: "*Had [Optimism Bias] been applied to the 2002 estimates, the capital cost presented to the Executive would have been some £150m higher*". I was responsible for that document as progress reports came from me. Stewart McGarrity would have also worked on it.

92. I do not believe that exclusion of Optimism Bias would have mattered. Given the CEC position on funding, which was well known, we already knew that unless the Scottish Executive would increase the grant (by indexing it to account for price rises from 2002), that the project could not be financed.

93. I believe we had brought everything to the Scottish Executive's attention and it was up to them to approve the Business Case. We had to work to square the circle, that's what we were trying to do.

94. In terms of TIE's broad overview of Optimism Bias, we understood what the Treasury Guidance were saying and that Optimism Bias had to be applied. We had received costs estimates and we tried to take mitigating factors into account but we were also confident the job would be run correctly. Our approach to Optimism Bias was a professional one consistent with our knowledge, the benchmarking on other tram projects and how they had turned out.

95. In terms of the relationship between Optimism Bias and TIE's management of risk, this would have been in the hands of Mark Bourke who was in charge of the reviews and risk matrices on all of TIE's projects.

96. I am aware that TIE reduced the factors for Optimism Bias from those recommended in the guidance (see above at para 0). I believe that this would have been discussed with Mark Bourke and that this would have been done based on what we knew at the time about the likely outcomes of the project. Mark Bourke may have done his own independent work on this point.

STAG 2 Appraisal

97. I have been referred to the STAG 2 Appraisal of the ETP dated 28 November 2003 (**CEC00632759**). This contains a number of references to TIE's approach to Optimism Bias and the process TIE was adopting to deal with it. While I believe I would have been consulted about this process and report, I do believe I was involved with it in detail as I was heavily involved in the conclusion of the tram operating agreement at this time. Alex Macaulay may be able to comment on this.

98. In terms of whether the ETP could be considered a "*standard civil engineering project*", as discussed in the HM Treasury Supplementary Guidance

(CEC02084818) at paras 3.6 to 3.10, I agree that the project was a non-standard civil engineering project. The project is like a railway project in that it involves the delivery of a system, rather than something like a building, and that involves a combination of civil and mechanical engineering.

99. I am aware that, in the November 2003 STAG 2 Appraisal (CEC00632759), TIE referred to its “*rigorous capital costing methodology*”, the inclusion of a portion of Optimism Bias within its capital costs and stated that “*the Capital Cost Optimism Bias is conservative.*” I do not think that the Optimism Bias was conservative as it was too early to really say.

100. In general, I think there is a common belief that your advisors have done a good job and used the best possible information in preparing these documents. These reports would have been compiled and written by Mark Bourke based on the information that was being received from advisors like Mott MacDonald and Faber Maunsell. Evidently there was a belief that the ETP could be achieved at or below this level of risk factoring.

101. In terms of the details of how this conclusion was arrived at or what evidence was used to reduce the level of Optimism Bias, I believe Mark Bourne or Alex Macaulay would be the best to ask about these matters. I recall that Mark Bourne, in his risk reporting used risk matrices and graphs which tended to show the Optimism Bias diminishing over time. I believe the risk registers maintained by Mark Bourne were being used to modify the assessment of Optimism Bias and that the Project Director, Alex Macaulay, had the overall responsibility for risk. In terms of the quality of evidence required in setting or reducing Optimism Bias, I would have expected clear and tangible evidence in line with my experience of the CTL.

Preliminary Financial Cases

102. I have been referred to further discussion about Optimism Bias in the Preliminary Financial Cases for both Lines 1 and 2, prepared in December 2003

(**TRS00000054** (Line 1) and **TRS00000016** (Line 2)). Both of those documents (at pg 9, para 1.2) refer to the fact that TIE's assessment of required funding does not include an Optimism Bias element. There is also reference to considerable discussion between the Scottish Executive Partnerships Unit and TIE on how to apply the HM Treasury Guidance to the Preliminary Financial Case and that this methodology would need to be reviewed when it came to the Outline Business Case. A final view on Optimism Bias would need to be reached for that stage of the ETP (see **TRS00000054** at pg 15, para 2.4).

103. My understanding of this is that, at this stage, the advisor's estimates with respect to capital costs and construction included elements such as a five month allowance for construction prolongation. These were included in the estimates for funding but separate Optimism Bias elements were not.

104. In my view, the overall budget should have included an assessment of the Optimism Bias within the overall financial business case.

105. The issue is somewhat confused by the fact that the summaries of costs and revenue provided in both the Line 1 and Line 2 Preliminary Financial Case documents (**TRS00000054** (Line 1) and **TRS00000016** (Line 2)) do refer to both contingency costs and Optimism Bias sums (see for instance the £57m mentioned in **TRS00000016** (Line 2) at pg 6, para 1.1).

106. That document (at pg 9, para 1.2) also refers to Optimism Bias as accommodating "*more general contingent risk based on non-project specific factors.*" However, I was not directly responsible for that statement and it may need to be referred to Alex Macaulay, Graeme Bissett or Mark Bourne for comment. In my understanding, Optimism Bias was more a question of the difference between the 'as awarded cost' and the final, finished out-turn cost.

107. In terms of the involvement of the Scottish Executive Partnerships Unit mentioned in para 0 above, do I not believe I had even had any contact with the Unit leading up to the publication of the Preliminary Financial Cases in December

2003. I do not know if any further consideration was given to the issue by that team following the preparation of the Preliminary Financial Cases.

Updates to the Preliminary Financial Cases

108. Updates to the Preliminary Financial Cases were prepared in September 2004 and I have been referred to the update for Line 2 (**CEC01868589**). I believe that there were changes to the HM Treasury Guidance on Optimism Bias but I cannot provide the details of what was done in response to those. Mark Bourne of TIE may have a better idea. The report suggests, however, that due regard had been taken account of these changes.

109. I have been referred to the fact that, in that document, TIE has reduced its estimate for Optimism Bias factors (**CEC01868589** at para 5.6.2, pg 54). I do not know exactly why the Optimism Bias factors were reduced but there was a belief at that time that the information was valid and that the information on the project was improving in the lead up to pricing the contracts and receiving bids.

110. In hindsight, I do not believe that there were good enough reasons for reducing the Optimism Bias factors because the overall project that was to be delivered and the way in which it was to be delivered had not changed substantively. I am not sure who was responsible for changing the Optimism Bias factors and I do not think it was a matter to which I was paying a great deal of attention. I do not believe it was something for which I was responsible at the time.

111. I have a real question as to whether, if Optimism Bias had been approached on a different basis (ie with no reductions), the out-turn projection (ie the total costs outlay) that actually happened when the project went ahead on Edinburgh's streets would have been accurately predicted.

112. In terms of whether Optimism Bias was reduced, contrary to the HM Treasury Guidance, so as to make the capital costs of the ETP project appear

more favourable, I do not believe this was the reason for the reductions. A 1 per cent reduction in Optimism Bias would not have been material when other considerations such as a 10 per cent escalation in costs per annum were taken into account.

113. I have been referred to the closing sentence of para 5.6.2 of the Update to the Preliminary Financial Case for Line 2 (**CEC01868589**) which states that *“As the project develops in terms of specification and design the overall level of Optimism Bias should reduce further, towards the level of contingency calculated by TIE’s technical advisers”*. In basic terms, this sentence is suggesting that as the scope and detail of the project is improved and becomes more defined then the Optimism Bias should eventually come down to a level where it is equivalent to the contingency costs calculated by the technical advisors.

114. However, I do not believe this was a prudent statement. There would have been things outside the range of contingencies that the technical consultants were taking account of. TIE would have other things that would have had to be factored into any total, overall assessment of risk. These would have included things specific to TIE and the project like extraneous legal costs or dispute resolution costs. It could also have included something in the nature of streetscape changes or other matters that were outstanding and required planning consent from the CEC.

115. Ultimately what we should have arrived at by time the contracts (particularly the Infracore) were awarded was a quantitative risk assessment. This which would have replaced the Optimism Bias calculation and would have consisted of modifications to the contingency element that the consultants had provided. This quantitative risk assessment would have considered all of the baskets of risk that the technical consultants had addressed and then would have added the other risk elements specific to TIE and the project onto that (as the consultants would not have accounted for these). The level of that

quantitative risk assessment, assessed from TIE's standpoint, would always have been greater than that which came in from the consultants.

116. The key problem in this case though is that would, under any circumstances, have factored in a delay of three years in construction because nobody would have believed it was possible and so that would not have been contained within a quantitative risk assessment.

Scottish Parliament – Arup Report and Responses

117. I have been referred to the October 2004 Arup Consultancy report to the Scottish Parliament which reviewed the Business Case for Line 2 (**CEC01019126**). I am aware that report made critical comments about TIE's handling of Optimism Bias (at paras 7.11 to 7.16, pgs 29 to 30).

118. I accept that certain parts of Arup's report (see, for instance, pg 5 and paras 7.11 & 7.12 at pg 30) suggest that Optimism Bias had been underestimated and that further justification of the likely costs of the ETP should have been provided. These statements seem valid and would have needed to be taken in consideration. It may also have been the case that Arup, in their professional judgment, did not yet feel that they had seen enough strong empirical justification for the approach TIE was adopting.

119. This report was discussed at a TIE Board meeting on 22 November 2004 which I attended (the minutes for the meeting are at **TRS00018651** (pg 3 onwards) and the agenda and papers presented at it are **TRS00018648**).

120. I do not think that there was active disagreement at the meeting with the ARUP report and I think its consequences on calculations and further justifications, whether of contingency or Optimism Bias, would have been reviewed and dealt with by Alex Macaulay, Graeme Bissett and Mark Bourne. While I do not recall these specific issues, I imagine that these comments would have been used in reviewing risk registers and mitigation factors.

121. TIE prepared responses to the Arup report (mentioned above at para 0) for the Scottish Parliament Committees dealing with Line 1 (**CEC01705043**) and Line 2 (**CEC01686226**) both dated 12 November 2004. I did not have a close involvement with the Parliamentary process as this was managed by Barry Cross.

122. I have been referred to TIE's responses to the Arup report and its view that an additional contingency is not required (at para 6 of **CEC01705043** and para 7 of **CEC01686226**). That paragraph gives a partial defence of the assumptions TIE made and was intended to assure the Parliamentary Committees that we had considered the Arup report but that we essentially stood by the figures we had put forward. TIE believed its methodology provided adequate justification and sufficient evidence and this response was intended to demonstrate that to the Committees. Ultimately, I believe these responses would have been the responsibility of Barry Cross and Alex Macaulay. While they should, in my view, have gone to the TIE Board, I do not specifically recall seeing them.

123. Looking at the response documents mentioned above, part of the reasoning for the Optimism Bias approach that TIE adopted may have been the relatively high cost estimates that were taken for the Edinburgh system when compared to other UK tram schemes (**CEC01705043** at para 87). Edinburgh was going to involve higher costs than other tram schemes. That these higher costs were included in the base costs estimate seems to have been felt to justify lower figures in other areas.

124. My view of these exchanges is that Arup appears to be right and TIE needed to have been reviewed its work. Careful treatment of these sensitive points would have needed in the Outline Business Case to reflect what Arup had identified.

Draft Interim Outline Business Case

125. TIE produced a Draft Interim Outline Business Case at the end of May 2005 (**CEC01875336**, dated 30 May 2005) which also dealt with Optimism Bias. Optimism Bias was also considered in the appendices to that draft (**CEC01875335**, at pgs 102 - 104).

126. Under para 6.4.3 of that document (at pgs 91 to 92), there was extensive discussion of the Quantitative Risk Assessment (QRA) Validation of the project and the degree to which that affected the extent of Optimism Bias. There was a high level of confidence in the risk assessment involved and TIE adopted lower numbers for Optimism Bias than suggested in HM Treasury Guidance. The QRA Validation for the project would have been carried out by Mott MacDonald and Faber Maunsell.

127. The appendices to the draft listed a number of reasons which supported reducing the starting values for Optimism Bias that would normally be applied (para 1.1.4, at pg 103 – 104). I generally agree with the 8 reasons outlined there in terms of reasons that might justify reducing Optimism Bias. I believe that Mott MacDonald would have been responsible for this report in the appendices, and these reasons, though I have no doubt it was prepared in consultation with TIE.

128. The appendices (at pg 105 onwards) also reference revised HM Treasury Guidance (produced in July 2004) which recommended a 40 per cent uplift to capital costs under certain circumstances:

“ Where there is an acceptance that the scheme will be one of the 50 (out of 100 projects) that will be brought in within budget;*

** Where a portfolio view of projects is taken;*

** Where there is an above average appreciation of risk with supporting analysis and corresponding implementation of mitigation actions; and*

** Where there is a desire to drive tighter cost control within projects.”*

129. In respect of those points:

129.1 For the first, we believed that, because of the highly developed design we expected to have at the time of the contracts, the risks would have been reduced and we would have expected to be within the 50 per cent that came in within budget.

129.2 For the second, the tram project was a one-off rather than part of a portfolio.

129.3 We were driving to achieve an above average appreciation of our risks with good supporting analysis and we were trying to mitigate our risks.

129.4 For the ETP, I think there was clearly a desire to have tighter cost controls within the project.

130. While these matters were considered, I do not think that it was consistent with the guidance for TIE to reduce the Optimism Bias estimate below that 40 per cent figure. Justification for reducing the level of Optimism Bias to 24 per cent might have existed but that would have been, in hindsight, only after the contracts were awarded. I think this reduction is a bit tight and the reduction from 40 per cent to 24 per cent seems to have been pushed too far.

131. As for who was responsible for this level of Optimism Bias, I believe that it would have been Mark Bourne who had had a good deal of this kind of experience and was leading this aspect of the project assessment for TIE. I think that he would have done it based on his assessment of both the project and market information that we had before us at the time.

132. In terms of my previous experience, a 24 per cent over-turn on the project would have been similar to the CTL where the expenditure over the contract price was around 22 per cent.

133. The new guidance referred to in the appendices also stressed (in the final sentence of para 1.1.6, at pg 106) the need for external scrutiny of risk and

Optimism Bias assessments and discussed TIE's effort to assemble an independent "*Peer Review Group*" to assess the business case.

134. In this case, the external scrutiny was provided by a combination of the Technical Support Services (TSS) Group, provided by SWR and Turner & Townsend, and the Peer Review Group which I assembled. The Peer Review Group consisted of people who I knew and who had worked with me in delivering the CTL. I was responsible for selecting them. From my recollection, they included:

134.1 Graham Cunningham, an Engineering Manager from Amey plc;

134.2 Paul Dawkins, an Engineering Director for Gibb;

134.3 Tim Jones, who had been a Project Director on the West London tram project including working on the Parliamentary process for that and who later was associated with the CTL.

At this point, the TSS Group and the Peer Review Group had not previously been involved in the project.

135. That section of the appendices (**CEC01875335**, at 106) also discusses the Scottish Executive considering a "*risk reserve*". I understood that as a risk measure or percentage of costs that the Scottish Executive might want to set above the amount of 24 per cent that TIE was suggesting, but this was something that the Scottish Executive would need to consider looking at its whole portfolio. I believe the Scottish Executive was receiving assistance from Cyrill Sweett in relation not just to the tram project but other major works.

136. I do not know if the CEC was asked for its views on a 'risk reserve'. The information in these documents would, at some level, have been reported to the Board of TIE. Councillors sat on the TIE Board but I cannot recall discussing this with them nor do I recall discussing it with Andrew Holmes (CEC Director of City Development) or Keith Rimmer (CEC Head of Transport at this time).

Supplementary Progress Report

137. I have been referred to the Supplementary Progress Report to the Private Bills Unit (PBU) of the Scottish Parliament, dated September 2005 which is included in the papers for a Tram Project Board (TPB) meeting in November 2005 (**TIE00090576**).

138. At para 1.5 of the Supplementary Progress Report (pg 4 of **TIE00090576**) there is the following comment: *“If the principles of Optimism Bias were to be applied in making a funding decision now it is almost certain further phasing of the construction would need to take place.”* I have been asked whether there was concern that following the HM Treasury Guidance might make the project unaffordable.

139. As I noted (above at para 2), by this time I was Project Director of the ETP within TIE. When the ETP had started in 2003, it was with an expectation of £375m of grant funding and with an expectation that we would be able to do both Line 1 and Line 2. Between 2003 and 2005, while we were able to get Parliamentary approval completed with that funding, we would not be able to afford to construct Line 2 from Murrayfield to Granton nor could we extend Line 1 from Leith to Granton. It became clear that the project would only be able to afford the line between the Airport and Leith, and if Optimism Bias had been applied it would further impact on that.

140. I have been asked whether it was possible that TIE played down Optimism Bias calculations in order to persuade the Scottish Parliament that the project remained financially viable. I accept that some people might see that as the case but there was not any stated policy at TIE to massage the overall costs down. There were definitely attempts, supported by what we saw as valid arguments, to make clear TIE’s case that the numbers should be adjusted down.

141. Obviously there were opportunities to challenge our approach and we were being challenged on our costs estimates by the Scottish Executive as we see from this period.

142. I knew, at this time, that there was a risk that the project would not be funded. However, what I was attempting to do was to ensure the project went ahead in a way consistent with the development strategy, which was meant to fulfil both the risk management and mitigation approaches, and which would therefore allow us to meet the funding situation. This is what I was attempting to do at the time.

143. I do not believe that we knew what funding we were likely to get at this point. We might have got more or less than we wished for. We were still discussing the project overall though it was becoming clear that the project would be truncated somewhat from the full Line 1 and Line 2. But we were still waiting to see what we could get and make decisions on that basis. Clearly an increase of 16 per cent on the capital costs estimates (which was the difference between TIE's 24 per cent contingency rate and the recommended rate of 40 per cent) would have added between another £45m and £50m to the total budget.

144. In terms of the effect on Optimism Bias and the scope of the project, it made sense to me that the final decision should be taken at a point when a lot of the arguments about Optimism Bias had been overtaken by the reality of tender pricing. Albeit that, even after tender pricing, you would still need to apply a Quantitative Risk Assessment (QRA) to establish a proper total budget.

145. I do not think there was any approach of ignoring Optimism Bias but our approach was to some degree to wait and confirm what the overall numbers were likely to be in the expectation that would give us the real picture.

146. Changes in Optimism Bias would also have had an effect on the Cost Benefit Ratio (CBR) of the project. The CBR would have decreased in proportion to the increase in the budget caused by Optimism Bias.

147. Paragraph 4.2 of the Supplementary Progress Report (TIE00090576, pg 11) refers to “*control budgets for the management of the project*” which means the total of the capital cost estimate and the specified contingency.

148. That paragraph also distinguishes between the control budgets of the project and a budget which would also address Optimism Bias which the report refers to “*for the purposes of informing affordability considerations only*”.

149. This distinction was made as we believed that our control budget had been adequately assessed and reviewed by the engineers and our advisors. The team believed that we probably properly assessed the project’s costs through the specified contingency and a lower estimate. As such Optimism Bias was mentioned as a sensitivity rather than something that should become a part of the budget as such.

150. In our view this was justified. The only basis that supported including Optimism Bias was the HM Treasury Guidance whereas the costs estimates and contingency we had produced were based on all the information that we had compiled and reviewed at that point.

151. As such, the HM Treasury Guidelines provided some concept of affordability but were not taken into account when setting the control budget we had come up with. It may be more relevant to ask whether the contingency we had allowed for was satisfactory. With the work outstanding at this stage, it is possible that it was not. We were not, however, going to put a contingency of 50 per cent in the control budget as the project would not be fundable at all.

152. Paragraph 4.3 of the Supplementary Progress Report (TIE00090576, pg 11) discusses the relationship between Optimism Bias, the control budget and the steps that led TIE to believe that the contingency provision in the control budgets would deal with any Optimism Bias. In effect, it says that TIE hoped that the amounts of tenders would come in within the control budget it had set and

that the Optimism Bias would be reduced down to a level where it fell within the contingency. That is an optimistic statement.

153. The expectation was that TIE would be able to fulfil the conditions set out in paragraph 4.3. The statements in that paragraph are a positive take and they make sense if those conditions are fulfilled.

154. In some ways, this is a reasonable interpretation. For this project, there were different items included within the budget. In the case where you know that a certain, known item such as a tram costs £1.5m, the effect of applying a 40 per cent Optimism Bias, and pricing that tram at £2.25m or £3m, appears strange. If we had our understanding of the costs of a vehicle and of the market correct then the cost of that tram should be well within the control budget and there is no need for a 40 per cent Optimism Bias increase on those figures. The contingency for that particular element should be adequate.

155. On the other hand, there will be elements that are not so well known, well understood or predictable. In the round, however, we thought the budget was correct and that we had effectively managed the delineation and scope of the project so that we understand what it was and what it cost.

Answers to Parliamentary Questions

156. I have been referred to draft answers that TIE prepared in response to Parliamentary questions during the tram bill process in November 2005 (**TRS00002045**, **TRS00002043**). Barry Cross, who was responsible for that process, is likely to be in the best position to clarify these documents, but I have been asked about TIE's responses and provide what assistance I can.

157. In respect of TIE's response to Question 4 (pg 2 of **TRS00002045**), TIE's response states that: *"the specified contingency of 10% advised by our technical advisors will be adequate to deliver the project in the absence of any significant changes to the scope of the project or the timetable for its completion. We would*

anticipate that the calculation of optimism bias under Treasury guidelines will fall to 10% or less once the tenders for the main infrastructure works have been received in the autumn of 2006.”

158. This is quite a strong, perhaps even an aggressive statement where the writer states that, once tenders had been received, TIE would have come to a position where the Optimism Bias could be replaced by a contingency estimate of 10 per cent or less. This seems to be justified in part by reference, in that response to other projects.

159. While I am not certain that it refers specifically to the CTL, I know that, once the contracts for that project were agreed, there was less than a 10 per cent overrun for the taxpayer. The contractor for the CTL, however, suffered a 22 per cent cost overrun.

160. Optimism Bias was not initially part of the ETP process or calculations due to the timing of the introduction of the guidance. The essential considerations were the fixed price that could be achieved on the contract and the fixed amount of the grant that the Government would be willing to give to partially fund the tram scheme. Under that approach, whatever Optimism Bias was likely involved would have been reflected in the estimates/budget and in the pricing of individual component parts by the contractors who were delivering them.

161. The Committee’s Question 5 (pg 2 of **TRS00002045**) asks whether TIE can indicate how likely it is that all the contingency amount will be required. TIE’s response provides examples of changes in scope which might exceed the 10 per cent contingency level such as changes to speed, service and noise levels. Equally a significant change in the timetable for the project such as delays in Parliamentary or planning approval are seen as possibilities. However, TIE’s response suggests that it has put in place a governance regime designed to avoid or mitigate the possibility of changes in scope or the timetable.

162. In respect of that question, I note that if the contract were to be made on a fixed price basis then there would be variation. The contingency would be there to meet the risks that were being run, some change in the requirements or the performance risk speculation that the infrastructure provider was working to. There could have been a multiplicity of reasons, the ones provided were just examples not the most likely or driving reasons.

163. The Committee's Question 6 (pg 3 of **TRS00002045**) asks what the consequences for the project's viability would be if there were a requirement for "visible funding" in respect of the contingency amount. Visible funding means [] . TIE's approach (set out in the response) was to seek initial tenders before making a final determination on funding. TIE stated that it would provide a degree of certainty allowing for the reduction or elimination of the Optimism Bias to below or within the contingency amount.

164. This is, as I have explained before, the idea that the firming up of prices through the tendering process, and the fulfilment of the conditions precedent (referred to at para 153 above) would put TIE in a position where it could say that its risk contingencies were at or below this 10 per cent level. That specified contingency would include any QRA or Optimism Bias based risks.

165. I have been asked whether TIE's approach in these documents were optimistic. I do not believe that is either overly optimistic or fundamentally wrong as a result of exaggeration on the part of TIE. I accept that these goals would have been challenging and difficult to achieve though. The authors of the responses, at that time, would have believed in what they were saying and they would have done so on the basis of an expectation that we would deliver the project. For myself, I believed we could deliver the project based on what I had delivered in Croydon without the need for further funding.

166. I have been asked whether I am happy with the assessment of Optimism Bias presented here. In hindsight, the weak point of the argument lies in the

accuracy of the capital cost budget. I am not sure whether this, and the contingency allowed for, accurately reflected the final construction price. There were a lot of unknown variables, risks in the hands of the contractors and we did not know how the market would respond to those. The number of parties competing for the contract was also likely to have an impact in that a field of four competitors would obviously lead to a different price than a single bidder. However, our expectation at this stage was a positive one in that we expected to get good outcomes from that process.

Draft Outline Business case

167. A draft of the Outline Business Case, prepared in March 2006, (**CEC01856896**) also discussed Optimism Bias and noted that the CEC and Scottish Executive had *“determined that there should be visible funding in respect of the incremental optimism bias when assessing the affordability of phase 1 of the project...”*. The draft had estimated incremental Optimism Bias at various points (see pgs 4 & 31 of **CEC01856896**).

168. By this, I believe it is meant that the CEC and Scottish Executive would have been concerned that they should be involved in the process for vetting and approving any allowance for Optimism Bias so as to protect the public purse and ensure that the further amount for Optimism Bias was not being spent in an uncontrolled way.

TIE Risk Registers

169. TIE maintained risk registers which included analysis of Optimism Bias (see eg **CEC01854568**, from June 2004; and **CEC01881851** and **CEC01881852** from February 2005). I am familiar with these documents though their preparation was the responsibility of Mark Bourke.

170. The Risk Registers were used in meetings, discussions and reviews of the mitigation methods and in the preparation of other documents such as tender material and reports to parties outside TIE.

171. The function of the Risk Registers was to set out a documented basis for our understanding and knowledge associated with the management of the ETP's risks. These would have influenced the question of what the level of Optimism Bias should be. They would have been used proactively to assess these areas and to convince ourselves and anyone wishing to assess the project that we had a professional approach to the risks involved. This is evident in the March 2006 draft of the Outline Business Case where we had worked through the registers and agreed that an Optimism Bias of 25 per cent (14 per cent above the contingency) was acceptable.

172. The team would have gone through the risk matrix (or list of risks) and agreed on the seriousness of any particular risk, the likelihood of it occurring, whether the risk could be mitigated or not and whether any mitigation was only partially or fully effective. A judgment call would have to be made on each of those elements for each risk.

173. The Risk Registers were used by TIE management for a number of purposes:

173.1 They developed and confirmed the group or collective understanding of the risks involved in the project; and

173.2 They helped to create a genuine and on-going appreciation of the risks involved and the mitigation potential/options for each incidence of risk.

174. TIE had a full time risk manager, Mark Bourke, who was primarily responsible for the Risk Registers. I believe that he had come from Mott MacDonald who were project consultants assisting with the ETP but I am not

sure if he came straight from that firm to TIE. His role was to adopt a pro-risk management system, implement risk management procedures and to document and develop the understanding of risks as we moved through the project. Mark Bourke had a background in this kind of work and he was engaged because of that.

175. In terms of his engagement, I would expect every project management team to have an element of risk management. Mark Bourke was engaged by TIE and, across the scope of projects that TIE had at the time, there was enough to keep him occupied full time though the ETP, by itself, might not have needed a full time risk manager.

176. I consider that TIE's approach to risk was consistent with industry practice at the time. It would have been consistent with industry practice up until the later stages of the project when we got into the more detailed definition and quantification of the different aspects of the project.

177. At the end of the preliminary design (approximately 30 to 40 per cent of the way through the design process), there is a point where very serious risk analysis can be conducted because the project becomes more of a 'real quantity'. Until that time, there is a degree of flexibility in those elements which results in the upper extremes of the risk analysis being less useful and reliable.

Response to queries about the Draft Final Business Case

178. In May 2007, the CEC and TIE presented a response to certain queries raised by TS about the Draft Final Business Case (DFBC)(the response document is **TRS00004270**, and was prepared in around May 2007 - **TRS00004269**). While this was after I had left TIE in 2006 (see above at para 2.2 and below at 763), some of the matters referred to occurred during my time as Project Director at TIE.

179. Page 7 of the response notes that TIE and TS had conducted a review exercise in relation to Optimism Bias and concluded that the HM Treasury Guidance was not necessarily applicable and that Optimism Bias could be taken into account in the contingency and QRA allowances.

180. I am not certain what exercise this refers to but Mark Bourke may be able to respond. I am not certain that there was a peer review of the DFBC case, by external advisors such as Cyrill Sweett at this stage, I believe that occurred later.

CEC and TS attitudes

181. I have been asked to describe the attitude of the CEC and TS to the risks involved in the ETP.

182. From the CEC perspective, I think generally the attitude was that TIE should try to ensure it avoided or minimised any overrun and it was made clear that the CEC did not have the capacity to fund any overrun. There was a clear 'marker in the sand' as to the amount that the CEC could fund and that anything further would need to come from TS.

183. The majority of the budget discussions with CEC were conducted by Graeme Bissett and Barry Cross with Andrew Holmes and the Council Treasurer. This was a discrete funding package, adding up to about £50m, part of which the CEC hoped to secure through development contributions in certain locations.

184. I am not certain as to the CEC's views on Optimism Bias but I believe they would have worked with the Scottish Executive on the funding and risks. Graeme Bissett and Barry Cross may have more information on CEC's views in this area.

Procurement of the ETP

Work prior to my arrival at TIE

185. I arrived at TIE in September 2003 (see para 16 above) at which point some work had already been done on the procurement strategy for the ETP.

186. Under Alex Macaulay (the then Project Director for the ETP) and Michael Howell (the then TIE CEO), some work on procurement had already been done with the assistance, I believe, of DLA Piper, Grant Thornton and PUK. One of the fundamental building blocks of the strategy, the early engagement of the ultimate tram operator, had already been put in place. This meant that the operating company was involved right through the process and was consulted in the Parliamentary process, was supporting procurement, and was also having input into the construction process and details such as maintenance.

187. However, the remaining details of the procurement process had not been finalised and agreed by the time I came along. Alex Macaulay was leading the procurement process prior to my joining.

Procurement options

188. I note that, during the project and in the documents referred to, both the infrastructure contract and the (potential) infrastructure contractor were both referred to as 'the Infraco'. It should be clear from context which I am referring to but I have attempted to clarify where that is not the case. Similarly the Systems Design and Services contract and the provider for that contract (Parsons Brinkhoff) are sometimes both referred to as 'the SDS'.

189. The procurement of the Infrastructure Contract (Infraco) was the subject of a number of discussions as to the best option for procurement and a number of parties were involved in these discussions (see eg the draft paper by Grant Thornton entitled "Infrastructure Procurement and Funding Options Evaluation"; which was sent to me on 29 September 2003 (**CEC01868298**, **CEC01868299** and **CEC01868300**)).

190. An example of this would be the involvement of Partnerships UK (PUK) who were an independent group set up by the Treasury together with private sector investors. Their role was to advise government and local authorities, such as the CEC, on aspects of procurement, funding arrangements such as Private Finance Initiatives (PFI) or Public Private Partnerships (PPP) as well as later models. PUK believed that PFI provided the best value for money as it was a fixed performance specification. It allows the maximum transfer of risk and, therefore, the minimum risk of cost overruns.

191. At an early stage, there was consideration as to whether the ETP could be done as a PFI. That was a possibility. If that had been done then it would have been very similar to the CTL model. If the ETP had been done as a PFI that would not have included the utilities diversion works which would have had to have been done by the CEC or by TIE. That was because the private sector would not have accepted the risks associated with the utilities diversion. This was largely, I believe, due to Carillion's experience in Nottingham where they had agreed to do utilities diversion as part of that tram project and suffered significant losses on it.

192. The outturn total cash flow on a PFI model for the ETP would have been significantly greater for the Scottish Government than the amount involved in the project funding model (ie where the Scottish Government provides direct funding) but we continued to use PFI as a comparator model when we were presenting business cases for the ETP over the next two to three years.

193. Between the PFI model and the project funding model there were a number of other possibilities. We could have used a standardised NEC-type contract (the New Engineering Contract (NEC) is a set of largely standardised project management contracts for large construction projects). Such a contract could have included a very low transfer of risks, or could have included a lot of room for variability and, therefore a 'soft' risk transfer. The strictest form of risk

transfer would have been akin to a PFI in requiring the contractor to simply go away and deliver a set of performance specifications.

194. All of these options were considered and evaluated within a framework under Alex Macaulay's leadership. An example of the range of options involved can be found in the documents mentioned above (at para 188 - see, for instance, pg 4 of **CEC01868299**).

195. Ultimately, TIE's minimum starting point was a design and construct model which then would need to consider the balance of risk and its transfer. This was because the operations part of the contract had already been awarded/removed from the equation. TIE might otherwise have considered a 'design, build and operate' model or consortium.

196. The intention behind removing the operations component from the framework was having an operator involved in the promotion and procurement of the construction and the vehicles so that the system could be operated better and would be delivered more cost-effectively. That effectively removed the options for a 'design, build, finance and operate' model of contract .

197. Combining the design, construction, systems integration and vehicle commissioning into an integrated package was what TIE was looking for whether or not that involved the private partner providing financing for the project.

198. In addition to the elements of the contract, there was a need to consider what form it would take ie whether it was a bespoke contract for the project or whether it adopted something like the NEC (at that time in its second revision). These would have been different approaches.

199. The reference in the above document (**CEC01868299**) to frameworks, partnerships and "*firm bid and price*" refers to having a contract where a contractor is involved and provides initial services at the same time as the budget

is being finalised over a period, of say, 12 months. Once the budget is closed then the contractor simply continues under that budget.

200. I have also been asked why a 'design, build, finance & operate' (DBFO) option was not considered in the procurement process as these are sometimes used for airports, ports and roads. TIE considered this approach was not appropriate.

201. To the extent this is not already covered, the option of a contract whereby external finance would be involved was not the best value given the Scottish Government funding. As part of the Parliamentary process, the view emerged that operator involvement was seen as good value and helpful in the optimisation of the scheme and the Business Case. That took the 'O' out of any DBFO option and that decision had been taken very early on. With the novation of the SDS contract into the Infracore, the framework was to some degree a 'design and build' option. In general, however, I believe that a programme to deliver a DBFO option would have inflated costs (or been unfundable) and would have taken much longer.

Engagement on Procurement Strategy

202. There were a number of different parties who had an input into the procurement strategy. I discuss each of those in turn.

203. Grant Thornton had a number of different consultants with different skillsets working with TIE and they provided a multi-disciplinary approach to evaluating the different elements of risk associated with the different procurement options. In deciding, for instance, between a NEC-type project and a PFI project, they would have helped weigh the considerations involved between the maximum risk transfer under a PFI contract and the looser NEC 2 model which would have involved maintaining a significant contingency. Grant Thornton were helpful in preparing a high level evaluation methodology and matrix to deal with these

types of considerations. I believe the Procurement Working Board is a reference to the Grant Thornton team.

204. PwC were not, as far as I recall, engaged on the procurement strategy and their involvement came later. When they became involved, I can recall them testing the model we had developed very rigorously and almost to the point of irritation. Despite that, I believe we came through their review without any substantial difficulties being identified.

205. At the CEC, my main contacts on the procurement strategy would have been Andrew Holmes, Keith [Rimmer] and the Board. Their principal involvement was to review the reports provided and consider the approach outline but generally they seemed to agree that there was no reason why we should not approach the project in the way that we did.

206. PUK provided evaluations of the agreement but once that was done they largely stepped back from involvement in the project.

207. DLA Piper became involved in a concerted way once the procurement strategy was settled and procurement underway.

TIE Procurement Policy

208. At a TIE Board meeting on 25 October 2004, the Board approved the procurement policy recommended by Mark Bourke (approved minutes of that meeting are pgs 3 to 9 of **TRS00018648** with the decision at pg 9). The policy can be found in the papers for that meeting (**TRS00018644** at 198 onwards).

209. This document was company-wide rather than project specific and was designed to capture things outside of the ETP. Mark Bourke's intention was to get the TIE Board to agree a procurement policy for all company activity.

210. This document would have reflected Mark Bourke's involvement in projects across the company such as the Stirling-Alloa-Kincardine (SAK) rail

project, the congestion charging project, EARL etc. It was designed to apply to all of them.

211. This document was a high-level policy for the company as a whole and I think it would have been followed across the company. Examples of passages we would have followed in delivering the ETP include paragraphs 1.4 and 2.1 (both pg 198 of **TRS00018644**). I would not argue with any of the elements of the procurement policy. Items such as 2.2, 2.6 and 3.1 are sensible.

212. A specific example of the use the policy can be found in the application of paragraph 1.3 in the award of the SDS contract which was done on a basis that normalised the evaluation to achieve a selection which was the most economically advantageous.

The Procurement Strategy itself

213. Under the following headings, I discuss elements and effects flowing from the Procurement Strategy for the ETP once that was put in place.

Early Appointment of Operator

214. While I might not necessarily have followed this course myself, by the time I became substantially involved, this had already been decided upon.

215. The early appointment had some benefits including:

215.1 The early involvement of the operator meant that TIE was able to present credible accounts and responses to Parliamentary committees who could draw on their worldwide transportation and tram experience. That experience was helpful in handling objections to the project.

215.2 It assisted in the procurement process in that it provided a view on the design of important assets such as the control room, maintenance facilities, depot and marshalling. It also had an impact on the design in

terms of ensuring the performance of the scheme and its end-to-end run time (ie ensuring the overall speed of the network).

216. Those are the prime examples of benefits from involving the operator early. If they had not been involved at this stage, and only come in later in the tender process, then the project might have risked a multiplicity of variations later on. This early involvement meant that it was particularly important that the operator had experience because those advantages depend on previous exposure and quality.

217. As such, we shortlisted four operator who had relevant experience:

217.1 First Group, who had been part of the CTL;

217.2 Transdev, who were running the Nottingham scheme;

217.3 Serco, who were the Manchester operator; and

217.4 Keolis, who did not have UK experience but were very active in France.

218. Lothian Buses were not considered as an operator because they did not have sufficient experience to be of any assistance.

219. The operator was brought in under a long-term contract that reflected the different stages, from Parliamentary approval through to operation, that they would be engaged with. In my opinion, this was a good arrangement.

Separation of Infraco from Tram Supply and Operations Contracts

220. It would have been possible to have a global contract covering the infrastructure and operations as a whole. That would have involved a consortium, including a tram supplier, which I had experience of in the CTL where it was a combination of Sir Robert MacAlpine, Amey, Bombardier and First Group.

221. The decision to separate out the operations contract meant that the options for the remainder of the project were:

221.1 Completely separate tram supply and infrastructure contracts; or

221.2 A tram supply contract subcontracted to the infrastructure contract.

222. Once the decision was made to have a separate operations contract then a separate tram supply contract was natural. I was initially unsure about the separate operations contract and involving the operator upfront but I came to agree with that.

223. The reason and rationale for the separation of the tram supply contract from the infrastructure contract was to do with market place competition and price. That requires some explanation.

224. There are a number of different potential tram manufacturers from around the world including not only European companies but Asian and Australian manufacturers. The depth of the market for supply of trams is greater than the market for the infrastructure work.

225. If there had been a linked or combined infrastructure and tram supply contract then various consortiums consisting of tram manufacturers and an infrastructure partner would likely have been formed. For example, Bombardier might have teamed up with Siemens to form a consortium to provide the contract as a whole. The availability of the Bombardier tram would have been linked to the availability of the consortium as a whole.

226. Supposing, however, that I considered a manufacturer was likely to provide the best tram but that their infrastructure partner was the worst or most expensive, then it would have been difficult to know what to do. Separating out supply and infrastructure allowed us to build our own consortium with the best elements.

227. The point of that I am trying to make is that there was a beauty in separating the three contracts (having already separated the operator), in that it recognised that there was extremely limited competition in the Infraco market. So we would separate tram supply (with a mechanism for bringing them together later for other reasons and we could get the best tram which is what I wanted and which was important to me.

228. We were trying to select the best package and supplier of a tram and the best supplier of an Infraco, maximise market competition to get the best price for the trams themselves and then hand the integration of that tram (into the remaining infrastructure) to the Infraco and that is why it happened for those reasons.

229. In the end, we procured the trams by shortlisting around 15 companies down to 4 and then ultimately awarding the tram supply contract to CAF.

Procurement and Early Development of Design

230. The early design process was done by Mott MacDonald and Faber Maunsell but this was very much just work in support of the Parliamentary process and there was no on-going contract with them for design work beyond that point.

231. The design work done for the passage of the Tram Bills did not, however, go far enough to enable us to get the best price from the Infraco provider. More work was going to be needed. This was the reason for having the SDS contract concluded before the Infraco.

232. One of the key sticking points under the design process was getting roading approvals (ie traffic management orders). These were required for utilities diversion, for which design work was needed but this scope or level of design was not covered by the work Faber Maunsell and Mott MacDonald had done. Aspects of the tram stops, their shelters and fittings and similar elements

were also likely to need planning permission. I had learnt that getting local authority approval for both traffic and planning aspects was difficult with what I had seen in Croydon.

233. In essence, to de-risk the project, ahead of tendering for the Infraco, we had to take the design much further than it had been taken in preparing for the Parliamentary process because I anticipated difficulties with planning permissions.

234. These difficulties had been evident in Croydon where the local authorities sometimes regarded granting planning permissions as an opportunity to insist on the contractor completing adjoining or tangential street works which the local authority saw as beneficial. As such, clear design was needed to ensure there was a clear delineation of the ultimate contractor's responsibilities for remediation of streets and surrounding works. We did not want to end up with the contractor having to repave half the city and the cost risks that would involve.

Procurement and Utilities Diversion

235. I believe that prior to my arrival, PUK had taken market soundings as to whether the utilities diversion work should be incorporated within the overall infrastructure and design contracts (if those were to be separated).

236. The responses from the market were that contractors would be unwilling to accept the risks involved in utilities diversion as part of the design or infrastructure for the project. The fact that utilities might be misplaced or that further utilities might be discovered under the city's streets meant that contractors would not have been able to price such work and certainly would not have agreed to do it on a lump sum basis. For the CTL, London Transport worked with Turner and Townsend to conduct the utilities diversion and that cost over £25m. In Nottingham, the contractor Carillion had attempted to incorporate utilities diversion into the agreement for the Nottingham tram system but I

understand that had cost them heavily as a result. The market was simply not willing to agree to utilities diversion work on a fixed price or lump sum basis.

237. I do not think that a lump sum contract could have been concluded on the basis of the Mott MacDonald design and while theoretically the 12 utility companies involved might have known the placement of all the utilities, the effort of co-ordinating their work and/or implementing changes (where the design changes) were very substantial.

238. The Infraco could not effectively price both the risks involved in infrastructure and the risks involved in utilities. The design and diversion would have to be co-ordinated before the Infraco party came in to build the track. All of these parties would have to be carefully project managed so as not to cause gridlock on the streets of Edinburgh at critical dates such as the festival because, for example, the utilities diversion was not finished when the infrastructure contractor arrived on site.

239. This is why the SDS contract and the Multi Utilities Diversion Framework Agreement (MUDFA) needed to be in place and work together.

240. I wanted to engage what I believe to be the best utilities diversion project managers (Turner & Townsend) to work together with SWR. I had worked with and knew these parties.

241. If the ETP had had a good project manager on utilities diversion working with the best Scottish contractor on utilities, with a designer who had a traffic management plan, and with an engineer who could redesign the track to avoid problems then it would have been a marriage made in heaven. I had tried to put those blocks in place prior to leaving TIE and I believed those were the best people to do it with the lowest outturn in costs. That did not happen, however, and much of the rest of this statement explains why.

Procurement and a fixed price for infrastructure

242. The objective was to get as close to a fixed price contract and the amount of money that allowed for as was possible. With the CTL, I had seen only £2m to £5m in additional payments on a contract £180m. If that could be done then it should be done. Particularly when the CEC was clear that it only had a certain amount of money and no more than that. The procurement group believed that, because it had been done before, it could and should be done again and that it could be done on the basis of project specifications without the need for private or further financing.

Procurement and the disaggregation of the contracts

243. I do not think that it is correct to describe the contracts in this case as disaggregated. In my view, it was more a case of procuring them separately and then combining. As I said previously, the intention was to build our own consortium to deliver the ETP and get the best value for the city.

Procurement of infrastructure in parallel with design

244. The rationale for running these processes in parallel was the time involved.

245. The procurement process, including various steps such as Official Journal of the European Union (OJEU) Notices and design evaluations, involved at least six and possibly as long as nine months.

246. To get the design process completed from beginning to end, before starting on the Infraco, would have taken around two years and we were looking to cut that down. It was important to get to the right point, rather than the end, in the design process so that we were properly able to evaluate risks that would occur under the Infraco. There was also a delineation between the areas where the design would have to be closely done in detail (such as Princes St) and the areas where the design was simpler or less essential and the contractor could be left to get on with it (such as Gogar Roundabout).

247. We were also relying on the novation of the contract and its effect on the lump sum risks.

248. The only other way to have done the design and procurement would have been to make sure that everything in the design was done up to a certain stage (or to completion) and that would have stopped the process until that was achieved.

Procurement and TIE's retention of control over design and utilities

249. This would always have been under the control of TIE and the utilities diversion did not mean that all of the utilities would have been diverted immediately. Where design was complete and the elements of design were major then diversions should have gone ahead but where elements of design like pole bases and overhead wires had not been finished then in some cases those could be left to later in the project.

250. This is what had been done in London with the CTL. In that case, the 3.5 kms of on-street diversions had been done in 18 months. There was nothing from the initial investigatory work (under Mott MacDonald) or the early work under the SDS (under PB) that showed that was not enough.

Procurement and the design contract

251. There were two ways in which this could have been done. We could have gone with a separate design contract which was further fragmented into different sections. Under that approach, the initial design phase would have focused simply on optimising the utilities diversion process. The disadvantage of that process would have been that they could not do design work on the track and so probably would not have come to the best answers in terms of diversions.

252. By 'best answer' I mean that they would not have had the freedom to re-engineer the scheme so as to avoid a major realignment or a major sewer

replacement for instance. If that freedom was allowed to the designers then they could have engineered the scheme around the difficult areas with a degree of ingenuity.

253. The approach adopted was to combine the design work with utilities diversion so as to allow those kinds of ingenuities in re-engineering the scheme and reducing the scope of the utilities diversion process.

254. In terms of the novation of the design contract over to the Infraco, the intention was to combine everything into one package.

255. The overall approach was to get all the practical design work that could be done to initiate the MUDFA and to get the documentation up to a level where we could get good, firm numbers on the costs. We could then improve those through the tender process, and while reducing the number of tenderers, hopefully get the best contract price possible.

256. Once the Infraco was in place, we could then transfer all of the risks and detail associated with that contract onto the infrastructure provider. That would leave all of the liability associated with the design relating to the tracks in the hands of the infrastructure provider.

257. In order for the design contract to be smoothly novated into the Infraco agreement, there had to be a good understanding of the stage which design had advanced to and what the ultimate cost to complete it would be. There might have been some variation in the contract with PB. The contract was worth around £24m I believe, and there might have been some variations. If it were around 60 to 70 per cent finished at handover time then you could expect maybe a £5m overrun or design risk margin which, in a £500m budget, is very little. However, at that transfer point, TIE would need to have ensured it resolved all pre-existing claims so as to have a clean handover.

Prior and subsequent use of the Procurement Strategy

258. The procurement strategy that TIE was implementing is very similar to the strategy that I had used in the CTL in that it involved

258.1 The SDS contract being brought under the Infraco;

258.2 The tram delivery contract being brought under the Infraco;

258.3 The separation out of the role of the operator; and

258.4 Separate arrangements for utilities diversion.

259. It differed from the CTL as that project involved PFI and the use of a concession company.

260. In terms of my contribution, I brought a lot of documentation across from my experiences with the CTL because I had every reason to believe that approach would work here. The key documents from that project were given to people within TIE and to DLA Piper and they formed the backbone of many of the contracts and other documents agreed for the ETP.

261. Given the experience with Edinburgh, I do not think that many local authorities are interested in trams or likely to copy this arrangement.

Key points of the Procurement Strategy

262. In terms of its advantages, the intention with the procurement strategy was to get a framework which would combine good risk management, the best possible price and the best solution for the delivery of the overall scheme.

263. In terms of those points that were critical to its success, there were a number which required particular care or planning in order for it to work:

263.1 There needed to be careful integration of the contracts;

263.2 There need to be clear planning and management;

263.3 There was an obvious risk interface between the MUDFA and the Infraco;

263.4 There were significant risks around the CEC planning permissions; and

263.5 There was a significant possibility for failure in having a suitable traffic management scheme which would allow the MUDFA contractor to go ahead with diverting the utilities and then allow the Infraco contractor to come in.

All of these critical points had TIE's name written all over them.

264. The objective of the procurement strategy was to obtain a firm, fixed price bid for at least the first part of the Infraco. That meant getting enough price certainty so that TIE could actually convince the funders to support the project and meant TIE could avoid including massive levels of contingent overrun funding in the costs estimates (ie Optimism Bias which added an additional 14 per cent contingency to the calculations we already had). We wanted the 14 per cent attributable to Optimism Bias to evaporate and the objective of the strategy was to get sufficient assurances to cause that to happen.

Procurement strategy and the prior design/diversion works

265. I have been asked whether it was necessary that, for the procurement strategy, that the design and advanced utilities works to be wholly complete prior to the award of the infrastructure contract. In my view, it was not necessary that these works be 100 per cent complete prior to that point. Certainly critical elements would need to be completed:

265.1 If for instance, there was a large pipe running under Princes St, that would require traffic diversion, weekend and overnight works and had the potential to cause significant complaints. That would require careful design, utilities diversion, coordination of timing and traffic planning.

265.2 By contrast, the construction of a small electrical substation at the depot posed far fewer challenges, more limited potential for diversion and could be done at different points throughout the project.

266. The critical elements of the construction programme were things that had to be worked out under the SDS and TSS. With that information, the Infraco could tell us how it would build these elements. Equally, we needed to be able to tell the Infraco when it would be able to go in and build in the sense of being able to assure them when utilities works would be done. And this could be in a staged or managed approach whereby only sections of Princes St were shut down at a time.

267. This design and planning work should have been progressively refined to the point where sections of Princes St, for example, could be identified as free for the works at a certain point and in certain stages. All of this co-ordination between the construction and traffic management would, of course, need to be done in sync and with the cooperation of the CEC.

268. In truth, as far as the works in the city centre were concerned, both the designs and the diversions would have had to have been well advanced, or the majority done, in order to de-risk the situation with the infrastructure provider. Otherwise the Infraco was likely to perceive the situation as risky and would price for that to TIE's detriment.

269. In the ETP, the on-street/city areas from Haymarket to Leith were the areas of concern (beyond Haymarket, the tram route meant different concerns applied). That was around 9 kms in total though, with the tram only being built to York Place, the total completed area was around 3 to 4 kms. That was similar to the amount of on-street area that I had dealt with in Croydon. In the case of the CTL, the utilities diversion process required around 18 months and there was agreement that the contractor would have access to certain, staged areas which had been cleared of utilities according to a set timetable.

270. As long as we had been able to hand over set areas at set times, according to a set schedule, then the project would have been okay. If there had been the ability to complete those individual portions to the required handover dates required then fine. If we did not have the ability to complete design and diversion on time for those sections then we should not have agreed to those dates. There is a risk there.

271. In truth, we should have been assessing the risk of time overruns in the utilities diversion process a year into the MUDFA; for the design process, we should have been 1 and a half years into it before we thought about awarding the Infraco contract.

272. I have been asked what risks were involved in carrying on straight into the infrastructure contracting process. Starting from the basis that the contractor has priced to do certain work, based on certain designs at certain times in a certain way, changes and delays mean you have to make choices:

272.1 You could assume you were going to have to vary the infrastructure contract outright;

272.2 The contractor might accept a delay in the programme;

272.3 The contractor might agree to take over or subcontract out part of the utilities works under his supervision to allow those to be completed.

273. All of these are possible and might even be manageable. But they are departures or variations from the original arrangement. The programme of infrastructure works should have started on a set basis, moving from area A, to B and up to Z within a certain schedule of handover dates in the Infraco. If you start shifting the basis of the contract then you create risks.

Outline Business Case and Procurement Strategy

274. I have been referred to a draft of TIE's Outline Business Case (OBC) prepared in March 2006 (**CEC01856896**). That contains a description of TIE's procurement strategy and the thinking behind it (see pgs 9 and 42 onwards). This is an accurate description of the key features and thinking of the strategy at the point where it had begun to be implemented in tendering.

275. The draft OBC (at pg 42 onwards) sets out a number of problems that had been encountered in light rail projects in the UK. I note that these include significant losses on construction due to variations, escalating costs for operators and limited ability of public entities to control the contractors. All of these meant that there was little appetite in the private sector because the collective risk was too uncertain and could not be priced within the context of a construction contract.

276. These particular issues had to be addressed within the procurement process primarily by the separation of the utilities diversion process (under the MUDFA) and the separation and prosecution of design and planning permission (under the SDS).

277. I note that the draft OBC (**CEC01856896**, at para 6.2.1, pg 43) also refers to TIE being able to draw on "*first hand experience from key individuals involved*" in previous tram schemes. This was a reference to me, with my experience of the CTL, and others involved in the project who had a breadth of experience in light rail.

Market responses to procurement strategy

278. I have been referred back to the draft OBC (**CEC01856896**) and its discussions of TIE's engagement with market participants for feedback on the procurement strategy. I have also been referred to a draft of the Preliminary Information Notice (PIN)(**CEC00208681**, this is an official document required by procurement law) and a Project Information Memorandum provided to those who

responded to the final PIN (**CEC01866826**). The Memorandum dates from October 2005.

279. The market responded positively to the tram supply novation in particular. They responded positively to the early design process and the fact that TIE would undertake the risks relating to utility diversion. However, having said all of those things, there was still really a quite small degree of interest in the Infraco marketplace for this project because there was a high degree of scepticism as to whether it would ever happen and whether it would ever actually be funded.

280. During the discussions with the marketplace, there was an assumption that the design and utility diversions had to be reduced so as to reduce the risk interface (ie the exchange, balance or allocation of risk) between TIE and the Infraco contractor. A primary concern was with elements of risk that TIE was responsible for and which could carry consequences for late delivery. That made it critical to have complete knowledge of the risks and to have the utilities diversion deployed early. While other approaches would have been possible, we had decided to combine the multi-utility diversion under a single contract.

281. I have been asked whether there was any discussion at this point (in around October 2005) about the potential impact on infrastructure procurement if there was a delay or incompleteness in the design or diversion works. I believe there was a clear understanding that it would either cause a huge financial problem if the Infraco was awarded too soon or that the decision would have to be to further the award of the contract. It was clearly understood that this was a critical aspect of the overall planning of the ETP.

Design Contract and Timing

282. I have been asked to address a number of questions specifically relating to the design aspects of the ETP while I was involved with it between 2003 and late 2006.

Outline Business Case and design

283. The draft OBC (**CEC01856896**) which I have already mentioned above discusses the SDS contract (particularly, I note, at para 6.7, pg 57 onwards). I have been asked to what stage the design works would have needed to have been progressed to allow the procurement strategy's aim to be successful in relation to the Infraco and utilities diversions.

284. The design work would have needed to include:

284.1 Sufficient design to minimise the design-related risks including utility diversions.

284.2 A definition of the scope of the street works and street scene works consistent with planning permissions.

284.3 An analysis of traffic signal prioritisation and traffic management and the results of that work.

284.4 A temporary traffic works scheme and the relevant traffic orders which would enable a defined construction process particularly in the critical area between Haymarket and the top of Leith Walk.

284.5 Resolution of any planning permissions crucial to the above.

285. Other aspects of the design were less time critical to the conclusion of the Infraco contract itself though still important. For instance, I have been asked about the interfaces with other stakeholders such as Network Rail. In terms of the Haymarket stop and its relationship with the station, Network Rail would have been involved in the normal planning process. We could have dealt with them through the planning process or we could have taken a proactive approach and sought to work with them earlier. While it was important, the nature of the work was not such that it needed to have been completed before the Infraco contract was signed off but it would have needed to have been done when the Infraco party ultimately needed it.

Design and utility diversions

286. I have been asked what progress needed to be made, in terms of design works, for the purposes of the utility diversions work.

287. The primary purpose of the utility diversion strategy was to clear a space for the running of the tram tracks which would be embedded in a concrete slab. Utilities needed to be diverted away from the space the slab would occupy so as to ensure that there was no future need to intrude on or under the slab.

288. Design works played a role in the utility diversion strategy in that they showed where the track would run. Accurate designs of the track would allow diversions to be done with them having to be reworked if there was a later reorientation or realignment of the track.

289. The primary purpose of the design would be to allow the clearing of the utilities from a particular depth over a width of about 3.5 metres. This would be done all along the alignment (route) of the track. That was the primary focus of design for the purpose of the utility diversion.

290. There was a secondary focus to the SDS which was another of its advantages. If the tram works came to something under the street which would have been very expensive or difficult to move then we could ask whether the design could be reworked so as to bridge over it. An example of this would be a big power cable, a national grid cable for instance, which would pose significant problems as it is difficult to get permission to switch those cables off even with a year's notice. So, instead of a standard section of track slab, something special could be done in that area to avoid need to do a major diversion.

Timeframes and levels of completion under the SDS

291. I have been asked whether there would be a challenge to get the design work done in time for the procurement strategy for the Infraco. There was absolutely a challenge with this.

292. I have been asked what progress remained to be achieved with consents, and by what stages of the process those would have needed to have been done in order to obtain the expected benefits from the overall approach to the project. Substantial progress had been made in the area of consents. While the process was not complete, the approach had been to de-risk the critical aspects and the path that would be involved in the construction programme. This would have been not just a 'top-down' approach of us telling the contractor what the risk areas were (during the negotiations before completion and award of the Infraco) but also a 'bottom-up' approach with the Infraco telling us what they thought was critical and we had not identified or what was less critical than we had expected. That way would have meant us finalising certain elements of the design at an earlier or later stage depending on what was identified as a critical area. Either of these active forms of review should have occurred in the design process.

293. I have been asked what was meant by a phrase in the draft OBC (**CEC01856896**) which I have already discussed above. At para 6.7 (pg 57), that document states that the risk transfer to the SDS was "*substantial in relation to approvals*". This means that the cost risk involved in the achievement of planning approvals for the design work had been transferred to the SDS contractor. In the planning process, you would expect to complete your work to a good standard and submit it to a planning officer for approval. The officer might have the delegated authority to decide for themselves or they might refer it to a planning committee for approval. If the approval was not granted then further work would need to be done to modify or improve the proposal and to resubmit it. There was an expectation that design would involve several iterations and multiple meetings with planning officers particularly within the context of making recommendations on a project of the ETP's scale and with its many planning requirements. In this

context, the transfer of risk to the SDS meant that the contractor would bear the costs of carrying out this process and, where multiple redesigns were required (ie as many as necessary for approval to finally be achieved), the contractor would bear the risks and costs of that.

294. I have been asked, to the extent that the design remained unfinished or consents remained incomplete at the time of awarding the Infraco, what effect this would have on the risk premiums involved in pricing the Infraco. Whatever approvals and whatever part of the design were outstanding would attract a risk premium involving:

294.1 A design-related risk premium;

294.2 A time-related risk premium; and

294.3 A cost recovery-related risk premium.

295. In any event, this project also involved the novation and transfer of an existing design work stream and any residual liabilities or active issues from that earlier process would need time to be sorted out. There would also be insurance and other aspects of the design contract which would need to be dealt with. Overall responsibility for all of this was being taken on by the Infraco and it naturally would have taken a view as to what risk premium should be applied to novating the SDS for these types of issues.

296. TIE would carry all of the risks associated with the SDS contract until such point as it was novated over to the Infraco contractor. In terms of issues that might arise when it came time for novation, there were a number of possibilities. First, if there were outstanding unresolved SDS claims for additional costs and time, then they would have been a concern for the Infraco. That meant that they had to be resolved by TIE by negotiation or through the dispute resolution procedures (DRP), those claims needed to be ruled off so that the Infraco would know what they were taking over. In other words, if we knew that the design programme was going to have to be extended due to some under-performance,

or other issue, then we would have had to resolve that with the design contractor. We would then have to make the Infraco aware of these issues and actually incorporate these modifications into both the SDS and the Infraco so that their programmes fitted together and the two contractors could work together.

297. I have been asked whether novation would have any effect on the SDS contractor's approach to completing the design work. While there was obviously a possibility that the SDS contractor could claim premiums on design work from the Infraco, I do not consider it would have been a realistic strategy for the SDS contractor to have delayed completion simply so as to inflate later payments from the Infraco following novation.

298. I have been referred back to para 6.7.1 of the draft OBC (**CEC01856896**, pg 58) and its estimate that the design process would take between 2 and 2 and a half years and be around 60 to 70 per cent by the time of the Infraco award.

299. The time estimate was based on the general industry experience, and knowledge associated with these types of project, of myself and others including: Andrew Wood of Transdev, David Hand of Mott MacDonald, Doug Blankey from Faber Maunsell etc.

300. The estimate of 60 to 70 per cent completion refers to 60 or 70 per cent of the design man hours or deliverables having been done. There would have been many hours expended on the project and many of the substantial drawings and specifications would be completed. The issues outstanding would be design related to the detailed engineering rather than issues going to the scope of the overall project. This figure would mean that in terms of the tram slab, for instance, the design is moving from just knowing what the depth and breadth of the slab is to a level of detailed reinforcing design of the slab. As such, there would be further design calculations leading to drawings which can in the end be used in the construction stage. At 60 to 70 per cent completion, you would be part of the way through that process but would not have completed it.

301. I have been asked what the basis for these estimates (time and design completion levels) was and what reassurances were provided to us about these aspects. These estimates were based on my experience in tram projects and those of the team assisting which includes the people I mentioned above (at of the team assisting which includes the people I mentioned above (at para 299).

Key risk areas and design

302. Paragraph 6.7.1 of the draft OBC (**CEC01856896**, pg 58) also refers to TIE identifying “*key risk areas*” where design was to be complete prior to the Infracore award. I have been asked how these key risk areas had been identified and defined.

303. These key risk areas include a number of matters I have discussed earlier in this statement such as the planning permissions, the Traffic Regulation Orders (both temporary and permanent), the locations of tram stops in Princes St (and permissions for those), and the extent of the street works on streets for and adjacent to the tram line.

304. Utilities were also a key risk area and, for instance, we had exchanges with all of the utilities providers. We had identified those utilities in the areas associated with the key critical path activities that would need to be met in delivering the tram project. Those key risk areas were being constantly reviewed to see how they were performing.

305. This process of identification of risk areas was on-going from 2004 even prior to the award of the SDS contract. I remember requesting Mott MacDonald to provide a draft plan of the route with details of all of the high risk areas to focus us on exactly what difficulties were there. For example, in Princes St, we looked at the basements of buildings running under the street and how many of these would be at risk from running the tram project over them and how we might protect against the loading. There might have been problems here, which we identified, and we needed to do something about it. I think those key risk areas

were well identified. The next step in the identification of the risk was with the SDS contractor. They would undertake an investigation programme to determine precisely, or more precisely, what was associated or involved in those key risk areas. Overall I think we did identify the key risk areas.

Risk premiums and the SDS

306. I have been asked whether the fact that 30 to 40 per cent of design would need to be completed would be enough certainty for infrastructure bidders to accept the design without including risk premiums in their pricing. The answer to this question is perhaps more accurately discussed in terms of the level of risk premium (and its reduction) rather than the complete absence of a risk premium.

307. If TIE, at the end of the Parliamentary process, had passed the entire design and construction risk to the contractor (ie through a complete design and build contracting framework, see above at para 191 to 200) that would have attracted the maximum risk premium. That risk premium will be made up of different categories of risks such as commercial risks, time-related risks and the contractor's own, internal assessment of the design risks involved.

308. For instance, as part of the tender process, the contractor would be likely to conduct their own internal design process. They might, for example, seek to determine what the reinforcement ratio, ie how many tonnes of steel per cubic metre are required for a 9 km on-street section, and the likely costs of that. The contractor will need to assess that and a premium, based on the contractor's experience will be applied to that. If, for instance, the contractor is told by his designer that the reinforcement ratio will be 150 kgs per cubic metre, then he might add 10 or 20 per cent premium to the contract to account for his previous experience and cases in which that prediction proved inaccurate. The contractor's risk analysis will be based on that, among other elements and the risk they attract.

309. As the process goes on, as the design edges towards that 60 to 70 per cent completion point and is focused on the critical elements of the project, the contractor can review those elements in greater detail. A contractor might even engage a third party design reviewer to assist and they will give feedback on which design areas are complete and correct, and can be followed, and on the areas where further work is needed. Once that is done, the contractor can use that information in updating his risk assessment (both design related and a general, holistic construction-delivery related assessment). In relation specifically to design, the contractor will apply a risk premium even if the design is 100 per cent complete.

310. In the end, a contractor will always apply a risk premium even on the most complete information. However, the point is that the risk premium is a variable; it is an output based on an individual contractor's view of life and view of the project. Design risk, commercial risk and time-related risks are brought together so the contractor can form a view of what premium to add to their price. This risk assessment (and premium) is always a part of the price.

311. I have been referred back to the draft OBC (**CEC01856896**). That document provides a description of the design work that had been done (para 6.7.1.1, pg 58) and I have been asked to expand on that and to discuss the extent to which it affected the risks to the Infraco and to which it reduced risk premiums.

312. The aim of the design work done was to reduce the risk premiums. Planning permissions were an important part of that. Making matters more certain and dealing with utilities were important. Utilities diversions had, in particular, proved to be problematic on other light rail transport (LRT) projects and they were a major part of the overall scheme and addressed by the design in detail. In the example of the major electricity cable which I previously discussed (at para 290 above), its diversion could be avoided through a design programme which modified the track slab to create a bridge-over option. That would have

been completed in detail by the designer, agreed by the utility company and all the Infraco would have had to worry about was simply building the element.

313. The intention was that elements like these would have been gone through and would be included within the 60 to 70 per cent of design work that was meant to be completed. It was a question of the use we made of the 60 to 70 per cent completion of the design rather than a question of getting to 100 per cent completion. We needed to focus our attention on what was crucial to the Infraco contractor and to complete that body of work so that the contractor could simply price that. Otherwise the contractor was going off on an alternative process trying to guess what work would be involved and pricing the contract, including premiums accordingly.

314. At the same paragraph (6.7.1.1, pg 58), the draft OBC (**CEC01856896**) refers to the detailed design and consents being significantly advanced by the time of the Infraco award. The SDS (design) contract was awarded in 2005 and by the time of the Infraco award in 2007, we would be 18 months into the design process. The expectation was that the design process as a whole would take 2 to 2 and half years, and by 18 months in, we would be a substantial way through that process. The basis for this lay in the experience of team members and the preliminary programmes that we had done ourselves. In Croydon, for example, the utilities diversion process (over an on-street length of 3.5 kms) had taken 18 months to 2 years.

315. I have been asked what discussions had taken place with PB and/or the consenting authorities to inform these predictions as to the timeframes and expectations of consents being granted. I can only say that PB were contracted to resolve these consent, we believed, and CEC was fully aware of the process.

316. In terms of the due diligence in respect of PB, which I have been asked to comment on, PB was awarded the SDS contract after going through TIE's procurement and tender process. That process involved significant reviews of

those tender submissions against a field of other bidders. On the basis of that assessment, it was believed that PB understood the magnitude of the problem and had the ability (as detailed in their documentation and tender programme) to deliver in accordance with the expectations that we had outlined in the tender.

317. I have been asked whether we were confident, when awarding the SDS to PB, that there was sufficient time to support the procurement of the Infracore contract. I specifically remember that they were asked about this and that they had addressed the quick start and high intensity of the early part of the programme and had done so better than other bidders. They had also committed to engaging a large number of additional staff in the start-up period which caused us to believe that they could actually achieve what we had wanted and they were much more convincing in this than other tenderers.

Non-critical design areas

318. I have been asked what was meant by the “*non-critical areas*” (referred to in the same paragraph of the draft OBC, see para 314 above), in respect of which design might remain outstanding, and how they were they defined.

319. These non-critical areas would have been designed by TIE, the SDS contractor and the TSS group with detailed reviews. Within TIE, planning and programming was being managed by David Ramsay. At TIE, under David’s lead, we developed a programme and those non-critical areas were consistent with the areas of high risk we identified. Critical areas would have been identified on the basis of the risk matrices and further planning would have determined what was non-critical.

320. I wonder whether non-critical was correct turn of phrase, these areas could also be described as less critical. Realistically, anything can become critical at some stage in the project programme. This was effectively looking at the programme and ranking those areas which were the highest cause of risk to us and to the contractor. We took on those high risk areas ourselves to establish

the programme for the ETP and the basis on which the Infraco would prepare tenders with their risk premium reduced.

321. As we worked through the programme, we started with the perspective that the highest risk area, the critical area, was the area between Haymarket and the bottom of Leith Walk. We also added in certain other areas such as the bridge adjacent to the Network Rail Depot, the back area associated with Murrayfield, as well as the tram depot area and the tram depot itself. For those, we were trying to establish a commissioning process as early as possible and so those areas were well defined in the programme.

322. I have been asked how these non-critical areas were being monitored, whether risk registers were used to keep these under evaluation and whether any areas were outstanding that would have significantly affected the risk premium. If we were unable to complete the design 100 per cent but the design was completed to a level to allow the tender process to go forward, there would be an element of risk premium in the tender. However, as I have outlined above (at para 307 to 310), there would always be a level of risk premium that was applied under any circumstances. The order of maintenance (ie: [XX]) would be very different based on what was done. By focusing our attention on the areas that we, and the SDS contractor, judged to be more critical than the outcome we aimed for would be to a reduced risk premium as compared to an approach where we did not focus on these critical areas.

Risks associated with novation of the SDS contract

323. I have been referred to para 6.7.3 of the draft OBC (**CEC01856896**, pg 59) which notes that novation of the SDS contract to the Infraco is a risk but one that TIE believed it could manage. This statement means that TIE would need to actively manage the process of novating the SDS contract to the Infraco and that there was a risk that the Infraco would not accept the novation.

324. This was quite a significant risk, in theory. If the Infraco refused to take on the SDS then that would mean that the SDS contract would be redundant, and would need to cut-short or somehow brought to an end. That would be part of the risk. The Infraco might want to take on another design consultant entirely because they did not want PB to do the design work.

325. For example, if TIE had put out a tender design produced by Parsons Brinkerhoff which was not well conceived and the contractor wanted to modify 90 per cent of it then he might well have wanted not to take the SDS contract over. However, in the UK marketplace, PB was one of the highest ranked rail consultant companies and had successfully worked on other major projects in the UK and internationally so that was a conceivable but very unlikely risk.

326. That would have an impact on the timing and pricing involved in the Infraco contract but the Infraco provider might argue that it could obtain a better quality and cheaper solution than PB provided. It is difficult to sit here and say that the Infraco contractor refusing to take on the SDS would have been a wholly negative or positive outcome. For example, a large percentage of detailed design work is now being done using contractors out of either India or China at 50 per cent of the cost of using higher priced consultants based in the UK. If the Infraco had raised that as a competitive advantage, there would have been a very, very good reason convincing to TIE, and to myself, that that was a better solution and that would have offset any negative effects from the truncation or cessation of the SDS.

327. This was a risk that was acknowledged and which would have needed to have been managed by competent people had it occurred, though of course it never became a reality.

Utilities and the MUDFA

328. I have been referred to the discussions of utilities in the draft OBC prepared by TIE in March 2006 (**CEC01856896**, para 6.8 onwards, pg 60 onwards). I note also para 6.7.3 of the draft OBC (pg 59). I have been asked what progress had to be made with utilities diversions by the time work began under the Infraco contract, if the risk, price and programme benefits of early utility diversion were to be achieved and how conflicts on the ground might be managed.

329. The short answer is that we had to have achieved part of the works and, for the outstanding part, we had to have a programme which would allow us to believe that we would achieve the schedule of handover dates. This schedule of handover dates would have been contained in the Infraco tendering documentation and the Infraco provider would have had based their programme and construction price on that. Therefore, we had to meet a programme for completion of the utilities diversions which was consistent with the handover dates on each section of the track.

330. I have been asked what was meant by the statement that “*significant*” utility diversions would be completed prior to the start of Infraco works and how these works were quantified or defined (para 6.8.1, pg 61 of **CEC01856896**).

331. What was meant by that was that there would be an overlapping programme of works where the Infraco was promised that they would have certain areas available for work by a certain date. The utilities diversion programme fits within or before that Infraco work programme. The planning with the MUDFA had to be such that TIE would complete those utility diversion works within those areas so as to allow handover dates to be achieved (with adequate contingency and flow built into it on TIE’s side). The shape and timing of the utilities diversion works programme would have to be defined before TIE committed to the Infraco handover dates. That is what is being discussed in this section of the document.

332. In terms of significant works having to be done before Infraco works that means that, because the design work the Infraco received was in an advanced state, the Infraco would theoretically have been able to advance works in what they considered to be the critical areas, perhaps at the earliest possible handover date. As such the works which needed to be done under the MUDFA had to be substantially on time. This was because the time between when the Infraco would have enough information to start work and the time that was left from the award of the Infraco to complete the MUDFA works, was known to be, not necessarily, that long.

333. However, what TIE, knowing the progress of the MUDFA works, had the ability to do was to manage the commitments to handover dates within the tender process. In that way, the potential Infraco contractor could rearrange their tender consistent with TIE's latest information on how the MUDFA utilities diversions were actually progressing and so allow that element of risk to be managed.

334. The quantification of which works were significant and which would be done by the start of the Infraco works was done through the planning of the utilities diversion programme. That was contained in the tender documents for the MUDFA itself which at this point in time (March 2006) had yet to be awarded itself. The utilities diversion programme was worked up by TIE with the benefit of information gleaned from Mott MacDonald and Faber Maunsell, in the first instance, and from direct interactions with the utilities companies carried out by TIE's internal utilities diversion team. By this stage, we had a programme of utilities diversion which we had been working on for 18 months.

335. In terms of responsibility for that programme, the design aspects of it such as the investigation, design and the re-design of the utilities was with SDS. The responsibility for the project management of that process was with TIE, supported by TSS, and we had a utilities diversion team from TSS, I cannot remember exactly how many people were involved but we had a number of people working just on this particular issue.

336. I have been asked to what extent, at this stage, there was clarity about the amount of utility diversion work which was required and how long that work would take. At this stage, consultation work with the utility companies was ongoing and individual agreements with those companies were either substantially in place or on the verge of being so. We had a general agreement with all of the utility contractors on taking the MUDFA approach of using a single contractor for all these works. These companies had been given details about what TIE knew of the design at this stage (ie where the track was going) and they had responded with details of the locations of their assets and the diversion requirements.

337. I have been asked whether there was clarity around the amount of diversion work that was required. I note, first, that further investigation was to take place under the SDS. In general, however, I was aware there was a high degree of uncertainty with the amount of utilities diversion work involved. We talked about utilities diversion works in two senses: identified utilities diversion and unidentified utilities diversion. Acknowledging the possibility of unidentified utilities diversion works is, prima facie, a declaration of risk.

338. I have been asked whether I was satisfied with the way TIE managed the risk caused but this uncertainty in relation to utilities diversion in the lead up to the award of the Infraco and the novation of the SDS to that contract. My response would be that I was not satisfied with certain aspects of the speed of delivery of the utilities works planning. The SDS contract involved investigating the utilities situation which was the primary way of getting greater clarity around the utilities risk and I was not satisfied with the way that was carried out. I was not satisfied that the TSS group was mobilising enough people to assist with the project. I remember speaking to Bill Woolgar, of Turner & Townsend, to complain that I did not feel TIE was getting support from his best people and I remember him apologising to me for this (although I believe he later said something different to TIE after I had left the company).

339. The risk was associated with the fact that unidentified utilities exist. You do not know, when you find a cable in the ground, if that cable is a power line or if it is live. If it is not on the power network's drawing of its assets then you do not know what it is. I was absolutely aware that these kind of risks could exist.

Time estimates for utilities diversion

340. I have been asked what stage had been reached with survey, investigation and design work to inform the scope of the utilities diversion works by this point in time. SDS were behind in their programme at this point. The programme was laid out and well understood but they were behind schedule and not meeting our expectations at this point.

341. I have been referred once more to the draft OBC document (CEC01856896, pg 10) which states that: *"On award, the MUDFA Contractor will undertake a series of pre-construction activities including working with the SDS Provider to optimise the design of the utilities..."*. This would involve the MUDFA contractor working with the designer to select whether to divert a piece of utilities infrastructure or whether to modify the design around that element, for example to span over the utility as I have already discussed above (at para 290). Generally, we wanted the companies to work together to solve engineering problems and reduce overall costs to TIE.

342. It was estimated that the utilities works would be over by the summer of 2008. I have been asked who supplied this estimate and what assumptions this was based on. That end point was chosen based on the programme of works that TIE had put together. That programme used information provided by the individual utility companies, which was review by a team of TIE and TSS people, to develop a programme of works which was believed to be reasonable based on their assessments and assumptions with respect to accessibility and traffic management practice (ie the temporary Traffic Works Orders).

343. I have been asked, given that survey and design work was still be started or completed at this point, how 'solid' or reliable I believe these estimates of the timeframe are. The frame of reference within which I was working and which I keep coming back to is the experience with utilities diversion on other LRT projects including the CRT. In that case, the utilities diversion process had taken two years in a city centre context which was not dissimilar to Edinburgh except perhaps in terms of the age of certain buildings. However, in utilities terms and in terms of street design, the similarities between the two are such that it was not unreasonable to say that it could be done in a period of time in the order of two years. That was the expectation and there was no information produced by anyone at that time suggesting it could not be done in that time period.

Evaluation of PB in relation to utilities

344. I have been asked whether TIE carried out any due diligence on the ability of PB to carry out the necessary survey, investigation and design works to allow the utilities diversion works to be carried out on time. I note, first, that TIE was aware that PB was going to subcontract out aspects of this work. This might have included ground penetrating radar, CAT (cable avoidance tool) scanning for power cables, geotechnical investigation including excavation and location works which we knew were planned. However, the process of investigation was also contained within the overall scope of the SDS and so the risks of that were passed to PB under the contract. It was TIE's assessment that the outcome of doing it this way would be satisfactory.

345. In terms of due diligence in relation to PB itself, TIE went through a review process for the SDS tenderers and each of them had to respond to the same queries. The evaluation process included the utilities diversion process and this part of it was obviously an important part of the SDS review. TIE reviewed specifically reviewed the utilities diversion aspects on a comparative basis between those bidders that came through the initial screening. I cannot remember whether PB was the top scorer in that category or not but it was

certainly part of the evaluation process. The people at TIE responsible for this evaluation process would have been Gerry Henderson, on the commercial aspects, David Ramsay, on the construction and delivery process aspects of the SDS, and there would have been others whose names should be in the relevant documents.

Interaction with utility companies

346. I have been referred to the draft OBC of March 2006 which notes the role that the utility companies would play in the ETP and the need to seek agreement with them (see paras 6.8.1 to 6.8.3 at pgs 61 – 63 of CEC01856896). I have been asked about those agreements and the steps that TIE took in relation to those.

347. TIE clearly had to have an agreement with each of the utility companies. This was the responsibility of TIE rather than the SDS provider and there was a utilities diversion manager within TIE leading this aspect of the project. He would report to David Ramsay, who had overall responsibility for the construction aspects of the ETP, and to myself as project leader. This was because the issue was so important that I took a personal interest in it.

348. I have been asked what progress had TIE made by this stage (March 2006) and by the time I left TIE (May 2006, see para May 2006, see para 2.2 above) in securing the necessary agreements with the utility companies. I would say that substantial progress had been made by this point. There were no obvious alarm bells or warning signs. In fact, we would not have been able to go into the process of setting up the MUDFA unless we had had substantial progress early on.

349. I have been asked about the utility companies, the Parliamentary process and the powers granted under the Tram Acts in relation to the utilities diversion process. The Tram Acts were the two statutes passed by the Scottish Parliament to give CEC (and TIE) the necessary powers for the tram project (at times I may

also refer to the Tram Bills). In general, the Parliamentary process and the final Tram Acts were sufficient to inform the utility companies that the ETP was coming and that they would need to work with us. They raised objections during the Parliamentary process but we succeeded in getting the Tram Acts through with objector removal agreements. Until the Parliamentary process was complete, progress was somewhat slow. The utility companies knew that this work was coming but did not assign the highest priority to it. That being said, they were not simply paying lip service to the process and there were genuine interactions with them and the situation improved once the Tram Acts had been passed.

Risks and the MUDFA

350. I have been asked to explain TIE's retention of the risks in relation to the scope and timing of the utilities diversion works and their potential impact on the Infraco programme (see para 6.8.2, at pg 61, of the draft OBC - **CEC01856896**). This is much as I have previously discussed (see above at paras 191 and 236) in that TIE had to assume the risk of the utilities diversion risk as it would not have been possible to find a contractor who would be willing to price this work into their Infraco tender.

351. In terms of implementation, TIE had to deliver the utility diversions on time in accordance with the schedule of access dates and in a manner consistent with the temporary traffic diversions and the traffic management plan finally approved by the City of Edinburgh Council. The potential impacts on the Infraco programme were that if we did not meet those access dates, when we were committed to a schedule of works in the Infraco contract, then there would be a delay in the carrying out of the Infraco and risks associated with that.

352. I have been asked what resources TIE had in place to manage these risks under the MUDFA. TIE had its own internal staff and we had the benefit of the TSS team. That team was chosen, in part, because Turner & Townsend had

experience in Sheffield and in Croydon where they had been the project manager on the CTL for Transport for London for two years. The lead manager for TSS, however, was an employee of SWR though I cannot presently remember his name.

353. I have been asked whether I had confidence that the TSS team were managing these critical risks. I generally had confidence in them. However, as I have previously mentioned (see para 338 above), in around May 2006, I sought more assistance from the TSS providers as I was concerned that the utilities diversion process needed more help. The TSS was designed to be a contract under which TIE could call for more resources when it needed them and could draw on the combined resources of Turner & Townsend and SWR which had a massive capacity between them. I might have asked for ten more people but it seemed like the TSS providers, at this point, were only willing to provide much fewer. This additional resources for project management to assist TIE were supposed to come from this and particularly from Turner & Townsend, due to their expertise, in relation to the utilities diversion.

Procuring the Infrastructure Contract (Infraco)

354. I have outlined the process of developing the procurement strategy and its aims above. I have been asked to address the implementation of that strategy from around the time of the draft OBC prepared in March 2006 (**CEC01856896**). I discuss that in the sections below.

Adoption of parallel design and procurement process

355. I have been asked to explain in detail how the design and infrastructure procurement processes were intended to function in parallel and referred to paras 6.12.2 and 6.12.3 of the draft OBC (see pgs 68 to 69).

356. This can be summarised relatively shortly. There needed to be a process which recognised that the SDS process was continuing and the fact that TIE wanted to do the Infraco procurement process. As such, TIE:

356.1 Adopted the design work as it stood at a particular date (without stopping or 'freezing' the process of design as a whole) for the purposes of the Infraco procurement process;

356.2 Prepared a set of documentation based upon the state of the design at the date of that design 'freeze';

356.3 Put that information into the tender document for the Infraco; and

356.4 Requested that tenderers respond on the basis of the basis of the available information and that design material.

357. If the procurement process was then going to a second stage where the tenderers were invited to make a second 'best and final offer', which was consistent with what TIE expecting to be able to do, then that stage would occur at a later date. That later date might be something like

357.1 Three months after the initial tenders had been received from the contractors; and

357.2 A total of up to perhaps six months after the initial tendering documentation had been issued by (ie three months for the contractor to prepare their tender, three months for TIE to review it)

358. There would therefore have been a whole six months during which the design process had been advancing and the design might be in quite a different place. If TIE wanted to initiate a response to the initial tender at this point (following its review), then that would have involved a further snapshot or frozen version of where the design had got to. That would have done while the review of the tender by TIE was still in progress (say one month before TIE expected to respond). So TIE would then have prepared a document which was based on

that design which has been advanced by, in this example, five months from the initial tender 'freeze'. That then updated design then goes to the tenderer with an indication that this is where design now stood and asking them to respond to that updated version. It was about sharing progress with the tenderer and giving them a final update on the design.

359. I have been asked whether this approach had been used previously and where if so. It had been used previously and I saw it a lot in Australia and in relation to property development type projects. This was not the approach used in Croydon with the CTL but I believe Phase 3 of the Manchester trams involved the release of stages of design information. This was my experience from working for Amey (a contractor – see above at para 12) who had done the Manchester Phase 3 work. For that project, I am fairly certain the design work was released in stages. It is a not uncommon process. If you were going through a 'best and final' offer process, and you have a designer who is still working, then it is what you would obviously do. At that stage of the process, once you are selected as likely preferred bidder, there can also be reductions in the bid price. In Croydon, I believe the price had to be reduced by about 10 to 15 per cent to make the project come within budget and allow it to go forward.

360. I do not know whether this sort of parallel process has been used elsewhere in the UK since the ETP. I know it has been used internationally in places like Doha and Abu Dhabi on transport projects and these are ones I have had some involvement with.

State of design and effect on the procurement process

361. I have been asked how the competitive pressure was to be maintained through the procurement process (eg if design continued to evolve after a preferred bidder had been selected).

362. For a tenderer, there were a number of sources of competitive pressure. There would always be the risk that, if too high a bid was put in, there would be

no project. Equally if the contractor had done a bid, spent money on that bid and, in the case of a company that was publicly traded, had announced that to the company board then there would be pressure to complete the process and there would provide competitive pressure.

363. There was additional risk to the contractor, and competitive pressure, in that the public sector always has another bidder in reserve in addition to the preferred tenderer. This is common practice across the UK and internationally. That means the preferred bidder, while knowing that it is not easy to bring someone else in and while the public authority might not want to do it, it always has the option and that is another mechanism to create competition.

364. I have been asked whether there was a risk that a preferred bidder would use the on-going development of the design as an opportunity to increase its price. I accept that was a risk.

365. I have been asked whether it was anticipated that, if the design was not wholly complete by the time the infrastructure contract was awarded, the infrastructure contractor would either include risk premiums in his price, or seek to pass design risk back to TIE.

366. Clearly there was going to be more risk involved in the process overall if it came down to the point where there was only a sole bidder but a sole bidder scenario was hopefully not going to happen.

367. Of course there could have been changes or developments in the design that might have had an impact. Those changes would, if they happened, need to be flagged. If we talk first about the way in which TIE was managing the procurement process, then there was the fact that until the Infracore was awarded, the bidder would not have been aware of any changes that had occurred following the second information transfer that had been made to allow for a 'best and final offer' to be made (see above at para 357 to 358). The parties would still be negotiating on the basis of that second transfer of design information.

368. The SDS provider would be working away in the background to those negotiations and, if something comes out of the continuing design work, then TIE would be beholden to make a decision as to whether that should affect the bidding process. That might be to avoid being disingenuous. But if TIE did not disclose, there would be no way for the Infraco bidder to understand what had happened in the background and they would be vulnerable to the information not being disclosed by TIE.

369. On the other hand, I can see the countervailing argument which says that if something had happened in the design and that caused a potential reduction in cost, then if that came to the knowledge of the TIE project director, he would make sure that advanced knowledge was provided to the Infraco bidder.

370. Under any circumstances and based on the relative level of completion of the design (as I have already explained above at para 306 to 310), the Infraco having gone through this 'best and final offer process', will have been able to reduce some part of their risk premium through a better understanding of the detailed design. The bidder may even have been able to influence the design process through his initial tender response. So the Infraco's approach to the tender process may have been quite positive and may have caused a reduction in the tender price as I observed in Croydon where there was a 15 per cent reduction.

Other risks of the parallel process

371. I have been asked what other risks were present in developing design, diverting utilities and procuring the infrastructure contract in parallel fashion. One further risk was the procurement of the tram supply contract (sometimes known as the Tramco). I have not really discussed the tram supply contract up to this point but it would need to be integrated within the systems integration and systems design frameworks. Then all of these would be brought together within the Infraco.

372. The other possible risk was in relation to land access. In other words, had CEC or TIE acquired all of the property rights that were necessary to build the tram system. A good example was the pub next to Haymarket station which TIE had to buy as the line went through it.

373. I have been asked what steps were taken to mitigate these risks of the parallel process of design, utilities diversion and Infraco procurement. One way in which TIE was attempting to mitigate was through the contractual process. The integration of the three contracts (Infraco, tram supply and SDS) was to be achieved through a close and detailed understanding of the contents of each and by using the same set of lawyers. In effect, the clauses contained in these three contracts would work together and enable a smooth novation process (of the SDS and tram supply contract) from TIE to the Infraco. These different contracts would need to 'talk to each other'.

374. This is because, in the Infraco tender process, you would envisage the Infraco tenderer being given a copy of the SDS contract, a statement as to where matters stood with that and an updated programme of works under it. The Infraco tenderer would be looking at and coming to understand the SDS contract and PB as the designer. The same would also need to apply to the tram supply contract, not because of the design aspect, but because of its eventual integration into the Infraco contract. For instance, would the trams delivered fit into the depot built by the Infraco provider. All of these things required coordination.

375. I have been asked who managed this process of integration. TIE would have done work on this in-house, supported by the TSS group. The SDS provider should have been made aware of anything critical by TIE at the earliest possible opportunity and vice-versa. They would also have been interacting with the utilities diversion process and with the CEC throughout this period.

The procurement process and costs

376. I have been referred to the draft OBC of March 2006 (pg 7 of **CEC01856896**) which states that TIE expected the process to produce capital costs estimates which were “*robust and affordable*” and in which in a high degree of confidence could be placed. I have been asked to comment on this process and why this high level of confidence was expected.

377. As TIE understood matters, it was planning to issue a tender document containing design work that was 60 to 70 per cent complete and which was directed towards those areas which were considered of critical concern to any contractor. We then expected to receive an offer from a contractor which, while qualified, would be capable of acceptance. That offer would contain a price that would be acceptable to TIE, if TIE wished to accept it, would be consistent with the conditions of the contract and would involve a transfer of the risk under the final contract.

378. This tendering process, and the offer produced by it, were different from a budget. The high degree of confidence would come from understanding what you had contracted with the tenderer to do. That would mean you also understand what you had not contracted with him to do. That would allow you to do a quantitative risk assessment (QRA) consistent with what was outside the scope of the contract and the price that was being offered. That tendering process, the price and clarity that results from it is what would cause someone to describe this as giving a high degree of confidence.

379. I have been referred to para 5.2.1 of the draft OBC (pg 30 of **CEC01856896**) which states: “*on a project of the scale and complexity of the tram project there is still a significant degree of uncertainty (including that relating to construction market prices generally) which will exist up to and beyond the point where tender prices are known. It is therefore important to achieve as much certainty as possible on the likely price for the different elements of the network before awarding the major contracts*”. I have been asked to comment on the cost uncertainty and the extent that costs could be quantified prior to the award.

380. The tendering process yields offers and the degree of certainty increases because you are no longer dealing with a budget (estimated by TIE) but with an offer made by the contractor which has a price attached to it, though it may also be subject to qualifications. The major unknown components in any budget prepared prior to the tendering process would be the levels of costs escalation in the construction industry since the last similar project had been undertaken. Those elements of uncertainty would be replaced by the amount set out in the bid.

381. I have been asked to what level certainty could be achieved prior to the award of the contract. What the business case says that TIE is doing at this stage is to replace the budget price (which includes an Optimism Bias of an additional 14 per cent on top of the existing contingency) with a known tender price. If the budget equals the tender price then that is fine. If the budget price does not equal the tender price then some adjustment would need to be made. If, for instance, the tender price is 5 per cent higher than the initial budget then the net impact is that 5 per cent of the 14 per cent Optimism Bias would be transferred over into the contingency. The budget has been escalated and changed to a tender price which is 5 per cent higher.

382. This would mean that around 90 per cent of the cost was now capable of being described as relatively certain under the contract. There would be a degree of contingency remaining but overall the level of certainty on both the amount of money needed and the appropriate level of contingency would be improved through the tender process replacing TIE's earlier costs estimates.

383. The contingency was the way that certainty would be achieved. It would be assessed on a QRA basis looking at what was not contained in the Infracore and the risks that TIE continued to bear which were associated with that delivery process.

384. I have been asked whether I was satisfied with the QRA that had been made at this point. A QRA had not been conducted at this stage (March 2006) and would have been conducted later during the tendering process but I left before that began. The contingency at this point was the product of the Optimism Bias assessment rather than a QRA approach. The contingency would have been decided upon based upon the advice of consultants such as Mott MacDonald and Faber Maunsell. After tenders had been received then you could remove the concept of Optimism Bias and move to a concept of risk.

385. I have been asked whether there was any dissent around the way in which TIE developed its procurement strategy during the time I was at TIE. I do not remember any such dissent.

386. I have been asked to go back and address a number of different particular subjects. I do that in the remainder of this statement. There may be some overlap in these paragraphs with the matters I have addressed above.

Prior evolution of TIE's strategy

Design strategy

387. I have been referred to an email sent by James Papps, of PUK, on 8 October 2003 (CEC01881206). This email went to a number of people at TIE and to myself. In that email, James Papps raises the idea of an 'early design' approach and notes that it would "[break] down risk transfer that we'd seek to achieve under DBFM for example." DBFM means 'design, build, finance and manage' as a procurement approach. I have been asked how this idea of 'early design' (ie design in advance of and distinct from the award of the construction contract) evolved.

388. I should be specific. The designers engaged in relation to the Parliamentary process (which was in progress up to the Royal Assents for the Tram Acts in April and May 2006) were contracted to produce design drawings of

a level that would be fit for a tendering process. If we had tendered on the basis of the designs prepared for the Scottish Parliament then the Infraco would have had to do its own design development, planning consents, and design optimisation of utilities diversion. The tenderers would have priced at an absolute premium or would not have participated in the project at all. From market consultation at that time. I do not think contractors would have been interested in that kind of contract at all.

389. The 'early design' approach was discussed in the Procurement Working Group (which included James Papps) and it was agreed that TIE would an approach under which the SDS and TSS contracts would be set up. The SDS provider would do the design but ultimately be novated to the Infraco. There would be an on-going requirement on TIE to maintain the capability to review the design undertaken by the Infraco and that support was provided by the TSS contract.

390. The concern expressed by James Papps (in para 387 above) about risk transfer was noted and the handover process, and in particular, the transparency of the design, at the time of handover was known to be an area of attention. The key matters would be the cost incurred under the SDS contract being clear, the resolution of outstanding claims by the SDS provider and the cost to complete the SDS works being accurately forecast. The Infraco tendered would take all of that into account, form a view and price that into its tender.

391. I have been asked whether there was any dissent about this approach. I do not believe so. What was discussed was whether the approach could be achieved, particularly whether novation could be achieved. The consensus, including legal advice from DLA Piper, was that with good proper management by TIE, it was achievable.

392. I have been referred to information provided by DLA Piper (in March 2005) on the allocation of design risk and the novation of the design contract

(CEC01865184, CEC01865183). This paper was written in order to assist with the debates around the design strategy and the result of it was that TIE split the whole bundle of design and services work into two contracts: the SDS and the TSS. It was also decided that SDS would novated to the Infraco.

Risk Management

393. I have been referred to a Progress Paper prepared by TIE for the Scottish Executive in June 2004 (CEC00380901) and a paper on procurement prepared for the TIE Board Meeting on 21 May 2004 (with a view to the Board approving the procurement approach)(CEC01879839). The first document (at pg 3) refers to risk being managed “aggressively”. That was a task to be carried out by TIE and its advisors, particularly the TSS grouping. These people had prior experience in tram projects (as I have discussed above at para 352 and elsewhere) and the leadership capacity for this project.

Approval of strategy

394. I have been asked what bodies were responsible for approving TIE’s procurement strategy. Ultimately the procurement strategy was approved by the TIE Board. It was reviewed and discussed with the Scottish Executive and with the CEC officers. I cannot specifically locate or recall the date of its approval. I know, however, that to be able to initiate the procurement processes under the TSS and SDS it would have had to have been approved prior to that date. The original approval of the early operator involvement (and the operator agreement) pre-dates all of this and occurred back in 2003. Therefore, TIE has one element approved in or before 2003 for early operator involvement, then there was approval for the procurement of the next three elements: the SDS, the TSS (which were about at the same time) and later the Joint Revenue Committee (JRC) which was also approved as a key part of the business plan.

KPMG queries

395. I have been asked about an email (and attachment) relating to a meeting in May 2005 between KPMG, who were advising the Scottish Executive, and TIE relating to the procurement strategy (**CEC01882678**, **CEC01882679**). A number of queries or concerns were raised.

396. I have been asked whether I recall this meeting and how the concerns were dealt with. I do recall going to the meeting and I believe the items on the agenda were discussed but I cannot recall specifically how these matters were addressed. I expect it would have been through relatively detailed discussion on the points involved.

Project Information Notice and procurement strategy

397. I have been referred to TIE's Project Information Notice (PIN) prepared in October 2005 (**CEC01866826**). I have been asked various questions regarding this document. This document came before the draft OBC (**CEC01856896**) which was prepared in March 2006 and which I have discussed extensively above.

398. I have been asked what TIE's intention was for the progression of the design strategy and whether there were any changes between the PIN and the draft OBC. The overall strategy is the same. There may be some additional detail as matters on and as contractors were brought into the picture but this did not mean that the strategy was any different, it was not. I believe the intention was the same in these two sets of documents.

399. I have been referred to para 2.5.5.1 of the PIN where it notes that TIE had: "*categorised the system into sections by criticality of the obtaining of planning consents e.g. the section from Haymarket to St Andrew's Square is in the most critical category.*" I have been asked how and when that categorisation was carried out. That would go back to 2004 or 2005 when myself, the Peer Review Group and Mott MacDonald worked together to identify priority areas. Mott MacDonald had the most detailed knowledge at the time, particularly as to the Line 1 Route, so I directed them (with Faber Maunsell's assistance) to

identify high risk areas. High risk was categorised as any area involving significant costs, time or difficulty or which involved any combination of these things. The consultants would have worked through that and done the categorisation of risks.

400. I have been asked where this information might be located. From my recollection, Mott MacDonald produced tables and lists of the relevant risk areas as well as a map of the high risk parts.

401. I have been asked whether this categorisation of certain areas as high risk was discussed with the CEC planning department. The tram team held regular meetings directly with Keith Rimmer (Head of Transport at CEC) and I believe this identification of critical areas was discussed there.

Draft OBC and risk

402. I have been referred once more to TIE's draft OBC of March 2006 (**CEC01856896**) which contains a detailed section on TIE's approach to risk and management of it (see para 8 at pg 76 onwards). It notes that the procurement strategy left significant risks with TIE including:

402.1 Those relating to delay and cost increases due to planning requirements; and

402.2 Delays in the utility diversion works impacting on the Infraco.

403. That document also outlined the risks remaining with TIE (at para 8.5.1, pg 87) and the need for TIE to identify and categorise risks (at para 8.6.2, pg 89) and to vigorously manage those risks (at para 8.5.4, pg 89). I have been asked to describe how TIE responded to these risks.

404. I have already discussed many of these matters in detail above but I note there were almost constant discussions and reviews involving meetings with internal and external parties, as appropriate. As anything new came up which we

felt to be an item of high priority or a major concern then that was brought to the attention of the relevant parties.

405. I have been asked what steps TIE took to mitigate the risks arising from design delay, utility diversion delay, and the need to obtain consents/approvals for the ETP. In my view, the timing of the award of the MUDFA and the later award of the Infracore agreement meant that TIE had the situation under control. The early design and utility diversion progress could be measured against contracted programmes and the decision to award, and initiate, Infracore was in TIE's gift to determine. This is consistent with much of what I have said above.

Guidance on procurement

406. I have been referred to various forms of guidance that TIE had available to it such as:

406.1 the National Audit Office Report on "Improving public transport in England through light rail" (April 2004)(**CEC01708649**); and

406.2 the Audit Scotland Report on the management of the Holyrood Building Project, June 2004)(**ADS00054**).

407. I have been asked to what extent TIE took these reports into account in setting up its own procurement strategy. I believe that we were familiar with these document and with their recommendations. Their recommendations were reviewed and I believe these documents are referenced in some of the business case materials which I have been referred above.

408. I have been asked to what extent these recommendations were relevant to a tram project and, as such, what the major lessons were that TIE adopted into its strategy.

409. They were each considered on their merits and were considered against the ultimate aim of the ETP. They and formed a part of the consideration before

the procurement strategy was resolved. We believed, in setting that strategy, that we had taken to account those lessons relevant to our procurement strategy and created a strategy that was consistent with the best combined practice in all of the LRT schemes that had been undertaken in the UK in the preceding ten years.

410. I have been referred to a response that TIE made to the Line Two Parliamentary Committee in November 2004 in which TIE lists the lessons it believed it had learnt from Audit Scotland's report on the Holyrood (Scottish Parliament) project (see pgs 21 to 28 of **CEC01686226**). I have been asked whether this document accurately summarises TIE's treatment of the Holyrood report and I believe that is the case.

411. I have been asked whether the lessons learnt in the Holyrood project were particularly significant or influential for TIE. I would like to make clear that there are major differences between the Scottish Parliament building experience and the ETP experience. The Scottish Parliament experience was driven largely by a master architect who had not done a building of this sort before, who prepared concept drawings and who then died. Other consultants were then left trying to interpret this design architecturally, probably in the face of a continually changing set of requirements, under a contract which had been awarded and from which material deviations occurred throughout the process of the building's development.

412. For that project, the major consideration was to get your design right before you actually try and award an Infraco. We had done the complete opposite for the ETP in that we had a strategy which was to engage a designer, to obtain planning permissions, to make sure that we understood the design in all of the critical aspects of the programme and the delivery process for the Infraco, prior to that Infraco being contracted. That Infraco provider would then give a price consistent with what we expected the design to be without changes. That is the key point, to have things set up without having these changes going forward.

413. I have been referred to the Audit Scotland report on the Holyrood project (ADS00054) which notes (at para 5.8, pg 67) that in 2003 the Office of Government Commerce (OGC) had recommended that government procurement should: *“follow procurement methods which provide an integrated supply team not separate agreements with individual consultants, contractors and specialist suppliers”*.

414. I think that the Audit Scotland report, and its recommendation, can be seen to be mirrored in what TIE had as its procurement strategy approved as and delivered. This was because the agreement, that we were ultimately working towards through the Infraco, was a design and build contract and tram integration contract. It was building a consortium model where a complete design and build risk integration was achieved, as opposed to a set of separate agreements, which would have left TIE with a separate tram supply contract, a separate design contract, a separate infrastructure contract and a separate utilities diversion contract. That approach would have been going against what Audit Scotland recommended. The arrangement that TIE in fact proposed, and carried out, was precisely in accordance with this guidance and our actions were in keeping with it.

Timeframes

415. I have been asked how TIE decided on the programme for procurement, award and commencement of the Infraco. We had looked at alternative models of procurement and we had assessed that, using the strategy I have outlined, at various points above, we could put the tram system into operation more quickly than under other options. This would mean less of a total project outturn cost (ie total construction cost calculated at the end of the project) than alternative options and that is why the ETP was planned in the way it was. In other words, we were fast-tracking the project, by working under more than one contract at a time, meaning that we could deliver the overall project more quickly.

416. I have been asked what factors influenced this approach such as the project outturn costs and the notion of fast-tracking. The primary concerns in the programme for procurement were the early initiation of design to achieve planning permissions (which would affect the scope of the works overall), some detailed design in critical areas and, in particular, the utility diversions programme.

417. The general inflation of costs was also absolutely a factor. At this stage and really throughout my time with the project, the Scottish Executive had not formally agreed to index its initial grant to inflation or to otherwise provide further funding. At the time I was involved the plan was to deliver the completed project by 2009, as against a sum of £375m which had been set aside in 2002, so the general inflation of costs from 2002 was a concern. If it we had taken longer with the programme then the only outcome would have been the Infraco being delivered at much greater cost.

418. I have been asked whether the political climate was a factor in the timing of the project but I do not think it was, at least not at this stage.

419. I have been asked what led to the time pressure to procure and award the infrastructure contract. There was time pressure and this was related to the cost and affordability of the project.

420. I have been asked which was more important to the success of the procurement strategy:

420.1 the completion of design and utility diversions to an appropriate stage prior to the award of the Infraco; or

420.2 the award of the Infraco on time.

421. The completion of the design and utility diversion so as to allow the Infraco access in line with the contract and with the schedule of access dates was critical to avoiding cost to TIE. However there were also inflationary effects

from any delay which would affect the cost to TIE of the Infraco if its procurement was put back to a later point.

422. Given that the SDS and MUDFA were under TIE's management, the position on the state of design and utilities diversion should have been understood and manageable before the Infraco was awarded. The control of that process was within the gift of TIE and it was TIE alone which had that decision to make. Those two priorities, the escalation of the Infraco and the possibility of delay events arising within the Infraco, were notionally in conflict. However, I would say that if the risk was being managed to a high level, my approach would have been not to award the Infraco (no matter what that meant), until such time as I was confident that I could deliver the utilities diversion programme or I could have modified the Infraco to reflect the delay in diversions and to provide a different solution. That situation required active management and that is how I would have answered it.

423. I have been asked whether consideration was given, during the development of the infrastructure procurement strategy, to what should be done if these two objectives came into conflict (ie delays in design and utilities diversion meant risk premiums remained in the infrastructure bidders' prices).

424. The first thing that had to be done to manage that risk was to award the MUDFA and get it underway as quickly as possible. I do not believe that was done. The preparation for the MUDFA meant it was ready to go in mid-2006 but I do not know when it was actually awarded (though I am now told it was in mid-2007 that it started). I was no longer at TIE when the MUDFA was awarded but, from my perspective on the required management of the project (and the way I would have done it), it should have been awarded and the work done as fast as possible. It was only by having those works progressing that you would be able to make progress commensurate with the needs of the programme, and so put pressure on other providers to deliver on time, and to ultimately complete the project as soon as possible.

425. While I can only comment on this as a third party observer, given my departure from TIE in late 2006 (see below at para 763), I would not have awarded the Infraco until I was completely certain that there was sufficient headroom, space and time in which it could be completed. This would have to have been based on a concrete understanding of the situation at the time rather than a theoretical understanding based on how it should have run. To my mind, the key question for the Inquiry is what occurred prior to the MUDFA being awarded and prior to the Infraco being awarded in light of what I have said about the procurement strategy.

426. I have been asked what ought to have happened if the two priorities (ie the priorities mentioned at para 420 above) came into conflict. In my view, the MUDFA should have been accelerated and TIE should have put everything it had into MUDFA. This could have involved a new contractor, additional resources, paying extra or whatever else was needed so as to simply complete the MUDFA scope of works and avoid the issue. There would have been political or press flak but it would have been a question of simply getting the job done.

427. I have been referred to the TIE Tram Project Director's Executive Summary (**TIE00090571**) which was prepared for the Tram Project Board Meeting on 22 November 2005 (see **TIE00090568**). That document was prepared by me as the Tram Project Director at this stage. In it, I said: "*[Tram Project Director] advises that the delivery of the utilities agreement is on the critical path for the project and that delays in reaching agreement beyond the anticipated tender release date of 9th January, 2005 will add cost to the total project value at a rate of circa £3.5m per month.*"

428. I have been asked whether the monthly increase referred to is a reference to inflation and I can confirm that is the case. In terms of how that figure (£3.5m per month) would have been calculated, it would have been produced by taking an assumed inflation rate, multiplied by a budget cost, and then divided by 12 months.

429. I have been asked whether this monthly inflationary pressure would have been alleviated if the grant funding (from the Scottish Executive) had been indexed. That would clearly have been the case.

Implementation of Procurement Strategy

Stage of procurement at my departure

430. I have been asked to what degree the procurement strategy been implemented by the time I left TIE. The following steps had been taken by the time I left:

430.1 The Tram Acts had been passed through the Scottish Parliament;

430.2 The Operations Contract had been awarded;

430.3 The SDS and TSS contracts had been awarded;

430.4 The JRC contract had been awarded;

430.5 The MUDFA was in the process of tendering; and

430.6 Tendering preparation had begun on the Infraco and the tram supply contract.

431. In terms of the tram supply contract, all of the major tendering documents had been completed and I would estimate it was around 80 to 90 per cent complete.

432. In terms of the Infraco, the bidding document was under preparation but was going slowly and I would estimate it was around 40 to 50 per cent complete with the benefit of hindsight. I might have been more optimistic at the time.

433. With the MUDFA procurement strategy, we were working on utilities diversion and the planning permissions. TIE had established a working group, under Barry Cross, with the CEC and the SDS provider. That group was trying to facilitate the processes in the CEC for the development and closure of planning

permissions. We were also working with Keith Rimmer (CEC Transport Department) with respect to the traffic management modelling and approvals of permanent and temporary Traffic Regulation Orders.

434. I have been asked to what degree this actual progress on the procurement strategy was in accordance with the plan that had been laid down. I believe it was entirely in keeping with our written strategy.

435. I have been asked, to the extent that I am able to comment, whether I consider the procurement overall to have been properly implemented and successful in its objectives. Given the final outcome of the ETP overall, clearly it was not properly implemented or successful. After I left, something went embarrassingly wrong.

436. I have been asked whether anything have been done differently which would have assisted the better achievement of the objectives of the procurement strategy. Given that I have not been supplied with the full information as to what happened or had the opportunity to assess these professionally, I do not believe I can comment further on this.

Other aspects of implementation

437. I have been referred to the draft minutes of a TIE and TEL Senior Management meeting held on 11 April 2006 (**CEC01882566**) which I attended and spoke to. This was around the time that pre-qualification of bidders process (PQ) (ie a pre-cursor step to the Infracore bidding process) was in progress. At that meeting, Michael Howell (CEO of TIE at this time) commented (at pg 2) that the response to the pre-qualification process *“had not been five star.”* I note that I responded that TIE *“would use the pre-qualification process to maximise chances of an outcome which strengthened competition.”*

438. I have been asked to comment in a general way about the discussion at this meeting of the market response, proposals to strengthen competition, the procurement programme and about its objectives.

439. As I recall the market response from potential infrastructure providers was that only one potential bidder responded. That was Bilfinger Berger and, at that stage, they only expressed interest in doing the civil engineering aspects (ie not including the overhead lines and other aspects of the project). It was a very unexpectedly bad response given that we had had prior consultations with the bidder groups. We had hosted briefings for potential bidders prior to this point which I personally gave to the assembled potential bidders who indicated that they were going to respond to those initial consultations. Siemens provided a response to that exercise but I cannot remember which other parties did and, generally speaking, there was very little response. In response to that I determined that we had to do something more about the low levels of response or of interest.

440. The primary reason for this that we found was that, in spite of everything that TIE had said, no one believed that the funding of the ETP was actually going to happen. Nobody believed that the Scottish Executive was going to fund this project. So long as potential bidders did not believe there was funding, they did not want to waste their time. Even though there was a design process going on that TIE was funding, the expenditure was small beer in comparison to the total cost of the tram project and so that did not raise expectations.

441. The contractor market was waiting for the signal from the Scottish Parliament and Scottish Government that this project was, in fact, going to be funded before they really and truly put their heads down. As the process went on, what I tried to do was follow up those contractors who had not directly responded. Through phone calls and meetings (together with Andrew Fitchie) we attempted to convey that TIE was serious about the project. We achieved a fairly good response with respect to that or, at least, we better understood that some

contractors were not really saying no but just that they had not done anything at that point. We already knew that there was little some parties that would not come or that certain things might prove unattractive through early market consultations (ie the experience of Carillion and the inclusion of utilities diversion as I have discussed above at para 236). We did take steps to strengthen interest in the market.

442. I have been referred to the fact that the draft minutes (**CEC01882566**) also state that "*the overlap of MUDFA and Infraco was manageable*" (pg 5) and I have been asked to explain this issue and outline what discussion there was about it.

443. This goes back to points I have previously discussed in this statement. There was a risk in that TIE needed to know, prior to the award of the Infraco, that the SDS and MUDFA providers must perform, so as to achieve dates consistent with any handover schedule incorporated into the Infraco. That was something that TIE had to manage. We had brought together a team, including the TSS providers (and particularly Turner & Townsend), and that team was meant to be increased once the MUDFA works began, so as to manage those works as aggressively as possible.

444. With good management of that risk, TIE would be able to award the Infraco on a certain date with a complete knowledge of where things stood. These things had to be taken care of and you had to understand what was left to be done, and when, before the Infraco provider would be able to come in and deliver on its contract.

445. It has been pointed out to me that, in that meeting, James Papps (of PUK) asked: "*how reliable the pricing in October 2006 would be and if waiting for improved quality of design and technical information improved would secure a superior outcome from Phase 1 ITN submissions*" (see the draft minutes - **CEC01882566**, pg 5). I have been asked to explain that comment.

446. ITN refers to an Invitation to Negotiate which is a document that begins the formal tendering process. James Papps' concern was whether the budget being translated into the first response from the ITN would be complete. As I have previously discussed (above at para 356 to 358), the design process would be frozen somewhat ahead of these initial invitations for bids so that initial phase of bidding could be priced. Then there would be a proposal for the best and final offer, which by this stage would be narrowed down to two competing bidders, which would probably happen about 5 to 6 months after the first phase of tendering. In the meantime, there would have been 5 to 6 months more advance in the design.

447. If we adopted a relatively conservative approach to the way that we incorporated design in the ITN, then the expectation would be that the price would move in a positive (reduced) manner as we went through the best and final offers. As already discussed above, there might be some risks of things going the other way in that 5 to 6 month time period. James Papps' concern here is that TIE would get the design to a good enough stage to support that initial (ITN) phase of tendering, all of the submissions seeking funding and anything else that was needed at this stage. That would all enable the award of the infrastructure contract to be made.

Readiness review

448. The draft minutes of the meeting also refer to a Readiness Review (pg 3 of **CEC01882566**) and I have been asked to discuss aspects of that process and its outcomes.

449. The Readiness Review was a review to determine the state of the tram supply and Infracore tender documentation at this stage. It was meant to see whether those were satisfactory. In other words did we have enough information to go into the tender process? It was about the readiness of TIE to move from planning of the project into the tram supply and Infracore tenders. I have discussed

(see above at para 430 to 432) where we were probably in terms of the state of the development of those documents, as such it was a bit of a formality though I supported it at the time.

450. The idea of a Readiness Review came out of a meeting that was held in Melville Street, I think, involving David Mackay (Chair of TIE), Michael Howell (CEO of TIE), Neil Renilson (Chair and CEO of TEL, CEO of Lothian Buses) my project team and those directly reporting to me. At the meeting, we were talking about whether or not we were ready to go to tender, whether that could occur in 2006 or whether there was an argument for delaying those and allowing the SDS to move further on in its design. I had taken the view that it was, on balance, probable that we would delay the tenders. Notwithstanding the fact that the tram supply contract was almost there, the Infracore clearly was not up to the stage where it could be ready within the timeframe that we were expecting to go into the marketplace. I think that was understood at the time. It was reflecting a bit of a design slippage.

451. At the same time, for the tram supply contract bidding preparation, I had asked that the tram supply bid document was produced containing optionality within it. That means that there was still uncertainty about what exactly what trams were envisaged and so multiple options could or needed to be included.

452. This is because there was a vigorous debate going on between myself and Neil Renilson (of TEL and of Lothian Buses) regarding the ETP and Princes Street in particular. Neil Renilson had, as a primary objective, that there should be no delays or stoppages to any buses (whether Lothian Buses or another provider) as a result of the tram project.

453. By contrast, I believed the obligation of the tram project was to provide a tram system which performed consistent to the run time forecast that we had put before Parliament. As we had assessed it, this required the prioritisation of the

tram system and the segregation of the tram system to the detriment, potentially, of bus operations in certain locations.

454. At this point, the debate on this point had not closed and that fed into the tram supply contract documentation. TIE come to a conclusion that that we should have the option of a shorter (32 metre) vehicle as is used in Croydon, as opposed to a 45 metre vehicle which we have on the streets at the moment. The reasons that we would want that variability in the pricing from the tram supply contract would be to allow for more debate on the revenue forecast and Business Case. We could then consider a smaller capacity service running at a higher frequency service and generating more revenue, rather than longer trams, running at a lower frequency, which was not as desirable a service with fewer people transferring on to the tram system, and with lower tram revenue.

455. Both Andrew Wood of Transdev (who had experience operating in Nottingham) and myself (with experience of Croydon) knew what the answer was – it was the smaller size vehicle. Andrew Wood could not work with Neil Renilson and left the project. I preferred to keep the option open by having the tram supply contract include both vehicle options.

456. As to the outcome of the Readiness Review, it was not finished and in fact barely started. I had asked Mike Heath, who worked with TfL, to participate and to address issues of integration between the trams and buses.

Delay in implementation

457. It has been suggested that, throughout 2005, various delays in the procurement programme were reported to the TIE Board. This appears to have been linked to funding uncertainty.

458. I have been referred to the papers presented at the TIE Board meeting held on 24 October 2005 (**TRS00008535**) and to the minutes of that meeting (**USB00000377**) At the meeting on 24 October 2005, the Chief

Executive (Michael Howell) reported that if funding was not resolved, there might be difficulties in persuading Parliament that the scheme was viable. There had been a six month delay in the programme for completion of the preliminary design, a seven month delay in the programme for completion of the detailed design (crucial sections) and a three month delay in the award of the MUDFA (see **TRS00008535** at p 128).

I have been referred to Michael Howell's report for the meeting of the TIE Board on 27 February 2006 (**TIE00087124**, minutes for that meeting are **USB00000026**). Michael Howell reported that a meeting with the Transport Minister, Tavish Scott, had signalled that the project would proceed, and that a funding plan emerged which would pay for phase 1 from Leith to the Airport.

459. I have been asked what the main causes of delay in the procurement programme were over the period and to what extent they impacted the project overall. At this stage, the progress of the SDS contract, the preparation of documentation for subsequent stages of the project and the disruptive influence of TEL were the main causes of delay. These potentially caused delay to the bidding process being commenced but, at the same time, significant political delay was looming.

460. I have been asked what the funding decisions were that were delayed, what lay behind those delays and what impacts they had on both the procurement strategy and the project more generally. In terms of funding, the delays affected TIE's completion of revenue forecasting (for incorporation into the business case) and the approval of the project by the Scottish Executive that would have come out of the business case. That affected funding including the critical matter of the indexing of the Scottish Government grant. This led to uncertainty over whether the project would proceed at all.

461. I have been asked to identify, to the extent that these delays impacted the project overall, which were the most significant. The most significant was the

funding uncertainty that delayed TIE's ability to prosecute any bids in the marketplace.

Late design and modification of procurement strategy

462. I have been referred to an email between Rob Cameron (an infrastructure expert at PWC) and Stewart McGarrity (TIE's finance director) sent on 2 March 2006 (**CEC01855109**). This email contains comments on a draft section of the Outline Business Case dealing with the procurement strategy and notes: *“Given the level of de-risking is not going to be as great as anticipated due to SDS position we probably need to be careful what we say here”*. I have been asked to explain what this statement means particularly in relation to de-risking and the SDS contract.

463. The position of the SDS performance was becoming critical to the timing of the bidding. I think it is difficult for people to understand the concept of a procurement strategy when they come to it through a verbal or written explanation. Unless you have, perhaps, a more detailed engineering background than generally would be available to somebody like Rod or Stewart then you would be inclined to assume, as previously mentioned, that it is an 'all or nothing' approach. In fact the engineering aspects in a project actually involve a whole series of shades of grey. These range between knowing absolutely everything and have every aspect perfectly defined resulting in zero risk allowances and, at the other end of the spectrum, knowing only what you knew at the Parliamentary approval stage and having a significant risk allowance. The point of it being that Rod Cameron, in this email, was concerned that we would be too far towards the higher risk/contingency end of the spectrum because the SDS did not have enough information to move forward. Put it at its most simple: if TIE had sought bids at 40 per cent of the design completed rather than the 60 to 70 per cent discussed, then this would increase the risk contingency that a contractor would allow for and, therefore, the price might be higher.

464. I have been referred to an email from Andrew Fitchie (TIE legal advisor) to myself (**CEC01858127**) dated 7 April 2004 (and its attachments - **CEC01858128**, **CEC01858129** and **CEC01858130**) regarding revisions to the procurement strategy.

465. These documents were prepared in relation to TEL's concerns about whether TIE was, at this point in April 2006, ready to go to the marketplace with the tender. These documents included a decision to undertake the Readiness Review which we have previously discussed (above at para 448 to 456).

466. I have been asked whether these documents reflect thoughts by myself and Andrew Fitchie as to how the procurement process could be modified so as to achieve its objectives while also accounting for the delay in the design. That is what these documents are about.

467. I have been asked what the thrust of these recommendations was. These documents resulted in the decision to take the Readiness Review. That was a logical consequence of what had occurred and it was to get people other than ourselves (ie external opinions to TIE) to assess what the best strategy was at this point. That would involve a decision as to whether to go to tender or to go to market at a later point and that decision was at hand at this point.

468. I have been asked about a briefing paper for TIE and TEL senior management (**CEC01858129**) in relation to the procurement process and programme for the Infracore and tram supply contract. I have been asked whether this paper was prepared to discuss modification in procurement due to delayed design but I do not believe this briefing paper was prepared specifically in relation to the delay in design works.

469. I have been asked what issues delay posed for the procurement of the Infracore. Ultimately the decision was made, after I had left TIE (in May 2006) to get the design works to a more advanced stage before putting bidding out to the market. However, these documents in particular reflect the creation of a full and

robust process for the making of that decision. It was not my personal decision whether the project would be put out into the marketplace, though I had obviously told the market this way coming. This professional review of the project by a group of transport project management peers would help TIE to decide it was making the decision as to timing of bidding, and readiness of the project, correctly. That is what was occurring at this stage.

470. I have been asked whether concerns about timing were in relation to the delayed design. The concern was certainly that to go into the marketplace 'undercooked' would not achieve what was wanted in the procurement strategy which was to achieve the lowest possible price. Contractors would provide an inflated price because of the risk and the uncertainty involved in the elements that could not be shown to contractors because of the stage the design had reached. That meant that contractors would assume that matters were as they stood in the incomplete design. The contractors would have to do more in their tender process, would assume more costs, and would impose a higher risk premium. This might mean that the numbers coming out of the tender process were greater than what TIE wanted them to be, and greater than what they should have been.

471. I have been asked whether there were concerns, at this time (April 2006) that the procurement strategy was 'under threat'. There was no threat to the procurement strategy itself as we continued to implement it. There was, however, a threat that the result of going to tender, at this point, would be an unaffordable price given the funding constraints of the project. It would have been a mistake to end up with prices that were too high when TIE had promised that those amounts would be controlled. By slowing the procurement process, you would achieve a better outcome. As a result, there would be some delay with some associated inflationary impact. Those were the two things that could occur (going to tender or delaying) and it was a question of which option would prevail.

472. I have been asked what modifications were proposed to the procurement strategy. In fact, there were no modifications to the strategy. We were carrying it out as planned which included getting the design done to a sufficient level.

473. I have been asked whether these problems with the late design should have been anticipated. It was a foreseeable risk but it is only when such a risk eventuates that you have to deal with it.

474. I have been asked what use was made of the documents exchanged between myself and Andrew Fitchie in his email of 7 April 2006 (see para 464 above). These were to be used to support the decision whether to undertake a Readiness Review. From there, TIE would try to get a consensus and make a decision as to what revised the procurement programme timing for Infraco and the tram supply contract would be.

475. I have been referred to a planning timetable for procurement (**CEC01858130**) which was attached to that same email of 7 April 2006 (see para 464 above). This shows that SDS Preliminary and Detailed design, and final approvals of TROs would be completed prior to the award of the Infraco. That was the strategy when we began the project. I have been asked what the strategy was at this point in time (April 2006). At this point, it was still the strategy.

476. I have been asked whether that is a change from the draft OBC (**CEC01856896**)(see para 274 above onwards) created in March 2006 which, at para 6.7.1 referred to design work taking between 2 and 2.5 years and design being 60 to 70 per cent complete at the time of the Infraco award, and what the reason for that change might be. The design and quantum was an important reason. If we had 60 to 70 per cent completion then the Infraco contract could go out to tender sooner and that was a reflection of the fact that the SDS design progress was slower.

477. I have been asked what degree of confidence I had that the procurement timetable could be met. I would say that it was an assessment and a question of judgment but, in truth, there was still a degree of uncertainty around that given that the SDS performance had not turned itself around.

478. The situation was not absolutely certain. The point that is being made about the Infraco tendering process is the same point as I have previously discussed about certainty in the award of the final contract (see above at para 370). By virtue of the slow performance of the SDS design, we were fast approaching the point where not only the ITN for the for the Infraco would need to be delayed and we would have had two problems if we went to tender too soon:

478.1 We would have ended up with a price that was higher than we would have gotten with design that was further advanced; and

478.2 Because the MUDFA had not been initiated, TIE would be under higher risks in relation to the utility diversion process, planning approvals the TRO process.

479. We were getting to a point where a delay in the Infraco bidding was fast becoming an inevitability given the SDS performance.

480. I have been referred back to the briefing paper (**CEC01858129**) attached to Andrew Fitchie's email of 7 April 2008 (see para 464 above) which notes: *"It is envisaged that all these candidates will be retained in the negotiation phase based upon the best design, interface and risk definition that TIE can achieve by January 2007"*. I have been asked whether this was a recognition on TIE's part that the project might not reach the optimum level of development within TIE's timescale. I agree that was what the document was acknowledging.

481. I have been referred to an email from Graeme Bissett (who worked for TIE) to me on 9 April 2006 (**CEC01876978**), where he talked about revisions to

the programme I have been asked to explain his question in that email: *“Does this also offer an antidote to the risk arising from progressive delivery of tram design information into the tender process?”*.

482. I believe I told Graeme Bissett that the revisions were an antidote to the delays. This is in the context of discussions that were occurring around overcoming the SDS provider’s (PB) delay in design and a consequent delay in the tender process. My first reaction to the delay was to consider how to overcome the SDS delay and that included the possibility of getting rid of the provider because they were performing poorly and could not deliver the project. I held discussions directly with the TSS providers (Turner & Townsend and SWR) about whether we could take the utilities diversion process away from PB so freeing them up to make progress on the detailed design aspects (excluding utility diversions) though there would obviously still need to be some working together (as in the example I give in para 290 above).

483. I was actively looking for ideas or avenues whereby TIE could correct the delays in the SDS process because of the effects of the delay. At the most basic level, perhaps the least important level, it was embarrassing because I was speaking to tenderers (for the other contracts) on a daily basis and we were unable to demonstrate that we were managing the project because of what the SDS provider was doing. I was effectively trying to find options at the same time as attempting to manage the SDS provider to do what it was contracted to do and to perform within the programme it was required to do it to.

Events following my departure

484. As I have noted above (at para 2.2), I was Tram Project Director at TIE until May 2006 at which point I left TIE.

Woolgar Letter – June 2006

485. I have been shown a letter sent by William (Bill) Woolgar, who was managing director of Turner & Townsend (one of the TSS providers) to Michael Howell (CEO of TIE) and dated 15 June 2006 (**CEC01827972**). I have not previously seen that letter. That letter made various comments about the progress of the project including about utilities diversion and the procurement of the Infracore and I have been asked to comment on various aspects of that letter.

486. The letter comments (at pg 1) on the incompleteness of the SDS utilities survey and diversions strategy and the urgent need for Halcrow (a sub-contractor to the SDS provider for some of the utilities work) to complete the utilities related design. I was well aware of this fact and had corrective steps and meetings had been taking place since January of that year. I had, in fact, called for a review in April 2006 and asked Bill Woolgar to conduct that. So I was aware of these problems and, prior to my departure from TIE, we were looking at alternatives including additional support from TSS.

487. The letter also comments (at pg 1) that there had been a poor response to the OJEU notice for the Infracore tender and this was a fact I was well aware. I have discussed the market attitude earlier in this statement.

488. The letter suggests (at pg 1 to 2) that the contract appeared unattractive to civil engineering contractors because it transferred risk for all statutory consents, design and system integration. I disagree with this comment as this is not a correct description. For instance, for all statutory consents, those would be done as an outcome of the SDS process that we had substantially moved through that planning process and consents process before the Infracore came along. In terms of the design and system integration, the construction of LRT projects had already been undertaken by a number of contractors up to this point and the integration of tram systems and civil engineering had been done by others before.

489. If the letter is simply addressing the question of whether the risk transfer of the Infracore was attractive to contractors, I have already explained the risk transfer model of the Infracore and that, in my experience of the project, the response to that model was not negative and that negative responses were more linked to uncertainty about the project's funding and whether it would actually go forward.

490. There are a number of observations about "*organisational accountability*" in part 4 (at pg 3 to 4) of the letter including comments:

490.1 About whether TIE should be undertaking a project sponsor or project management delivery role and whether TIE was adequately resourced for a project management role; and

490.2 About whether the project structure then in place provided clear focus, accountability and a framework to deliver the different contracts.

491. I found this portion of the letter a little surprising. The TSS providers (including Turner & Townsend) were to provide support to TIE while it was acting as project manager for the areas it was responsible for (ie the utility diversions which were not being transferred outside of TIE's responsibility). Turner & Townsend were selected for the TSS on the basis of their experience in this area (as I have previously discussed above at para 352). It was never the case that TIE would simply be a project sponsor, it would work with the TSS group to actively project manage the process.

492. I have been asked whether I regard this letter as critical of TIE. After I left, I have no doubt that the place was in turmoil. I had requested the TSS group, in April 2006, to provide a report on restructuring and they provided it in April, about a month before I left. This letter, from Bill Woolgar, is in June and I do not know if anything had been done in relation to that report by that time.

493. I have been referred to the fact that the letter (**CEC01827972**) mentions a proposal to split the utilities diversion into a separate sub-project (at pg 3). I remember this proposal being discussed in April, these discussions were on-going and I do not believe it was any further advanced by the time I left.

494. I have been referred to a Bill Woolgar's comments, in the letter, on the SDS situation (at pg 4) where he notes: *"The issue of SDS input must also be addressed. SDS is scheduled to provide design clarification/change advice to the MUDFA contract. It is also proposed that they will be novated to the successful Infraco contractor. These overarching fundamental obligations create an inherent conflict in relation to design liabilities, risk of consent, risk mitigation, programme and in value engineering between both MUDFA and Infraco. For this reason, we believe that SDS' MUDFA role should be curtailed at completion of detail design with TSS taking over the contract administration role for MUDFA. This would allow SDS to work fully in accordance with the requirements of the Infraco tender and appointment."*

495. I have been asked for my comments on this recommendation. This was a possibility. It could have been done but I do not believe it was absolutely necessary. The effect of novation of the SDS contract to the Infraco would, in any event, have meant the cessation of a direct role between TIE, the SDS provider and the MUDFA. This would, effectively, have been a curtailment of the design service and a transfer of the risk to the Infraco.

496. I have been asked whether this recommendation (at para 494 above) would allow the SDS provider to have worked within the requirements imposed on it by the Infraco. In my view, it would have. If there was something additional that the SDS provider required then the requirements of the Infraco could be adapted to provide for the work that the SDS provider was yet to do. That would lead to a clean handover of the SDS contract to the Infraco, with management thereafter from TIE and the TSS team, but with the SDS provider essentially going over to the Infraco.

497. I have been asked whether it appears that Bill Woolgar had done a full assessment of the state of the project (at June 2006) in order to come up with these recommendations. I do not believe this was the case. It appears to build off work I had done prior to my departure, including a report of 9 April 2006 (which I refer to subsequently at para 680 below) which I had specifically requested because of concerns that I had. In December 2005 and January 2006, I was working hard on the SDS situation in the hope that it would correct itself. But by March and April 2006, I was seriously looking at alternative options. This element was so time critical for the tendering process that it was only right that I consider what alternatives were available. None of these alternatives were what TIE wanted or were what was envisaged under the original plan but we had to do something. I think there is more than sufficient evidence of me trying to do something to correct the situation.

498. I have been referred back to Bill Woolgar's letter (at pg 5 of CEC01827972) which also includes the following quote: *"So far, there has been limited practical commercial input to the INFRACO procurement, methodology and tender documentation – the emphasis being PFI risk transfer / legal perspective without considering the commercial impacts and opportunities. The marketplace would appear to have generally rejected this approach. This is not a position we should find ourselves in; given the World Heritage status of part of the route, the project should be the 'jewel in the crown' of any major contractors' portfolio."*

499. While I accept this statement could be made, it ignores the risks involved in working in the World Heritage Site part of Edinburgh. If a contractor knows it will be unable to access its construction site then it is unlikely to put forward a bid for a project.

TEL Board Meeting – July 2006

500. I have been referred to the minutes of a meeting of the TEL Board held on 24 July 2006 (CEC01794942). A report from Andie Harper (TIE's new interim Tram Project Director) is recorded and the minutes note: *"It was stressed that timing of tender prices for inclusion within the final business case would be an issue, and the Tramco prices quoted in the business case would not be fixed, and Infraco would be estimates as FBC was to be submitted before Infraco tenders would be returned."*

501. I was not at the meeting but the summary of the position of the project appears very likely to be correct. I have been asked why timing of tender prices might have been identified as an issue. This was because the tender prices for the Infraco would be prepared and submitted by contractors after the date of the Final Business Case being finalised for presentation to the CEC.

502. I have been asked to what degree this was a departure from the procurement strategy that had been put in place during my time at TIE. Originally the process would not have proceeded in this way. However, this departure from the programme was reflective of the assessment made (as I have discussed in the context of Graeme Bissett's email above at para 481 to 483). There would be delays in the tender process but the timing of the submission of the Final Business Case would be maintained.

503. I have been asked what I consider the consider the prospects to be, when I left TIE, of obtaining truly fixed price Infraco bids. I believe that, by the completion of the negotiation process, by containing the risks, the Infraco would not have been 100 per cent fixed but we could have reached a shared risk position. Material interface risks would probably still remain with TIE ie in respect of ultimate completion of the utilities diversion process.

Overlaps in procurement

504. It has been suggested to me that the procurement strategy was always intended to having overlapping elements ie design, utilities diversions and the procurement of the infrastructure contract were all to progress simultaneously. I have been asked to what extent it presented a risk that, if one or other element were delayed, the objectives of the procurement strategy would not be achieved and how that risk was understood and managed.

505. It was a real risk and that risk was understood. It was managed by constant review including consideration, as an option, of the removal of the SDS provider from the utilities diversion process to be replaced by a bigger TSS team to manage that process (with only further, minor inputs from SDS). That is the type of the thing that can be found in the 9 April 2006 report to me from TSS (which I discuss in more detail below at para 680).

506. I have been asked whether risk price would be eliminated and infrastructure bids more likely if the design and utility diversions had been totally completed before bidding opened. I agree that is the case and that non-completion would be reflected in the bids later on.

507. I have been asked if either or both of the design or utilities diversion works were delayed if that would increase the risk pricing. The big problem was getting the initiation of the utilities diversion in the streets before either the Final Business Case had been approved (which was realistically unlikely to happen) or certainly before the Infracore was in place.

Bespoke Contracts

508. It has been noted that the infrastructure contract (and others) were bespoke contracts rather than based on standard forms. I have been asked how and by whom it was decided on these forms of contracts. That decision would go back to the Procurement Working Group in 2004 when TIE was reviewing the risk transfer. The consensus view, at that point, was that TIE would attempt to get

to a position where maximum risk transfer had been achieved at the time of the final Infraco award. It predated my involvement but there had been consideration of the NEC form contract but TIE had decided against that and the outcome of that was what we had to work with.

509. I have been asked what advice was taken in relation to the contracts. At TIE, we received advice from DLA Piper, PUK and Grant Thornton assisting on the contracts.

510. I have been asked what consideration was given to the risks that might arise from not using standard form contracts (as appropriately modified) eg that lack of familiarity with the contract terms could give rise to mistakes or disputes.

511. It certainly a consideration certainly we are that that is an argument that it has been raised through this and that was the genesis, I suppose, of the NEC contracts and working groups there. However, the contracts and the documents for the ETP would be prepared as a suite using similar clauses for the tram supplier, the SDS and the Infraco.

512. I have already discussed (at para 260 above), having provided the whole suite of equivalent documents for CTL to provide a basis for the ETP. My experience of the documents and the dispute resolution clauses in that case was that the contractor had entirely failed in its additional claims. The concession company which was set up to run the CTL suffered no additional costs despite a £40m (22 per cent) escalation in costs which the contractor had to absorb. That showed me that the clauses that were written into the contractual framework for the CTL, and which I had negotiated, worked.

Miscellaneous

513. I have been asked whether I consider, in hindsight, that the procurement strategy was appropriate for the project. I considered the key part of the strategy was that TIE was building its own consortium. In doing so, it was attempting to

make the ETP as cost-effective as possible and undertake utilities diversions, which would not have been undertaken by any Infraco.

514. The procurement strategy was, therefore, appropriate and there were key parts of it that could not have been done in any different manner. We maximised the competition in the tram supply price. We maximised the competition amongst the infrastructure contractors to the extent we knew how. However, the competition for the Infraco contract was always going to be less and, therefore, we were able to provide and build our own consortium and choose, for example, our own trams. To deliver the procurement strategy required intimate knowledge and expertise. You could not be an amateur, someone who had never done this before, expect to come along and have it done optimally. That was simply not possible and I do not know that that expertise was there after I left.

Design

Design work prior to the SDS provider appointment

515. I have been referred to various documents which point to design work having been carried out prior to the appointment of the PB as the SDS provider (which occurred in September 2005). These documents include TIE Board meeting minutes and reports for 2004 and 2005 (**TRS00018648** at pg 15 and 95 onwards, **TRS00008502** at pg 39 and **TRS00008507** at pg 15). I have been asked what design work was carried out before PB's appointment under the SDS contract.

516. This initial design work was done by Mott MacDonald and Faber Maunsell largely in relation to the process of seeking Parliamentary approval for the project through the Tram Acts (which I have discussed above at various points). Once this work was done, I created a peer review group with people I trusted from previous projects. They worked under my direction to review the state of the overall design, in particular, what we ultimately termed the critical areas. This

was to determine whether or not improvements could be made to the Mott MacDonald Line 1 design between Haymarket and Leith.

517. Certain changes were implemented as a result. One example was the realignment of the track (from the original Parliamentary process design) in the area around Verity House. That resulted in the track running in a different way than Mott MacDonald had initially envisioned and there were also checks on the space constraints present at Haymarket to see whether a tram stop could actually fit there. The people I recruited had been involved in previous projects of this type and were able to improve on Mott MacDonald's initial design.

518. I managed this process and this initial review was completed by the time PB were appointed under the SDS contract. I have been asked to what degree it presented a sound foundation for the work that was done by PB under the SDS contract. I would say it produced a solid foundation building on the Mott MacDonald work with some amendments.

519. I have asked what is meant by the phrase "detailed design" as this is the term used (in some of the documents mentioned at para 515 above) in relation to describing the SDS contract which was yet to be awarded. Detailed design under the SDS contract was very much more detailed than the work done to that point (late 2006 and early 2006). What it means is more detailed than the design that had been done by Mott MacDonald in the Parliamentary process but it does not mean fully detailed design such that it could be given a contractor to construct it.

Design and the SDS contract

520. I have been referred to an email sent by David Ramsay (of TIE) to Sharon Fitzgerald (of DLA Piper, TIE's legal advisors) on 16 February 2005. At this point, the SDS contract had not yet been concluded. David Ramsay noted certain concerns about the reporting requirements in the contract to Sharon Fitzgerald: *"that may be why front end Design activities generally go over time and budget as these controls and early warning systems are not in place. The future*

novation of this package also means that we need absolute visibility of where the SDS is at any time.” David Ramsay also noted, however, that too much reporting could be overly intrusive and TIE might come to regret that.

521. I have been asked for my comments on David Ramsay’s concerns and whether these were picked up in the drafting of the SDS contract. I think in general, his observations are correct. It was important that TIE had the ability to know precisely what it was that the SDS provider was doing and what point they had reached. This was so that we could affect the handover and so that the Infracore contractor would accept the novation. I think those points were made and understood within TIE.

522. I believe they were also taken on board in the SDS contract in terms of the reporting requirements that were incorporated. This email appears just to show that David Ramsay was, in addition to my input, providing useful input into the development of the SDS contract which was being written by Sharon Fitzgerald.

523. I have been asked whether PB’s reporting to TIE, under the SDS contract, was adequate and, if it was not, why that was so. The reporting should have been adequate if it was done in accordance with the contract. PB’s actual performance was less than satisfactory. The point was not yet critical in terms of the novation issue and we still had quite a lot of time to manage PB into a successful space.

524. I have been asked what TIE’s intention was concerning control, and management, of the delivery of the design. The intention was that TIE would know where PB was, at what cost and at what time they were required to complete any part of their overall assignment, in particular, to ensure their performance on the critical milestones which TIE had identified in relation to risk issues.

Early Investigation prior to SDS contract

525. I have been referred to an email sent by a consultant, Grant Biggam of CDL Group, to Sharon Fitzgerald on 31 January 2005 (**CEC01877125**). I was copied into that email. This email and its attachments (**CEC01877126**, **CEC01877127**) discuss the possibility of procuring initial investigatory works prior to the grant of the SDS contract. I have been asked why this was considered and what was done about it.

526. This was done in consideration of the potential time savings it would provide for the SDS provider. However, these advanced investigatory works were not carried out. This was because TIE wished to avoid liability for these works and because it was likely the works would have to be redone by the SDS provider anyway.

527. TIE wanted to avoid the risk of liability if it had given this information to the SDS provider. The SDS provider would not have been able to avoid redoing those works, either in part or in full. This would be because of their own professional indemnity policies and particularly because, further on in the project, the SDS provider would be novated to the infrastructure contractor and they would bear the risk of something having been missed or done incorrectly. As such, the SDS provider would need to do these works for themselves on the ground.

Evaluation of bids for the SDS

528. I have been referred to an email (and its attachment)(**CEC01876036**, **CEC01876037**) sent by Alan Cassels of DLA Piper (TIE's legal advisor) to me and others on 19 May 2005 regarding bids for the SDS contract. This included Mott MacDonald and Faber Maunsell expressing reservations about the feasibility of the timescale and suggesting a reduction in scope with work being carried out later in the procurement programme. Mott MacDonald also cited novation of the SDS as producing "*irreconcilable conflicts of interests between tie, MM and Infracore*" (**CEC01876037**, at pg 4).

529. I have been asked to explain Mott MacDonald and Faber Maunsell's concerns about timescales and conflicts. My answer would simply be that this was an aggressive programme. I think that their comment about a conflict of interest is a reflection of their not working under novation to an Infracore. In relation to the SDS bidding, the point is that they did not want to accept the risks involved, could not price them and did not want to be novated to the Infracore.

530. I have been asked what, if anything, TIE did in response to these concerns expressed in relation to the SDS tendering. Our approach to the SDS and our tender pricing was received by the bidders for the SDS contract albeit with qualifications expressed by bidders, various offers to change aspects of the tender and some suggested savings being offered in relation to those changes.

531. In response to the SDS bids, TIE created an evaluation matrix, did an evaluation across the different bidders and attempted what is known as a normalisation process. That process makes price adjustments based on the changes sought or qualifications made by bidders. In Mott MacDonald's case, there would have been a change to pricing based on getting them to accept all of the risks involved. At the end of this process, we concluded that, on balance, the best option for TIE and CEC was to go with PB. The full background to this decision, and the discussions around it can be found in TIE's documentation. In terms of my recall, however, I believe that:

531.1 The combined Mott MacDonald and Faber Maunsell bid totalled about £34m pounds (without taking the full risks and without novation);

531.2 The SWR price was about £30m with them taking the majority of the risks; and

531.3 The PB bid was around £23m to £24m with them also accepting the majority of risks.

532. It has been noted that both Mott MacDonald and Faber Maunsell had previous involvement in the ETP including work underlying the capital

expenditure estimates. I have been asked to what extent TIE took this previous experience into account in assessing the weight to be given to these concerns.

533. The previous experience of these companies was taken into account when we evaluated the bids for the SDS. It was not that I did not want to continue working with Mott MacDonald and Faber Maunsell. I worked with them both before and after the ETP. As a matter of process, I had no alternative but to evaluate them fairly within the framework. I was careful to have my team of people at TIE do the evaluation of the bids and I was careful not to influence that process. Also, the evaluation contained reviews of both the technical competency and the commercial value of the bidders.

Recommendation of PB

534. I have been referred to a paper that I approved for presentation at the TIE Board meeting on 22 August 2005 (**DLA00000775**) recommending the appointment of PB as the SDS provider. That recommendation was approved by the TIE Board at that meeting (see **TRS00008535** - approval in the minutes of the meeting at pg 9). I have been referred to a number of points noted in that paper:

534.1 That information from the JRC provider would be critical in the success of the SDS contract (at pg 1 of **DLA00000775**).

534.2 That the SDS contract contained around £2m of surveys which were outside of a conventional design scope contract (at pg 2).

534.3 That (at pg 2) *"[t]he risk transfer to the SDS is substantial, particularly in relation to approvals, and this has been verified by in-house and external consultants and affords tie control over liability and responsibilities that would not normally be achieved."*

535. I have been asked to explain the role of the JRC provider and their integration with the SDS provider. The JRC was to undertake the most definitive

revenue forecasting model which would have been with the target being to maximise the tram revenue. This would involve truncations and modifications to the bus service pattern consistent with work we had already prepared as part of the Parliamentary approval process (with some improvements by this stage).

536. The SDS and the JRC consultant would be doing two tasks:

536.1 The JRC would be doing an Edinburgh-wide transportation model looking at the end results of an integrated transport network; and

536.2 The SDS would be doing a model which focused more on local traffic for the purposes of achieving temporary and permanent TROs.

537. I wanted those two things to not be discordant. In terms of the design, there were features of the revenue model which could influence the design of the trams system. Specifically, if the revenue model was hypersensitive to run times (ie commuters would only use, and make profitable, trams which ran very frequently), which it is, that would lead to a different pattern of trams and size of trams. Whether the system had lighter or heavier trams as a result, those things have to go into the design by the SDS. There had to be an overlap in those areas so I wanted the team doing the transportation models for traffic regulations to work together with the guys who were doing the network model for the revenue as that made sense.

538. The survey costs outside of scope (see para 534.2 above) simply refers to the fact that the SDS contract would include surveying and investigation works under it rather than a separate agreement. The survey work included would be things such as geotechnical investigation, ground penetrating radar, CAT scans, condition surveys and physical survey works.

539. I have been asked what was meant by the statement (in para 534.3 above) that the risk transfer was “*substantial, particularly in relation to approvals*”.

540. It was substantial in comparison to what is normally achieved by clients in these types of projects. That was reflected in the response that I discussed above (at para 531) from Faber Maunsell and Mott MacDonald who were not used to doing things and did not want to do things in the way that TIE was asking them to do. Therefore to achieve that risk transfer was to get a consultant to do something that they would not normally want to do under the contract, and to price it in to their bid. This was a substantial risk transfer.

Design and Infraco

541. It has been noted that Recital of the SDS contract states that “*TIE intends to appoint an infrastructure provider (the “Infraco”) to complete the design ... of the Edinburgh Tram Network*”. I have been asked what I understood by these words. TIE’s procurement strategy required us to procure an Infraco provider and novate the design work to the Infraco provider. They would then accept what had been done before and assume responsibility for the completion of the design.

542. I have been asked, given that this refers to novation of the SDS to the Infraco, what elements of the design would remain to be completed in that time. This would have been whatever was remaining at the time of the Infraco award which would have been, in particular, elements that we had considered to be non-critical to the path of the Infraco delivery.

Third Party involvement in designs

543. I have been asked, at the time of entry into the SDS contract, to what extent progress with the design was dependent on input from third parties such as:

- 543.1 Survey information;
- 543.2 Input from utilities companies;
- 543.3 Consents (such as planning permissions); or

543.4 Decision-making by CEC (as project sponsor) and TIE about design options.

544. The survey information was to be done by the SDS. In terms of the utilities the initial scoping work was with SDS and from that TIE and SDS were to make complete and through surveys then complete the work.

545. In terms of consents, these were all outstanding at this point and would be progressed as required by the Tram Acts and by the CEC planners. This was a very major risk area, as I have already noted (above at para 293), being transferred to the SDS.

546. In terms of the decision-making by CEC, it was not 100 per cent ready to undertake this role and it was a major issue going forward. It was not ready at the time of the SDS commissioning and even at the point where I left the project (in May 2006). By this I mean that CEC had not put processes in place or approved officers to make streamlined decisions in respect of the ETP.

547. For the CEC planners, the volume of work coming to them from the ETP would have required an effective increase in their resources to be able to handle it internally and those resources were not clearly in place. In fact the Planning Department of the CEC only really visibly started playing a role come January or February 2006.

548. I have been asked what work TIE had done, if any, to assess the scope of the inputs needed from third parties, and the timescales realistically needed to obtain them. From the outset of the project, we had been reviewing these risks with the assistance of people like Mott MacDonald and Faber Maunsell. This had led to understanding of the scope and the risks of the project and the definition of critical areas which were translated into a project plan.

549. TIE had time timescales for the procurement of the Infracore and I have been asked to what extent consideration was given, in setting those timescales,

to the scope of inputs needed from third parties into the design, and the timescales needed to obtain those inputs.

550. Due consideration was given to how ready CEC would be for the processes involved in the ETP. We explained the situation that was coming to them. Generally speaking, from my experience in the last ten years, the process of design and approvals (as part of a design and build contract) is the Achilles heel of every contractor. This is because neither the client nor the authorities are good at making quick decisions and because, in some cases, they are not used to, or paid for, accepting the risks that come with making decisions.

Design and planning

551. I have been referred to the Tram Design Manual (**CEC00069887**)(Design Manual) which was approved by the Planning Committee of CEC on 1 December 2005 as supplementary planning guidance in relation to the ETP. I have been asked to what extent I was aware of or involved in the production of the Design Manual.

552. While I was not involved in the production of the Design Manual, I was well aware of it and read every iteration of it that was produced during my time with the project (the manual was subject to some amendments)(see, for instance **TIE00090571** at pg 9).

553. The purpose of the Design Manual was, in my view, to attempt to control the scope of the ETP and to avoid betterment and scope creep by the CEC Planning Department which had occurred in a number of the other UK tram projects after the award of infrastructure contracts:

553.1 By betterment, I mean the temptation on the part of the CEC to insist, when the Infraco was doing reinstatement of streets after works, on the replacement of asphalt with some better quality or more expensive material; and

553.2 By scope creep, I mean the possibility that the CEC would seek to have reinstatement works expand well beyond the scope of the immediate work site so as substantially increase the streetscape as a whole say by putting paving all the way up Castle Street.

554. I have been referred to the stated aims of the Design Manual (at para 1.9, pg 7) which include *“facilitat[ing] an efficient delivery process”* and I have been asked whether this was achieved.

555. The Design Manual was to establish an agreed basis for planning consents at some rudimentary outline form or level. That would have created a more efficient delivery process. I do not know if that was achieved.

556. It has been noted that the Design Manual refers to the Tram Design Working Group (TDWG) and its remit in advising on applications before they were lodged with CEC (at para 2.2 to 2.4, pg 15 of **CEC00069887**). I have been asked to what extent I was aware of or involved with the work of the TDWG.

557. The TDWG came to fruition in 2006 and was led by Barry Cross (of TIE) for me. I was aware of the TDWG and the scope of the work it was trying to accomplish. Its broad purpose was to manage the planning aspects and input into those.

558. I have been asked to what extent the TDWG was successful in progressing consents on a suitable timescale. During the time I was with the project, it caused me to have a very serious disagreement with Mike Jenkins (of PB) because PB did not seem to be effectively limiting betterment and the scope of the project. I was not with the project long enough to comment on whether the TDWG was successful overall but it was a start though it seemed to operate slowly and it was not directed in its work.

559. I have been referred to the discussions of Limits of Deviation in the Design Manual (para 5.78 to 5.79, pg 100 of **CEC00069887**) and the flexibility

allowed under the Tram Acts for the alignment of the track. I have been asked whether that flexibility was helpful and whether it left much of the design and decision-making still to be done. I think the flexibility was helpful, the level of decision-making and design it involved was normal for this type of project.

560. I have been referred to the Design Manual's discussion of CEC's strategy for developing the public realm (public spaces) alongside the tram project (at para 1.8, pg 6 of **CEC00069887**). This is an element of the debate as to what was the tram project work and what would be betterment of the city spaces. This shows that some kind of definition has been put around what is what. It was a win getting the CEC to recognise that the public realm existed alongside rather than within the scope of the project.

561. I have been asked what impact, if any, that distinction or definition of responsibility had on decision-making in relation to the tram project, and on the progress of design particularly in relation to CEC's strategy for developing the public realm.

562. It was a cause for potential delay because if work on the public realm was not working in sync (whether in lock step, in front of or) the tram project then it was going to cause delay. The CEC had a couple of international architects come to Edinburgh who were going to do things their way. That was not going to be compatible with the tram project because we would not have time to play around with that kind of thing. That is why I say it was a cause of potential delay. I do not know, because of my departure, whether it actually resulted in delay. I imagine it might have but I do not know if it was major though that was unlikely given the time available prior to the Infraco.

Design and procurement

563. I have been referred to notes of a meeting between TIE and PB held on 19 January 2006 at which I was present (**PBH00012276**). That note records me asking PB to produce designs sufficient for tenderers to *submit "a marginally*

upper bound price” which would be refined at the preferred bidder stage (at para 5). I have been asked what is meant by this.

564. The design would be at a level where it would be able to be generally improved by the addition of detail ie the outline of the design, being set in principle and not being subject to major increases. For example, if we talk about the reinforcement ratio in the track slab, the drawing submitted in the first place to the tenderer would, most likely, assume the ratio to be 150 kgs per cubic metre. However, by the time the designers had really finished their analysis, they might set it at 125 kgs per cubic metre.

565. I have been asked What refinement was envisaged at the preferred bidder stage.

566. I have already discussed this change in design over the procurement process (above at para 356 to 358). The five months or thereabouts that I have mentioned as being the time difference meant that the elements of detailed design would have increased and would have confirmed the critical parameters of the Infraco’s work. For example, coming back to my recent example, it would have confirmed that 125 kgs per cubic metre was adequate reinforcement. If the design was sufficient for these purposes then the risk of the Infraco contract would be reduced.

567. I have been asked if I can expand on what it was that PB were being asked to do in relation to prioritising work. They were being asked to concentrate on work which was understood to be on a critical path for the Infraco and its construction works (and pricing).

Management of the design

568. I have been asked how it was proposed that TIE would monitor and manage the production by PB of deliverables under the SDS contract. This would be done by TIE having a project management team supported by flexible

resources coming provided from the TSS. The role of TSS in this regard was to provide TIE with the capability to undertake a full project management exercise up to completion of the project.

569. I have been asked what resources TIE had, in terms of numbers of staff and expertise, for its role in the management of the design. I had a small team on the tram project which I would estimate at around 30 staff at this time. That small team would be supported by a variable team of additional staff from TSS which could have been up to another 100 people if necessary. However, it probably should have been around another 30 people focussed on the utility diversions process that were provided by TSS.

570. In terms of the expertise involved in this team, everybody was qualified and had experience in the delivery of railway or tramway projects or utilities diversions relevant to the position that they were assigned.

SDS performance and progression of design

571. The SDS Contract was concluded on 19 September 2005 with PB appointed as the contractor for this element of the programme. I have been asked, in general, how matters proceeded on this contract. It proceeded slowly starting with problems on the side of SDS (which I discuss in the following paragraphs) but there were also initial problems on TIE's side.

572. I have been asked what went well and what went badly within the SDS contract context. The thing that went particularly badly for SDS was that the designated Project Director for PB came and left within a period of about six weeks. Staff left during the start-up period and PB could not provide staff numbers consistent with the programme. In bidding, PB had convinced us that they understood the demands of the start-up phase. During this phase they said they would effectively be doubling their resources through what they called the 'tiger team'. What actually happened was that they only got about a half of the required staff for the 'tiger team' and for the normal staffing requirements that

would have been in place throughout the contract. So instead of two times the capacity they only had probably a half of what they should have had in the first team.

573. Whether they were caught on the hop or whether people did not really want to come and to the project is not clear. This really bit TIE hard because we really did have a very aggressive (though not overly aggressive) start-up period and that was reflected by the comment that Mott MacDonald and Faber Maunsel made in the document I have discussed above (see para 528).

574. Therefore, you should have expected, and indeed I did expect, some slippage. I always expect slippage in the first six months of a programme, always. But PB simply just did not come up with the goods. There were management changes, resourcing changes or a lack of resources and the slow start-up was due to these.

575. In terms of the positives, we got the project underway and I was able to maintain the relationship with PB, in particular Mike Jenkins (who was in charge of rail for PB in the UK, Europe and Middle East), though that was stormy at times. However, we had a direct line to each other and were able to keep talking.

576. I have been asked whether there were any other issues that held up the start-up and diminished performance of the SDS. In addition to the above (see para 572 to 573) I think there were probably difficulties with the initiation of document control systems though this is always a problem. The mobilisation of resources and their consolidation into a team is also difficult. Just because all of the staff were PB staff did not necessarily mean they had or could work together. It also did not necessarily mean they understood the project particularly when people who had been working on the bid then disappeared from the project. Compared to new staff, those who had worked through the three month tender negotiations would know what was going on and would be well and truly more advanced.

577. I have been asked to what degree these problems had a lasting impact on the cost and timescale of the project. I think it is evident there was a lasting impact on the timescale of the project due to the design issues.

Design timing and delays

578. I have been referred to the SDS contract, signed between TIE and PB on 19 September 2005 (**TIE00899941**). I have been referred to the programme for completion which is found in Appendix 2 to Schedule 1 (at pgs 105 – 107) and in Schedule 4 (at pgs 248 - 261). It has been noted that these required completion of parts of the Preliminary Design of critical areas by 30 November 2005 (just over two months after execution of the contract), and the completion of Detailed Design of those parts by 30 March and 30 May 2006.

579. I have been asked on what basis those targets had been fixed and whether I expected them to be met. They had been fixed as target dates to match the Infraco tender timeframe. At the time I expected them to be met but they were not. I expected them to be met because PB had made a big play on the project initiation and so-called 'tiger team' (see above at para 572), effectively doubling, resources at the start-up so that they could achieve these dates but it did not occur as planned.

580. I have been referred to the Tram Progress Report for October 2005 (**TIE00090572**) and its references to two design freezes, one at 7 April 2006 and another at 30 October 2006 (at pg 20 under the heading **Design**). I have been asked what these were and what their purpose was. The purpose was to enable the tender documentation packages to be closed for Infraco and Tramco consistent with the overall state of the design at the time of those.

581. I have been asked whether there were delays in PB mobilising to perform the SDS contract, what those issues consisted of and how they were addressed. The principal issue was the failure of PB to secure and mobilise adequate staff numbers. I do not know why this arose. I wrote to PB about this at the time but

never received a satisfactory answer. I suspect the requirements of the project were actually under-estimated by PB. Nonetheless they did not supply the personnel that they had promised and some of the personnel who they did supply, including my counterpart – the PB Project Director (whose name I cannot recall), left early in the project.

582. I have been referred to the Tram Progress Report for October 2005 (**TIE00090572**) which recorded: *“There have been some mobilisation issues which have primarily manifested themselves on the ineffective development of the design programme. Tie has taken remedial action, matters are progressing...”*. I have been asked what remedial actions TIE would have taken.

583. Remedial actions would have been to call Mike Jenkins (rail projects manager for PB) and David Hutcheson (Scotland Manager for PB) into the office to go through all of the outstanding issues, ensure they understood the issues see what they said about them. Then we would have agreed what each of TIE and PB were going to do from that point.

584. I have been asked what these PB representatives said about the situation and what they would have been suggesting that PB do, at around this time, to remedy the design situation.

585. At this time, PB were saying that their delays were the result of late handover of information or impartial or incomplete handover of information or the introduction of new information. I believe that PB representatives were well and truly aware of the situation with delays but they did not address them to my satisfaction. They were trying but they were clearly struggling.

586. I have been referred to a letter sent by PB to TIE responding to concerns I had raised about progress of the SDS programme (**CEC01711241**)(see also the February 2006 Tram Progress Report, **TRS00000085** at pg 3). I have been asked what the issue was with the programme and how it was addressed.

587. This was a part of the failure to mobilise and it was addressed by TIE demanding that matters be taken forwards. PB had to mobilise planners and they did. Initially they did not bring in staff with sufficient seniority or experience and I had to 'read them the Riot Act'. After that they did bring in the proper people and the programme progressed in the right direction.

Survey Work

588. PB was responsible, under the SDS contract (**CEC00839054**), for survey work (eg Schedule 1, para 2.1.5, at pg 81), at least some of which was necessary to inform the preliminary design (eg paras 2.3.1, 2.3.2.7, 2.3.3, at pg 83 to 84). I have been asked what survey work needed to be done to inform the preliminary design and what arrangements were in place for that survey work to be done to allow production of the design in accordance with the programme.

589. The survey would include physical surveying, GI conditioned surveys without ground penetrating radar and CAT scans as discussed before. PB were to contract for the survey works or subcontract for them however they could also do themselves if they could manage that.

Obtaining approvals

590. I have been referred to various parts of the SDS contract (**CEC00839054**) which refer to obtaining approvals for the design:

590.1 For the preliminary design to be complete, the relevant approvals bodies (which included CEC as planning and roads authority) had to be satisfied with the design (para 2.4 of schedule 1, at pg 85 of **CEC00839054**); and

590.2 For the detailed design to be complete, the full approval of the approval bodies had to have been obtained (paras 2.6.1.2 and 2.6.2.4 of schedule 1, at pg 87).

591. I have been asked what arrangements were in place for the relevant approvals and consents to be obtained, as needed for production of the design in accordance with the programme. For TIE, Barry Cross was assigned to the role of managing this approvals process. There was capacity, under the TSS, for him to have as many people as he wanted brought in to assist with this process.

592. I have been referred to November 2005 correspondence between TIE and PB (**CEC01711243**), and subsequent DLA Piper advice to TIE (**CEC01875205**), concerning who had the contractual liability for providing legal support in obtaining TROs and TTROs. PB said that they were not responsible for legal costs associated with roads orders and TIE had to take advice from DLA Piper on that which can be seen in DLA Piper's email. I believe it remained a disagreement and I am unsure where it would have ended up. It seems to me that the most likely outcome would have been to augment the resources involved to get the job done and then had a dispute later if needed.

593. I do not think the matter was definitive, DLA Piper's advice can be read in support of either position and the point is not crystal clear. It would be one thing for the SDS designer to be on the hook for late or poor quality design but it might be quite another thing to have them incur third party (legal) costs to obtain TROs from a council which was making a number of demands on the project.

594. I have been referred to a letter from PB to TIE dated 25 November 2005 (**TIE00241940**) in which PB notes the difficulty it is having in engaging with the CEC's roading planners and the delay this might cause in PB's deliverables. I have been asked what issue this refers to and how it was addressed.

595. I have already discussed my views (at para 547) that the CEC planning department was not ready for the volume of work that would be involved in the ETP. They did not have a specific, additional team resourced and ready for the planning steps involved.

596. It was eventually addressed and the efforts of Barry Cross (who had been seconded to TIE and was then made Deputy Project Director for the ETP) was the best person to address this as he had a good knowledge of the inner workings of the CEC. He would have been able to get inside the CEC and figure out what additional resources were necessary.

597. TIE had additional project management resources through the TSS contract. Those could have been added to the CEC's resources. This would have involved extra cost to the tram project's budget and, of course, we did not want this. Technically, it was the CEC's responsibility for planning and it should have borne the cost of ensuring it could cope. However, if the overall position in the project was such that that the planning delay was causing massive delay and additional expenditure on the tram project (because you could not find another 20 people to put into the CEC team) then I would have put another 20 people into the CEC planning team from TIE's resources.

Design difficulties in early 2006

598. I have been referred to papers prepared for the TPB Meeting on 23 January 2006 (Tram Project Director's Executive Summary - **TRS00002103** at pg 2, and Tram Progress Report - **TRS00002104**, at item 1.4, pg 4) including matters such as design. The Executive Summary refers to PB undertaking "*at risk preliminary design*" and I have been asked that this means. This means that the SDS provider (PB) had not, at this time, completed the requirements definition phase of the project to everyone's satisfaction. The requirements definition phase was the first phase of the SDS process, coming prior to the preliminary design phase. The requirements definition task was effectively to collate all of the information from all sources and to refine it into a suite of documents which would tell PB what they had to do. Once that was complete, they would be able to desegregate that into their teams and undertake separate design tasks within different 'silos' in the expectation that the work of those teams would come back and be co-ordinated into a whole. If the requirements definition

phase was not complete, then PB would be starting the various aspects of the preliminary design “*at risk*” of further information trickling in and causing them to modify the preliminary design.

599. I have been referred to a passage in the Executive Summary noting a recommendation that complete site investigation works be done (**TRS00002103** at pg 2). This was a direction to the SDS provider to do site investigation works across the complete scope of the project, both Line 1 and Line 2. That would mean including the areas that were, ultimately, going to be taken out of the project. This direction to do investigation works for all of the lines was because the cost of doing so was not great and the information gained would be there for the future.

600. I have referred to the Progress Report (**TRS00002104**, at item 1.4, pg 4) where there is reference to a “critical” need for completion of processes for dialogue and agreement between CEC and TIE and been asked to explain this. This refers to the interaction between CEC and TIE that I have discussed above (at paras 594 to 597).

601. I have been referred to various documents (**TRS00000319** and **TIE00090592**) dealing with the Project Definition Statement and Strategic Design Principles which were approved by the TEL Board in May 2005 (**CEC01701915**). I have been asked whether there was delay in approving these principles and what hindrance that might have caused. There was a delay in approving these principles as TEL was not functioning effectively or at a detailed level at this point. These principles were critical to the SDS design process and their approval would later cause a great deal of hindrance.

602. I have been referred to the Tram Project Progress Report for January 2006 (**TIE00090591**). This noted that, whilst SDS had delivered the Requirements Definition Phase Deliverables on time, they were not up to the required standard (at item 1.2, pg 3). The documents were to be revised and an

eight week delay in the programme was anticipated. Problems with the programme were also noted (at item 1.3, pg 4). I have been asked to explain these issues.

603. The design works at this stage were partially complete and did not meet the required standard. There were, for instance, missing pieces of the design and poor drafting of some elements. In terms of the project documentation that was being produced, PB was producing documentation but was doing it without reference to the background principles or policies. This resulted in omissions or in documents not being what we wanted them to be.

604. I have been referred to a statement in the Progress Report that TIE and PB were setting up a joint team to ensure the SDS deliverables (contract objectives) would be ready for the Infraco tender (**TIE00090591**, pg 4). I cannot remember the precise details of who was in this team but its remit was to fix and complete elements of the design necessary for the Infraco tender.

605. I have been referred to the Tram Project Director Executive Summary for February 2006 (**TIE00090593**). This document noted (at item 3, pg 1) that a change order had been issued removing phases 2 and 3 from the design, and “back-ending” phase 1b.

606. This refers to truncation of parts of Line 1 and the stoppage of Line 2. What had prompted that was final agreement, by either the TIE or TEL Board, that these additional stages were going to be unaffordable. This was because of the information available at that showed that, even with the indexed Scottish Executive £375m grant, it would not be possible to do all of these stages. Therefore the right decision was to cease work on these parts of the ETP even although they had only just been contracted for in the SDS contract. I have been asked whether this re-prioritisation speeded up production of the design. I believe it would have.

607. The same February 2006 Executive Summary also notes that the Design Working Group was actively involved in the design with SDS (item 3, at pg 1) and that protocols between the project and CEC were being developed as a priority (item 8, at pg 2). I have been asked whether these steps were intended to streamline the design process and whether they, in fact, achieved that.

608. They were intended to define and then streamline the process to the extent possible. Whether that happened in fact is difficult to say. It certainly was not close to the most streamlined design process I have ever seen. We could streamline, but we were working against a backdrop of it being a highly variable design process, it was not comparable with the most efficient form of design process that you would perhaps have wanted.

609. The need for the protocols was to avoid individual officers and/or individual members of my team going off on frolics of their own. That would have led to either delay or an increase in the cost of the tram project. This included things like betterment or 'gold-plating' that we had identified in previous projects and were likely to occur in Edinburgh unless steps were taken.

610. I have been referred to a paper attached to the Executive Summary for February 2006 which discusses the protocols (**TIE00090593**, pg 25) and notes some urgency in their preparation. I have been asked to explain this urgency. The urgency was because TIE was being told by SDS that lack of this framework with the CEC was impacting on their performance and it was being said to be a reason why they were under-performing. Since we could agree a common approach with the CEC, we did that in order to speed up the design work.

Possible dispute with PB

611. I have been referred to an email and attached note prepared by Jim Cahill (of TIE) for DLA Piper sent on 10 March 2006 (the email is **CEC01878385**, and the note is **CEC01878386**).

612. It has been noted that, by early 2006, TIE had taken advice from DLA Piper on serving formal persistent breach notices on Parsons Brinckerhoff under the SDS contract (see for instance, email of 14 March 2006 - **CEC01857074**). As set out in a DLA Piper letter of 24 March 2006 (**CEC01787163**), grounds for these included failing to:

- 612.1 Produce an adequate programme in time;
- 612.2 Meet the standards for the Requirements Definition Phase;
- 612.3 Undertake surveys;
- 612.4 Obtain TROs; and
- 612.5 Provide adequate resourcing and progress.

Ultimately, I recall that these notices were not served on PB (see further, advice letter of DLA Piper to TIE dated 11 May 2006, **CEC01787162**).

613. I have been asked to what extent I was involved with the potential dispute with PB. I was dealing with these matters personally. I would not trust anybody else to deal with them. In terms of the issues set out in Jim Cahill's note (**CEC01878386**), I have been asked to explain the nature of the problems outlined and the grounds for termination.

614. The grounds for termination issues raised in the report were a result of things not being done properly in accordance with the contract. Matters were getting close to a critical point where TIE might need to consider or suggest that the PB team should be replaced as the designer under the SDS. It was proper for me to assess their performance and whether there were grounds for termination under the contract. In reality, I wanted to use this material as a stick, against PB, in negotiations with them or in making demands for recovery of losses, changes of plan and additional staffing. There was never any definitive decision on termination but it was also an exercise in recognising that, frankly, the job involved might simply have been too big for them.

615. I can confirm that the notices were not served. Whilst I wanted to have a firm basis of understanding for a possible termination, I wanted to use the possibility of termination in negotiations with Mike Jenkins and David Hutcheson (both of PB) more than I wanted actually to terminate PB's contract. The second angle would have been to use the possibility of termination in negotiations to remove PB from a part of the SDS contract. This might, for instance, have involved removing the utilities diversion processes from PB and transferring it to TSS if that was going to be an effective change. In those circumstances, the grounds for termination could be used as a means to minimise the legal penalty that might apply if TIE transferred those responsibilities away from PB.

616. I have been referred to Jim Cahill's note (**CEC01878386**) and its suggestion of woeful performance by SDS relative to the contract programme. I have been asked about the matters set out in that note. Jim Cahill was the commercial manager involved in reviewing the programme and in writing part of the note for me. I then read and passed on the note. In summary, it really talks to the non-performance, specifically, of PB under the SDS.

617. I have been asked whether the programme involved was realistic. One would always question whether the programme was realistic and, from the unfolding of events, you would suggest that the programme was optimistic and difficult to achieve. However, speaking frankly, in terms of getting this aspect of ETP up and running, it was always going to be difficult and it is on every project.

618. There is reference in the above documents (at paras 611 to 613) to TIE building its evidence to support a claim for damages against PB. This claim was not taken forward. Damages were not really likely to be relevant other than to minimise any termination costs that would be involved in removing PB if that step was taken.

619. I have been asked about PB's possible defences including the possibility that PB would deny it was contractually responsible for technical specifications.

Our suspicions, to the extent that we had them, do not indicate what PB's actual defence would be. Such a suspicion might have arisen from conversations around the time but we did not have any certainty. Email correspondence denying the responsibility under the contract for production of technical specifications is just like the issue of legal costs for TROs I have discussed above (at paras 592 to 593). These disputes had not crystallised into legal disputes, they were recognised by the parties as being issues for disagreement and/or discussion. They did not have a significant impact on the cost and timescales of the project.

620. I have been referred to emails between PB staff sent in July 2007 (**PBH00012275**, and see the January 2006 meeting note attached as **PBH00012276**) while sent after my departure from TIE, they refer to events while I was Project Director at TIE. These include a discussion between myself and Mike Jenkins and David Hutchison (both of PB). I have been asked whether this account of events is accurate. While I cannot recall precisely, I believe this account is accurate.

621. I have been referred to a passage of the July 2007 email which refers to discussions with me around issues "*preventing PB from performing*". I have been asked what these issues might be.

622. PB said that what was preventing them from performing was finalisation of all of the requirements and the receipt of all of the documents detailing those requirements. Mike Jenkins says, in the July 2007 email, different people were giving them different priorities. I do not know who else was giving them different priorities because I was only giving them one priority. If PB made the mistake of listening to anyone else, even if they were in my team, that was incorrect. That is the role of a Project Director, taking the opportunity to correct or clarify any aspect of what his team is doing or confirming a direction coming from him, direction on these matters should not be taken up with his team.

623. I have been asked that the issue about data transfer from TIE to PB concerned. There was delay in completing and getting across to them, for example, a final design manual at the time when tender was awarded. It was supposed to get over to them faster than it did.

624. I have been asked what other issues were preventing progress. I think you could say that all of the processes and staff involved in the CEC approvals processes were undefined including particularly how the TTROs would be obtained.

Utilities

Introduction

625. TIE's strategy was to enter into a single 'framework' contract, with a single contractor, for the diversion of utilities ("MUDFA"). The utility diversion works were to be carried out in advance of the award of the infrastructure contract. I was intimately involved in the development of this specific strategy.

626. The reason for dealing with the utility diversions separately from the main infrastructure contract was that (as explained previously above at paras 191 and 235 to 239) it is to separate a risk associated with utilities diversion which it would not have been possible to put into the Infraco.

627. The reason for carrying out the utility diversion work in advance of the main infrastructure work was so as not to delay the infrastructure work. The reason for appointing a single contractor to do the utility diversions was so as to minimise the cost, to clearly allocate the responsibility for project management and to have a single point of accountability for all works.

Elements and sequencing

628. I have been asked to discuss, in broad overview, what had to be done in what sequence, and who had to be involved, for the utilities to be successfully diverted including:

628.1 Surveys and other information gathering about the location and condition of the utilities;

628.2 Design of the track (including its alignment) and associated infrastructure;

628.3 Consents from utility companies;

628.4 Consents from public authorities such as CEC as the planning and roads authority;

628.5 Appointment of a utilities diversion contractor;

628.6 Design of the utility diversions themselves; and

628.7 The physical diversion works.

629. In terms of the surveys and information gathering, firstly and foremost we got information from the utility companies themselves. They are statutorily required to have, and maintain, current drawings and to provide them to you when you ask. This was especially so as TIE had power under the Tram Acts. Therefore the primary collection mechanism was to ask the utility companies for details of where their assets were and we did that.

630. In terms of the track design (including its alignment) and other associated infrastructure that would impinge on utilities, this was developed initially by Mott MacDonald and Faber Maunsell in concept. That was then developed into, first, preliminary and then detailed design by the SDS provider.

631. In terms of the consents from utilities companies, TIE had to seek consent for diversion from each of the companies. Consent from every one of them was also necessary to use the MUDFA strategy rather than an individual contracting

strategy. There were two ways in which the individual contracting strategy with the utility companies could have been done:

631.1 TIE could have contracted with the utilities company to have the company itself arrange for diversion by a contractor and have TIE charged for this. While TIE would have been given an expected budget for this, it would not have been possible to get a fixed price.

631.2 TIE could internalise the process of diverting the utilities and manage both the process and the spending on it.

632. TIE opted to internalise the responsibility for diversions and to combine all the diversions in one project because of the experience of the parties involved including myself, Faber Maunsell and Turner & Townsend.

633. In terms of the approval of a diversions contractor, diversion has to be done by a regulated approved contractor. Each individual utility company has its own list of regulated, approved contractors for diverting its assets. TIE looked at the numbers of utilities contractors and the number of approvals they held with individual utility companies across the board. There was no single utilities contractor that had approved status with every single one of the utilities companies. That meant that there would be some degree of subcontracting. Once we were clear on that, we evaluated the options to decide who TIE would award the MUDFA contract to.

634. In terms of the design of diversions, TIE wanted to use the SDS to be able to design the utilities diversion and/or to redesign our track slab to avoid such diversions and we thought that that added value to what we had.

635. In terms of the sequencing of these different elements, the initial collection of information involved TIE, Mott MacDonald and Faber Maunsell. Once received, the information was passed across to TSS and to SDS. The surveys were to be undertaken by SDS, they could have been undertaken by TIE (though

see my comments at paras 525 to 527 above). By the time of my departure (May 2006), TIE had not yet reached the point of appointing a utilities diversion contractor but the design work, so as to minimise those utilities diversions, was already being undertaken through PB.

Miscellaneous

636. I have been referred to a note I submitted to the TIE Board in January 2005 (TRS00008502, pg 39) in which I noted that TIE had commenced a “*critical review of the utilities diversion cost and programme implications*”. This was around the time when the TSS team was already on board and the SDS team were being mobilised. This gave us the management and critical resources to look once more at the project and review what it was we were doing. It involved looking for big items of expenditure or difficulty that we could possibly avoid to fruitfully minimise the outturn cost.

637. I have been asked what the outcome of this critical review process was. I cannot remember anything specific that came out of it other than it focused my team on looking for important issues.

638. I have been referred to an email, dated 7 December 2005, in which Sharon Fitzgerald (of DLA Piper, TIE’s legal advisors) reacted negatively to the possibility of having two MUDFA contractors which had been mooted (**CEC01859054**). I have been asked why a two contractor approach was considered and what the outcome of that discussion was.

639. It was under consideration because of the scale and scope of the utilities diversion programme and the of an individual contractor to handle all of it even with subcontracting capability. This was the biggest job that any utility contractor had probably ever seen, and was likely to see, because most utility diversions work is focused on doing something in a local area rather than do something en masse across a city. Those are the types of reasons why it was under consideration. The decision was made to continue to go in a direction of having a

single contractor so as to minimise the project management costs of doing it and it was believed that, in particular, Alfred McAlpine had the capacity to do it.

Information on Scope

640. I have been asked what information TIE had about the nature, scope and location of the existing utilities. We had everything that was supplied to us by the individual utility companies and this came directly from the utility companies rather than any intermediary or local authority.

641. I have been asked how complete this information was. We always knew that the information provided would be as complete as the current information and services known to the utilities company. We knew that there were going to be unidentified utilities out there. Some utility assets could have been left in place, such as redundant cables or pipes, or it could be that the information in the hands of the utility company (and passed to TIE) was incomplete for some reason. We were well aware of those risks.

642. I have been asked to what extent TIE sought to obtain complete information. This was to be done during the investigations phase and was what it was intended to achieve.

643. I have been asked to what extent the utilities companies provided the information needed for programming works and diversions. The utilities companies provided high level information as to what they had. That had to be supplemented if there was going to be a design for it to be diverted or changed. A new design would be done based on the changeover and based on what was necessary to achieve that changeover.

644. I have been asked to what extent the utilities companies provided the information on timescales that allowed TIE to meet its wider procurement programme. We had this substantial information at the time this was being done in December 2005 and January 2006. We had this to hand because we had

been working on it throughout 2005, previous to that in 2004 and Mott MacDonald and Faber Maunsell had even done work on it as far back as 2002.

645. I have been referred to the minutes of the TPB meeting on 22 November 2005 (**TRS00002067**) where I noted that there were between 1,000 and 1,500 items of utilities diversions within the tram programme (at pg 5). I have been asked where that information came from and how accurately it represented the total number of diversions that would be needed.

646. That figure came from various reports, interactions with the utilities team and from input with all parts of the group working on the project. There was the information supplied to us by the utility companies, an assessment by our engineering team and TSS initial overview of what would be necessary to be diverted against what would not be necessary to be diverted. For me to express such a range shows that there was a degree of uncertainty. A 50 per cent delta is a high degree of uncertainty about exactly what the final figure would be at the end of the day.

647. 177

Co-operation from third parties

648. I have been asked what co-operation and agreement was necessary from utilities companies for the project and what steps TIE took to get that co-operation.

649. TIE fundamentally needed the utility companies to understand that there was a tram project coming and an acceptance of the MUDFA methodology. They needed to accept that TIE were going to do the diversion (through the MUDFA contractor) rather than that being in the hands of their preferred contractors or subcontractors. They needed to allow that to happen with TIE bearing responsibility for all of the costs associated with it, for all safety related issues and for indemnification against the risk of damage to their assets (which was

included in the Tram Acts). I believe, from memory, this involved 12 to 15 different utilities companies. In order to obtain this co-operation, we had meetings on an individual basis with the various companies. In general we got the level of co-operation we were expecting.

650. I have been asked what progress was made with the utilities companies. Progress in signing up the utilities companies was very slow. Some were just more amenable than others and all, generally, were objectors to the Tram Acts. Until the Parliamentary process got to a point of having agreement to remove objections, the utilities companies were less than forthcoming. Once that was done, the signal internally became one of getting on with the project.

651. I have been asked what difficulties were encountered in this area. I can only really refer to the process leading up to the tendering process for the MUDFA (due to my departure from TIE in 2006). Generally it was just a case of slowness in getting matters completed for the reasons I have outlined and which are understandable. Stray current was a big issue but it was possible to resolve that.

652. Principles of good governance and the democratic world we live in, mean that the utilities companies are allowed to object and their objections need to be removed before Parliament is willing to accept and pass the Bill into law so that is what happens. That was the only difficulty that I encountered. We were working fast towards making the necessary agreements and as soon as the objections process was out of the way then the utilities companies moved quickly.

653. I have been asked whether progress with the utilities companies was slower than expected. The Parliamentary process certainly went on for longer than expected but other than that I believe it was not slower than we were predicting.

654. I have been referred to a draft memorandum of understanding, supplied DLA Piper, as a means for engaging utility companies (the covering email of 22 September 2005 supplying it is **CEC01880572**, and the draft itself is **CEC01880573**). I have been asked what the purpose of this Memorandum was.

655. The purpose of these documents was to make the utility company aware of our strategy, make them aware formally aware of TIE's role and to make them formally aware that TIE was not, effectively, intending to do them any harm. They would also get the utilities companies to engage with us in terms of programme delivery in the context of a project which would be time critical and involve serious work.

656. I have been referred to the fact that the covering email (**CEC01880572**) refers to the lack of leverage enjoyed by TIE over the utility companies. I have been asked whether this is correct and, if so, why this was the case.

657. There was a general lack of leverage at this point, in September 2005, because the Tram Bills had not yet passed through the Scottish Parliament. Until we had an Act, and the powers and mandate to act that came with that, we did not have any leverage. This is what Andrew Fitchie's email above refers to.

658. I have been asked whether the Tram Acts provided adequate powers to TIE concerning utilities. I would have said, at the time, that the answer was yes and that we could work effectively under the powers given to TIE.

Extent of diversions prior to Infraco works

659. TIE's project strategy depended upon substantial progress being made with utility diversions before work began under the main infrastructure contract. I have been asked how much of the utility diversion work TIE needed to have carried out in advance of the main infrastructure works.

660. As I have already discussed, TIE expected a substantial amount of it to be done before the Infraco contract award and that which remained would be completed before the date of access (ie to the sites) contained within the Infraco contract terms. TIE was setting out a process and a stage by stage management of the construction process so that the answer would be, in simplistic terms, everything that needed to be diverted out of the track line would have been. However, probably not every single fibre optic cable underneath an overhead line equipment pole base could have been diverted because the equipment poles might be optimised by the Infraco. That would have been the only nuance in there. Apart from that, the answer should have been that all utilities would have been diverted by the date of handover of the individual section of the track.

661. I have been asked what estimates TIE made about the likely timescales for the utility diversions. TIE prepared estimates based on our understanding of the diversion, understanding of the likely design of those diversions. This programme reflected our initial view and expectation as to how long each of those would have taken. We had a utility diversions programme which was being developed through 2004 and through 2005. The information that formed the basis of the estimates was that which had been provided to us by the utility companies.

662. At the time, they were based on our preliminary view as to how it should be done, subject to detailed further investigation and a better solution being found and developed by SDS. This was the extent of material on which we could base estimates before the actual final design of the diversions work. I have been asked how complete the diversions programme was and I would say that it was complete to the extent that we understood or has visibility of the work at the time.

663. I have been asked what consideration TIE gave to the possibility that the utility diversion works might be delayed. A lot of consideration was given to this. We recognised this as being, if not 'the risk', then one of the material risks that we had to manage so we gave absolute consideration to the possibility of delay.

As such, we produced a programme which had contingency at the back end of our preliminary estimates as to how long things would take to do in each of these sections. This would provide us with a cushion, a buffer, before the initial programmed handover dates (or access dates) for the Infraco contractor. Therefore the planning set out our estimate of the programme duration, the float (or spare time) that we had allowed and the handover date.

664. I have been referred to the draft Interim Outline Business Case (IOBC)(CEC01875336), prepared in May 2005 which noted (at pg 95) that, if the utilities contractor failed to complete on time to allow the Infraco onto sites then the public sector would bear the risk. However, TIE was noted as minimising this risk through early scheduling of diversion works which would *“be significantly advanced, by the time that the Infraco Contract is signed”*.

I have been asked what is meant by the idea that the utilities diversion works would be *“significantly advanced”*. This would be in comparison to if these works had been started at the same time as the Infraco. The idea was to have the MUDFA underway in advance of the Infraco. If utilities diversions were going ahead 18 months before the Infraco was even awarded, that would mean utilities were complete, that would be the most conservative position. If you then reduce the start date on the Infraco by six months then, potentially, you have got six months of utilities works still happening within the Infraco programme. So long as the Infraco programme could live with that work being completed in the same time period and still have a float (a contingency)included, then it would still be reasonable.

The alternative view, reducing the overall inflation on the construction contract by starting parallel was an option. However, given that you were dealing with completing the advanced design process as part of the Infraco, that was actually going to cause there to be fewer delays. In Croydon, for example, they did start on time but the Infraco had to work up from an early phase of concept design. Instead for the ETP, the SDS novation would lead to TIE handing over design

work that would have made it possible for the Infraco to start earlier. Nonetheless, it was in the hands of TIE to manage that process of setting start dates, scheduling the overlap in work programmes and establishing, in the Infraco contract, the schedule of handover dates. That is exactly what we were looking at doing.

665. I have been asked what consideration was given to the likely implications of such delay and what steps were taken to address them. These risks in relation to the MUDFA were included in the ETP's risk registers and reviewed constantly. We worked as best we could to avoid them by advancing the design process.

Utilities and design

666. I have been asked what the intended interface was between the MUDFA contractor and the SDS contractor (both before and after novation of design) in relation to design of the tram system, design of the utility diversions and programming of utility diversion work.

667. The SDS provider would undertake the design of the tram system. The MUDFA contractor would deliver the construction works associated with the utility diversion scheme. The SDS contractor can, and does, design the modification to the utility diversions. The programme for the utility diversions is actually created by the MUDFA contractor given the information coming out of the SDS in terms of that utility diversion. Modifications to the tram system design, to avoid utilities, are taken as opportunities where the SDS can get an alternative effective change in their design to do just that.

Progress and Cost

668. I have been asked to what extent adequate progress was made with the utilities work during my time at TIE.

669. Adequate progress was made in terms of the identification work and transmission of information from the utility companies to TIE. Progress in terms of the SDS investigation progress was unsatisfactory and it was recognised to be so at the time.

670. There was progress associated with the tendering of the utility diversions. Preparation for this tendering process could be done because TIE recognised that the MUDFA agreement needed to be done on a schedule of rates and re-measurable basis. This meant that TIE could not precisely define each and every one of 1,500 diversions (at the upper end estimate) predicted and design precisely what would occur with each. We did not have that precise information so TIE created, using Turner and Townsend's expertise, a contract which recognised that. This document would have allowed TIE to establish a schedule or rates basis contract based on given what we understood the dimensions of the utilities in each of the areas to be based on the utility companies' information. This would enable us to effect virtually any change (ie to the diameter of any pipe) across the whole of the working area and the whole of the tramway in Edinburgh. We could apply that known cost per unit lineal metre of replaced pipe to then calculate the MUDFA price.

671. We had the risk of not knowing exactly what needed to be done and we were managing that risk in that way. The process was set up in such a way that MUDFA could go out to tender and award even though we did not have all of the detailed design of every single change to be made. Those changes could instead be progressed actively and proactively as we went through the utilities diversion process.

672. It has been suggested that funding uncertainty might have delayed matters, and that the Scottish Executive and CEC refused to authorise physical utilities works until a draft of the final business case gave sufficient comfort on the robustness of the estimates of capital costs. This is my understanding but I

believe it also goes further than that because the Business Case for the project was provided long before the authorisation to proceed.

673. I think the reality of the situation is that nobody wanted to see the streets of Edinburgh dug up before the final approval had been given and neither the Scottish Executive nor the CEC was prepared to allocate advance funding to MUDFA to protect, as it were, the overall delivery of the Infraco. Had they done that, it would have been probably the first time anybody had had taken that decision. Had they taken that decision and done it I think it would have done two things – you would have had a live contract for utilities diversion based on a design which was continuing that would have actually de-risked that project almost entirely by the time the Infraco was awarded. Though I note that the time involved in the Scottish Parliament review and the uncertainty as to whether the tram was on or off may have affected this.

674. The situation meant a delay in the MUDFA contract which meant putting it back into the mix associated with the Infraco contract late in 2007. The Parliamentary process and approval of funding process forced a delay in the MUDFA which has left, in practice, less time than was necessary. I believe that that is the key.

675. It remains open to question whether anyone could have pushed through the whole of the MUDFA funding earlier. I note, however, that there was already £25m of design cost authorised and we had another £10m in initial running costs for the ETP authorised. Surely it would not have been impossible to ask the powers that be to authorise Princes Street diversion works (though perhaps not Leith Walk, Gogar Depot or more remote points) in terms of future proofing the delivery of the tram. Not all of it needed to be done and the funding could have been obtained on that basis.

676. Another aspect of utilities diversion that I think needs to be well and truly considered is in relation to powers granted under legislation like the Tram Acts in

future. There should be a power for the promoter to require the utility companies not to put any further assets into the tram working space (ie within the limits of deviation envisaged for the project) and requiring assets to be at a certain depth in the future so as not to make things worse. Redundant assets should also have to be removed from the tram working space. That is really a lesson for the future as I do not think it was done in the case of the ETP.

677. I have been asked why the approval of the Scottish Executive and the CEC was necessary. This is simply because there were no other sources of money which would have funded the utilities diversion works without these bodies.

678. I have been asked what the impact of that decision on timely progress of utility diversions would have been. It was effectively to delay the overall delivery of the tram system at that time.

679. I have been asked to what degree it affected the prospect of firm and final pricing by the Infraco bidders. It would not have affected the firm and final pricing other than by forcing TIE and the Infraco bidders to rely on dates which were speculative. The dates involved in the tenders would have been theoretical estimates of where utilities works might advance to rather than what TIE actually knew and believed could be done. The point is that everyone needed to know what could be done at what points.

Problems with Utilities works

680. I have been referred to a report obtained by TIE obtained a report from SWR, dated 10 April 2006, and entitled: *“Utility Diversions – Strategic Review”* (CEC01827973). I have been asked to what extent I was aware of this report. I was the one who commissioned it and I have already referred to it, in passing, in this statement (above at paras 497 505). I have been asked to comment on various portions of the report and I do so below.

681. At pg 4 of the report, it notes: *“Since appointment SDS has, in the opinion of tie, been slow to recognise and implement an appropriate methodology for the utilities diversionary works or to produce and provide the necessary resources to enable design to be completed and agreed by all parties to meet the current project programme”*. I agree entirely with this comment.

682. The report is noted as being a review by TSS, in the nature of an audit, of the SDS provider’s progress, and fro TSS to make recommendations to recover time, and to identify a solution for effective design of diversionary works (at pg 4). This is the purpose of the report.

683. The report notes the SDS provider had failed to produce the only two items that were due for completion on the day they issued their programme (at item 3.2, pg 6) and that the SDS had failed to establish and agree design parameters or criteria with all parties (at item 3.2, pg 6). While the first of these may have been a factor in the delay, I would certainly agree with the second comment on establishing parameters and criteria.

684. In respect of utilities, the report notes that (at items 3.2 and 3.3, pg 6):

684.1 SDS may not have appreciated the risk inherent in utility companies not having full, complete and accurate information on the location of services;

684.2 The Ground Penetrating Radar (GPR) contractor had been appointed late to investigate locations; and

684.3 SDS lacked a team structure for utilities diversion.

685. In respect of these points, I find it unlikely that PB (the SDS provider) would not have known that the information provided by utilities companies is not always a full and accurate picture of the ground conditions and that unidentified utilities existed. I agree that there was late appointment of the GPR contractor and a lack of a dedicated utilities team at PB.

686. The report notes the desirability of refining the MUDFA contract to incorporate essential elements of the tram infrastructure below ground and of avoiding multiple excavations of streets with consequent disruptions (item 3.4, at pg 6 of **CEC01827973**). That is something that TIE wanted to achieve and repeated excavations of the street scene were very clearly visible. If there were 12 utilities assets in one area, there was no sense in having the road dug up and recovered multiple times over the course of 6 months. The idea of the MUDFA was to be able to co-ordinate utilities diversions so as to do multiple diversions in the same area at the same time so that they could be done quicker and with a minimum of re-excavation.

687. The report also notes that:

687.1 The SDS provider was not organised to deliver to the required timeframe (item 3.5, pg 7); and

687.2 The SDS provider had not demonstrated a clear understanding of the requirements and implications of utilities diversions (item 3.6, pg 7).

I would agree with both these statements in the SWR report.

688. The report also recommends the creation of a core project management team for the utilities diversions work (at item 3.5, pg 7). That structure was about to be created and I agreed it was a helpful idea. This review and input was precisely why TSS was in place.

Governance

Introduction

689. I have been asked to describe ETP's governance structure (including any changes in it) over the time I was with TIE and to discuss the roles of the following, or any other, bodies within that structure:

689.1 The TIE Board;

689.2 The Tram Project Steering Group (TPSG);

689.3 The TEL Board; and

689.4 The TPB (Tram Project Board).

690. In terms of my role in the particular bodies:

690.1 I reported to the TIE Board through the TIE CEO Michael Howell;

690.2 I was a participant in the TPSG;

690.3 I was never a member of the TEL Board; and

690.4 I was a member of the TPB.

TIE Board

691. Turning first to the TIE Board, it had come into existence before I joined the project and, in 2003, was being chaired by Ewan Brown with the involvement of representatives of the CEC and TIE. TIE was established as a separate entity to Lothian Buses and as a subsidiary of CEC to deliver certain projects inclusive of the tram project. It was therefore designed to manage the project management of multiple projects under Ewan Brown's stewardship.

692. Michael Howell was appointed as Chief Executive, (this was confirmed sometime in mid-2003). While he was not a Board member, at the same time, as the Chief Executive of TIE, he and others were major presences at Boarding meetings and frequent. The Board itself, up until the time when Ewan Brown left which was in 2005, was effective, was chaired well and it was professionally run.

693. TIE made progress, for the tram project, in obtain the Acts of Parliament and the initiation of the aspects of the tram procurement strategy, and it also had other projects. It was evident that there was clear functional direction, approvals were given at the right times and things were happening in accordance with the stated objective to 'please establish a tram system'.

Tram Project Board (TPB)

694. In terms of the TPB, that was really a fudge, it was partly an evolution of the TPSG and partly a fudge between the TEL Board and the TIE Board to try and find some accommodation. It is an unclear concept because, in essence, the TPB became the Board that was supposed then manage the tram project as a subset of the TIE and/or TEL Boards. It was also to report, independently, to the TEL Board on what the tram project was doing, and to report to any other bodies considered relevant. What I have just described is something which is a transitional structure. The structure moved from something that was working to something that became unclear and uncertain and which was not working. At the time I left it, this lack of clarity and dysfunction was not resolved.

695. The TPB was established in 2005 and the thinking behind setting it up was to clear significant issues associated with the design and the early approvals of them. I believe its authority was delegated from the TIE Board.

696. I have been asked what the respective roles of the TPB and the Tram Project Director were in terms of decision making on the project. The TPB, in the main, was given decisions which were to be confirmed. The Tram Project Director's role was to understand and resolve any concerns associated with those decisions.

697. It has been suggested that project decisions were to be taken by the TPB (or, within the scope of his delegated powers, the Tram Project Director) but legal responsibility for delivery of the project remained with the Board of TIE. I have been asked how this worked in practice.

698. It was an attempt to make it work. It was intended that the Tram Project Director would work with the TPB and then ultimately that the decisions would be ratified by TIE. It was an attempt really, an early attempt, to try and handle the things that turned out to be within the new remit of TEL to decide and guide.

Tram Project Steering Group (TPSG)

699. In terms of the TPSG, it came along later. From memory, I believe it came along in the later part of 2005. It really started to mark the introduction of, and allowed for the influence of Lothian Buses, into the tram project.

TEL

700. At about the same time in late 2005, the integration and establishment of what is now called TEL was underway. TEL was established to integrate transport across Edinburgh between the tram project and the buses. The TEL Board was established and appointments made to it in late 2005 but really became active in 2006. David Mackay was the Chairman of the TEL Board.

701. What was never clear to me was whether the Council had any written directive to the TIE Board as to what it was meant to do, how it should be functioning, how it should be managed and what powers TIE was to grant or cede to TEL with respect to the specific management and delivery of the £500m project called the tram scheme.

702. What happened was that personnel were appointed in a manner that always remained a mystery to me. I have no idea who appointed David Mackay as the Chairman of TEL, who appointed William (Willie) Gallagher as a Director of TEL, or who appointed Neil Renilson as the Chief Executive of TEL. The only answer that I can give is that it appeared to me that it was more to do with the then leader of the CEC than anyone else. It certainly was not clear from the CEC councillors or, in the case of TIE specifically, Councillor Andrew Burns (who sat on the TIE Board) as to who and how these personalities had been selected or what duties and roles they had been instructed to fulfil. There was just a general statement that TEL's role would be to integrate buses and trams without any clarification of that that meant. TEL's role or input on the processing and completion of the Parliamentary process, the procurement strategy, specific

approvals necessary for the SDS and planning permissions from CEC to enable the tram scheme to be built were all left undefined.

703. This was a major project that had to be done. It was not just hugely disruptive having this lack of clarity, it was almost debilitating to my ability to give directions, as Tram Project Director, leading to solutions and outcomes. From its becoming active in 2006, it materially changed the ability that I had to move the ETP forward at pace.

704. TEL also set up a lot of conflict and the major conflict, as I have already alluded to (above at para 37), was between myself and Neil Renilson (head of Lothian Buses). Andrew Wood, of Transdev, who was the only other person who had built and operated a tram scheme before, also had a lot of input on that debate. That may be more a point of conflict rather than a direct reflection on the governance structure but you will see in the minutes of meetings that a lot of time was spent, by Graeme Bissett (of TIE) in particular, attempting to negotiate and define how the governance structure was meant to work.

705. The whole question ultimately became one of what does TIE do and what does TEL do and how we would continue to advance the ETP at the rate that we need to advance it in that environment.

706. This project and this procurement strategy required, in the hands of the TIE Tram Project Director, almost perfect knowledge of details and design in order to do all of the good things that the procurement strategy was supposed to do at a detailed level on a day-to-day basis. As Project Director, I would then sometimes read, in the minutes of meetings of the TEL Board, that some aspects of the design strategy had not yet been approved by TEL. That is where the fun really started.

707. I say more about my concerns with TEL and its effect on governance in the paragraphs that follow.

Functioning of the governance structure

708. I have been asked about the good and bad points of this structure such as:

708.1 Its efficiency;

708.2 Whether it adequately represented all stakeholders;

708.3 Whether there was a clear route for decision-making;

708.4 The clarity and transparency of its reporting to the appropriate people;

708.5 How it compares to governance structures of other public, and private projects I have worked on; and

708.6 What changes might have improved its effectiveness.

709. In terms of its efficiency, I would say the structure worked well up until September 2005 after which it did not. From September 2005 onwards, this was because the governance structure was not clear. As a Project Director I expected to have roles, responsibilities, duties, authorisation limits for changes and expenditure and all of those things that a Project Director normally has documented. A normal Chief Executive (ie the CEO of TIE) would have documented duties and limits on his role and a Board above him . That clarity became non-existent.

710. I do not think that any particular person was at fault in this. However, by not sitting down and organising a managing structure that was effective, it set up a chain of events which materially affected personnel, teams and the ability to progress the ETP. That change was badly managed in terms of the transition from TIE being responsible for delivery of the ETP to the situation where TIE and TEL shared responsibility for the project.

711. In terms of the representation of stakeholder interests, I would say that the actual interests of the Scottish Executive and the interests of the CEC were not adequately represented in TEL.

712. In terms of the means or routes by which decisions were meant to be taken, this was not effect. TEL thought it had all of the rights to take all of the decisions. It thought that TIE should not take decisions unless they were TEL decisions. In turn, TIE was not told by anybody, in either the Scottish Executive or the CEC, that that process was what they wanted as the funders of the scheme.

713. I have been asked how TEL ended up in this position of power. It seemed to me that the CEC councillors involved in the project all stepped away, changes occurred in the CEC personnel it seemed that the new leader of the CEC was involved in the discussions which resulted in the new structure. I was not involved in these discussions, and I do not think they included Michael Howell (CEO of TIE) but I think that David Mackay, Willie Gallagher and certainly Neil Renilson all had a say in the new structure. That led to TEL adopting the attitude that it had been authorised to take control. Graeme Bissett (of TIE) was trying to check this approach.

714. It seemed to me that Michael Howell was being positioned for termination at the earliest possible opportunity by David Mackay, Willie Gallagher and Neil Renilson on the basis that TEL's control of the project gave it the ability to impose its choices of personnel on TIE.

715. In terms of the comparison with other projects I have worked on, the first comparison I would make is to the CTL. That was the equivalent of the ETP and, in that project there was:

715.1 Clear management through the board of the concession company set up to run the project on which I sat; and

715.2 Direct reporting by myself and the Chairman of that board to the Managing Director of Surface Transport at Transport for London (TfL) and to his Project Director on a monthly basis.

716. The truncation or modification of the bus routes in that project was much more smoothly handled through TfL with very little interaction from the CTL team. It was virtually seamless, it was effortless and it was very straightforward.

717. You can compare what I have just described to the muddle that was in play in Edinburgh between TIE and TEL. From that transition point from TIE leadership to TEL leadership, an effective change in management occurred with consequences such as the termination of the 30 year agreement with the operator, Transdev, and their replacement with an operator I would not regard as capable. There is a clear question as to how these things could have happened.

718. In terms of the changes that could have been made, in my view the project could have been left in the hands of TIE to manage. It would have been straightforward if the governance structure had been left with TIE determining the changes necessary, putting in the tram scheme and working with Lothian Buses to modify bus services, in accordance with what had been put before the Scottish Parliament. If the CEC did not want Lothian Buses to be treated in that manner, then they should have done something other than establishing TIE as an independent entity from the start. They could have asked Lothian Buses to second some staff to the ETP to work together with TIE's staff.

719. What happened here was Lothian Buses felt its value (if it were to be sold on the open market as a bus company) was threatened. Its Managing Director (Neil Renilson) was effectively put into the position of running a tram project when he had earlier opposed or highlighted the problems with it during the Parliamentary process. Instead of re-routing half a dozen different bus routes and truncating a couple of services to bring the services together, Lothian Buses and Neil Renilson in particular, made the entire project more difficult.

720. This effectively undermined the capability of TIE to manage itself and its consultants going forward and there was, effectively, a total replacement of TIE's tram team and its CEO within six months of this change to TEL's leadership being put into action.

721. It was very shortsighted. In the course of the ETP, TIE was trying its level best not to badly impact on the Edinburgh bus system and to have a tram system fit into the fabric of the city transport system. The Scottish Government was spending £500m on the ETP and this expenditure could not be compromised for the sake of a few bus routes and the effect that they might have on the profitability or value of Lothian Buses. To compromise the tram system in this way would have been a major misuse of the money dedicated to the project.

722. This led to immediate, major conflict between myself and Mr Renilson. That ceased when I was dismissed from TIE and I believe that may have been due to Neil Renilson, David Mackay and Willie Gallagher. I believe they were also keen to remove Michael Howell who only lasted for a short time after my departure in May 2006.

723. As I have discussed above (at paras 0 to 703), TEL was established in late 2005 to early 2006 and took on a role in the governance of the ETP. I have been asked whether the main part of TEL's role was to handle integration of buses and trams.

724. In most respects, the integration of the tram and bus had already been pre-planned by TIE consultants, subject to some local issues associated with individual routes and a public consultation process. The reorganisation of tram and bus routes is a very small percentage of the concerns involved in the delivery of a tram project and need not have been a big issue with the ETP.

725. I think the truth, in terms of the need for integration, was that Lothian Buses and its chief executive maintained a negative attitude to the trams and were determined to protect Lothian Buses best interests. I do not believe this is

properly the way things should have occurred with the ETP and it did not happen, for example, in London with the CTL project.

726. I have been asked if there were any other reasons for TEL's increasing role. TEL was obviously involved in the route planning, the stop locations, and consulted on the proximity of tram stops and bus stops, which is first principle of engineering to start off with.

727. The secondary issue, which required an integrated approach was ticketing in terms of the ticket products, where they would be sold, their validity over time and different modes of transport. This requires there to be some form of interaction and agreement for the benefit of the public and it should be done in a way which makes sense and is consistent with what else is going on in Edinburgh.

728. I knew this coming from my work in London with the CTL where the Oyster contactless card scheme had been introduced part way through the life of the project. We had re-engineer tram stops so as to fit the card readers, new bylaws or regulations for enforcement were required etc. This was a stressful exercise run on a large scale. As someone with experience in directing major transport projects, I was aware of this issue of integration throughout the project.

729. TIE was told that TEL would be sorting out the integrated ticketing requirements but by that point, much of the work had already been done by me within TIE. I had no difficulty with TEL taking it over. In my view, it should have been resolved relatively easily.

730. The integrated ticketing would, however, have consequences for more core aspects of the tram project. The SDS provider would need to know about design aspects of ticket machines or readers on trams or at stops. There was also an issue, in terms of contactless cards, of who would buy that system and incorporate it; whether it would be provided by TEL or whether it needed to be

provided as part of the delivery of the ETP and when it would be operational in relation to the ETP.

731. I have been referred to a note prepared for the TPB in November 2005 (**TIE00090573**) which describes the relationship between the various bodies and described the TEL Board as the forum for debate and resolution of integration issues, and the TPB the forum for resolution of project matters (at pg 3). I have been asked how this worked in practice. In short, it did not, there were difficulties in separating the decision-making out in this way.

732. I have been referred to minutes of the meeting of the TPB on 22 November 2005 (**TRS00002067**) where I noted that a two company governance structure (ie TIE and TEL) was not included in the tram budget (at item 3.1, pg 2). This is a reference to the fact that the tram project did not include any budgeting for the running of a second company (TEL) as part of the project.

733. I have been asked what other concerns I had about the proposed governance structure. I had a very large range of concerns which included:

733.1 Decision-making about the length of trams that would be purchased;

733.2 A lack of prioritisation of tram traffic;

733.3 Misplacement of tram stops;

733.4 A lack of integration with the airport particularly given the airport bus (which I have recently experienced in my travel to Edinburgh);

733.5 Signalling and segregation for the tram system being neglected;

733.6 Slow running of the tram;

733.7 An excess of buses running on Princes St rather than finding alternatives for them; and

733.8 The failure to optimise the way in which the £500m the project was receiving would be spent (and that is not counting the overrun in outturn on the project as delivered).

734. All of this seems to be designed to protect the position of buses, and the value of Lothian Buses, and represents a waste of the money spent as well as a rejection of sensible engineering and transport policy practice.

735. I have been referred to a paper I prepared for a meeting of the TPB on 19 December 2005 (**TRS00002065**). In that paper, I invited views on project governance (at pg 1). An attached paper proposed TEL take a more significant role in the governance of the project, either taking on overall responsibility for the project or overseeing TIE (at pg 5 onwards). I have been asked what my views were.

736. My view had not changed, I was largely trying to continue to work to deliver something I was sincerely invested in and to deliver the best that could be done for Edinburgh. Yet, I was running into all of these governance problems but I tried to play it calm for as long as I possibly could and be constructive.

737. I have been referred to the minutes of that meeting of the TPB on 19 December 2005 (**TRS00002102**) at which the governance paper (referred to in para 735 above) was presented. It has been suggested that the minutes for that meeting and the response to governance is opaque. I would agree that was the case. The opacity disguises the fact that there were two factions in disagreement and that disagreement was not yet resolved. Everyone wished to appear professional and there would also have been an awareness that these minutes could be obtained under the Freedom of Information Act.

738. I have been referred to the minutes for the TPB meeting on 23 January 2006 (**TIE00090588**) which record that the TPB and TEL Boards had been merged, and that you would be working with Graeme Bissett and David Mackay to establish clear governance for the ETP (at pg 1 to 2). My executive summary

for the meeting (**TRS00002103**) noted that resolution of governance issues required resolution in the short term for clarity on critical decision-making (at pg 1).

739. I have been asked why the Boards (Tram Project Board and TEL Board) had been merged. This was because it was becoming clear, at this point in January 2006, that TEL was going to overtake or have an overarching role in terms of the delivery of the ETP. As such, it was not going to be helpful to have two or even three boards running the project, we needed to know where we were headed.

740. However, the critical point that I have raised there is that the actual resolution and definition of the governance issues ie how does it work? This would be defining the delegated authorities, the responsibilities for decision-making, what tasks or decisions can be delegated and which cannot, how would that happen, could the Tram Project Director vary the contract on a normal day-to-day basis can I get an extra stop design, those types of things etc.

741. Those things were not defined in the governance structure which put me, or anybody in the Tram Project Director position on the line. At this stage, the ETP had £40m of contracts in place and things were happening on a daily basis. Meetings were being held on a daily, weekly or monthly basis with people who needed to be given instructions to advance the project. If I told them to do something, and if I then changed my position the following month, I needed to be sure I could make that variation and document it.

742. There needed to be an ability to handle things at the speed, and at the volume, that was involved in the SDS so as to have the Infracore and MUDFA tenderers in place. We need to either have delegated authority to do that or to have pre-determined exactly how we would do everything that was going to be likely to cause this type of problem.

743. For example, if TIE was going to put in a tram stop, we needed to know or to be able to decide whether it was going to be in the location on the Parliamentary plan or is was going to be in another place determined by TEL for some other reason. SDS wants to go away and get planning permission for the stop and SDS wants to design the utility diversion for the track in that location and it cannot do this without a clear decision. The question was who would decide and whether they could do that in time. Those are the types of things that cause paralysis.

744. It was not just that we could not practically make the decision because, of course, we could have easily sat down with some plans and made the change. The question was more about what the decision was and, second, on what it should be made. If changes were made in an uncontrolled fashion that becomes an absolute nightmare. Instead of being able to focus on the details of the project at this time, Graeme Bissett (of TIE) and I were trying to manage the uncertainty of the governance and decision-making process.

745. I have been referred to a further paper on governance that was produced at around this time (February 2006)(**TRS00002175**) and circulated to the relevant parties in an email from Graeme Bissett (of TIE)(**TRS00002174**). I, along with Graeme Bissett, had input into this paper.

746. I was effectively saying to the (TEL) Board that the governance needed to be agreed so that, as Tram Project Director, I knew where I stood on decision-making so that I did not end up (in good faith) overstepping my mark and getting fired. An example of this can be found in the

747. The outcome of the governance work was that it was a work in progress that continued up to the day of my departure from the project. It was not complete and that is documented.

748. However, at this point in January 2005, the broad thrust was that TEL would take over TIE and the decisions from then on would be taken by the

directors of TEL. While the paper mentioned above (at para 745) suggested integration of the different boards, it was more of a takeover or ceding of control by TIE. That paper also noted (at pg 4) that responsibility for various issues, such as the interchange design at Haymarket, remained unclear. I have been asked to what extent there were difficulties in allocating responsibility for decision-making as a consequence of the governance arrangements. I found this to be a major challenge.

749. I have been referred Graeme Bissett's email of 16 February 2006 (referred to above at para 745) which notes that there was disagreement and I have been asked about those areas of disagreement.

750. This email was sent to a wide cast of those involved in the governance discussions and I believe that Graeme Bissett would have had informal discussions with some, perhaps not all, of the relevant people. Although the overall direction has consensus, there were key areas where people's views differed. Those included aspects of the decision-making on key areas, for example, ticketing, tram priority (over buses in Princes St and other areas) and potentially on tram stop locations (including any relocation of bus stops).

751. I have been referred to further documents from early 2006 documenting the governance structure:

751.1 A summary of governance issues prepared by Graeme Bissett on 12 March 2006 for the TEL Board (**TRS00000329**) records a number of outstanding challenges remaining (at pg 1 – 2).

751.2 A paper prepared for the TEL Board meeting on 15 May 2006 records the changes to the governance structure having been approved by both the TIE and TEL Boards in March 2006 (**CEC01685419**, at pg 1).

752. I have been asked what my views were at this time about the governance structure at this time (March to May 2006). At this point, I was simply trying to

make things work so long as it resulted in someone being able to quickly give me, as Tram Project Director, and my team clarity about how we would be making decisions in the context of this large project.

753. I have been asked if I had any concerns about the structure, and those involved with it, at this stage. I have already discussed my overall concerns about governance at length above (see at paras 689 onwards). I had concerns about the motivations of people involved and I had concerns about the skillsets of those involved. I had concerns that there impacts resulting from decisions being made by unskilled personnel in senior positions. This was a more than £500m tram project, to be making those decisions at this stage would have the consequential impacts on the ETP. In other words decisions were coming late, randomly, and without notice to tram project staff.

754. I have been asked whether my concerns were understood by others within the ETP. I believe I made my concerns clear to all who would listen to them.

755. I have been asked whether, in hindsight, I have any concerns about the governance structure. I firmly believe it was one of the causes of the disastrous performance of the ETP and I am glad to have the opportunity to clarify that after all this time. I do not believe that the governance and management structure that was in place at this stage was capable of delivering the procurement strategy or delivery strategy for the project.

756. In terms of the skills or motivations of particular persons involved in the governance structure, I know that both myself and Andrew Wood (of Transdev, the intended tram operator) found Lothian Buses, Neil Renilson (its CEO) and his motivations extremely difficult to deal with. While this might have been understandable from someone who had initial objections to the idea of trams in Edinburgh, once both the Scottish Parliament and CEC had approved that project, Neil Renilson (as director of a CEC owned company) should have set

aside his personal feelings. He had had a chance to object to this project at the Parliamentary stage.

757. I have been referred to the draft OBC (Outline Business Case) prepared in March 2006 (**CEC01856896**) which notes (at pg 11) that: *“The overall project governance structure has been revised in recent months to reflect the pivotal role of TEL and to streamline reporting lines.”* I have been asked to what extent I agree or disagree with that statement. I believe this sentence would have been written by Graeme Bissett and it would have been written by TIE, in this way, because we were effectively working to instruction (ie being asked to toe the party line on the effectiveness of TEL’s governance).

Discussions of governance structures from 2005 onwards

758. During the period from mid-2005 until I left TIE (and indeed beyond that from what I understand), establishing a governance structure for the project occupied a lot of time. I have discussed above why I believe that was. I have been asked whether there was disagreement or difficulty in establishing the governance structure.

759. I have discussed above (at paras 0 to 722) the negative effects that I believe this had on the development of the project including the destabilising effect on my team at TIE and my dismissal from the project.

TIE – CEC relationship

760. I have been referred to a note sent by Barry Cross (of TIE) to Michael Howell (CEO of TIE) by email on 4 December 2005 (the email is **TIE00707565**, the note is **TIE00707566**) regarding TIE’s relationship with CEC and difficulties in that. I have been asked why this note was prepared.

761. This was prepared because there were difficulties in CEC understanding what TIE needed to do to be able to affect the delivery of the tram project. Barry

Cross was in charge of this interface (ie managing this relationship), which related to the terms and the approval of the design manual and the approval of the Design Working Party (and its processes)(see further above at paras 556 to 562) . This was interacting with Keith Rimmer (CEC Head of Transport). It was intended to foster an understanding of the tsunami that was about to hit the Council in terms of approvals processes and information flow for planning permissions etc from the SDS provider. The CEC was not prepared and did not recognise the volume of work that was coming. Barry Cross was, properly, trying to address that.

762. I have been asked if these issues were addressed . I would say that they were partially addressed and that this was an area of work in progress. The CEC planning department were probably getting close enough to readiness for the incoming work but there was not a genuine understanding of precisely how big this process would be. To be honest, I suspect that there was not a complete understanding of the scale of the problem even in TIE. However, we certainly knew to be more worried and prepared than CEC were at this time.

Departure from TIE

763. I left TIE in May 2006 and I have been asked why that occurred. I was asked to leave by Michael Howell, the CEO of TIE. At the time I was holding a meeting of the Readiness Committee in TIE's offices at Verity House. Michael Howell called me on my mobile phone and asked me to come to his office (in TIE's other office building).

764. As I arrived at his office, I noticed David Mackay and Willie Gallagher who I believe had just left a meeting in Michael Howell's office. When I met with Michael Howell, I was told that the decision had been made to terminate my contract with immediate effect and that I was not to return to my office or to talk to my staff.

765. I did not go back to my office but I did have a couple of further meetings with Michael Howell in the office of Andrew Fitchie (TIE's head legal advisor from DLA Piper). At those meetings, I pointed out that my summary dismissal was a problem, my belief that I had been treated very poorly and my belief that the tram project was a disaster. I made it clear that I would not be afraid to share these views. This was, however, before I calmed down, I do not believe I would ever have done this as it was not my style.

766. There was an 'outbreak of common sense' and I offered, as a compromise, to continue to help with the ETP after my departure. Even from outside the ETP, I still had more knowledge of the field and intimate knowledge of the ETP than any single person involved. As an advisor, I was still in the top five people in the whole of the UK to assist whoever came in to take over, not only in the immediate short-term, but also in terms of the specific structuring of the contracts, the development and completion of the MUDFA contract and its award, and finally the completion of the Infracore stage of the project.

767. I had done these types of projects before and I had also worked in a construction company and I doubt anyone else on the field had anything like my experience. That included my successor as the (interim) Project Director, Andie Harper, as he had never done a tram project before he became involved in Edinburgh and did not know what that involved.

768. Andie Harper had his previous experience, and was being told various things about the ETP but this did not give him the basis he would have needed to prioritise the project (such as seeking prioritisation of the trams in the city centre) given the other interests represented in the governance structure. This meant that the £500m was not being optimised for the benefit of the tram system and the whole of Scotland. It made sense for us to maintain a relationship and to establish a consulting agreement so that I could be consulted or I could actually still maintain and play an active role. I would still be materially able to streamline and improve the contractual documentation and flow of the programme, that is

the role we talked about and is reflected in the consultancy agreement. I still felt that, even in this situation where I had been very poorly dealt with, wedded to this project and I still felt I could contribute value to it. Especially when you could not have found anybody else like me who was going to be prepared to come and work with this project.

769. I have been asked whether I was asked to assist with the project in the 12 months that followed my departure. Michael Howell did not contact me and there were only limited contacts from others. Mike Heath, who was a consultant and part of the Readiness Review team I had assembled (above at para 448 to 456), told me the outcome of that process. Over a short period, about ten days, he also passed some questions and messages back and forth between myself and Andie Harper (the then Interim Tram Project Director) but there was no communication with Andie Harper after this.

770. I have been asked what steps were taken to handover to Andie Harper who ultimately succeeded me at Tram Project Director on an interim basis. More could have been made of the compromise we had reached for the consulting agreement but there appears to have been an attitude within TIE, as shown in emails from Willie Gallagher (**CEC01710681** - which I have seen as part of preparing for this statement), that they would not use that.

771. Some months later I was told that a guy called Andrew Cross, who claimed to have experience on the CTL, had been appointed by TIE to be Tram Project Director. I did not know who Andrew Cross was and had no recollection of him working on the CTL. I told this to Graeme Bissett but was told that it was no longer my concern.

772. In general, I think I had a lot to offer the project still but I was not asked to do anything to assist it.

773. I have been referred to a set of emails, sent in May 2006, in which I discussed my retainer agreement. In one of those emails, sent 9 May 2006, I

noted that I was forgoing a potential 'win bonus' of in excess of £500,000 from an Infraco contractor.

774. This came out of an earlier discussion that Michael Howell and I had had. If I was released by TIE then I was potentially able to go and find employment with one of the Infraco bidders helping them to prepare their bid for the ETP. If that Infraco bidder were to win the Infraco contract then there could be a bonus. This was not a case of TIE paying me that kind of money, it was a kind of marketing speak from my side to get a reasonable proposal on the terms of the retainer because I was potentially forgoing other opportunities. It was really nothing more than that.

Post-departure

775. Michael Howell, TIE's CEO, stood in as Tram Project Director temporarily after my departure. I was aware that he left in June 2006, six weeks after me, and I believe that he was largely pushed out of TIE as David Mackay (who at that time was at TEL) indicated to me in January 2006 that he wanted to get rid of him (see above at para 714)

776. I have been referred to Michael Howell's report to the TIE Board meeting of 26 June 2006 (**CEC01827975**) which noted that:

776.1 *"The Readiness Review confirmed that the full implications of the procurement approach, especially novation of tram supply and system design, had not been thought through", and accordingly a procurement sub group had been set up.*

776.2 Andie Harper had been appointed (as interim Tram Project Director) on an interim basis and had *"brought a welcome inclusive style to the job"*

I have been asked for any comments on these points.

777. I would repeat that there were certain aspects of the governance structure of the project which caused divisions even within my own tram team at TIE. One of those reporting to me, I believe, even appeared to know that I was going to be removed.

778. In terms of Michael Howell's statement about Andie Harper, I think this is simply a case of him trying to be positive and hoping it was true. I believe that Andie Harper did not have the knowledge at this stage to understand the project and had yet to make any hard decisions.

779. I have been referred to the same report where Michael Howell notes (at pg 2) his view that that if at all possible, the timetable should be adhered to "*even if the level of cost certainty is less than originally hoped for*".

780. This is consistent with the view at that time (June 2006) that it was better to have the project out on the market, to encourage approval of the funding and to move the project forward despite the quality of the design coming out of the SDS provider at this point.

Staffing at TIE generally

781. In light of my removal, I have been asked to comment on staffing at TIE more generally during my time there.

782. During my time at TIE, staff retention was good and I do not believe we lost anyone. In terms of later staff retention, I know that within 6 months of my departure, there were a number of people who left:

782.1 Michael Howell, Chief Executive;

782.2 Willie Fraser, Director of Change Controls;

782.3 David Ramsay, Head of Design and Construction; and

782.4 Barry Cross, Head of External Relations (though this may have been later).

783. These were key losses in terms of construction and design management. Both Willie Fraser and David Ramsay have gone on to have successful careers: David Ramsay as Project Director in Rail for Carillion; and Willie Fraser as a director in a major consulting engineering firm. I do not know what made them leave and if there was a churn in personnel, it happened after me.

784. I have been asked to what extent TIE was set up and resourced sufficiently to perform its role in the tram project in relation to its staffing, internal procedures and internal management. In terms of staffing, it was set up with sufficient resources given the capability to augment the resource through the TSS.

785. It has been noted that TIE staff were often engaged as contractors (as you were) rather than employees and I have been asked whether this was a successful model. I think it very much depended on who the person was.

Conclusions

786. I have been asked for my views on why the project was delayed, delivered reduced scope and ran over budget.

787. The Scottish political environment was one factor. Clearly there was a delay caused by a Parliamentary review, as to whether the tram project would go ahead, after the Scottish Nationalists gained power in 2007. That should not, however, have impacted on anything that was to be done in 2006. However, in the lead up to those elections, the political climate could have been used as a reason (though at that time the SNP's election was not expected) to slow the ETP down until such time as things were clear. There might have been some people who believed that a review process, following the 2007 election, would stop the project completely.

788. I am just raising this as a possibility. I do not even know whether the SDS was continuing to operate and to prosecute its design process, and whether the utilities diversion process proceeded at full speed from the point at which I left, or whether those aspects of the programme were slowed down. However, if they were slowed down to any extent, then that meant a propensity for work not to be completed by the time MUDFA got on board and Infraco got on board. That was going to increase the risks of the project.

789. If, however, we presume that the SDS work continued properly, then what is likely to have happened is that the MUDFA process and the identification of utilities diversions generally, was incomplete. There would have been a failing to in not finding things under the track or only finding things at such time as people hit the streets to do work. That would have a knock-on effect. These new discoveries would have caused the access dates, being the commitments in the Infraco as to site access times, to be breached on multiple occasions because the utilities diversions would not have been completed.

790. If you had the ability, in the governance structure, to negotiate a change during the Infraco works with the contractor so that they assumed the risk and did some of the remedial works associated with the utilities diversions then that might slow the Infraco contractor down less. That would be the one way of remedying the delay. That would depend, however, on whether the governance structure and the decision-making capability of those people who were in command was adequate to the task of this particular project. I would say that the Tram Project Directors who followed me, and the personnel (at TIE or at TEL) who exercised oversight over them, were incompetent to run the tram project because they had no experience and they were not qualified to be there.

791. An issue which I also believe needs to be addressed is the question of why the operations contract with Transdev was terminated. This resulted in a tram scheme that is not working as well as it should be and a tram scheme which, therefore, cannot therefore afford to be augmented as well as it should be.

There was a wholesale cessation of the whole of the Leith Walk leg of the scheme when the tram should have gone down to Leith. That is what we set out to achieve and should have expected to be the outcome.

792. The project was delayed and the scope was reduced because instead of the project running efficiently, the delays which occurred through the utility diversion process, and which were probably magnified by the traffic management and approvals process (of TROs and TTROs) and then had an effect on the construction. The process of traffic management appears to have run completely out of control from what I understand from conversations with AECOM (TIE's consultant for traffic regulations in 2009). I asked them how much time and effort was put into it and they confirmed that a huge team was used, that the whole traffic management process took until part way through construction and that it was a mess.

Final thoughts

793. At one level I think I have quite a lot, and perhaps said rather too much on certain points, and I have tried to keep it as calm as I can be. The Inquiry will be to speak to the people I have mentioned, and to my team in particular, who will be able to confirm where I was coming from in respect of my approach to the ETP. This was my best efforts and independent of any of my own personality. At the end of the day, my personal reputation and preferences did not matter, what mattered was the project. The ETP had to be, firstly, value for money and, secondly, delivered as best it could possibly be. That was the task. The problem is that I do not honestly think the system as it is now is an acceptable system.

794. I confirm that the facts to which I attest in this witness statement, consisting of this and the preceding 185 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.....

Date of signing.....