

Edinburgh Tram Inquiry Office Use Only

Witness Name: *Trudi Craggs*

Dated: 16/17

THE EDINBURGH TRAM INQUIRY
Witness Statement of Trudi Craggs

Statement taken by Debbie Maloney on 15 and 17 February, 7 March and 21 April 2016.

My full name is Trudi Craggs. My contact details are known to the Inquiry. I started advising tie and the Council on the tram project in about the middle of 2004. At that time I was an associate solicitor with Dundas & Wilson CS LLP, a firm of solicitors (D & W). My initial role in the project was to manage the parliamentary process with support from Bircham Dyson Bell, Parliamentary Agents and Solicitors, based in London. I did that for two years until both bills got Royal Assent. I was seconded to Transport Initiatives Edinburgh Ltd (tie) on a full time basis from March 2006 until about March/April/ 2007, when I think I stopped working in the tie office on a daily basis. I did, however, continue to have considerable involvement in the project until around March 2008 although after that my involvement became more ad hoc. My job title on secondment was Director of Design, Consents and Approvals.

Statement:

Introduction

1. I will provide a full CV. In summary, I qualified as a lawyer in 1998 having completed my legal traineeship and thereafter worked as a newly qualified lawyer for one year with a general commercial law firm in Aberdeen. I joined D & W as a property lawyer in 2000. At the start of 2003, I moved across to the Projects Department and worked on PFI projects. I then moved into doing more planning and transport work when I became involved in and was part of the team advising

The City of Edinburgh Council (CEC) on the Edinburgh Congestion Charging Scheme. Following that, at the request of CEC. I took on the project management of the parliamentary process for both private bills required for the construction and operation of the tram. I had never done a tram project before but I brought to it my project management skills, inquiry/examination experience and a good general legal understanding of many areas of law which were material to the scheme (e.g. property, planning, traffic, transport, public law and contract drafting and negotiation). A separate legal firm, DLA Piper, had been appointed to advise on procurement and I liaised with them during the parliamentary process as required.

2. My key role on secondment at tie was to make sure that the commitments and undertakings that came out of parliamentary process were properly captured and fed into the procurement process. That morphed, when Andie Harper came in as Project Director, in to the role of Director of Design, Consents and Approvals. Essentially I was focusing on trying to ensure that: the design captured all of the amendments, commitments and undertakings made as part of the parliamentary process; any contractual commitments given to third parties as part of the parliamentary process were properly understood and incorporated as necessary in the procurement process; the designers understood the powers conferred on CEC under the Act particularly to understand what further consents would be required; the land acquisition and the compulsory purchase process and obtaining any other necessary land rights and licences was done on time
3. Through my actings, I took on the role of liaison between the System Designs Service contractor (SDS), tie and CEC. CEC knew me well from work I had done for them on the congestion charging scheme and during the parliamentary process so I felt, and I think they felt, that I was well placed to take on the role of interface between the three parties.
4. My role did not involve actually managing SDS; that was for SDS to do. Nor did I manage the SDS contract. I helped SDS liaise with others and to manage their relationship with tie and CEC. I think that they felt I was more objective as I was neither an employee of CEC nor tie. I also had the most knowledge of what

had come out of parliamentary process so I was trying to support the design process in order to try to progress it, as opposed to managing the designers. I liaised with Alan Dolan and Steve Reynolds after him. Generally, the designers would come to me if they had concerns or issues and I would try to sort them out by liaising with people in tie and CEC. It was not my role to give the design team direction as I was not authorised to do that, but I gave them background knowledge and advice/suggestions on matters such as how they could do things to get a better result or buy in from stakeholders and third parties and get the right inputs from stakeholders.

5. I also chaired the Tram Design Working Group (TDWG) (a role which Barry Cross originally undertook), which was a forum that was set up to address Historic Scotland's objections to the bills. They objected to both bills because, first, the bills sought to override the listed building approval process and the scheduled monument consent process in respect of specific buildings and structures, and secondly, they felt that the design was not sufficient at that stage for them to be comfortable with the impact the project might have on various buildings, including Edinburgh Castle. To address their concerns, a protocol was agreed with them entered into and the TDWG was set up. The attendees were tie, SDS, and CEC (planning and transport), the Edinburgh World Heritage Trust and Transdev. It usually met fortnightly but latterly became more sporadic. The first meeting was in January 2006 and the last was in May 2009.

6. I chaired the TDWG as again I was trying to broker compromises between the parties. There are a lot of competing interests when trying to build something 'on-street' in a historic context. I think I was given the role because I was impartial; it did not matter to me what the design was and so I was always objective, gave all participants an opportunity to share their views and concerns and tried to mediate so that a compromise could be reached which was satisfactory to all parties. The TDWG looked at the aesthetics of the design against the historical setting and the importance of that setting to Edinburgh. The designers for specific elements (such as poles, shelters and building fixings) attended and presented these for consideration and discussion by all parties. The group did not formally report to anyone. The decisions and actions were recorded

and circulated to all participants and formed part of the input into the design that SDS had to take on board.

7. I always worked closely with the project directors in tie. Ian Kendall was the Project Director when I started on secondment. Andie Harper took over from Ian on the day of the Tramco Review, and Matthew Crosse came in after him. I had interaction with Willie Gallagher at times, but not daily. I liaised with him more when he chaired the Design, Procurement and Delivery (DPD) sub-committee meetings. I also worked with many others including Willie Fraser, Geoff Duke, Susan Clark, Geoff Gilbert, David Powell, Stewart McGarrity, Ailsa McGregor and Gavin Murray. I would say that I had some interaction with most people working on the project at tie including SDS and Transdev as my role was quite wide-reaching.
8. I reported to whoever was the Project Director. Geoff Duke, Ailsa McGregor and Gavin Murray reported to me. Gavin was an engineer by trade. He came from Faber Maunsell having been part of the technical team for the line 2 bill. He imported knowledge into the SDS team for the design to evolve and I think he was responsible for reviewing and signing off elements of the design. Geoff Duke was the Land Acquisitions Manager. Ailsa McGregor came in as the SDS Project Manager in about the Summer of 2006. No one had done that role prior to her arrival. It was not anticipated that SDS would require to be managed in the way that it eventually was. I think it was anticipated that SDS contract management would be minimal.
9. Scott Wilson Railways in partnership with Turner and Townsend were the Technical Support Services (TSS) team. They had expertise in trams and were used as a "body shop" – i.e. they put people into roles in tie where there were gaps, for example in relation to project controls/change control, planning/programming and engineering. That avoided the need to go through lengthy recruitment processes. They also did a lot of the design checking on the very technical aspects as tie did not have the expertise to do it all. I am aware that it says in a note of the tie/tss monthly meeting on 14 September 2006 (CEC01793652) that I was to be the project manager of the TSS provision. That

role involved managing the contract as opposed to managing the outputs as I could not have commented on whether the design was right. I knew who was in and what they were doing and I spoke to Douglas Leeming if gaps needed filled. I also signed off timesheets, but did not authorise payment of invoices.

10. I did not attend the Tram Project Board (TPB). I was not a board-level director despite my title. Andie Harper was on the TPB. There were three of us in the tier below him. Willie Fraser was responsible for change control, but I cannot remember what the third element was; it may have been procurement which was headed up by Geoff Gilbert. The three of us made day to day decisions on the project, but the ultimate decisions and project direction came from the Project Director down to us.
11. The role of Director of Design, Consents and Approval did not exist before I joined it. Andie Harper created the structure. As far as I was aware, there hadn't been a similar structure before Andie as, as the parliamentary process can to its conclusion, all of the focus was on procurement and everyone reported to Ian Kendall who I think had been Director of Procurement before becoming the Project Director. As far as I know my particular role ceased to exist after I left.
12. The DPD sub-committee was a reporting committee at an intermediary level. It was a project status reporting forum. Willie Gallagher chaired it and the Project Director attended. CEC, Transport Scotland and Lothian Buses also attended. I think it alerted parties to issues before they got to the TPB. Reports were prepared for discussion at the meetings and actions came out from it. It was a forum which gave the promoters and funders an opportunity to ask questions. It met once a month/every four week period. I helped prepare papers for the meeting on whatever points the Project Director wanted to go to the sub-committee. I was on the circulation list for the meeting on 10 May 2007 but did not attend; my apologies are recorded in the minutes of that meeting. I was not on the circulation list for the meeting on 7 June 2007. By that point, I was no longer really on secondment and I was doing a lot less on the project. Also, I had chosen not to attend many of these meetings because I did not feel that we were

reporting accurately (I have provided more information on this in the section under the heading "Management").

13. I worked in the tie office every day at the start of my secondment but I spent less time there from about March/April 2007 when I think I stopped working in the tie office on a daily basis. It coincided with my being made a partner at D & W from 1 May 2007, but I was also doing less for tie because the relationship was getting uncomfortable. I was uncomfortable with the way things were going and I had made my views known. I think there was a feeling that I was not helping the project. I was not being invited to meetings or included in matters as much and I became more reluctant to be involved. Also, the team in tie changed when the Edinburgh Airport Railway Link (EARL) was disbanded and that team got subsumed into the tram project. Susan Clark came in at that point to manage the programme. I do not think that she liked my involvement as she was very programme driven and perhaps I was not helping that by appearing to be raising issues which were likely to impact on the programme. Also to be fair, I think my involvement also became less necessary as tie had taken on in house legal resource. I started to be used more in a way where I could work best with CEC on, for example, consents and approvals. I do not remember there being a precise end date to my secondment. It just drifted. I continued to have a tie email address and attended some meetings. Having looked at my D & W timesheets, I would say my involvement as a secondee came to an end in about March 2008.

Procurement

14. DLA advised tie and the Council on the procurement aspects of the tram project; the appointment of legal advisers had been split into 3 lots to cover: first, the parliamentary process; secondly, procurement; and thirdly, property and Scots law aspects. I was not involved in the development and formulation of the procurement strategy. I was not involved in drafting and negotiating the suite of contracts. I provided input to discrete clauses or schedules, for example in relation to the pass down of the parliamentary commitments and the terms of the building fixing agreement, and provided tie and DLA with my views on specific issues as requested. I did however flag any issues or concerns I had, for

example in relation to the risk allocation, as I felt that I had a duty to my client to do that.

15. I refer to an email dated 12 December 2005 (**TIE00090670**) from Stewart McGarrity which provided me with a proposed response to the line 1 committee of the Scottish Parliament in response to a question they had asked about the Leeds Supertram. The proposed answer sets out features of tie's procurement strategy, which included: the early involvement of the designer; utilities undertaken as advanced works; and a rigorous regime of cost control to monitor the quality and cost effectiveness of solutions proposed by the design contractor. This email looked familiar when I read it in preparation for providing my evidence to the Inquiry. I confirm that a response in these terms would have gone to the committee. I might have tweaked some words, for example to use terms which the committee were familiar with, and put it into the standard response format that I used for all written responses to the parliamentary committee before sending it to the clerk for the line 1 committee. I think all of the evidence provided is still available to view on the Scottish Parliament website.
16. The email sets out what I understood tie's procurement strategy to be at that point in time. I think that the strategy also included the early appointment of an operator (Transdev) but that is not mentioned in the email.
17. There were factors of the procurement strategy that were good in principle: the early involvement of an operator; the early involvement of the designer; and the utilities being done as advanced works to de-risk it. I think also that it was sensible to not pass on the fare box and operating cost risks to the private sector because that might have been quite highly priced by a tenderer given there was uncertainty as to what the patronage and fare box revenue would be albeit it has been modelled.
18. My understanding was that both the design work, including obtaining consents and approvals required in addition to the Acts, and the utility diversions would be completed before the Infraco contract was awarded. I do not think that I have considered whether that meant that both elements had to have been completed

before the Infraco contract was tendered. I was not close enough to the procurement strategy and process to have thought about this.

19. I think in principle at that point in time (December 2005) the procurement strategy was quite sound. The difficulty arose in implementing it once we started hitting delays. In my view, there was not enough thought put into evolving the strategy or re-programming to take account of the delays which undermined the strategy. Consequently in my view, it was not executed as effectively as it could have been or was intended to be.
20. Had there been someone brave enough to delay the procurement to allow design to catch up, the strategy probably could have been kept whole and been executed more effectively. I think a Project Director could have done that. I think that they would had to have gone to CEC and Transport Scotland to explain to them why a delay was necessary and what that meant to the key milestone dates, to any funding timescales/conditions, particularly the operation date. However, part of the problem with that is, if progress is not being reported accurately in the first place, then it becomes harder and harder to make that call.
21. I have no recollection of the "Blue Skies Challenge Day" referred to in **CEC01708086**. I am not sure that I attended it. I looked through the slides and none of it looked familiar.
22. I refer to a letter dated 22 June 2006 (**CEC01778078**) from Scott Wilson Railways (TSS) to Andie Harper which set out some criticism of the project. I think that TSS focused on SDS in their letter because they were probably becoming more aware at that point in time of how design was progressing.
23. The first bullet point in the letter is about risk allocation. I think, in principle, novating Tramco and SDS to an Infraco could have worked. I do not know how tested that was in the market prior to stating the procurement process, but it was not necessarily wrong. However part of the problem with that (as is stated in the letter) was that the whole design would effectively become Infraco's liability and they would need to do a lot of due diligence around it to get comfortable with it. I

think that was a possible risk. If there had been enough time to do all the design and pass it to Infraco, there may have been no need to novate because tie would have had a direct relationship with SDS (and therefore remedy) in the event of Infraco having any problems. Arguably that could have helped de-risk the project from a cost perspective. In my opinion, the novation of the tram was not as big an issue as design and it may have helped to pass on the risk associated with wheel/rail interface so that it was managed by Infraco.

24. I agree with TSS that some of the risks were not correctly allocated. I think there were risks passed to SDS that they could not manage. For example, Traffic Regulation Orders (TROs) and the Temporary Traffic Regulation Orders (TTROs) are in the gift of the Council. You cannot ask a third party to get them or to take on that risk. I think in some cases SDS needed to obtain access rights in order to carry out surveys and these in reality required to be obtained by tie on behalf of the Council. I think perhaps there was a lack of understanding of those involved in negotiating the SDS contract of the design and consenting processes in practice.

25. The SDS contract was signed by the time I had any knowledge of it. I remember Barry Cross was in the D & W office and told me in passing that they were about to sign the SDS contract. I was surprised because we were still going through the parliamentary process and there had been amendments to the route which would not have been factored in to the SDS contract. Barry also mentioned the TTRO risk in the contract and I had a look at it and said to him that I did not think that the risk allocation was correct. He agreed with me. So, by the time I was even aware there may be issues with the risk allocation, it was too late. When I joined tie on secondment, the contract was in place and I had to just work with it.

26. I agree with TSS that the procurement strategy (in principle) was trying to de-risk the project.

27. TSS also said that the prospect of novation of the SDS contract to Infraco had led SDS to take a strictly contractual approach to design, rather than acting in the

project's best interests. I agree that SDS were becoming more contractual around that time in that they were making sure all requests for information were recorded in writing rather than trying to take a more collaborative approach as they appeared to have done at the outset and around the time when I did the "brain-dump". I do not know if it was because of the prospect of novation or because they thought they were starting to get the blame for delay and poor outputs. I think that they were trying to do their best for the project, but they were putting more things in writing and requesting written responses. Ian Kendall had been very contractual and the Project Director for tie has just changed and so I think those may also have been factors.

28. In paragraph six on the second page of the letter, TSS said that they were concerned that the design programme was "currently insufficient". I was not aware that SDS were appointed late so I cannot comment on how that factored into the programme. I do, however, agree that the programme SDS had at that point was insufficient in that it seemed to be difficult to track progress or delays from one month to the next as there did not appear to be a baseline to compare updated programmes against. From memory, the process for variations was also very convoluted and the timescales for parties responding to change requests lengthy and so that did not help either. A sense-check on the programme at that point would have helped to de-risk the project. The TSS people were more technical and they would have been liaising with the designers on technical matters around the time when the letter was written so possibly they had more awareness than some people in tie of the problems with the design. TSS were also involved in interrogating the programme. With hindsight, perhaps TSS could have spelt things out a bit clearer than they did in their letter. Although, I appreciate it would have been difficult to be more direct in highlighting issues given their role when they were trying to maintain a relationship with their client.

29. In relation to the point in the letter about the range of major interfaces, I think that the difficulties with that were underestimated by both tie and SDS. The tram was being delivered through a world heritage site with fixed infrastructure and there were so many competing interests and priorities – e.g. pedestrians, cars, cyclists, buses, preserving the historic environment – and stakeholders had

differing views on what the priorities should be. I think that no one understood how difficult it was going to be. It states in the letter (2nd page, paragraph 7):

“Defining what the successful scheme will look like for all major stakeholders is not apparent to all those working on the project. Setting and communicating these parameters will introduce a high-level order of priorities for the scheme to guide the team through difficult subjective judgements throughout the design and construction process.”

30. I think at that point SDS did not understand who their major stakeholders were and therefore did not consider matters such as what CEC as the roads and planning authorities thought the tram infrastructure should look like. It seemed that SDS were thinking only about what they wanted and were very focused on the engineering aspects of the project rather than the overall design of the project. They were focusing on how best to get the tram through the city centre but failing to have sufficient regard to the major stakeholders, which included all aspects of CEC in their different roles. The order of priorities was also not clear at that point. No one understood what took precedence; it was not clear whether it was, for example, preserving the world heritage site, allowing for cyclists, pedestrians or just getting the tram through as quickly as possible. A key example is Shandwick Place. SDS designed it by taking all the traffic off the road and putting the tram in. It went for approval to CEC and understandably they were not happy as they had to consider the wider traffic implications of doing that as well as the likely reaction of the general public to such a change. TSS's point in the letter was that a set of defined priorities was needed when there were all these competing interests. That had to come from CEC and was not clear at that point because there had not yet been sufficient engagement with them.

31. The letter also criticises the organisational structure (3rd page, 2nd paragraph). Some elements of that are fair. TSS would have seen the transition from the period before Ian Kendall, Ian Kendall's leadership and then Andie Harper. Andie had more of a fixed structure. Ian Kendall did not appear to have a reporting/management structure. Ian tried to do everything himself – everyone had to report to him and he made the decisions. Andie Harper took a more pragmatic approach. He trusted those who reported to him to make decisions and

to raise/escalate matters to him as appropriate. I think that Andie was already trying to address some of the criticisms made by TSS and the letter probably reinforced what he was doing. I am not sure, however, that it was maintained throughout the process. Andie left and Matthew Crosse came in and then it seemed to be very focused on the procurement and less so on other areas but that perhaps reflected the phase that the project was in.

32. TSS also said in their letter that they had expertise which could be of assistance to the overall project but it was not being tapped into enough. I think that is probably correct. I say that with hindsight. There was a feeling by some in tie that they could do it themselves and did not need these external inputs. I think that TSS's letter would not have been well received by some. As I have said previously, some may have thought that TSS were just a "body shop" rather than providing additional technical resource and expertise which tie did not have, to strengthen the tie team. I do not think Andie Harper would have had that view. Willie Gallagher did at times. Susan Clark and Steven Bell appeared to have the view that tie knew what it was doing and did not need any external expertise/skills. When I look back at it, arguably TSS could have offered more value had they been tapped in to in a better way. I think, however, that there is also an element of TSS trying to understandably sell their services.

33. In relation to steps taken to address the points made in the letter, as far as I was aware, there was no pause on the procurement; and no re-visiting/re-profiling of the programme. On design, there was a process introduced after the preliminary design was delivered which aimed to get agreement on priorities to allow a further iteration of the design which was called "preliminary design 2" (PD2). From memory, that was a different process to what was in the SDS contract – I do not think that the contract envisaged PD2; it simply envisage preliminary design followed by detailed design. This process in effect provided a forum for consultation and engagement with key stakeholders and gave SDS another chance to get the preliminary design approved and getting sign off to progress to detailed design I do not think, however, that this came about in direct response to TSS's letter.

34. I refer to an email thread in June 2006 (TIE00000036) in which I noted that CEC “*would welcome weekly sessions as the drafting progresses on the key documents/clauses in the contract*” and agreed with Andie Harper’s suggestion that tie needed “*to engage with the Council on a more robust basis going forward on procurement issues*”. This was in the context of getting CEC to sign-off on things. There was a tendency for tie to simply say to CEC here is the document, tell us you are happy with it and sign it. This meant that CEC did not have much insight into matters such as: how parties had got to where they were; what the key risks were and why and how these risks were allocated; what elements should be highlighted to the Councillors; and any hidden costs. Therefore, CEC were almost being put in a position where – to keep their own project on track – they had to sign things slightly blind. This was not going down well with CEC and the officers were feeling exposed. The MUDFA contract was given to CEC with no real prior engagement. The design is also a key example. Although it is not a procurement document, it illustrates the point. From memory at the end of June 2006 when SDS delivered the preliminary design to tie, CEC were only given a week to approve the preliminary design which comprised over three hundred drawings and associated documents without having had any meaningful input into the process prior to that. From memory, such a short timescale was required so that tie could comply with the sign off/no objection timescales in the contract.

35. At the time when I sent the email, there were so many tender documents to pull together for Tramco and Infracore and it seemed to me (having discussed it with Duncan Fraser) that having weekly meetings on key issues and risks would simplify the whole back-end process ie the process to obtain CEC’s approval of the contract terms and to enter in to the contract. To me it seemed like a ‘no-brainer’ as that way you would have had CEC’s buy-in as you were going through the drafting and negotiating process. Also, it would have allowed CEC to flag up things that they knew were going to be a problem or would not sit well with members. Keeping them at arm’s length and passing documents to them at the point of sign off was really not working well.

36. To put this in context, we at D & W had a duty of care to CEC when we were appointed to tie to do the work involved in the parliamentary process. When we

were working on agreements to remove objections, we would take instructions from tie and sometimes consult with CEC on some aspects. However, when we reached the point of agreement with third parties, we did reports to CEC setting out what the agreements did and what the key risks were. Whilst that was fine for short documents, I am not sure that CEC were always getting that from tie. Or, in some cases they were getting a 30-page summary of a 200-page document and they did not know where to start with it. The reason for that was that they were not properly part of the process. I also think there was a lack of understanding of tie's status. Tie was a wholly owned subsidiary of CEC and was wholly funded by CEC. In broad terms, it could only do what CEC allowed it to do. CEC was the promoter of the tram and in terms of the tram Acts, CEC was the authorised undertaker on which all the powers contained in the Acts were conferred. Tie was not a private sector, special purpose vehicle, independent from the Council. I think that this misunderstanding may also have driven the procurement strategy to a certain extent. I was actually surprised that it was tie that was entering into the contracts and not CEC as in my mind tie was simply an agent for CEC. I think that Ian Kendall did not understand the critical link with CEC and that it was CEC's project: the fact of the matter is that CEC had set up this stand-alone company (which was wholly owned by them) as the delivery entity, but in my mind it was still CEC for all intents and purposes.

37. I do not totally blame tie for CEC's lack of participation. I think that CEC corporately thought they had abdicated responsibility for the delivery of the project and tie, were not as engaged as they might have been and had not bought-in to the project, despite it being their project. There was also a lack of visibility from those at a director level within CEC during the parliamentary process. While the Director of City Development and the leader of the Council did give evidence on the two or three occasions required, there was no engagement at that level consistently through the parliamentary process. I insisted on meeting with the managers for lines 1 and 2 once a week to go through the key issues coming up and the key decisions we were making. In some cases the parliamentary project team had to make the decisions in order to comply with deadlines rather than CEC taking the lead and making the decisions.

38. The email was sent around the time when the preliminary design was delivered, which was when everyone realised the design process was so broken that something drastic was needed to fix it. That is when the design approval panel process came in to existence and that had total CEC/tie integration. I think there was also discussion around that point about CEC co-locating with tie. I am not sure about the procurement side, but from that point on there was definitely more engagement on design between tie and CEC, and SDS and CEC. I think weekly meetings did happen but after CEC co-located there was no need for such a formal process because they were in the same building and were part of the team. From memory the CEC employees who co-located were Duncan Fraser, Andy Conway, Keith Rimmer (who was employed by tie) and Francis Newton. Francis was not actually co-located in tie as he represented the planning authority and had to maintain his independence, but he led the prior approvals process. Duncan Fraser managed CEC resources both at CEC and within the tie building. Andy Conway was also very good at bridging the gap between parties. He liaised very well with SDS. On the procurement side, I am aware that weekly meetings between tie and CEC legal took place around the middle/end period of the Infraco procurement, but I am not sure when that started or what other liaison there was.

39. I refer to the tie Monthly Progress Report to Transport Scotland for August 2006 (**CEC01792379**) which states at page 1:

“Delay in completing detailed design. The original procurement strategy expected completion of the detailed design with design proven to meet Tram system performance requirements by modelling before tender of Infraco. This would avoid Infraco tenderers needing to price for these and effect risk transfer to the Infraco. An updated procurement strategy is being developed to address this risk, and, as far is practicable, maintain the principles of the original strategy.”

and, at page 2:

“Project Risks

- *Procurement strategy compromised by delays in detailed design. This could lead to a delay to Infraco contract award and whole project process and an increased in out-turn cost as a result of inflation and delay. A potential showstopper due to cost and loss of political will. A risk workshop is being undertaken to set the detailed design and consent priorities to minimise the tenderers risk pricing.”*

and, at page 3:

- *“Procurement strategy has too high a level of risk transfer to contractors resulting in a failure to sustain suitable interest. This could result in an increased price of bids and withdrawal of bidders during the bid process. Risk allocation will be made clear to bidders within tender documentation, negotiation of risk allocation will be allowed and tie to consider the retention of some risks...”*

The following key opportunities have also been identified:

- *To maintain the procurement programme for Infraco the procurement will need to be conducted as an ongoing negotiation. This will focus the bidders' attentions on providing queries for resolution and interim submissions to the project for evaluation and encourage delivery of final bids to the project programme. Tenderers' progress will be monitored at regular reviews throughout the tender period.”*

40. In my opinion, other than picking out the elements of the design that were likely to carry more risk or were more complex or where Infraco's input was being sought the procurement strategy did not evolve from the original strategy. As far as I am aware, no one stopped to consider whether there was a better strategy

for the procurement process given the issues with the design. I do not recall taking part in any discussions about it. I do not think any consensus was sought. I do not remember any alternatives being given. If people had been told what had to be achieved and were given some options then you could understand what the consensus was. I do not recall that happening. There were risk workshops but I do not know which one the monthly report refers to.

41. No consideration was given to delaying procurement at that point (August 2006) until design was complete. It seemed to me that the project had to keep to programme at all costs and I do not know why that was the case. Rumour had it that bonuses were predicated on hitting milestones. I do not know where these rumours came from or if they were true. I think maybe there was also a political dimension – having a tram up and running by a specified date before an election is always going to be attractive and perceived as a vote winner. That also drives adhering to a programme. Also, perhaps because Transport Scotland and CEC were not aware of all the problems, they did not realise that the programme needed to be revisited nor scale of the risk of not achieving the programme. That might have been a sensible discussion to have had if there had been wider awareness of the problems. I say that with hindsight. Within tie, suggesting a pause to let the design catch up was not something that was welcomed.

42. I refer to an email from Geoff Gilbert to me on 1 November 2006 (CEC01796601) about his instruction to Barry Trebes of Needleman (quantity Surveyors) when he said his objective was to “*come up with a cohesive procurement plan*” and also said the following:

“...contracts seem to have grown organically without any clear strategy and do not relate one to the other neatly. They also seem to me to be overly complex. There has been little or no procurement guidance with most of the work/decisions being undertaken by lawyers.”

43. I am not sure that I gave any input to this. I think I felt that commenting on or being party to getting Needleman to double-check what DLA were doing was overstepping my role. I thought the purpose of it was to get a kind of peer review

of what had been done. Obviously Geoff was entitled to do that, but I am not sure what he was going to do with it. I thought that the last sentence above was a slightly odd thing to say. DLA would know procurement law and OGC guidance so I am not sure what he actually meant. Perhaps he meant little or no procurement guidance from the procurement people in tie as opposed to adhering to procurement rules and law. I think the key thing here is that the contracts were all bespoke and I think they had been based on documents in used on other tram schemes where the project was being delivered by way of a public private partnership (PPP) structure for example Croydon. Because they were bespoke, their terms had not necessarily been tried and tested to see if they were robust and would stand up to scrutiny by a contractor. Using some provisions from other contracts used on other schemes was not necessarily a problem provided that there was a sufficient sense check to ensure that they worked even if not all the provisions were used and that those provisions used where appropriate in the context of this project. I do not know whether Geoff went ahead and instructed Needleman.

44. A paper for the Tram Project Board meeting on 18 September 2006 (CEC01688881) noted (at page 43) that delays in the design and utilities works affected the procurement plan. It proposed (at section 6.0) mitigation, e.g. by tie agreeing with the Infraco bidders the "*price critical design, performance and consents information*" they needed to minimise risk pricing; agreeing a priority design programme with SDS to deliver that information; and developing a plan for the phased delivery of consents by SDS. I think, in principle, the proposals were adopted. I do not recall being asked whether I agreed that there was a need for them as my position at that point was that the Infraco invitation to negotiate (ITN) documents should not go out. I thought that the documents were not fit for purpose as they were not specific enough and lacked detail and, given where we were with the design at this point, in particular that the preliminary design had not yet been closed out, we should not have been starting the tender process. I made my position on that quite clear in a meeting. It was late one night in the meeting room in tie, in tie's side of the building, which looked our across to Verity House. Andie Harper was there. Susan Clark and Geoff Gilbert would also have been there. I made it clear that tie should not start the Infraco procurement and

that in fact the project should be paused to allow the design to catch up. Given my view at that point, had I been asked about the proposals listed in the TPB paper, I probably would have said that they sounded sensible if tie were intent on going ahead with the procurement.

45. I think that the proposals were generally implemented. I know that there was identification of critical design and SDS were instructed to focus on those elements which were necessary to progress the procurement process. This meant that progress on other aspects slipped. Although, I think it was not appreciated that the design was so integrated that it was difficult to pick out one element which did not have an impact on another (it is with hindsight that I have thought about this). Maybe it worked when they picked out key parts of the route that were critical, difficult or likely to be more controversial, but I think it was quite difficult to silo the design and produce, for example, the roads design. It was the same with the utilities; in order to know where to put them you had to know where other elements such as poles and shelters were going to be.
46. The objective of the proposals was to keep the procurement on time. In terms of whether or not they were successful, they got the contract signed when they wanted it to be signed but I am not sure that they got the right risk allocation or price.
47. I am referred to the final bullet at 6.1 in the paper where a four-month reduction in the negotiation period for Infraco was proposed. In my opinion that did not seem like a realistic proposal in the circumstances. The design was not finalised so Infraco was going to price risk into that. In order to negotiate over less time you have to put things to one side to be dealt with later because you cannot negotiate everything. Therefore, you may have shortened the period to maintain your commencement date, but you must have increased the amount of risk that has been priced in. I do not know how much analysis was done on the impact of shortening the programme. I imagine the procurement team in tie would have done some sort of assessment as to what would be achieved, what the focus should be on, and what the price implications and risks were. Nonetheless, I think that by taking that approach you end up getting a lot of variations which

have to be dealt with through the variation process in the contract and that imports delay and cost implications. It also means that your price is not very certain at the start when you sign the contract and you have less control and ability to manage the overall price because, if the elements which have not been bottomed out are 'must-haves', then you have no choice but to pay the price the contractor submits at a later stage. I may have been aware of these risks at that time but I cannot recall being asked to comment on this proposal or to raise my concerns around the risks of reducing the negotiation period.

48. I suggested in an email dated 23 October 2006 (**CEC01796724**) that the proposed prioritisation of critical designs was "*a case of the tail wagging the dog again*". The point I was making there was that the 'procurement tail' was wagging the 'project dog' because everything was geared around meeting the procurement timetable. There was no sense-check done; there was no consideration given to starting the procurement late and allowing SDS a bit more time to finish the design. It was a case of the Invitation To Negotiate (ITN) had to go out on, I think it was, if I recall correctly, 3 October 2006 and SDS were simply told to do something different to fit into the procurement timescale. I felt that we were always changing things/priorities to fit the procurement. A sense-check would have been good - to pause and reassess where we actually were.

49. I am not sure if there was a perception within tie that there was time pressure to award the Infracore contract, notwithstanding the delays in design and utilities. Possibly people were told that they had to deliver it by a certain date. I am not sure about that. Generally there was a feeling that it had to be done by a certain date regardless of where we were with design and utilities. I think it was political sometimes. For example, when we were just about to go into the Purdah period before the elections in 2007, the Minister wanted a picture of him with a shovel digging a hole. At that point, because of delay in design, we were not in a position to go from the pre-construction phase in MUDFA to the construction phase. I was asked for my opinion by Susan Clarke and Matthew Crosse at a meeting with them on this matter and I told them to take a picture of the Minister with a shovel but to not dig a hole. However, they decided to trigger the construction phase and dug a hole down beside what was Stanley Casino at the end of Constitution

Street in Leith. I think that caused the construction phase in the contract to be triggered for what seemed like purely political reasons rather than sound project ones.

50. Also, the funder and promoter were not always made aware of all the problems so I think there was an element of it being self-imposed by tie – they wanted to prove to CEC that they could deliver the project. If I had been a funder or promoter, I would have been surprised at how well the project appeared to be progressing as I would have expected more problems with a project that size and that complex. As I mentioned previously (see paragraph 40), there were also the rumours about it being linked to bonuses. I do not know how true that is. I personally never benefitted in any way. There may also have been a reputational element. Once you go out to the market you want to run a good procurement process and keep it on time. Bidders obviously do not like a procurement process to be longer than expected as they put manpower into producing the tender and negotiating the terms of the contract during the tender period without usually being paid for the cost of doing so, so that may also have driven a desire to keep the procurement on programme.
51. I think that tie at times boxed themselves into a position where they had to try to achieve the programme because there was no hint to those it reported to of there being anything wrong with the programme. However, I also think that, it is good project discipline to aspire to deliver the project in accordance with the programme.
52. I do not know why the loss of support from the promoter and funders of the scheme was perceived as a risk which tie ought to guard against, rather than as a neutral factor. Arguably, it should have made no difference to tie if the funding had been withdrawn; the project could simply have been wound up. I do not think that tie saw themselves as advocates rather than agents. An advocate to me is someone who is really championing the project. They did not see themselves as agents for CEC either, as if they had seen themselves as agents, they would have been taking instructions from CEC and had a close working relationship with them, which was not the case.. I think different people had different views.

That was part of the problem – the lack of understanding of tie’s role, function and status.

53. I never got the impression that grant funding timescales were a factor which influenced tie’s approach to procurement.

54. I refer to an email dated 12 November 2006 (**CEC01797138**) in which Bob Dawson and Ailsa McGregor expressed concern that delay in the SDS contract would lead to tie receiving low and heavily-qualified bids. I agree with that. If the design is delayed or has not evolved to such an extent that it is possible to price it, you would get a low-pound figure with huge qualifications. All of the cost is then tied up in those qualifications and you only know the true cost of those after contract award when you receive variations or start pricing the qualifications. I think tie thought that they were addressing the concerns by prioritising the elements that they thought were more complex and high-risk.

55. I refer to an email I sent to Geoff Gilbert and Andie Harper on 20 November 2006 (**CEC01797628**) in which I expressed concerns about the procurement process in the context of the Office of Government Commerce panel review. The first point I raised in the email was: “*-the quality of the ITN and the ability to get a robust price from the ITN/Employers Requirements*”. At that point the ITN had gone out. As I said before, my opinion was that it should not have gone out and I think I suggested a three-month pause in the procurement process before the ITN was issued (see paragraph 43). What I was saying in the email was that if I was asked at the OGC review if I was happy with what had gone out I would have to say no. The tone of a procurement process is set by the first documents sent out. This demonstrates how well thought out it is and how in control you are – the ITN did not have that feel about it. If your requirements and design are not clear, then you are not going to get a robust price. From memory, the Employer’s Requirements were vague in parts which meant you were open to suggestions from the bidders.

56. The next point I made concerned the process for Technical Queries (TQs). These are queries or clarifications which the bidders would send to tie in order to

obtain more information or clarity on specific issues. My view was that there required to be a very robust process for dealing with queries from tenderers to make sure the responses from tie were properly thought through (with all implications considered) and that they were consistent. I would have expected to see something similar to a flowchart process showing who should have input and who would do the final sign-off. In relation to sign-off, I thought that there should have been a process which said something along the lines of: if this affects X, Y and Z, then you need to go to Transport Scotland/CEC. As I had not seen a process, I was concerned that queries would be dealt with in an ad hoc way and I thought that was a risk. The risk was that decisions would be made on the hoof without consideration of all the implications of such a decision and that cost increases or changes in the risk allocation would not have been properly authorised. There was also a risk that a response to a TQ could change the design and so SDS needs to be aware of the responses too. I think that a process was put in place at some point so it may be that case that this risk did not materialise but I cannot confirm.

57. I cannot remember what I meant when I made the point: "*engagement generally by the bidders in the tender process.*"

58. I also expressed concern about "*the sign off process for what has gone to the bidders and in particular the ERs*". It was never clear what iterations had gone to bidders or whether everyone was happy with what had gone out or whether they had been signed off by the right people. There was a risk with the Employer's Requirements in that it was not clear whether we were giving the bidders the correct requirements that had been signed off by CEC. I was concerned that in the absence of a proper process the information being given to the bidders was perhaps being driven by only one/a couple of members of the team, or by SDS passing it to Infracore and no one was checking whether there had been sign-off or approval. I do not know for certain whether the designers sent designs directly to the bidders. They should not have done, but I am not sure how good their and tie's document management/control was. My concern was about the governance and management of the process. All of which imports risk and potentially imports cost qualifications in the process.

59. The reason I sent the email to Andie and Geoff was to flag up that I was being interviewed by the OGC team and to remind them about the concerns I had. I cannot remember if I had discussions with anyone in the after I sent the email. I must have had discussions prior to sending the email because I have said: "*as you know I have had various concerns about the procurement process to date.*". My recollection is that I had discussions throughout that time and I was consistent in what I was saying about the procurement process in that we were not ready to start it. I think there was perhaps an acknowledgement from Andie Harper that my concerns were valid however it was made clear to me by Andie, Susan Clark and Geoff Gilbert that we had to keep to the programme despite the status of the design.
60. As I said previously (see paragraph 55) I think a process for TQs was put in place at some point and more was done to get sign-off from the Council. However, I never really felt that there was enough control over the documentation going out. That said, perhaps I was not close enough to know how under control it was. I would say that my concerns about the TQ process was probably addressed, but the others not so much. That is because once you start the procurement process, it is like being on a treadmill in that you have to keep going and there is no time to address these types of problems.
61. The OGC carried out interviews as part of their review in November 2006. My recollection is that the purpose of the review was to assess the project's readiness for undertaking the procurement process for the Infraco contract. I cannot remember what I said to the OGC panel about my concerns. I would have said the same as I have said in this statement if I had been asked the specific questions. I probably said that the procurement should have been delayed. I said that to the Tramco review on the day Andie Harper started. At that point, I said that I would delay it for about a month. If I said that at the first one, it is likely that I said again that there should be a pause. I think I would have suggested a three-month pause as that is what I said to the team around the start of October 2006. I do not remember the questions I was asked though.

62. David Powell sent an email to Matthew Crosse on 6 February 2007 (PBH00021147) in which he made comments on the two Infraco bids. These included difficulties benchmarking what had been declared by the bidders against tie's stated requirements; and understanding how their proposals related to the SDS designs. I do not know why I was copied in to this by Matthew Crosse because at that point in time I was doing less and less and I wasn't really involved in the procurement process. Bidders can only price against the information they have been given. If there are a lot of gaps or it is not specific enough, then how it has been priced is open to interpretation. What each bidder has assumed or not assumed, or qualified or not qualified can be very different. Therefore to benchmark it, you have to add in risk prices based on your own knowledge. If you have a huge amount of qualifications then you have to risk-adjust yourself and that is subjective because you are using your own knowledge rather than the bidders giving you the information. That is why it becomes quite difficult to actually know which bid is the best one. The more specific you can be, the more obvious it is as to what price is assigned to each element and therefore you can do an absolute contrast and compare. I think that is what David Powell is getting at - there were a lot of gaps, qualifications and assumptions made which meant you could not just do a read across the bids. I agree also that in these circumstances there is a risk of manipulation as bidders can then start dictating what the project is rather than you dictating what your requirements are

63. The above issues arose because they did not pause for a few months and sent the documents out at a point when they were not ready to go. When I suggested a pause, I was not suggesting that they delay for a whole year. I think with a bit of focus it would not have taken that long. They could have paused and still gone down the priority design route. Because they did not, some of the designs went out to Infraco before CEC's comments on them had been addressed (I think my recollection on this is correct). The designs had been through the design approval panel process and CEC had commented, but the work to address those comments had not been done before they were sent out and so I think in some cases the original preliminary design was sent out in one of the information drops to the bidders. It was therefore known that they were not correct and/or represented the views of the stakeholders before they left the

building. I would say that Susan Clark, Geoff Gilbert and Andie Harper, as the procurement team, would have made the decision to send them out. It was all about staying on programme. Even if all they had done was firm up the Employer's Requirements (addressing any gaps or perceived gaps) and got design to the stage where it at least took on board all of the comments from the design approval process (they did not necessarily need to wait until they had formal sign-off on a piece of paper), that would have been a better position than designs that did not incorporate everyone's comments and Employer's Requirements that had gaps. I think that would not have taken any more than two to three months. If there had been an evolution of the procurement strategy or a pause, they could really have thought about how to use the procurement process and that might have cut down time because they would have started off in a better position. As it was, they were almost always behind the curve and being driven by bidders who wanted to win the contract rather than being in control of the process and dictating what was required.

64. David Powell proposed a series of workshops and suggested that the bidders be asked to "*provide a structured clause by clause commentary against the Employer's Requirements*". I do not know if any of that happened. I was not involved at all in the procurement process at that point. Generally I would have expected SDS to engage with bidders or have workshops or technical meetings as that is a useful thing to do. I assume that did happen but I do not know for certain. I think that the bidders would not have appreciated having to comment clause by clause on the Employer's Requirements because it was a big document and it would have been a long process. I think that they would have got kickback on that from the bidders.

65. I think that the delayed and incomplete design would have made the tendering process more complicated and less productive from tie's perspective, as the bids and the prices would have been so heavily caveated. It also undermined the procurement strategy which assumed that the detailed design would be completed by the point of awarding the Infraco contract. My view is that this would have increased the price uncertainty and may have resulted in hidden

costs or some elements being more expensive than anticipated as they had to be progressed as variations rather than competitive tender.

66. I refer to an email I sent to Geoff Gilbert dated 1 March 2007 (CEC01793907) in which I made the following comments:

" the position we are conveying to the bidders deviates from the procurement strategy and I'm not sure we have the authority to do that. In addition, I feel that sometimes the position we are adopting does not represent the view of the team".

67. From the outset, the procurement strategy was to ensure that risk was effectively managed. However, I felt that we were departing from that ad hoc as we were going through negotiations. I pointed out in the email that my understanding in relation to prior approvals was that we had advised one bidder that tie would take all the risk. SDS under their contract were responsible for obtaining the prior approvals so I did not understand why tie were taking that risk. Also, it was not clear whether they were taking the risk vis-a vis SDS as well or just between them and Infraco. That also had implications for novation of the SDS contract. I have said before that I thought the risk allocation was incorrect in some respects so I am not saying that what was being proposed was not sensible, but you should not deviate from your procurement strategy without understanding what that does to your whole suite of documents; they were so linked that if you took one bit out, there was a possibility that you were unravelling something else. The risk allocation was changing but it was not clear that the implications of that were understood. My concern was that it felt like a knee-jerk – was a bidder saying I do not like the risk of prior approvals and tie's immediate response was that they would take the risk? I was not sure that they understood the prior approvals because the risk was quite low anyway. I did not know if they understood what SDS were doing, or that SDS were supposed to get the whole suite of prior approvals before Infraco started the work. I was concerned that the strategy was being eaten away at and the whole basis was being undermined, and I felt that it was being done without the authority of CEC, Transport Scotland and/or the TPB. Also, you cannot say to just one bidder that you will take the risk,

you have to tell both. I was concerned that there was no procedure in place to ensure that what was said to one bidder was also said to the other.

68. In relation to my comment about it being done without authority, when I worked on projects for Transport Scotland there was a procedure during a tender process to obtain ratification or sometimes express approval on anything that had the potential to change/depart from the risk allocation or increase the cost. However, in this process it seemed that tie were responding in a knee-jerk fashion to what a bidder was saying, with no real thought given as to what it meant for the overall picture. It appeared to me that things were being done because it moved the procurement process on and not because it was the right thing to do.

69. It is unlikely that my concerns were addressed. However, I was not involved in any of the meetings. I think that the driver of achieving programme probably pushed people down the route of concessions.

70. I also said the following in my email: *"I know you will see this as interference and it is not intended to be critical."* From around September 2006, I was probably viewed by the Project Director and others at a senior level including Geoff Gilbert and Susan Clark and perhaps Willie Gallagher as being quite negative and critical. I was challenging what was happening and I think Geoff sometimes took it personally – i.e that I was having a go at his strategy. That is not what I was doing. I felt that to do my job and advise tie properly, I had to challenge things that I thought were not right. It was not always comfortable for me, but to retain my integrity and to advise tie and CEC properly, I could not just go along with it because someone was saying this is the strategy and I do not want to hear it. I felt that my input was probably unwelcome and seen as interference, and maybe also that I was trying to score points. It was none of those things. It was simply that I was concerned about the project.

71. Matthew Crosse took more of an interest in procurement later on so I do not think I spoke to him about the content of my email. I had heated discussions with Geoff Gilbert throughout, but I do not remember if I discussed the specific

concerns in my email. Geoff was running the procurement process and it very much felt that it was his way or no way.

72. I felt that lip-service was paid to my concerns. I never felt that they were addressed. I cannot remember if what I said in that email was addressed. With hindsight, I think there was an acceptance on my part that Geoff was not going to do anything about what I was saying. Probably I assumed that DLA would have been saying something similar. I never spoke directly to DLA about these concerns as I did not think that was my place. They were advising separately and I was not coming at it from a legal lawyer perspective and I was not trying to step on their toes. I was simply trying to keep an eye on the project. I think there may have been a better strategy later around how to deal consistently with comments and inform bidders of changes. I do not know for sure. I think that management of the information sent to the bidders got better as the process went on.

73. The risk register in January 2007 (**CEC01813759_26**) shows that a new risk (risk 870) was added concerning Infraco having insufficient detail to achieve contract close. It was discussed at the March 2007 meeting of the DPD subcommittee (**CEC01623194_8**) when it was said that the risk was being addressed by a reprioritisation of the design. I do not remember much about this. The design was simply reprioritised. This goes back to my comment about the tail wagging the dog. I think it was reprioritised a few times depending on what bidders wanted. It was done to suit Infraco rather than the project or SDS. I think how it worked was that if there was insufficient detail for Infraco to price something, SDS were told to prioritise that and there was continual reprioritisation each time Infraco needed more detail in order to price something. Whether that was successful depends from what perspective you look at it. On the one hand Infraco may have been able to refine their price, but it prevented SDS from producing other elements of the design.

74. I refer to an email dated 25 April 2007 (**CEC01630498**) in which Jim Harries of Transdev was critical of the quality of information being released to the Infraco bidders. I was not aware of Jim's criticisms at the time. I always found Jim's input

useful during the parliamentary stage because he was an operator and had practical experience of running a tram. I think the comments in his email are valid. Jim was a stickler for things being right, and I think all of his comments highlight the state the documentation was in. It might look like some of the comments are about small things - e.g. missing numbers and the paragraphing - but it all affects the quality and tone of what you are putting out to bidders and gives the impression that it has not been properly done.

75. I think Jim was also frustrated because he was providing comments and feedback on specific elements of the design and other associated documents but did not know whether anyone was taking his comments on board. He was ultimately going to be operating the system so I can understand why he was concerned about the lack of assurance from the regard that was being had to his comments. For example, one of the issues Jim highlighted in his email relates to information in the Employer's Requirements about the need for infrastructure maintenance and tram maintenance to start prior to driver training. If that obligation is on Infracore and is not picked up and not done, then Jim and the drivers would possibly be at risk. There was also a risk that Transdev would be in breach of The Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS) if their comments were not addressed.

76. To address the deficiencies, you send out iterations of your Employer's Requirements as you go through the bid process and expect the bidders to re-price or reassess the price each time you send the iteration out. If you are doing the same process time and time again, you are giving the impression that you are perhaps not quite sure what you want. If the comments were not taken on board and the gaps not closed, that will have led to variations and cost increases. There may also have been information in the documents that conflicted with the MUDFA, SDS or Transdev contracts. Jim also highlighted that there were inconsistency problems and that can result in you believing that you told a bidder something only to find out after contract award that you did not.

Design (including consents)

Timing of start of SDS design

77. I think that the SDS design contract was signed too early. The SDS procurement must have started Spring /early Summer for the contract to be awarded in September 2005. We were still going through the parliamentary process when the contract was signed. I do not know for sure, but I assume SDS priced their bid, which was accepted on the parliamentary plans and sections. We were dealing with detailed route/design issues in Parliament during the Summer/Autumn 2005 and there were various route/alignment amendments promoted, including key ones at Haymarket Yards, Newhaven and the Gyle. At Haymarket Yards, the route changed completely. Originally the tram was run behind the buildings, including the ICAS building but in response to the objections received from the various landowners in the area, the new route used the tram reservation corridor adjacent to the railway. At Newhaven the change was to the road alignment/layout and there were level changes. At the Gyle, in response to objections for the landowners and anchor tenants, the alignment changed from running just outside the shopping centre to the periphery of the car park. All of these changes would have significant impact on the design and involved negotiations and agreement with stakeholders and landowners. We were also still giving commitments and undertakings to the parliamentary committees and entering into third party agreements with landowners and objectors. Consequently, for example there were changes in the alignment and limits of deviation within the airport as required by the airport as well as commitments made to various landowners in relation to the depot access road. That process was not concluded until around Christmas 2005 so at that point the baseline was not fixed. The amendments were not passed by the Parliament until the end of March 2006. As far as I was aware, there was no constructive liaison with SDS about what was coming out of the parliamentary process. I think the principle of early involvement of a designer is good, but it was not executed effectively and there was no thought in the contract itself or in the procurement process (as far as I know) as to how to bring the outputs of the parliamentary process in to it.

Therefore, against that background, my view is that the SDS contract was signed too early in the process.

78. When I joined the on secondment, I met with the SDS team and did a 'brain-dump'. I cannot remember who all attended but I think Alan Dolan, Jason Chandler, Katie Shudall, Paul Wilson, and Kim Dorrington. I think there were others from Halcrow and perhaps Scott Ney although I can't be certain. There were certainly a lot of attendees as the meeting room was packed. I would say there were around 15-20 attendees. I do not know what SDS had done up to that point to get up to speed. At the 'brain-dump' which was really a workshop, I took them 'virtually' round the route and told them everything they needed to know such as: the commitments given to Parliament; key stakeholders; changes made in Parliament to the original plans and sections; changes to the limits of deviation; and third party agreements. I think that was in March or April 2006 so around six months after the SDS contract had been signed and so with hindsight it is questionable what had been achieved and whether around six months of the design and consequently the project programme had already been lost. I believe that no one appreciated that at the time. With hindsight, if SDS had spent those six months engaging with CEC to find out what their priorities were at parts of the route (irrespective of the ultimate parameters/undertakings/commitments) that would have been constructive use of that time but I don't think that was done. I am not sure what they had done up to that point. In my view, it was not until the brain-dump that they set off on the right path, yet the preliminary design was due in June 2006, only two/three months later.

79. Another consequence of the contract being signed too early is that it was then necessary to go through the variation process to take account of the changes. There was a change mechanism in the contract which from memory was not very user friendly (see paragraph 27). Dealing with variations imports more delay and you naturally get in to contractual discussions on cost. Had the contract appreciated that things were changing and had there had been some kind of consultation phase with CEC (along the lines as suggested above), it might have been more effective. As it was, this element of the project never started off on the right foot and it felt to me that it continued in that vein.

Engagement of stakeholders in the design

80. I was not involved in the contract discussions with SDS at all. My understanding was that at the outset of the project it was intended that the design was to be produced in two tranches: preliminary design and detailed design. However, I am not sure that anyone involved in the tender process at tie had envisaged what the outputs from SDS at each stage would look like or comprise. I had not really thought about it until the preliminary design was produced. I think it was anticipated that SDS would engage with stakeholders and produce the designs, which would then be reviewed and signed off by the tie design team with assistance from TSS on the basis that they would be largely acceptable and there would be minimal qualifications. From memory I do not think that the contract built in a process for CEC to review and approve the design outputs. In the event, the number of comments on the preliminary design was extensive and other processes, for example the design approval panels, the charrettes and the critical issues meetings, (not envisaged by the contract) had to be introduced for the design to be approved.
81. I have seen the Project Management Plan Preliminary Design Phase produced by SDS (**BFB00002735**). I was not aware of the existence of this document until recently. I note that at paragraph 1.5.1 it states that stakeholder interface, coordination and management are the responsibility of tie with support from PB as the SDS provider. I do not agree entirely with this statement and indeed I think that paragraph 1.5.2 does not entirely support that position either. I think it depends what is meant by "stakeholder". I think in the context of this document "stakeholder" is intended to cover objectors, affected parties, the general public and interest groups. Tie did manage and co-ordinate some of the stakeholder interfaces in relation to these categories of stakeholder, particularly with parties who had previously objected to the private bills or had been in contact with tie during the parliamentary process. There was a communications team, headed by Suzanne Waugh, who dealt with this, who were supported by other teams, in particular, the Land Assembly team (Geoff Duke and Alasdair Sim), and liaised with SDS. But I recall that in some cases SDS coordinated and managed stakeholder interfaces, for example in relation to the public consultation

events on the design and public consultation events on the TROs. They had a stakeholder manager who was responsible for this. I do not think that this document intended to deal with the interface with CEC, the planning authority, the roads authority and other statutory stakeholders.

Design and MUDFA

82. The SDS outputs did not seem to tie in with the requirements and timing of the MUDFA contract. As I said previously, it was difficult to progress and finalise distinct elements of the design eg the utility drawings as all of the elements were all so linked. For example the utility relocations depended on the positioning of poles, equipment boxes and the road layout. There were situations when a drawing was passed to AMIS and then it changed because it was decided later that a utility could not be put where originally intended because, for example, a pole foundation had to go there. This meant that could have been several iterations of a drawing until it was 'right' rather than it being right first time. The MUDFA and SDS never seemed to be joined up. I think that a 'MUDFA group' was set up which included SDS to help to resolve this. I don't know if it did. .

Design and approvals

83. In relation to design tying in with consents and approvals, it was SDS's responsibility to get all of the consents so they were to manage their own programme and outputs accordingly. However, the problem with consents and approvals was that it seemed that no one had thought through what was required by way of design outputs for the application packages for the various consents. The design produced by SDS was very much a tram design from a construction/engineering perspective. That is what the output was – engineering drawings. However, what you need for planning, for example, is very different from a technical engineering drawing. Prior approvals are very much about aesthetics. Equally it did not seem that a lot of thought had been put into the TRO requirements either. I do not know whether that is because SDS did not

understand the different outputs or because tie and/or the SDS contract had not prescribed different outputs.

Design and procurement of Infraco

84. I think it was assumed that the design would dovetail with the procurement process for Infraco as follows: the preliminary design would be delivered by the end of June; it would be approved during July and refined in August; and then a package of approved preliminary design for Infraco would be put together in September 2006.

Problems with design: overview

85. I was not really involved by the time it got to detailed design. The most significant problem in the production of design was the preliminary design. My recollection was that it consisted of over three hundred drawings/deliverables (see **PBH00005860** for list) and was delivered to tie on 30 June 2006. I believe the contract had been drafted and presented to SDS in a way that suggested it was tie's project and I think that SDS did not appreciate CEC's role in the project, as the promoter, the authorised undertaker in terms of the Acts, the planning and roads authorities and as the ultimate owner of the tram system (I say that with hindsight). I do not know exactly what SDS had been told about CEC's role. I think that there was a vague obligation in the contract for SDS to liaise with CEC, and, although I do not know how much engagement actually took place, I think it was insufficient. When tie received the preliminary design, they distributed it out to the design team and TSS for review, and a copy was sent to CEC. From memory, I think CEC were given a week to approve the preliminary design outputs, although I do not think it was clear whether they would be approving the designs as promoter or also as the planning and roads authorities. That meant that people who had had no previous involvement in the evolution of the design were expected to look at and understand the designs in that very short time frame. I think that CEC were given only a week to fit in with the timescales set down in the contract for tie to approve the design. My recollection is that the contract built in a process for tie to approve the design but that there was not a

specific process for obtaining sign off from CEC. On receipt of the preliminary design there was kickback from CEC. They felt that the time frame for approving it was insufficient and there had been no account taken of any of their concerns as the local authority, planning authority or roads authority. CEC were of the view that what had been produced was simply not acceptable. That left a situation where SDS thought that they had fulfilled their contract and CEC thought otherwise. That resulted in the design approval panel process being introduced. The preliminary design become known as Preliminary Design 1 or PD1 and the concept of Preliminary Design 2 or PD2 was created which would be PD1 updated/ revised to take into account the output of the design approval panel process.. This was not envisaged by the SDS contract but was necessary in order to progress the design and to get to a position relatively quickly where the design would be acceptable to tie and CEC.

86. With regard to the problems with obtaining the consents and approvals, I think that SDS underestimated what was required. Halcrow dealt with consents. They had previously done projects in Scotland. They had two planners involved – Rick Fink and Laurie Mentiplay - but I am not sure that they appreciated what was required or what SDS had priced for doing this work as part of their tender. Prior approvals are not required in projects that often, but I would have expected them to understand what was involved. They could have spoken to the planners during the tender process for more information. In the event, Aileen Grant who worked at D & W (and is an ex-council planner) gave them a lot of support and advice on what was required. She also liaised with CEC planners and SDS and acted as a kind of honest broker between the two. A protocol was entered into and as long as CEC were provided with the type of drawings they wanted, they turned everything around within the agreed time limits. In my opinion, once the process was up and running and the CEC planners were bought-in it ran quite smoothly. Prior to that, the problem had been the lack of thought as to what was required. I think that is why the problems arose and both tie and SDS were responsible. SDS design trams so they should have known what outputs (in terms of the level of detail and quality) were required. Perhaps tie should have been more explicit in the contract about what was required and when. Although, if they had, maybe that would have meant they were taking some of the risk. As it

was, the risk lay with SDS. However, that comes back to the question of whether the risk allocation was right.

87. Arguably, the attempts to resolve the problems meant that a lot of the risk was taken back from SDS, at least implicitly if not expressly. A lot of support was given to SDS. CEC got more involved and the Design Approval Panel process was introduced. The purpose was to get all of the relevant parties around the table to approve the designs. Tie, CEC, SDS, TSS and Transdev attended. Willie Fraser chaired the meetings. Specific sections of the route were discussed. CEC stated what their priorities were, design principles were established and the comments in the records of reviews attached to the preliminary design were discussed. It was intended that SDS would then take on board the outputs from the discussions and produce a new preliminary design (PD2). The meetings went on for as long as it took for the design to be agreed. Issues that required decisions at a higher level went to a planning summit. Some issues were dealt with through the charettes process. The design approval panel meetings were ad hoc but took place as quickly as possible as everyone knew how critical it was that the design got approved. My recollection is that the meetings ran from August until about the end of 2006. I would say that, after the initial kickback from CEC when they received the preliminary design, everyone got on board and the process was successful; it was not perfect but it was an acceptable retrofit/workaround to make progress.

88. The impact of the problems with preliminary design was that it delayed the project. There required to be another tranche of preliminary design – PD2 - which was never envisaged. PD2 was really a second attempt at preliminary design with the benefit of input from the key stakeholders. As I have said previously, it was a retrofit and was not envisaged in the contract. I do not think it changed the scope of SDS's contractual obligations; just a different way of achieving them although there would have been additional outputs and a longer timeframe for getting the preliminary design signed off. Although, probably the scope was starting to be eroded and undermined as more people assisted SDS and influenced the design outputs. I do not know what happened in relation to paying SDS for PD2 but I would imagine that there would have been arguments around

whether SDS was in breach of contract because the preliminary design was deemed so unacceptable, and whether they should get paid for producing PD2.

89. The problems could have been avoided if: SDS had started the design process from the right baseline; there been a better understanding by both parties of what the design and consents outputs would look like; there had been a period of proper engagement at the outset; all parties had clearly understood and respected CEC's role and that this was reflected in the contract; and CEC had properly engaged with the project from the outset. I think it was all totally avoidable. I think also that Ian Kendall was very contractual and that probably did not set the relationship off on the right tone. I remember Ian Kendall shouting at Alan Dolan in the tie office. That was at the very start. I think that made SDS very reluctant to come and ask questions or raise issues.
90. The problems and risks were not accurately assessed, managed or reported by tie. They were managed better after PD1 was delivered. That was when tie realised it was not going as planned and took control of the preliminary design output. Tie should get some credit for that.
91. Tie and DLA dealt with the procurement process for SDS. I believe the thinking behind awarding the SDS contract and commencing the design early in the project was that it would de-risk the project if a complete design package with all consents and approvals was passed to Infracore. However, I think that the scope of SDS contract and the risk allocation was not properly thought through. It may have been that everyone thought Infracore would not want to design anything. I do not know if that was tested in the market. Sometimes before you start procurement you do market testing to see what bidders might want. If that was done, maybe the view was that SDS should design everything and pass it to Infracore. However, as it progressed and the bidders came on board, there were elements that the bidders wanted to design and certain things possibly did fall naturally to them; however, that was not thought through not the intention in the early appointment of a designer.

Phases of design delivery

92. Contractually the main stages of delivery of the design were: preliminary design and then detailed design. I am not sure whether it was clear when the consents were to be delivered; perhaps it was implied that they would be delivered with the detailed design. I am not sure how specified that was in the contract. I noticed when looking through the documents sent to me that there was an 'RDP' phase before preliminary design. I do not know about that phase; it may have been for them to define their requirements.
93. My understanding of the difference between the preliminary design and the detailed design package is as follows. The preliminary design is the outline design and the detailed design is the stage where you have the consents to back up your design. Using the example of a bridge structure – in the preliminary design you might only show the basic elevation positioning but the detailed design would show the finishes, such as what the stonework would look like. The detailed design takes it to another step to pretty much as-built. That is why I think the consents would have come along with the detailed design as you need the level of detail contained in the detailed designs to get the prior approvals.

Inputs into the design

94. Given that my secondment did not start until about April 2006, I have more knowledge about what happened with the design in the period following delivery of the preliminary design in June 2006. Before PD1 was delivered, I think that SDS engaged with other parties to an extent, but there was no partnership or collaboration approach. I believe that SDS got on with the job of designing without very many inputs from stakeholders. There may have been a few meetings with CEC but I think that SDS would not have considered CEC's status at that point to be anything more than just another stakeholder. As far as I am aware, there was no process where everyone sat together and discussed the issues around specific locations. Looking back, I would have to question what engagement there had been because when I did the brain-dump in April 2006 a lot of what I said seemed to be completely new to SDS. That was the first

meeting of any substance I can remember having with SDS. I suggested it as I felt that I was the only one who had this knowledge and could make sure they understood exactly what the commitments and constraints were, and where they had flexibility. I think tie had given SDS the suite of third party agreements (there were about 40 or 50 agreement and other letters and commitments) but I think it would have been an onerous task for designers to filter out what that meant for the design without any guidance.

95. Prior to June 2006, SDS would have had some support from people in tie if they had queries or requests for information as well as technical input from tie/TSS. The TDWG would also have contributed by informing SDS of what would be acceptable (see paragraph 5).

96. The traffic modelling (which was done by Steer Davis Gleave and Colin Buchanan) was a separate workstream but it would naturally have fed into the road and junction designs. I am not sure how much interaction there was between the traffic modelling people and SDS pre-June 2006 or whether tie managed their inputs. However, I think that it had not been fed in very well because one of the problems which came to light after the preliminary design was delivered was that the junctions did not work.

97. There would also have been some discussion with Transdev (Jim Harries or Rodger Jones) as the operator. They were co-located with tie from when they were appointed in about 2004. They did not have any responsibility for any of the design or consents, but they would have input into the design process. After June 2006, all of those mentioned above definitely fed into the design process.

98. I think that tie had not really thought about how the various inputs from organisations/stakeholders would be co-ordinated. As I have said before, tie had not properly thought through how CEC's input would work, nor had SDS. I think that was the biggest problem. I think it was anticipated that the process would be as follows: SDS would engage with stakeholders and produce the designs, which would then be reviewed and signed off by the tie design team with assistance from TSS on the basis that they would be largely acceptable and

there would be minimal qualifications. From memory I do not think that the contract built in a process for CEC to review and approve the design outputs. Then the design would go back to SDS for them to do the detailed design. I think naïvely everyone thought that preliminary design would be signed off with very little discussion or additional work requiring to be done on it.

99. My understanding was that the complete design package for Infracore would be the detailed design backed up with all the necessary consents and approvals. I am not certain what the actual contractual process was, but I think SDS were expected to do the following: complete preliminary design; take on board the comments from the Records of Reviews¹ and produce the detailed design (and at the same time progress the TROs); and then get the other consents and approvals. The package would then be a stack of drawings, technical specifications, construction documents, , prior approvals and other consents and TTROs/TROs.

100. There were different levels of stakeholder. The general public would have had a view on some aspects of the design and their comments would have been taken on board (where possible) but you would not expect to have consensus with them. Regard would have been had also to stakeholders such as Lothian Buses and the emergency services. As operators, Transdev's status as a stakeholder was higher than a lot of others and SDS would have had due regard to their comments. Total consensus with CEC was required as ultimately it was their project. As a minimum, you would expect CEC to have consented and signed-off on everything and there would be some consensus from others, as required, at different levels.

101. I would say that TSS's main role was supporting tie to review and sign-off the design. They did a lot of the technical design checking as they had the necessary

¹ This was a template form which a reviewer of a document or design drawing completed to capture their comments from the review. From memory I think the review categorised their comments as red, amber and green to give SDS an indication of their importance to the design. The completed records of review were sent to SDS.

expertise. In my opinion their support was of assistance to tie as they would have struggled to sign off the design without them; neither tie nor CEC had the technical expertise needed for all the elements. I think TSS also did discrete pieces of work for tie such as work on immunisation (protecting for example Network Rail's infrastructure from any stray electrical currents coming from the tram infrastructure). As I previous said they all provided additional resource (see paragraph 9) From memory they were not involved in the processes for obtaining consents and approvals. It states in the Project Management Plan² dated March 2007 (CEC00779488_23) that TSS would "*facilitate design and project management*". As far as I am aware, TSS did not do any project management. They were more reactive to the needs of tie; that was maybe just how tie used them. Perhaps it was envisaged at the start that they would do more management but tie did not use them that way.

102. Transdev had experience of tram systems and took a lot of time to provide comments. Their input was particularly insightful as it was from an operator's view. At the parliamentary and design stages, they were inputting to ensure that there was nothing constraining their operation. They sat on the design approval panels, but they were not responsible for any of the design or consents or managing any part of the process. Latterly, before they terminated their contract, they were looking at operations and were doing more practical work such as helping finalise operating agreements with the airport and Network Rail.

103. In my opinion Transdev's involvement was of assistance to tie, but there seemed to be resistance to their input from certain people in tie. I am not sure who – it was not just one person. I think Transdev felt that their inputs were not welcome. As far as I know they were never expressly told that, but I believe they felt that they were making a lot of comments on things (particularly on matters key to operations) which were being totally disregarded. That is probably why they ended up not being the operator: they were not particularly comfortable with

² This document provided a framework for the management of the tram project covering the design, procurement, construction and commissioning phases of the project.

some of the things that were going on, and felt that they could have been put at risk as operators if their comments were not taken on board.

Design approval process

104. As I have said previously, as far as I am aware, the intended management process for progressing, completing and approving the design was that SDS would pass the preliminary design to tie and the design team with assistance from TSS would review it. Records of review were to be completed and returned to SDS so that the comments from the records of review could be incorporated into the design SDS were then to produce the detailed design and that was to go through a similar process for review and sign-off. To my knowledge, it was not anticipated that sign-off of the design would go to a level higher than Gavin Murray, who I think was the Design Manager, and the TSS reviewers. I think the process tie had in place was predicated on the expectation that the design would be right first time on the basis it would be fairly straightforward to design a tram within two limits of deviation – i.e. in its simplest sense, it was two tracks running through two lines and accordingly there was not much scope for getting it wrong. It was anticipated that there would not be many comments in the records of reviews. I do not know whether the level of comments was so extensive because SDS had not done enough work and/or not enough engagement or whether they had not been given enough information/guidance from tie.

105. The preliminary design did not turn out as expected and the design approval meetings were set up to get the design approved and allow SDS to get to detailed design. Following on from the design approval panels, SDS were expected to produce PD2 – which would result from incorporating the comments from the record of reviews on PD1 and the outputs from the design approval panels. PD2 was then to be signed-off by tie and CEC (with some input from TSS) and SDS were to move on to detailed design. However, it was muddier than that. PD2 was not formally closed out as there was not enough time to go through that process because the Infraco procurement started and Infraco were expecting the detailed design. From memory, I was not really involved in the detailed design phase.

106. It states in the notes from the October 2006 tie/TSS meeting (**CEC01797485**) that Douglas Leeming, who I think was the project manager for TSS was concerned that the process for delivering preliminary design purification was not working. That is because the focus had switched to what Infracore wanted and SDS were getting different direction from different people in tie and were not getting the chance to close out preliminary design. It was very frantic in tie at that point – there were a lot of competing pressures on people, a lot of decisions not being made and problems not being dealt with; and those not in control of it were bearing the brunt and feeling under a lot of pressure. That resulted in people giving instructions to SDS and not thinking about going through TSS. Douglas's point was that TSS could not be expected to do their job if they were not aware of everything that was going on. They were not being intentionally by-passed, but there was a lot of pressure on SDS and the tie design team to keep things moving quickly and get things agreed. Part of the problem was that the TSS people who were doing the design checks were not in the office every day (they managed their own time to do the design review and would not have got paid to sit in the office every day) and it was therefore difficult to always keep them in the loop. It was not possible for discussions with SDS to be postponed until the TSS person was present in the office to take part in the discussions and hear what was being said.

Value engineering

107. My recollection is that the value engineering objective happened concurrently with the design approval process leading into PD2. It was a cost-driven exercise. It involved looking at how things could be done slightly differently to reduce cost. An example is the bridge at Edinburgh Park. At one point the planners wanted an iconic structure because it was the gateway into Edinburgh. Curved railings were proposed as a compromise and that was accepted. That is classed as value engineering. It is all about trying to reduce the costs in certain aspects of the construction. Arguably it did import delay but given the status of the rest of the design it is hard to say how much delay that element contributed. Some of the suggestions were discounted straight away. Perhaps it was not done at the best time and it may have been an unwelcome diversion for getting some of the

design finalised. However, it is a valid thing to do. I think also that Infraco asked for things to be value engineered and/or came up with suggestions after the initial design phase. That was driven by the procurement process. There is nothing wrong with that in principle, but it comes back to being clear on your strategy and what you are hoping to get out of your procurement process. A competitive dialogue type process can help to reduce costs/ shorten your programme, but the project procurement strategy was to novate SDS and their design in. I am not sure that there was any value or benefit in allowing Infraco to do value engineering when a designer was already involved who would/should be providing a complete detailed and consented design.

Consents and Approvals

108. A number of different consents and approvals required to be obtained and there were different procedures for obtaining them. The Project Management Plan dated 1 March 2007 (**CEC00779488_43**) contains a table which lists the consents required, the consenting authority for each and an indication of the likely timescale for obtaining them. As I have said before, the risk lay with SDS to obtain them. However, as time went on people started to think that perhaps SDS were not the best placed to lead on consents. In the event tie gave support to SDS and in some cases actually managed the process for them. That was the point of the strategy set out in the Project Management Plan. At that stage in time, given the intention to novate, I imagine Infraco were seeking some assurance that the consents were achievable and when they were likely to be achieved.

109. I refer to SDS's Approvals and Consents Management Plan (ACMP) dated September 2006 (**PBH00007204**). It says that it was prepared at the conclusion of the preliminary design process which is right because you would not attempt to get your approvals before then. The SDS document sets out the process for getting all the various consents and I think it is the first time that anyone had set out what consents were required. It sets out in section 3.3.1 the approvals they required to get, from whom and the timescale for doing it. This fed into tie's Project Management Plan because it has a similar table. It was signed off by tie

and CEC so it was an agreed document. The purpose of it was to inform SDS's own team, tie and CEC what had to be done. I think it was effective. From memory, it evolved a bit from what was originally planned (without the changes being captured), but generally it was adhered to and was helpful for achieving consents.

110. As can be seen from the above documents there were a large number of consents to be obtained even although there was a private bill. Some of the consents listed are: HMRI (Her Majesty's Railway Inspectorate) and Network Rail Consents; Aviation and BAA (British Airports Authority) Approvals: Prior Approvals for buildings and OLE (Overhead Line Equipment) fixings (to be granted by CEC as the planning authority); Listed Building Consent for OLE fixings (to be granted by CEC as the planning authority); Advertising Consent (to be granted by CEC as the planning authority); Full Planning Permission (to be granted by CEC as the planning authority); Scheduled Monument Consent (to be granted by CEC as the planning authority); and Traffic Regulation Orders (TROs) (to be granted by CEC as the roads authority).

111. At the time when the documents were produced, HMRI were responsible for signing-off the project. That was an iterative process and the ultimate aim was to get an appointed competent person to confirm that they had no objection to the scheme as opposed to obtaining a specific consent. Arguably, in terms of the contract it was SDS's responsibility to do that but it was managed by tie. From memory, tie appointed a competent person whose responsibility, at the point when they wanted to operate the tram, was to say that he had no objection. The person did not need to sign-off anything so there was no liability; he simply had to say that he had no objection. That person (I cannot remember who it was) had input at certain points with a view to trying to make sure there were no showstoppers at the end.

112. Network Rail's consent was required because the tram line was to be built next to an operational railway. It is very difficult to negotiate with Network Rail, partly because there are a lot of health and safety issues to be considered.

Alastair Sim (tie) dealt with Network Rail. I would say that negotiations went right to the wire, but that was not necessarily tie or CEC's fault.

113. The BAA Approvals process was also iterative. It involved negotiating and entering into a suite of agreements with Edinburgh Airport Limited. As far as I am aware, that did not cause delay as an operating agreement was entered into well in advance of any operations. There were some elements in the airport agreements which placed obligations on CEC to consult with the airport, but I do not think they specifically caused additional delay to the Infracore or the design.

114. The process for the 'Prior Approvals' is as follows. The Edinburgh Tram (Line One) Act 2006 and the Edinburgh Tram (Line Two) Act 2006 authorise the construction, operation and maintenance of the tram within two limits of deviation. However, additional prior approval is required in respect of certain elements of the scheme, including buildings, which includes substations, tramstops and poles and also attachments to buildings, which would include building fixings (see section 74 of the Line One Act.). Class 29 in Part 11 of Schedule 1 to the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 provides that prior approval can only be refused if the element can reasonably be carried out elsewhere on the land specifically designated in the Act or the design or external appearance of the element would injure the amenity of the neighbourhood and is reasonably capable of modification to avoid such injury. For example, if a prior approval application was submitted for a pole the planners could ask that it be moved elsewhere within the limits of deviation or ask for a different type or design of pole to be used on the basis that the proposed design injured the amenity of the area and could be modified to avoid that. The process does not look at the need or principle of development as that has already been considered in Parliament. The prior approval applications were considered by planning officers (not the planning committee). That meant that the applications could be turned round quickly as opposed to councillors commenting yet again on something that had already been determined by Parliament.

115. As I have said, SDS were provided with support in connection with the prior approvals and a process was developed which involved the TDWG. An initial

package of design went to the TDWG for review and discussion before the applications were made to CEC. The CEC planners attended the TDWG and gave pointers on a pre-application basis. SDS may have thought that it was interference by the TDWG, but I would say that it sped up the later process. Thereafter, the applications were made to CEC. Sections of the route were submitted: for example, the whole design for St Andrew Square went in and the elements that required prior approval were specified on it. That gave the planners the context so they could see what it looked like overall. That worked very well and minimised the number of applications as otherwise there would have been hundreds. The plan set out in the ACMP for prior approvals is very detailed and I would say that it worked. The programme was not always adhered to and there were delays at times because SDS did not always produce the packages on time. Also, they sometimes swapped elements or different packages around, but CEC just dealt with them. As long as CEC got a package and did not get much more than expected, they processed them. I would say that the process for prior approvals did not contribute to the overall delay. My understanding is that they were obtained as required for the construction. It was a very streamlined process and everyone bought in to it. Also, to their credit the CEC planners often processed the applications quicker than anticipated in the programme.

116. I have said previously that I believe the 'building fixings' consent was another mismatch in the contract. Given that it was a consent, the risk of obtaining the consent was with SDS. However, as time progressed, D & W ended up doing them on behalf of tie. The process for that was as follows. SDS told D & W where the fixing was going and provided the necessary drawings, D & W served the necessary notices and if required prepared an agreement for negotiation and agreement the owner and then, once agreed, passed it for final approval to tie, CEC and Infraco. Arguably that changed the risk allocation as neither SDS or Infraco were leading the process for obtaining these consents. The agreement then formed part of the Infraco contract. I do not think that this process contributed any delay to the project as the necessary consents were obtained and/or agreement were entered into in time to allow the Infraco to do the necessary work although they were not all in place prior to the signing of the Infraco contract and sometimes negotiations did go right to the wire.

117. There was very limited listed building consent required as the Act gave consent if the building was listed in Schedule 10 to the Act. There was therefore an impetus to make sure the fixings were put on those buildings to avoid the need to get any additional consents. Again, because of the TDWG, Historic Scotland had bought in to where the fixings were going so that minimised the process and the need for separate consents.
118. There were some elements that required full planning permission (e.g. the substation at Cathedral Lane) but I believe that that was obtained on time.
119. I refer to an email (**TIE00072431**) sent to me by Aileen Grant on 1 September 2006 in which she expressed concerns about the traffic regulation orders (TROs). Initially it was intended that the TROs would form part of the bill but that changed. Richard Firth was the SDS lead in charge of the TRO Steering Group and he was keen to get the TROs on the radar as the process can be long and sometimes requires mandatory hearings, which could have been an issue for the project, causing delay. Ann Faulds at D & W was doing the legal work for the TROs and Gillian Smith (Senior Associate) and Aileen Grant (Planner) were providing assistance. TROs are totally dependent on the design output and you need to have enough detail to know precisely what you want to do on the street before you can apply for them. I think that CEC's roads department had raised concerns through the design approval panels about measures that would not be acceptable or had insisted, for example, that there be car parking spaces or a taxi rank in areas. In her email, Aileen expressed concern that the TRO Steering Group were possibly acting in a silo without any knowledge of the concerns raised by CEC. That was an SDS issue in that they should have been telling their TRO team what was going on. I think their TRO leader was a consultant and he was only there two or three days a week and that is why the problem arose. In the event, the TROs were all done in time. In order to get around the issue of TRO mandatory hearings, the law was changed so that no mandatory hearing was required where the underlying scheme requiring the TROs had been approved by an Act of Parliament. That meant that the risk of a mandatory hearing adding delay was mitigated

120. The temporary traffic regulation orders (TTROs) did not cause delay problems for the project either. A blanket TTRO was put in place which allowed any measure in detailed in the schedule to the Order to be imposed on any street list in the schedule (which included just about every street in central Edinburgh), provided it was signed on the street, giving people warning of it coming into effect. This offered Infraco absolute flexibility as they could draw down what they required when they required it. As Infraco started working they needed supplementary TTROs, but they were turned around within two to four weeks as CEC had a team dedicated to doing them and there is no objection process.

121. In an email dated 2 November 2006 (**TIE00002804**), Aileen Grant raised concerns with me about SDS's failure to properly engage in the process for "*test planning submissions*". This related to prior approval submissions. It had been decided that a test case would be brought before the TDWG to get the planners engaged. The plan was to show the planners what they were going to get in the prior approval applications so that they could comment on whether they wanted anything else or if they wanted it presented differently. However, there continued to be delay in the documents coming to the TDWG. I think that was because SDS had so many competing pressures. Consents follow on from completed designs and at that point SDS were probably still trying to close out PD1 and PD2. They may also have still been going through some of the charette changes. There were just so many competing pressures on the design leads that at the point they were meant to come to the TDWG, I think that they did not have the resource to do it. They were probably not prioritising it as, in their minds, there were too many other things that were more urgent. Aileen was trying to keep them on programme as she was aware that the prior approval process was going to be quite long. The email was really just a push to remind them to keep a focus on it. I said previously that the process ran smoothly once the test package was approved. At the point in time when the email was sent, there was not really very much you could do to pressure SDS into focusing on the prior approvals as they were being pulled in all directions.

122. I think the focus on the approvals and consents is a little bit of a red herring. I would not say that it started off smoothly, but it would be slightly misleading to say that that side of things caused a lot of delay. Building fixings were perhaps a little tricky because they came towards the very end, but once the plans in place the process ran relatively smoothly. Also, it might look as though the TROs caused delay because they were one of the last elements to be progressed, but they are design driven and cannot be done until you reach a particular point in the design

Interaction of SDS design and MUDFA contracts

123. In my view, the completion of work under MUDFA totally depended on design work under the SDS contract. SDS were designing all of the utility diversions. As far as I am aware, the MUDFA contractor had no design brief element in their contract. Basically, tie gave them the design and the necessary land rights, for example a licence entered into, with the landowner and they did the work. SDS did not require anything from the MUDFA contractor. It was difficult for SDS because it was not always practicable to design the utility diversions ahead of the rest of the tram design but the designs were required in advance of other elements of the design to allow the MUDFA contractor to start and complete the utility diversion works ahead of Infracore starting. This resulted in SDS having at times to do several iterations of the utilities design. I note that the original programme anticipated that the preliminary design would be completed before the MUDFA contract was awarded which would have made sense (see **CEC00779488**).

124. There was a tie person (I think it was Alasdair Slessor and then Graeme Barclay) who managed the MUDFA contract. I would not say that he managed the interface, but I think he requested inputs from SDS which went through Gavin Miller or Ailsa McGregor who then liaised with SDS. It was a bit convoluted. I seem to recall Alan Dolan (SDS) taking on more of a role in the utility designs at one point because the MUDFA contractor was claiming that the design was not fit for purpose which was preventing them from doing anything. There were interface issues from an SDS perspective as they had to re-do MUDFA designs

because of the inter-dependency/inter-relationship with the rest of the design (see also paragraph 125 above). Also, it became critical at times that the right design was produced because the MUDFA contractor had mobilised their men and were ready to work. I believe also that there had to be some re-jigging of MUDFA work programme at the last minute sometimes because designs were not available on time.

125. I believe it was originally intended that the design would be at a stage where it was possible to provide the MUDFA contractor with the utility designs and land licences to allow them to do the work as soon as the contract was triggered. The land side of things was fairly smooth. There were a few occasions when there was insufficient notice given to D & W to negotiate the licences and I do not know whose fault that was, but generally the process worked well. It did not, however, work as intended on the design side at the start of MUDFA. The design was not finalised at the point when the contractor had men on the street doing works, and sometimes a balance had to be struck between paying them to do nothing, paying for the MUDFA contractor to re-order his work programme and managing the risk that utilities might be put in the wrong place. The principle of diverting utilities as advance works was good, but the SDS contract and the MUDFA contract did not seem to work together and the timescales that each was working to didn't match.

126. In terms of whether it achieved what it was supposed to, the utilities were diverted but I think there were a few situations where they were not in the right place and that maybe constrained things later on. There might have been some delay at the start of the contract because it was triggered too soon (see paragraph 48) But I do not know, however, whether the delay impacted on Infracore.

Interface between CEC, tie and SDS on design and approvals

127. If I am asked to comment generally on the interface between CEC, SDS and tie on design and approval-related issues, to give a bit of context, tie was set up initially for the congestion charging scheme. All of the original people in tie had

public sector backgrounds. There were only around six or seven of them. They understood that CEC was the overall master and that tie was an agent for CEC. They used to do internal tie reports for approval by the board, and then reports to the full Council. They were not constructing anything at that point so it was different, however, CEC always knew what was going on and were asked for sign-off on things. As time went on, people with more private sector backgrounds took over key roles in tie and they did not have a previous relationship with CEC, did not always understand their reporting structures, or understand that the tram was a public sector project. I think that CEC expected the same kind of reporting/interaction on the tram project as they had had previously with tie.

128. I had weekly meetings with CEC line 1 (Iain Mathie) and line 2 (Cliff Hutt) managers during the parliamentary process. Barry Cross also attended those meetings. However, that level of reporting did not exist when it got into the SDS contract phase. I think that tie were expecting SDS to interface with CEC, but SDS probably did not realise the importance of that as they thought tie was their client. I would say therefore that it was a poor interface at the very start and there was a lot of friction between: tie and CEC; SDS and tie; and SDS and CEC – probably all of them being equally to blame. The interface between SDS and tie was very contractual, and I think that the interface between SDS and CEC was contractual in that their engagement initially before delivery of PD1 was almost a 'box-ticking' exercise. My perception was that tie reported to CEC when they had to out of necessity as opposed to keeping them on board and keeping them apprised of progress.

129. I would say that after the watershed moment when the preliminary design was produced, the interface really improved. There was a period of around one month when people were kicking back and talking about who was to blame for the situation. After that, all parties realised that it was in everyone's interest to make it work and that they had to get on better. The people on the ground put the contract to one side and got on with making it work. There were some really good relationships between the three bodies and I would say a lot of people can be commended for getting on with it. Also, matters improved a lot once a 'points person' from CEC was put in place – this was initially Duncan Fraser. The 'points

person' was a senior person who co-ordinated and managed the input from and consultation within CEC. So if SDS had an issue that required CEC approval but which would for example require input from the planning and roads authorities, they would advise Duncan who would liaise internally with the appropriate parties and would then confirm CEC's 'corporate' position to SDS. This meant that SDS did not get conflicting views from CEC and inputs were more managed. I do not recall exactly when the 'points person' was put in place.

130. I would say that the interfaces remained contractual at the higher up level as at that level they were looking at contracts, costs and who was to blame for what had happened.

131. In my opinion CEC, as promoter, planning and roads authorities, was not engaged in the design process early enough. As far as I am aware, they were not involved in the drafting or in discussions on the SDS contract. If they had been, and been open to being involved in this way, they could have given sensible input on the consents and approvals processes and outputs. They might have informed some SDS thinking and could at least have established some design principles at the outset of the contract. A tram design manual had been produced by the planners at CEC, either prior to or during the parliamentary process, but that did not cover how to deal with competing priorities (see paragraph 29) which would have been a good issue to bottom out early in the design process.

132. I did not get the impression that SDS understood the importance of CEC or that they were encouraged to speak to them. I believe that Ian Kendall did not understand the relationship between tie and CEC or that CEC had to be brought on board. I do not know if he had ever worked for an entity that was wholly owned and accountable to a public sector body. He would often ask me to go to a meeting with CEC and I felt that I was there to broker/manage the situation. I always felt that we were turning up last minute and asking them to approve something about which they had no real knowledge or understanding. Sometimes they were taken by surprise because they did not realise what we were there to discuss. I cannot think of specific examples at present.

133. Ian Kendall was not the most approachable person and certainly did not try to warm to or build relationships with CEC. Also, I think from CEC's perspective there was some resentment in relation to the salaries people in tie were being paid. They felt that tie employees were being paid a lot of money, compared to them, to deliver the tram, yet they were being asked to take responsibility and sign off on, for example the design and the terms of the legal agreements. I am not saying that Ian Kendall was responsible for that, but he did not help drive any partnership feeling between the parties and he could also be quite aggressive. I think that CEC would have got the feeling that they were a necessary evil that he reluctantly had to go to and get some approval from, as opposed to his acknowledging that it was their tram and it was right that their approval was sought.

134. Andie Harper took a very different approach to Ian Kendall. I think Andie realised that CEC had to be brought on board. That was perhaps driven a little by the fact that the preliminary design was so unacceptable, but he was a softer and more engaging character than Ian.

135. The tie Project Management Plan (**CEC00779488_25**) dated March 2007 refers to draft interface protocols between tie and CEC. My recollection is that this became a huge document. I think it moved from being a simple general outline of how we should engage, to trying to be everything to everybody. The intention was good but because of its size I am not sure that people adhered to it; at the very least it reminded people that they had to engage with CEC or that there was a process for bringing in CEC.

136. Geoff Duke described a process as "achingly frustrating" in an email dated 10 July 2007 (**TIE00071860**). I think he was referring to the lengthy protocol document previously mentioned (see paragraph 137 above). I think he was frustrated because so many people had to input before he could get the land protocols signed off, and he just wanted to get on with the job in hand rather than spending time trying to put protocols in place. The land acquisition was very smooth and did not cause any delay.

137. I refer to a note at paragraph 3.3 in the minutes of the meeting of the DPD sub-committee on 13 September 2006 (CEC01761655) which states that Andy Conway asked for a programme of project consents required from CEC so that they could manage their resources. I think this was produced by SDS although it would have continued to evolved with input from others. It gave CEC an indication as to when submissions were coming and I would say that it did help them to manage their resources.

Design charettes

138. Charettes is a planning term for a design workshop that engages various members of the community and stakeholders. It was quite a new concept back then, but now it is common for big design projects to have a charette process. The charettes were focused on changes that were driven by requests from CEC in response to PD1. The requests came at that stage because that was really the first time CEC had been forced to think about it. Had there been proper stakeholder engagement in the initial stages, maybe CEC's aspirations could have been considered at an earlier stage and managed better. The charettes were an attempt to get to an agreed position on some of the bigger issues/suggestions CEC had. These were 'big ticket' suggestions and were driven by what CEC wanted, not technical aspects of the design. For example, I remember there was considerable discussion around St Andrew's Square alignment (should it run on one or both sides of the square), Shandwick Place and the structures, in particular, Edinburgh Park Viaduct. Without a doubt the charettes process would have added some delay, but it is not as if everything else was sitting neatly in a box waiting for the outcome of the charettes. It would have delayed SDS being able to sign off preliminary design and move on to detailed design, but on the basis that that was fudged and SDS were allowed to go on to detailed design with the records of review and outputs of the design approval panels (i.e without having captured all of that in a PD2 drawing for each element), I do not think that a specific amount of time can be attributed to the charettes. Also, if the charettes had not been done, the prior approvals may not have been granted for some of the structures. The fact of the matter was that CEC's concerns and input had to be addressed at some point in the process.

139. The tie Monthly Progress Report for July 2006 (second bullet, paragraph 4.1) (CEC01758070) refers to change notices covering charette changes. I do not know what these changes are.

Preliminary design – implications of problems

140. The task which proved to be the most significant for the timely and cost-efficient progress of the project as a whole was the production and sign off of the preliminary design. In my opinion that is the crux of it. It was delivered late and the designs were deemed unacceptable. As I have said before, with hindsight, in my view, SDS had not used their time effectively up to that point. Arguably, with hindsight you could say that the contract did not have the correct risk allocation, was not clear on the outputs and did not capture exactly what was expected of SDS or the importance of stakeholder engagement particularly with CEC; however up to that point in time, SDS were in control and responsible for their own outputs and there is no doubt at all that their outputs resulted in delay to the project. Also, it is worth pointing out that I saw from the documents that were sent to me that the original date for completion of preliminary design was 31 March 2006, but that had slipped to 30 June 2006 by the time I went on secondment. And, on page 28 of the Project Management Plan dated 1 March 2007 (CEC00779488) there is a table of programme dates and the new completion date for preliminary design (i.e. PD2) is shown as 26th March 2007. That shows how much the programme had slipped at that stage.

141. I do not know how the preliminary design issues affected costs. I do not know if SDS got paid more because their contract was longer and because effectively preliminary design was done twice so there were therefore more outputs. There likely would have been cost increases to the project because it resulted in more people in tie (and TSS) doing the checking element and CEC also got extra bodies in so that they could provide their input and sign off. The change in risk allocation might also have had cost implications.

142. I have considered whether there was anything else of significance after PD1. I have said consistently that it was not the right time to put Infracore contract out to

tender. Although not an SDS point, I think that caused SDS to be less efficient and less able to close out design, and that must also have contributed to cost because Infracore must have priced in some risk as the design was incomplete.

143. The Monthly Progress Report for July 2006 (CEC01758070) at paragraph 1.1 refers to "*integration changes*" which were being incorporated into the design. I have looked at paragraphs 1.1 and 3.1 and it is not clear to me what the integration changes are. I am therefore unable to comment on these.

144. The Design Approval Panel process is described at paragraph 88. I would say that the process was generally successful. It led to the charettes (but there was always going to be a need for some kind of process to consider CEC's requests) and the planning summits, but at least it provided a structure as to how to resolve issues with the design. It gave SDS the steer they required to get to the next stage. It says in the Project Monthly Progress Report dated 31 July 2006 (CEC01758070) at paragraph 3.1 that it had "*not progressed as smoothly as had been hoped.*" I think that is poorly worded. From memory, the meetings had not started at that point so probably the report was referring to the fact that it took a month to get everyone engaged in the process. I have said before that there was kickback from CEC when they received the preliminary design drawings; however they quickly realised that they had to engage in the process to move the design forward.

145. The planning summits considered issues that representatives of stakeholders (in particular CEC employees) did not feel comfortable agreeing to at the design approval panels. Senior people such as Andie Harper and Andrew Holmes took part in the planning summits. This step was never envisaged in the contract at the outset. It was set up in retrospect to make sure that there was proper sign-off for key strategic decisions that affected the city. For example, one of the issues raised to that level was the question of whether the traffic could be taken off Shandwick place. Another was the layout at St Andrew's Square. From memory, the planning summit process was done concurrently with the design approval panel process. The meetings were on a Friday so the outputs from each week could be considered. I would say that the planning summits in themselves did

not cause additional delay. Perhaps some of the issues that were discussed caused delay. For example, taking the traffic off Shandwick place would have required more traffic modelling to be done to determine whether it was the right decision. I am aware that a large amount of the traffic modelling was re-done due to the designs in particular the junction layouts and priorities changing between PD1 and PD2. There was no contractual link between SDS and the traffic modelling contractors, but as the traffic modelling also supported the business case and the patronage and revenue generation predictions, that might be why there was no link. However, it was a significant input to the design and so with hindsight, perhaps that was not a good separation as it may have been efficient if SDS was in control of the modelling required for their design.

146. It is hard to say that one element caused delay because it was all so interlinked. However, I think that the whole process of getting from preliminary design to a level of design that could be taken to detailed design was a much longer and a more complex process than anyone had ever anticipated. Other processes which had never been envisaged had to be built in to get to that point and that inevitably caused delay. I do not know whether that was because the design was not fit for purpose or because there was not enough engagement between the key stakeholders, tie, CEC and SDS at the outset.

Novation

147. Geoff Gilbert prepared a paper entitled 'SDS Novation Issue' dated 18 September 2006 (CEC01793949) and I sent my comments on it to Geoff at the time. The paper states at paragraphs 2 and 3:

"2.1 The original OBC³ Procurement is based on SDS undertaking the design of the works under their contract with tie, largely completing this before award of Infraco contract and then the SDS design agreement being novated to the successful Infraco bidder.

³ Outline Business Case

2.2 In this way the detailed designs which have been warranted and validated as delivering the Tram system functionality are completed before conclusion of negotiations with the preferred Infraco bidder. This enables tie to negotiate a price with the preferred Infraco bidder with minimal risk allowance in respect of the design meeting the functionality within the specified constraints. This novation is therefore a component to the transfer of design and consent risk from tie to the Infraco...

3.1 SDS are uncomfortable with the novation given a clause in their design contract which provides the Employer (either tie or the Infraco Contractor after novation) absolute discretion to decide whether the design deliverables are complete. SDS are concerned that an Infraco may apply this clause unreasonably to avoid payment of the full amount due.

3.2 During the pre-tender consultations with Infraco bidders they have intimated that they may not wish to use SDS to do all the design, and in particular the system design (namely system integration) and those elements of the work that SDS would produce performance specifications for e.g communications systems”.

148. I questioned the information in paragraphs 2.1 and 2.2 as at that point in time we all knew that the preliminary design was not yet closed out and consequently that there was a risk that SDS would not finish their package of works within the timeframes set out in these paragraphs. We therefore knew then that the strategy could not be achieved. Given that, I questioned the assertion that tie were going to be able to negotiate a better price with less risk allowance because of novation. My point was that if Infraco were not able to do due diligence to satisfy themselves that they were comfortable taking on liability for the SDS contract, they would add an element to the price to cover that risk. That is why I commented on the paper that I was not sure that I agreed with that statement, as I was not quite sure that it was right to report it in that way.

149. In relation to paragraph 3.1, I made the point that we should perhaps mention somewhere the issue of SDS working for two masters depending on the progress

of the MUDFA designs. I was concerned that if you novated SDS in its entirety to Infraco, tie would have no relationship with SDS and would not be able to instruct them to do anything for MUDFA. While it should have been the case that all of the utility diversions were completed prior to novation, at this point, given the issues that there had been in progressing the utility works, I felt that there was a risk that they would not all be completed and hence the need to have the ability to instruct SDS to provide designs and other information to the MUDFA contractor after novation. I thought that that could have been an issue given where we were in the timeline, and that was something that had never been envisaged in the original strategy for novating SDS.

150. My point in relation to paragraph 3.2 was that the procurement strategy was being undermined and could result in elements of the design being paid for twice as tie would have paid SDS to have done that work under their contract and Infraco would also include a price within their tender prices for these elements too. I could understand why Infraco might want to design certain things, but SDS were contracted to produce the whole design and consents package.

151. The paper went on to state (at paragraph 4) what the position would be if SDS refused to novate. I made the point that the implications of that would be different depending on when it happened, and suggested that some thought should go into bottoming that out as soon as possible. The second bullet point at paragraph 4.1 states the following:

"In the absence of the novated SDS agreement the Infraco will include risk premiums around the performance of their design and on obtaining consents and/or seek to exclude liability, to a greater or lesser extent."

152. I thought that the above was not necessarily correct. If tie retained liability, they would have a remedy against SDS if something went wrong. Although it was not a great solution as compared to novation, I thought that no one had properly thought through the issue of where the risk would sit in the absence of novation.

153. The paper also states (at 4.1) that if SDS refused to novate, the delivery programme could be extended due to Infraco needing to engage another designer to undertake detailed design work. My point there was that this was a real risk, but arguably always a risk if Infraco wanted to design some elements – i.e. it was not only applicable in circumstances where SDS refused to novate. Arguably that could be mitigated by telling Infraco during the tender process that it was acceptable for them to design some elements but they had to do so within the same time frame; again, however, the ability to do that would depend on when it was confirmed that SDS did not want to novate their contract.

154. At paragraph 4.3 the paper says that: *“If Infraco’s views are ignored then tie will effectively be paying for work by SDS which is of no real value.”* I think that is right and that goes back to the question of whether the scope in the SDS contract was correct at the very start.

155. Paragraph 6.3 of the papers states the following:

“The Project will sound out the Infracos on a reasonable compromise position during the early stages of the bid period. However, to maintain delivery pressure on SDS there will be no negotiation of this issue until nearer the end of the bid period – say mid December.”

156. My concern in relation to the above was again about the procurement strategy being diluted. Instead of sticking to the strategy, tie was going to ask the Infracos what they would accept if they did not want novation. It is the same point I have made before about the procurement being driven by the bidders. I made the comment on the paper that it was too soon to have that discussion and that we needed to understand what the implications were.

157. Paragraph 6.4 states:

“To avoid unnecessary expenditure on detailed design that the Infraco bidders will not use the Project will settle on common position on the extent of design that they would accept from SDS. The Project will vary SDS’s contract to reflect this.”

158. I commented that we also needed to understand the implications of the above. From memory, there were two bidders at that point and they would have had different approaches depending on their expertise and who made up their bid teams. I felt that we were being driven again by what the bidders wanted as opposed to thinking through what was right and effective from our perspective. In summary, the novation issue was not straightforward, but I felt that the procurement team were jumping into a position rather than fully thinking through the implications of departing from the strategy.

SDS's performance

159. At the DPD sub-committee meeting on 14 December 2006 (CEC01789102, section 3.2), there was discussion about SDS, which included comments about: a lack of senior level of representation; tie's withholding payment from SDS; and whether there was adequate expertise in tie to manage the SDS deliverables. At that point in time, there was no senior person in SDS taking ownership and responsibility for SDS. There were three design leads for different sections of the route, Scott Ney, Kate Shudall and Paul Wilson, all reporting to Jason Chandler who was the project manager, but there was no high level project director (who was not involved in the day to day designing), who could deal with performance issues coming from tie. Steve Reynolds came in after that so that concern was addressed. Tie did withhold payment, and SDS also put in claims which were rolled up into a settlement in about March or April 2007 after Steve Reynolds came in. I recall Willie Gallagher flying out to the USA to meet with SDS people and I think it was agreed then that Steve Reynolds would come in at or after that meeting. The lack of a senior figure possibly allowed things to drift from SDS's perspective as there was no one there to manage the resource effectively. Also, the design leads were trying to be quite co-operative and do everything that they were asked to do by tie. They probably needed someone to take control and prioritise and manage what they were being asked to do by tie.

160. The point about the adequacy of tie's internal expertise might be connected to [REDACTED] being off sick with stress. [REDACTED] was a tie employee and the design manager for tie. He was responsible for managing the design process for tie

including liaising with SDS, reviewing outputs from SDS and responding to RFIs. [REDACTED] had been trying to do everything and probably there was not enough resource to support him. There was also a time (not sure if it was at this point) when TSS were less engaged and less visible.

161. In relation to the point at 3.2.3 about updating the Employer's Requirements when updating the specifications, I think that is right because there was a mismatch between the Employer's Requirements that went to Infracore and those that SDS were working from due to the evolution of the project, and efforts had to be made to get everything on a consistent footing.

162. Further discussion about SDS took place at the DPD sub-committee on 16 January 2007. I am referred to paragraphs 2.4.1 to 2.4.6 of the minutes (CEC01766256). The issue about the SDS programme was that they rolled out a new programme every month, but you could not look at the programme and benchmark it against where they should have been. It was always a new programme and therefore it was not obvious what was missed from the last one or where the criticality was. They simply kept missing milestones and kept moving them. There was a team in tie that analysed the programme month on month and provided comments. I think Tom Hickman did that. It was analysed by tie but because the end date never shifted, there was no visibility as to what it really meant. There was really no value in writing a programme as the milestones kept being missed.

163. The comment at 2.4.2 of the minutes is as follows:

"Concerns were raised about the practicalities of expectations and the changing priorities by different stakeholders on the delivery of SDS milestones. Late inputs from tie and CEC into the design process further aggravated the situation and MC raised concerns on the complexity of the SDS internal set up where information takes significant time to be updated."

164. At that point there were changing priorities and late inputs. I think that was a symptom of the fact that there had not been the appropriate level of engagement

from the start. It is easy to look at it in isolation and think that is what caused all the problems, but it was a symptom of something else.

165. The point about the SDS internal set up is fair. Sometimes the information did not filter through to the right people quickly and the designers continued to progress the design unaware of a change. That was also a problem within tie. Things were changing really quickly all the time and everyone was trying to keep up. There were design leads and they were responsible for filtering it down in to their team. Also, each team had a document control person so if you sent a letter from tie to SDS for the attention of a particular person, they were meant to filter it down. I think people within both tie and SDS were either too busy to look at things or it did not go to the right people or they were on holiday or doing something else. I do not know what the problem was; it just did not filter through right.

166. I cannot comment on the issues in 2.4.3 and 2.4.5 of the minutes. I do not know what the "Get Well" plan was. It was obviously recognised at that point that things were not going particularly well and dates kept slipping, which was the biggest risk.

167. It is difficult to say to what extent the delay problems were attributable to each of the parties involved. Everyone contributed some delay by their actions or inactions. You can say with hindsight that there may not have been any delay to the preliminary design if SDS had engaged with CEC at the start. Also it might have helped if CEC had full engaged with SDS at the outset. Everyone is accountable. It is difficult to apportion blame. Everyone could have done something differently to mitigate the delay. SDS are possibly more to blame than the other two. Tie appointed a credible designer and perhaps were entitled to think that they should know what was required. That said, I do not know what discussions were had with SDS at the outset or how the relationship between the and CEC, and CEC's role as promoter and ultimate owner of the project, was conveyed to them. I

168. As far as I am aware no discussion took place at that point (January 2007) about the potential impact of the delay problems on the procurement of Infracore. The ITN documents had already gone out.

Detailed design review process

169. Ailsa McGregor commented in an email dated 17 January 2007 (TIE00002051) that the detailed design review process was "*an already tight process*". At that point, tie would have been considering how best to manage the process for reviewing the detailed design. I think tie were looking for TSS to be more involved in managing it to help make sure that the deliverables were more fit for purpose than preliminary design. I am referred to the paper produced by TSS paper entitled 'Detailed Design Review Process' (TIE00002052). There had been no such process set out for preliminary design. The SDS contract required tie to review any deliverable for example the preliminary or detailed design within 20 business days but tie did not have a process which illustrated how tie would manage this review in order to comply with this requirement. Given the issues around the review of the preliminary design and the need to get sign off from various stakeholders it was important that a process was set so that the process and expectations were clear to all participants in that process. I think Ailsa's comment about the tight process relates to the 20 business day timescale, which reflected the 20 business day requirement in the SDS contract, set down in the flowchart in the paper, for the detailed designs to be reviewed and approved by all the relevant parties. The procurement process was also on-going at the same time and Infracore were probably making comments and SDS would also have been producing designs for Infracore. I think Ailsa was saying that in all the circumstances the review process did not allow much time for slippage or for anything to be fundamentally wrong with the design.

170. Theoretically there should not have been much wrong with it, but the design was messy because SDS did not get the opportunity to close out PD2 before the Infracore procurement got added to the mix. That meant that there was some uncertainty as to what the detailed design would look like for some elements because there were no PD2 drawings incorporating all of the comments and

changes. If PD2 had been totally signed off and Infracore were coming back with comments, at least there would have been a baseline to work from. Instead you had a PD1 baseline, extensive comments (and then some other changes since the design approval panel) and that had to be interpreted and designed. I am not certain who was instigating the changes; I think it was Infracore suggesting that they would design things. From memory, most of the CEC changes came at the earlier stage through preliminary design.

171. Ailsa also said in another email in January 2007 (**CEC01811518**) that "*we do not deal with the issues and just pretend they do not exist and are somebody else's responsibility.*" There were a lot of issues that were swept under the carpet. I used to say that the pile under the carpet was going to get so big that we would trip over it. These were issues that someone had to make a decision on at some point, but they were put to the side if they concerned something that did not fit with the programme. It was a case of keeping going because of the programme, but there was a feeling that it was going to come a cropper at some point. I cannot think of any specific issues at present but there seemed to be a lot. They concerned matters that probably could have been dealt with by people having a quick 'round table' discussion, but no one person felt that they could make the decisions. There was no ultimate owner or overall champion of the project. No one had the vision of what it was going to look like on the streets of Edinburgh. The project totally affected the infrastructure of Edinburgh and the aesthetics could not just be left to the designers, who were technical engineers. There needed to be an overall person who knew how it was expected to look, operate and fit into Edinburgh and could make decisions where there were conflicting priorities or tensions between the two strands (technical and aesthetic). There was no one who could do that and that is why issues were left unresolved. Also, some of the problems were considered to be Infracore's or SDS's, but that was ignoring the fact that the problems were not actually theirs as they were working to a client. I think that it was what Ailsa was getting at when she said they were treating the issues as if they were someone else's responsibility. She was closer to the issues that were coming out of design and probably was frustrated that they were not being resolved.

172. I do not know if the detailed design review process functioned well or met timescale expectations as I was not involved in it.

173. Douglas Leeming of TSS highlighted in an email dated 24 January 2007 (CEC01826407) that "*packaging of submissions*" was critical to success. This relates to the interoperability/inter-disciplinary aspect of it. SDS had people designing different elements of the system. The detailed design would have encompassed different layers such as: the existing utilities; the utilities to be installed; the formation of the track; the formation of the road around the track; the overhead line configuration; the fixings; the poles, etc. What Douglas was saying in his email was that there was no point giving someone one layer as you needed all the different layers in a section to make sense of it and sign it off. I think there had been some criticism of SDS for not having done that enough at the preliminary design stage.

David Crawley's review of the design review process

174. I do not recall being involved in the review of the design review process conducted by David Crawley in January 2007. It came back to me a little when I read the slideshow paper (CEC01811257). I think that the review might have been instigated by Matthew Crosse. The other people who were interviewed are: Graeme Walker (TSS); Douglas Leeming (TSS); Daniel Persson (tie); Gavin Murray (tie); Jim Harries (Transdev); Alex Joannides (TSS); Ray Millar (TSS); Jim Hunter; Martin Donohoe (TSS); Mark Bourke (tie) and Ailsa McGregor (Consultant). I cannot remember who Jim Hunter is so I am unable to comment on what he said to the review. A list of the comments I made to the review is on page 8 of the paper.

175. I made the comment about the consents and approvals being the biggest issue because there was a lot of work involved to obtain them and the process had not really started at that point; the whole focus was on getting the design fit for Infraco.

176. The next comment I made concerned the traffic light system, a system to grade issues as red, amber and green to represent their urgency/criticality, and how the design team were stuck with the red issues as there was no process for dealing and resolving them. This is the same point I made about issues being swept under the carpet. I felt that there needed to be some sort of escalation process so you knew to whom the issues should go for a decision. That was never clear throughout the time I was there. Alex Joannides, Ray Miller, Martin Donohoe and Ailsa McGregor all commented on decision making being a problem. New project directors came in and possibly did not feel confident about making certain decisions because they lacked background knowledge. Also, I got the impression that they felt they were not accountable for decisions that had been made before their time and consequently did not feel accountable for the project. I cannot remember who coded the issues red. It was possibly the design team. I think one of the issues concerned the alignment at St Andrew Square (whether there should be one or two tracks) and that got escalated up to CEC to be resolved. I cannot remember any others. I think a lot of them were technical.

177. My next comment was: *"-Procurement processes not obviously supportive phasing in design, approvals and contract letting"*. This relates to what I said about procurement leading everything. SDS were being asked to do key designs for Infracore and that was detracting from getting the rest of the design and approvals done. Had all that been done the contract could have been let very easily.

178. I also expressed concern about the consequences of several personnel changes and the difficulties in accessing information. There were many changes in the tie team and SDS at the lower levels (the design leads were consistent). Not many people had any background to the project or knew or understood the procurement strategy. At times that resulted in the blurring of lines because (in an effort to be helpful) people in tie were doing things that SDS were supposed to do, which led to SDS arguing that they were no longer responsible for those things.

179. The document management system in tie was not great. I think it got better as time went on. Documents went through one person and they stored it somewhere, but it was not always obvious to me where to find something. There was a lot of paper everywhere. Everyone was guilty of that. Also, some matters required input from several people which meant that a letter could be sent to about six people but no one knew who was responsible for responding to it. It was also the case that a lot of the knowledge did not exist anywhere in written form - it was therefore difficult to bring someone up to speed quickly when they joined the organisation. People were expected to find their feet and catch up.

180. I made the comment about there being little apparent acceptance in the team that design is an iterative process because I thought that people were sometimes over-critical of SDS for not getting something right first time. In my opinion, you would expect them to get technical aspects right but it is an iterative process especially when a lot of input is required from other parties. You might not expect a lot of evolution after you have signed off the preliminary design, but even then there may still be a discussion on aesthetics. The iterative process would have been at the start if there had been sufficient consultation with CEC.

181. I said that CEC were difficult to "*engage effectively*" because at times when you asked them for input on something they would say that it was not their job and that tie or SDS should do it. I think one of the reasons for that was that CEC do not have endless resources and felt at times that they were being pulled left, right and centre. There was a budget (as part of the grant funding from Transport Scotland) which helped to pay for additional resource for CEC, but often the resource was there at the wrong time because they were resourcing against a programme that was not being met. There was also an underlying feeling that tie staff were being paid big salaries to deliver the tram so the responsibility lay with them. I said previously that CEC engaged very well with the design approval panel meetings and it is true that many people on the ground did a lot to make the project work. However, I would say that the issue of tie salaries was always an underlying bugbear.

182. My comment about concerns over the governance of tie is linked to my view that tie did not act as a wholly owned subsidiary of CEC and therefore totally accountable to CEC. The requirements for reporting to CEC were not clear – i.e. it was not clear how and what should be reported. It was different from the congestion charging scheme where reports were sent to CEC on a monthly basis, irrespective of whether decisions were needed. Also, the reporting systems within tie were not clear. It was not clear who had authority to do what; how to report matters; or what was to be reported at each stage. I was never sure that the board directors of tie were really aware or understood risk and issues. In hindsight, I would be surprised if they were. Also, tie and CEC were supposed to be on the same side but it did not feel like that at times. That was partly because CEC had to look at their whole public transport provision, and tie were just delivering the tram. I said that that was a real risk to delivery and cost because they were working against each other, which added delay. There were different views as to what the outputs would be and different ideas as to what success looked like. It was not the case that the people in tie and CEC had a shared vision of what the tram was going to look like on the street – people were being pulled in different ways. I think there was a lot of tension in that respect and that probably caused delay and impacted on cost.

183. With regard to my comment about the risk being laid-off through contracts, I think tie genuinely believed that risk had been passed to SDS and MUDFA. I think that was naïve of them. It is all very well passing risk in contracts, but it will not stop the risk from materialising if the party it has been passed to cannot manage it. It is better to keep it if you are able to manage it yourself. I think what I meant by gaps and oversights relates to what I said before about no proper thought having been given to the role of stakeholders, CEC or how design was going to be signed off.

184. I said to the review that the programme was not sustainable and every one of the participants (with the exception of Mark Bourke) said something similar. Everything was being done in an effort to stick to a programme and nothing was being done particularly well or efficiently.

185. I suggested to the review that CEC should have desks in tie. It did feel a bit more like a team once CEC co-located. It allowed informal consultation instead of having to set up meetings to discuss matters that could be resolved fairly swiftly. That definitely helped engagement and promoted a greater sense of ownership on CEC's part.

186. I suggested using the hiatus of the political process to re-think the project because the focus was going to be on elections, not trams. I think there had been some assurance behind the scenes that trams would be funded if the SNP were elected because the project was so far down the line. In the Purdah period there is not a lot of political pressure to do anything and I think pausing the project could have been done quietly. I was suggesting a pause, as opposed to 'downing tools', so that we could identify the problems and how to resolve them. At that point there were two or three bidders but I think they could have been managed. I imagine that they must have thought that the procurement was a bit shambolic. They could have been informed that there was not going to be much interaction for around three months which would have allowed their tender teams to stand down and focus on something else. I think that possibly we could have caught up time if there had been a pause to re-think and deal with some of the issues.

187. Graeme Walker's comments are on page 6 of the paper. I cannot remember what his specific role was but he has focused a lot on MUDFA. Tie were responsible for providing MUDFA with the design and as I've said previously there was a lot of iteration of the design. That was partly because the ground penetrating radar which was used to detect the presence and location of the utilities was not very accurate. The concern was that the whole process of diverting the utilities was going to be bigger than anticipated. Apparently this is a common theme with tram projects and I do not think that tie could have done any more than they did to accurately locate the utilities.

188. The comment about the practical detailed design exceeding the planned scope appears to have been said also in the context of utilities. I know it was the case that some utilities were not so easy to move and that work had to be done to get connections in locations that were not on the tram route. I think that is

what Graeme was getting at. I remember that there was an old Scottish Water pipe that was not so easy to relocate. Graeme also expressed concern about utility companies laying down requirements that had to be adhered to when moving the utilities. The concern was that the scope was growing, and that would lead to delay because the MUDFA contractor would require more time than originally anticipated to carry out the works and increased costs because there was more work to be done and from memory the MUDFA contract was a re-measurable contract.

189. The comment about third party interfaces adding to scope and delay is the same issue as before. Tie had to enter into contracts with utility companies to get their agreement to do certain things. It was quite a package (designs, approvals and licences) that tie had to put together to give to MUDFA before they could start work. Also, some of the landowners such as Forth Ports put restrictions on working times so the MUDFA contractor would have had to mobilise and then demobilise. I think that the MUDFA contract did not anticipate that and it may have increased the cost.

190. Daniel Persson's comments are on page 7 of the paper. Daniel worked alongside Gavin Murray. He said that the biggest issue was RFIs (Requests for Information). These were written requests submitted by SDS, throughout the design process, for further information or clarification. SDS put their RFIs in a template table. It was a very contractual way of getting information. SDS sent a lot of them. There might not have been so many had there been sufficient consultation at the very start. I think tie had seven days to respond to the RFIs and usually did not meet that time frame. There was concern that tie's position was commercially weak as SDS were suggesting that they were being prevented from progressing with the designs because they did not have responses from tie. This comes back to my point about decision-making in tie and there being no overall owner of the project. Often Daniel, Gavin Murray or Geoff Duke would have a view on what the answer should be, but did not have the authority to sign-off on things or know who to go to for some of the answers. There was no proper process for dealing with RFIs. I think Andie Harper looked at them when he was there, but at the time of the review they were probably going to the tie document

management person who would take an educated guess as to whom they should pass them.

191. Tie's handling of RFIs definitely put SDS in a position where they could create cases against them. I know that some claims were discussed in about March/April 2007 and there was a settlement of some sort to cover work that was out of scope, but I do not know the specific details of the settlement.

192. Daniel said to the review that he felt overloaded as he was seen as the default source for RFIs. Some of the requests required input from third parties and Daniel was co-ordinating it all and trying to get responses in on time. Sometimes they required decisions to be made on the issues which were unresolved and so no-one was able to give a response. It was unmanageable. There was no proper process for RFIs because no one expected that there would be so many. Everyone was overloaded and the RFIs were not prioritised appropriately.

193. I agree with Daniel's comment that some of the queries should have been linked. SDS put in an RFI every time they wanted to know something. I do not know if that was intentional in order to overload tie and divert attention from themselves, or whether it was simply a case of their submitting an RFI as and when a question arose instead of waiting and sending one RFI for all queries that were linked.

194. Daniel also commented that internal communication was poor and that everyone was so busy. I agree with that. People did not have time to inform others about things and the assumption was that if someone wanted to know something, they would ask. I also agree with the comment about the organisation having unclear responsibilities. People had job titles but often got involved in matters that other people were dealing with. That muddied the water at times.

195. In relation to Daniel's comment that tie were under-resourced, I would say that they were under-resourced in the design team. However, people could have been more effective if the organisation had been better structured/managed and if

people had worked more efficiently. The way it worked in tie was similar to little kids playing football and all going for the ball irrespective of their position. In tie everyone would be round an issue when it came up even although there were another ten or so issues for example which required similar urgent attention.

196. I agree with Daniel's comment about the programmes. Gavin Murray, Martin Donohoe and Ailsa McGregor made similar comments. SDS's programme was a huge document and there was no time to go through it line by line. It needed that level of interrogation to understand it. It always looked like a new programme with new end dates. SDS were simply handing over the programme each month because they were obliged to. Several deadlines were missed and there was never any element of alarm about it. That might have been because SDS felt overworked as they were doing things (because of the preliminary design problems) that were not in the contract. There also appeared to be no contractual penalty or remedy for missing a deadline other than to terminate the contract for breach of contract. Also, the tie programme at that stage was more focused on procurement and the two programmes did not really link together; it was difficult to look at the two of them and figure out where you actually were. In fact, lots of different elements (such as land acquisition and TROs) had programmes and I doubt that all the dates matched up. SDS were churning out their programme month on month but did not adhere to it; and tie had their over-arching procurement programme which they were bashing on with regardless of deadlines being missed, and it was not all being drawn together.

197. Ailsa commented that the programme was not sacrosanct. I think she meant that there was not strict adherence to the programme. If that is what she meant then I would agree with that comment. At times people were told that something had to be done by a certain date and everyone sitting round the table knew that there was no prospect of it being achieved. Also, I remember Duncan Fraser telling me about a time when CEC were asked how long it would take to do a particular task. He said four weeks and was told that he had two. His position was that you could put two weeks in the programme if you were so inclined, but that did not change the fact that it actually takes four weeks to do it. There was a bit of that kind of mentality to the programme.

198. I think that Daniel's comment about "*constantly responding rather than being proactive*" relates to tie responding to Infraco's comments instead of thinking about the need to finish off PD2. I agree that there was too much reaction and that was about keeping to the programme and doing what Infraco wanted instead of sticking to the strategy. Jim Harries, Ray Miller, Martin Donohoe and Ailsa McGregor also commented on the project being reactive rather than proactive. Ray Miller probably saw that most acutely because TSS were called upon to act quickly without a lot of warning.
199. Douglas Leeming's comments are on page 9 of the paper. I have already touched on the first and third comments about tie not knowing how to use TSS to greatest effect. I think his comment about tie passing work to TSS when the problem had already happened is fair.
200. I think that Douglas made the comment about TSS's run-rate of spend exceeding what was necessary because it probably looked like TSS were quite expensive for their output. I agree that they possibly could have offered more value for money if they had been used in a better way. I am not sure that I understand the comment about TSS feeling ignored; tie were their clients and were entitled to decide whether or not to take on board their advice.
201. I think with hindsight that Douglas's comment about the lack of "*effective management processes*" relates to what I said about there not being enough thought put in at the very start as to how design would be managed.
202. I agree that the tram project team was not integrated. Jim Harries and Martin Donohoe also made comments to that effect. I think people were working in their own teams and were trying to cover their backs at that point. There was a bit of a blame culture. There was also a lot of in-fighting at tie. I think Jim Harries was right that it should have been one team regardless of where the individuals came from, but there was no cohesive team at that point. It did improve as time went on.

203. Douglas proposed that more experienced people should be brought in. Jim Harries made a similar comment. The project directors who came in seemed to have sufficient experience of running a big project. I think, however, that most of them had not been involved in actually delivering a big project. That is probably the experience Douglas was talking about. It would have been a better organisation if there had been more people with that experience, as that could have dovetailed with the technical experience of TSS. It is difficult to say at what levels the experience was lacking. With hindsight I wonder if the issue was the lack of clarity as to what people were doing, lack of clear job descriptions and delegation rather than a need for better people. Lack of consistent leadership may also have been a factor.

204. Gavin Murray's comments are on page 10 of the paper. I think his first comment about uncertainty as to whether everyone was doing what they should, is the same as what I said about people dabbling in things – it was easier sometimes for people to criticise other people's work rather than get on with their own. I agree with the comment that there was a poor understanding by many of others' responsibilities. There were times when people thought that something was being done by someone else, but it was not actually being done at all.

205. In relation to Gavin's suggested solution about the interface being more 'clever' with the interface with CEC, I think he meant that there was a need to ensure that the interface was with the right people. A lot of people in CEC had a view and sometimes you had to go round the houses before you got someone who understood the issue and could make a decision. That improved once a 'points person' came in (see paragraph 131).

206. Gavin commented that he was not happy with the resource demand to support the RAG traffic light review process. I think he was getting at the fact that a lot more processes than ever anticipated had been introduced to manage design, but the resource to manage it was the same.

207. Gavin was under a lot of stress and I think it was around the time of the review that he went off sick. It was difficult sometimes to see what progress was

being made because things were not happening in a linear way. Gavin would have seen PD1 and would have been expecting thereafter to see the outputs for PD2 before it progressed to detailed design. Instead of that, there was input from Infracore and that resulted in decisions being made to not do something and Gavin was not always asked for his view. There were therefore times when Gavin went to SDS about something and was told by them that tie had instructed them to stop working on it. I think Gavin felt that he was out of the loop, yet he was still expected to perform and do a job.

208. I think that Jim Harries' first comment (on page 11 of the paper) about tie having a long way to go to become an informed client comes back to the point about the level of experience within tie. Tie thought that they were an informed client, but I think that they did not really know how to manage contracts. I think Jim also felt that they were not willing to take on the benefit of others experience and knowledge to become an informed client.

209. I agree with the comment that tie was quick to blame others for failures and then took on the risk themselves. Sometimes they attempted to deal with something that was in the SDS contract (without thinking about the consequences) only to find out that there was an underlying problem and that they could not do any better than SDS. SDS were not performing well at that point, but the culture in tie was that it was all SDS's fault rather than considering the possibility that there was fault on both sides.

210. I think that CEC always wanted the tram and Jim's comment that they could not make up their minds is a bit harsh. I think the problem was that it had been given to tie and they were expected to deliver it. It might have helped if tie had been seen as the tram team of CEC in the same way as CEC have roads and planning departments. On the joined-up thinking point, I think the problem with a local authority is that the individual departments are so used to protecting their own elements and rarely have to work together on a big holistic project which requires compromise. On the tram project, we were almost asking them to forget their functions as authorities and that was difficult.

211. I have already touched on Jim's comment about feeling uncomfortable about the system interfaces. As the ultimate operator, he had concerns about the track and tram coming together and what that might mean for him in terms of liability if he could not operate. He felt that tie were not listening to his concerns.

212. Jim commented that there was no effective change control in place. He might have felt that the process for change control was not effective because there was a period of time when there was a lot of change which followed on from SDS catching up on engagement with CEC or because some people started work on changes before they had been contractually signed off and processed through the contract and so they were not being effectively managed. Perhaps there was an element of tie not saying no to the proposed changes in scope, but arguably that was not tie's place. CEC could decide to do something if they had the money to do it as it was their tram. I think tie controlled that as best they could. Perhaps they could have been more effective in controlling the scope when it was being dictated by Infracore. I think the comment is perhaps a bit harsh.

213. From memory, Alex Joannides (whose comments are on page 12 of the paper), who was part of TSS, helped Willie Fraser with change control. He said that the SDS contract was not being managed in the way it was written or originally planned. It seemed to be a complex contract for design services and became very time consuming to manage. There was a process for everything (e.g. requests for information and variations) which involved putting everything in writing. I can understand that from one point of view, but it took a long time to deal with matters as per the contract. For example, 20 business days to review a deliver is in reality a month which is a long time. It seemed to be manageable at the start but as we got further in to the project and as the parties became more contractual, it became more unmanageable to deal with things in accordance with how the contract was written. It was therefore managed in whatever way allowed the outputs to be produced

214. Alex also said that tie were not contractually minded. I think tie were aware to an extent of what the SDS contract did, but I am not sure that they were 'contract savvy' before they went into it. Perhaps they would have done things differently if

they had totally understood the terms of the contract and how it worked. I would say that Andie Harper was definitely aware of the potential for claims, but he had to balance that against the need to carry on delivering the project. Contractual issues/claims got parked (to be dealt with at a later date) in order to keep the design on track. Ailsa McGregor also commented that SDS were not being managed properly and I can understand why people were saying that. However, there was a concern that coming down too hard on SDS could halt the project and Andie Harper was conscious of that. I also said at times that we had to be harder on them, but I did understand Andie's position.

215. Alex commented that the culture was as good as you were going to get. It was not his permanent job so he was looking at it from a slightly different position.

216. I am not sure if Alex's comment that "*assumptions on design and procurement should be common but may not be*" is the same issue that I have touched on about the specifications for both being slightly different. If it is, I do not agree with his view that although "*not common*" they are good enough, because any mismatch is not good.

217. Alex said that the design review process had to be re-made for the detailed design process to work. I agree that was one of the risks. Given what had happened at preliminary design, it was essential that a proper process was put in place for the detailed design stage. Ray Miller and Martin Donohoe expressed similar concerns.

218. Ray Millar was the ultimate director for TSS. He commented (on page 13 of the paper) that it was unclear how the parties' roles aligned. I think that was right. At times it felt as if there was some duplication between what people in the tie design team and TSS were doing. For example, Gavin or Daniel could have been working on X, Y and Z while TSS were doing Y and Z. There might have been a reluctance to delegate because there was a blame culture.

219. TSS tried to be in the office for the most part but they were sometimes sent documents/design to review off-site. I can understand the comment about it

being challenging to do things remotely because it was not so easy to download large electronic files.

220. Ray's comments about there not being enough interaction with tie people and tie believing TSS were expendable are fair. I think that there was a slight culture of TSS being seen as a necessary evil.

221. I think that the solution proposed by Ray about cross-discipline meetings reaching agreements and conclusions relates to the point I made about people not being empowered or wanting to make decisions.

222. Martin Donohoe (whose comments are on page 15 of the paper) was a TSS person. He had a lot of technical rail and tram expertise. He stated that his biggest concern was information management. I think his comments are fair. There was only one person in tie who dealt with document management. It took a long time to put all of the preliminary design into the document management system. It was 10 years ago and IT was not that great then so I am not sure that tie was any worse than other places. I believe that there were situations where people were working on different versions of a drawing and did not know which version was the most recent. Also, it was not always clear that Infracore had been provided with the right version, or whether, when a version went out to them and it was known that changes were going to be made, a health warning to that effect was attached to it.

223. Mark Bourke (whose comments are on page 16) was 'corporate tie' as opposed to working on a specific project. I think his comment about contract issues "*festering with SDS*" is perhaps a little unfair. Andie Harper was aware of the contract issues and was trying to balance that with the need for SDS to carry on producing deliverables but it may have been perceived as though contractual issues were not being addressed.

224. Mark commented that good progress had been made. I can see why it maybe looked like that to him as matters had moved on since delivery of the preliminary design in June 2006. However, Mark was not involved day to day.

225. I do not know what Mark was expecting when he said: "*Positive transfer of risk as planned has not yet happened – but still can.*" The transfer of risk was being eroded as time went on and lots of changes were happening.
226. I had not heard of the Project Charter Mark spoke about. I was not aware that such a document existed until I read the slideshow paper.
227. Mark expressed concern about "*the potential conflict between the creation of an inclusive culture and the existence of parties contracted through 'aggressive' contracts*". In my opinion, there does not always have to be conflict in these circumstances: you can still have an inclusive culture and be respectful to the contractual lines. In this project, the tie/SDS relationship started off aggressively and I think it was hard to turn that round completely; I think that was always going to be a barrier to a totally cohesive team.
228. I agree largely with Ailsa McGregor's first comment (page 17 of the paper) about the progress of the project: it was really bad when PD1 was delivered; it got better when people worked together in the design approval panel meetings in an effort to get to PD2; and then there was a plateau because procurement was added to the mix. It probably felt to Ailsa that it had stagnated because there was so much more to do, some tasks had not been closed out when required and there was a lack of specific focus on specific tasks.
229. I think Ailsa's comment about resources is linked to the problem that people were not necessarily working the right way. There seemed to be a lot of people working in tie, but I am not sure what each individual contributed. There might have been fewer people, or slightly different people (in terms of expertise), if they had taken a top down approach focused on specific skills/expertise rather than from the perspective of finding roles for people already employed in tie.
230. Ailsa commented that poor value was being gained from "*some staff and contracted staff*". I think Ailsa was talking about TSS. I have already said that tie have to take some responsibility for how they used and deployed TSS. In relation to other staff, I think it depends on the culture you come from. Ailsa's

background was private sector and in that sector you are more conscious of the time it takes to do tasks because you are usually charging a client for your outputs. It is not the same in the public sector. I think the comment about TSS being ineffective is a bit harsh; they were probably feeling pretty disengaged at that point because of how they were using them.

231. I am not sure what Ailsa meant by her comment that the design review process was difficult to drive without line management responsibilities. Maybe there was a concern that people would not do their bit because there was no line manager to compel them. That was not a big issue in my opinion.

232. Ailsa proposed the following as a solution: "*Change the people that need changing + leadership from the top*". That is difficult one as change brings its own problems. People have weaknesses and strengths and I think there were situations in the team when people had to do tasks that were not within their range of core skills; it would have been better to address that.

233. In terms of leadership, the project did not have anyone who ultimately had ownership of the decisions. There wasn't one Project Director who led the project through the critical points from Summer 2005 until the award of Infracore in 2008. I do not know what contract discussions took place with the various project directors - perhaps it was known that they were only coming in for a specified period of time. It might have helped if CEC had had a shadow champion who shared the decision making with the project director. The project needed someone to feel responsible for it and I do not think that team did, particularly as time went on.

234. The people who were interviewed for the review had already voiced their concerns in the workplace. I think Matthew Crosse had just joined at that point, but if Andie Harper had still been there he would not have found any of it surprising. When I read through the paper there was nothing that jumped out to me as being different from what people were saying at the time. Some of these issues were so fundamental that it was not possible to address them unless the project was paused. It would have taken time to figure out what had to be done

to get a proactive team in place and for design to catch up. Everyone was consistently saying either you are not going to meet the programme or you need to do something very different to meet it, but the people who were in charge of the programme were of the firm view that it had to be stuck to regardless of what people said

235. The review took place around the time when my involvement in the project was reducing. However, I do not think that any fundamental changes took place to make the whole thing better. There was still that underlying feeling that everyone just had to get on with it; the procurement programme dominated and compromises had to be made to achieve that.

Stress in the tie design team

236. I refer to an email in February 2007 (**CEC01826570**) which shows that there were problems with stress in the tie design team. The tie design team was Gavin Murray and Daniel Persson, bolstered by TSS people. Gavin and Ailsa McGregor did not get on. Ailsa was very process driven. She was similar to Geoff Gilbert in that things had to be done her way. She was very focused on the contract and managing change but was not a very good manager of people. Gavin was not so good at managing process. At times he was too helpful to SDS and did not recognise the contractual relationship. Ailsa was quite critical (I think unfairly) of what Gavin was doing at times and he was under a lot of stress when she did that. Both he and Daniel were under a lot of pressure. I think stress was a wider issue in tie but I was most aware of what was going on in the design team. Most people involved in the design would have felt some kind of stress/pressure. There was a blame culture as well. It was not a great environment for people to work in.

237. I think the resourcing of the design team was done initially on the basis that the risk had been passed off to SDS. The expectation was that SDS would deliver the suite of documents and not much input would be required from tie. In hindsight, someone should have recognised that there was not enough manpower to manage the design when the problems with preliminary design

became known. The need to manage the design process in a way that was not foreseen in the contract added to the stress. Gavin and Daniel were required to do a lot more than was ever intended and they were fire fighting. They had TSS people but I think they felt at times that it would take more effort to get someone up to speed on something than to do it themselves, so that was not the most effective way to increase the resource. It got better when CEC co-located. However, I would say that how the design process was ultimately managed impacted on the resource that was required and it was never manned-up appropriately.

238. I refer to an email (**CEC01767175**) from Matthew Crosse dated 6 February 2007, in which an SDS improvement plan is mentioned. I cannot say what that was as I do not remember it.

239. Aileen Grant sent me an email (**TIE00070314**) in February 2007 in which she raised concerns about the prior approval consultations. She said she was concerned about the "*incremental approach being taken by SDS*". Looking back, I think SDS were doing things bit by bit at one point possibly in an effort to try and keep up. I am not sure if that is what the email refers to.

Tie instruction of SDS

240. I sent an email to Matthew Crosse on 9 February 2007 (**CEC01826622**) in which I expressed concern about the way in which SDS were being instructed. The different teams in tie were operating in silos to an extent. That resulted in SDS being told at times to stop working on something that previously was considered to be a priority and to start working on something else. For example, if it was known that the MUDFA contractor was going to be on site somewhere on the Monday, demands would be made for SDS to produce that design. It was almost a case of SDS responding to whoever shouted the loudest, as opposed to a proper process where someone was managing the overall programme and outputs. I was also concerned that people were giving instructions to SDS in isolation and were not thinking about the potential knock-on effect on other workstreams. Also, if SDS were downing tools on one aspect, the relevant people

were not always told that was happening. The SDS resource was not being used properly and they were being prevented from being proactive. It was difficult for SDS to get to the point of completing anything. No time was given to allow them to catch up properly as they were pulling them in different ways. This was symptomatic of how they worked with the programme and with SDS.

CEC design changes

241. An email in February 2007 (**CEC01791335**) refers to a £500,000 cost increase for centre poles at Edinburgh Park Station. Some cost increases did result from changes instigated by the CEC. It was their tram and in my view they could decide what they wanted on assumption they could find the additional funds to pay for it. Also, CEC could refuse prior approval if the aesthetics could be improved. In any event, I believe that compromises were usually reached once the implications of doing what they suggested were explained to them. There must have been some delay because discussion on proposed changes took place and some elements were re-designed, but that was possibly subsumed in the overall delay. This all comes back to the issue of insufficient initial engagement with the Council. I think part of the problem was that CEC knew that they wanted a tram but did not know what they were expecting it to look like. When they saw something down on paper, they were then better able to articulate what they wanted.

SDS notices of delay

242. Ailsa McGregor sent me an email in February 2007 (**CEC01790193 & CEC01799897**) with two schedules of letters from SDS about delay attached. The subject heading for one of the letters is 'Notification of delay- SRU Accommodations Works'. I think that required third party/CEC input so I believe the letters were about delays at the end. That was at the point when SDS were more contractual. I think these letters were to protect their position and to set up some kind of claims/contractual discussion. At that point Steve Reynolds had come in and he was possibly trying to get some control back; he might also have been telling his team that they could not just keep reacting.

Length of tram

243. I do not know for definite how the uncertainty about the length of trams impacted on the cost and timescales for production of designs. All of the companies that manufacture rolling stock have different lengths of trams. Specifying a precise length in the ITN would therefore have reduced the number of bidders. I think a range of lengths was specified when it went out to tender. SDS were told it was a nominal 40 metres. In the event the tram was 43 metres. SDS therefore had to do further work. I do not know whether a difference of 3 metres resulted in much more re-work than anticipated or how long it took to do the re-work. There must have been some delay to re-work and test everything. I do not know what the cost implications were. I think that SDS might have looked for further payment if the re-working was significant.

Traffic modelling

244. There was a group that met once a month to talk through all of the traffic management issues created by the construction and operation of the tram. My recollection is that the parties who attended were CEC, TEL, Transdev, Lothian Buses and the emergency services. The biggest interchange was at Haymarket and this had implications for taxis and buses. My understanding is that the group met and gave input to SDS. I think what happened was that everyone got round the table and looked at it from a design point of view. SDS then designed it and it went to the traffic modellers. Iterations would have come out after the traffic modelling was done. I think that is how it worked. The slight difficulty with this was that SDS did not instruct the traffic modellers. They were instructed by tie through the Joint Revenue Committee (JRC) contract. To me that is a bit odd, as I would have expected the designers to be able to instruct them because the traffic modelling impacted on how they would design the whole area. I do not know how successful the whole process was. Given when it was all happening, it probably did introduce some delay. However, the interaction between the parties was the right thing to do; I think the issue is that it did not happen soon enough. I do not know whether it resulted in additional cost. I imagine the cost would have been built in, but I am not certain about that.

Balancing competing stakeholder interests

245. There were some key sections of the route in relation to which it was difficult to balance stakeholders' interests, and documents **TIE00041182** and **TIE00043522** are emails (dated May and June 2007) which give a flavour of the difficulties facing SDS (the first concerning the design of the interchange at Haymarket, and the latter St Andrew Square). CEC tried to manage this by having a 'points man' in place who could make corporate decisions for CEC. It would have been useful to have had a champion within CEC from the outset.

Improvements introduced by Steve Reynolds and Matthew Crosse

246. Steve Reynolds and Matthew Crosse presented a paper entitled 'Improving Design and Engineering' (**PBH00021285**) at the DPD sub-committee on 13 February 2007. I have looked at the problems identified in pages 7, 8, 9, 10, 11, 13 and 14 of the paper. There are five bullet points which relate to tie on page 7. I would say that these comments were fair at that point in time, and had arisen because tie had been proceeding on the basis that design was simply going to be a 'tick box' exercise for them. Page 8 sets out the problems SDS were suffering from and I agree with these. I agree also with the bullet points on pages 9 and 10. Page 11 sets out some of the actions taken to try to improve matters and I would say it is a fair summary of the bigger things that were done. There are eight bullet points on page 13 under the heading of "*Constraints*". I do not understand why the number of stakeholders was considered a constraint. Had they dealt with stakeholders effectively at the outset, that could have been a positive. There was a lot to do at that point in time; that is probably why it felt like a constraint. I did not consider the office space to be a big issue. I agree that there were constraints around the project structure (e.g SDS not having a direct relationship with the traffic modellers) and that the SDS contract was a constraint. I do not understand why they have put "*duty of care*" as a constraint. That perhaps illustrates that SDS did not understand tie was wholly owned by CEC. I do not think it was a constraint as it did not add any additional duty. Also, I do not understand why SDS were saying in 2007 that the risk transfer was a constraint; they signed up to it. Similarly, I do not understand why the "*statutory*

responsibilities” of CEC was considered a constraint. Nothing had changed between the contract being signed and that point in time – CEC always had these responsibilities (i.e. roads and planning). Perhaps people did not understand that. The last bullet point relates to TPB governance. It is standard project control for matters that have implications for programme or budget to go to a board. Perhaps they were referring to the timescale being too long as the TPB only met once a month. I have worked on other projects where the commercial boards have met as frequently as once a week, which speeds up the process.

247. The list of constraints continues on page 14, where there are four further bullet points. I do not agree with the first point about novation; SDS were either going to be directly liable to tie or liable to tie through an Infraco. The next point concerns “*contract imbalance*”. I do not know what they meant by that. Maybe they thought that SDS had all the risk while, on paper, tie had no risk; there probably was an element of truth in that depending on how you viewed the contract. In relation to the point about “*current financial position*” meaning “*rush to the finish line*”, I do not remember whether it was becoming financially tight on affordability at that point. There was, however, the issue of the election coming up and there was a bit of a drive to get to the point where the project was so far along that it would not be dropped. I do not agree that that would necessarily lead to a risk of contractual claims; there is no need to think about claims if both parties are honestly doing what they have to under the contract. I agree that “*inefficient processes*” between the parties was a constraint. These were largely from the contract and were probably more obvious at that point because of the way that changes required to be dealt with.

Reduction in tie design review

248. It was proposed in the paper that there would be a significant reduction in design review. There was more collaboration between parties in the production of the design at that point so I think that philosophy was sound. I cannot comment on the impact of this proposal.

249. Following the above presentation, Steve Reynolds produced an internal weekly report dated 23 February 2007 (**PBH00021529**) which referred to the change in the design review process and stated that it focused "*more on PB self-assurance and less on the time consuming independent review process employed to date*". I think that was probably a reference to TSS's involvement. TSS were never meant to be the independent reviewer; they were doing the review on behalf of tie. The aim was for more reliance to be placed on SDS to produce the design with less of an independent check. Arguably, that is what should have been happening under the contract anyway. I do not know if that eventually happened. If it did, it should have reduced the timescale and costs.

Critical issues

250. There was also a proposal to deal with 'critical issues'. The paper I prepared for the DPD subcommittee meeting in March 2007 (**CEC01790790**) concerns the 'critical Issues'. These were matters that were almost stopping the design from progressing and needed a decision from someone. There are examples of the types of issues in the paper I produced. At this point there was a forum to close out the 'critical Issues'. Previously they had either been pushed under the carpet or discussed round the table, with no decision being made. Some of the issues went on to be discussed at separate meetings and some had separate workstreams. Tie controlled the meetings and SDS, tie and CEC attended. I reported good progress in the paper and I would say that the process that had been introduced for closing them out was a good one. I have said before that there were issues that were swept under the carpet and no decisions were made on them. The 'critical issues' were key design issues, but there were other issues that were not part of this process and needed decisions elsewhere.

251. From memory, the "*clearing house*" referred to in the papers for the May 2007 DPD subcommittee meeting (**CEC01567148**) was a forum where outstanding SDS issues were discussed and resolved round the table or, if not resolved, actions/owners were identified to ensure that they would be closed out. I think this is the forum that dealt with the critical issues.

252. In terms of whether the 'critical issues' were causing the delays, that was the case at times and that was tie and CEC's fault for not making decisions. However, as I pointed out in my email dated 21 June 2007 (TIE00041329), I thought that SDS sometimes hid behind the 'critical issues'. It was easy for them to deflect from their performance at times by saying that they had not done something because of an outstanding critical issue, but they were competent designers and they could have taken the initiative to sort it out and come up with solutions. Also some of the issues concerned matters that everyone knew about, but there were others that popped up at times and the first you heard about them was through a letter from SDS. You would then question why it was only coming up now if it was so critical. I cannot remember specific examples. At times it felt that it was convenient that the 'critical issues' were there because it deflected from scrutiny of the reasons why SDS were behind.

Tony Glazebrook and David Crawley

253. I do not know what impact the appointments of David Crawley and Tony Glazebrook had on the production of the design. I worked a little bit with Tony, but was not in tie on a daily basis then and I do not remember David Crawley.

Value engineering

254. I do not know what Steve Reynolds meant when he said that the way in which the bidders' requests for information were being handled was "*likely to reduce the effectiveness of tie's value engineering initiative*".

Misalignment with design

255. The reason why there was misalignment between the Employer's Requirements which the Infracore bidders had been given and the system requirements on which SDS were preparing the detailed design is as follows. SDS's System Requirements were prepared before the end of the parliamentary process and several changes were made by Parliament (see paragraph 80). In addition, SDS's requirements were not always updated to show the changes that

were instigated as the project evolved during the preliminary design phase; however, these were captured in the Infraco documents. Also, changes were discussed during the dialogue with bidders and were not always recorded/captured and accordingly not conveyed to SDS. I do not know what was done about this or whether any gap analysis was successful.

256. I agree with Steve Reynolds' view that there were challenges in the design process. There were always going to be challenges because of the nature (designing a tram through a world heritage site) and size of the project. I have said before that all parties are to blame for the delay. I also think that tie was not a strong or experienced enough client to manage SDS (I say that with hindsight).

Change process

257. The SDS change control process was slow, very contractual and paper driven. From memory, I think it took 20 working days to change anything. I agree with Steve Reynolds that there was a need for improvement to encourage people to record change and maintain a better audit trail. I do not know what improvements were made.

SDS claims against tie

258. I have looked at an email sent by Steve Reynolds on 28 February 2007 (PBH00009747) about his report. He said that contract negotiations, the review process and funding were "*not impacting progress at the moment*", and that the additional delays at that point "*can be attributed to the critical issues*". I think he might have been referring to the claims from SDS as opposed to contract negotiations with Infraco bidders. I think there may have been a feeling in tie that SDS were stalling because of outstanding claims. There is mention in the email chain of unapproved variations to the value of £2m. I do not think that SDS were slowing down because of that; the contractual issues did not necessarily involve the designers on the ground.

259. In relation to Steve Reynolds expressing concern at SDS's "*apparent underperformance*" in pursuing their case for variations, both tie and SDS were to blame for not dealing with variations in the manner set out in the contract. In some cases, the people on the ground were dealing with the variations as if they had been agreed, even although they had not been formally agreed. That is because the design needed to be progressed and people were doing what they felt they had to keep the design moving, and the paperwork was falling behind.

260. I do not know what happened to SDS's claim for extension of time and to tie's preparation of a counterclaim. Ailsa McGregor's email of 27 March 2007 (CEC01670219) refers to "*the current partnering ethos*" between tie and SDS. There were two ways that the SDS contract was being managed – the people on the ground were working collaboratively and the contractual matters were being dealt with at a more senior level. I would say that tie did not manage the contract as contractually as they could have done. I think that they were more reactive to SDS, and that there were three reasons for that: tie wanted SDS to perform and keep going; tie did not have the experience of managing a contract or understanding of what could be done under the contract; the contract did not provide helpful remedies. There is reference in one of the documents I have looked at about a plan for termination of the SDS contract – that is pretty drastic. Possibly that was being considered because as far as I was aware there were not many, if any, other remedies in the contract to allow tie to kick-start the performance.

261. In emails in March 2007 (TIE00067774, TIE00067777) Aileen Grant raised concerns about the quality of plans and identified improvements which CEC had asked for, which included a need for tie to "*up the ante*" and "*to take on board fully its responsibilities of governing the design.*" I agree generally with Aileen's comments and CEC's concerns. I think that there was an improvement in the quality of the design and plans as evidenced by the fact that the prior approvals were obtained.

Risk registers

262. The primary risk register enclosed in the papers for the DPD subcommittee meeting in March 2007 (CEC01790790_27) shows risks 279 (delay in third party consents) and 271 (failure to reach agreement with CEC on approvals) as being behind programme and graded high risk. In relation to risk 279, the reason why it was red was because the prior approval package had not been delivered at that point. The package was probably then delivered and that is why the minutes (CEC01361501_4) show that the risk was expected to move to amber. I think it was probably expected that risk 279 would also move to amber to reflect the on-going work. It was fair to move the risk to amber; that means that it was still being monitored, but was no longer critical. Risk 870 (delayed design information for Infracore) was graded as high in the risk register. There was no attempt to move that from red. It was a key risk and I assume that none of the treatment plans were sufficiently successful to allow it to move from red. I think the subcommittee were taking a fair and accurate view of these risks. With hindsight it might look as though there is not a lot of detail in the register but everyone knew what the risks were.

263. The papers for the May 2007 DPD subcommittee meeting (prepared on 20 March 2007) (CEC01567148_29) noted that a new risk (risk 52 – amendments to design scope from current baseline) had been added to the Primary Risk Register because *“the magnitude of change being requested over and above baseline has reached the level where the project is at risk of becoming unaffordable”*. There were so many changes being agreed to by many people (perhaps without regard to the consequences). I do not think that the changes were coming from CEC at that stage, although maybe earlier requests were still being assessed. There may have been changes coming from the Infracore. I cannot comment on the treatment strategy for this as I do not recall it and it is not in the papers sent to me.

Tony Glazebrook comments

264. I do not know what Tony Glazebrook meant when he said in an email in March 2007 (CEC01672004) that "*there seems to be much misinformation surrounding*" TSS's report on SDS's preliminary design.

265. I have no recollection of the paper Tony Glazebrook presented to the DPD subcommittee meeting in March 2007 (CEC01623194_11) outlining proposed changes to the design approval process.

Concerns about tie's reporting

266. I sent an email to Matthew Crosse on 16 April 2007 (TIE00070562) as I had not been invited to a meeting and wanted to let him know about some concerns I had. One of my concerns was that we were continuing to incur TSS costs on the design review as it was still being reviewed in the old manner as opposed to only reviewing around 25%. I also repeated a concern about advance works and MUDFA and said that: the board papers were confusing; TPB were becoming suspicious of tie's reporting; and there was a prospect of forthcoming TPB meetings being difficult. I do not know why the full design was still being reviewed at that point nor what was done about it after I raised the concern. I do not know if they ever got to the stage of only reviewing a percentage of the design. I cannot remember why I said the board were becoming suspicious – perhaps some people had spoken to me or questions were coming back from the TPB.

Miscellaneous emails about design – 2007

267. Tom Hickman (TSS) sent an email in April 2007 (CEC01625056) showing ongoing delay in the SDS programme. It shows eight areas where preliminary design was not complete and fifty one areas where detailed design had slipped. This is serious as, at that point in time, the preliminary and detailed design should have been closed out. The email shows that it was never getting to the point that design had stabilised and was on programme. As far as I am aware, this kind of interrogation of the SDS programme was not happening at an earlier stage.

268. Architecture and Design Scotland made comments on the design in April 2007 (**PBH00010340** and **PBH00010341**), one of which was that there was insufficient design vision. It might have been helpful if the comments had been received earlier, but this was maybe the earliest point they could do so as they had to have sufficient detail. I do not know whether SDS engaged with them at the outset; that would have been useful. Architecture and Design Scotland were however on the circulation list for the TDWG papers so received agendas, papers and minutes of meetings so they should have been aware of how key elements of the design were progressing. There is also a difference between engineer drawings which is what SDS produced and design drawings, which may have been what they were expecting to see.

269. Tony Glazebrook's email dated 13 April 2007 (**CEC01663582**) specifies issues for discussion with Jason Chandler. This seems comprehensive. I would say points 1, 3 and 4 (all of which concern unresolved issues) were key for progression of the design.

270. I cannot comment on the view Ailsa McGregor expressed in her email dated 10 May 2007(**CEC01626391**) that SDS had under-resourced the project during the RDP phase. Ailsa also commented on surveys taking longer than expected. The results of the surveys were not always reliable which meant that some had to be done more than once and were more extensive. Ailsa also referred to difficulties in sourcing historical data "*for the tie claim*". The document management process in tie was not good in the early stages. That was the case from the parliamentary stage until 2006, when someone came in and a system was set up. It improved after that. I cannot remember precisely when that happened.

271. I refer to a draft paper by David Crawley which was included in the papers for the DPD subcommittee meeting on 7 June 2007 (**CEC01522629_55**). The paper provided an update on progress with SDS design work and referred to an agreement having been reached with SDS on the provision of designs in section-by-section packages. The agreement on the packages was to address the issue of SDS providing incomplete packages. Given that a reduction in the level of

design review had been agreed, it was essential that SDS provided the full package (including their design assurance statement) for each section. I cannot comment on the assertion that the rate of delivery of the packages had to effectively double for the programme to be met.

272. The extent of my involvement in considering the claim which is referred to in an email chain in June 2007 (**CEC01630063**) was as follows. Lesley McCourt (who was a tie employee and legally qualified) and Matthew Crosse were dealing with it, and I provided information about the Act (such as the powers and limits of deviation) and how that influenced the scope of the SDS contract. SDS were trying to argue that their scope was purely in relation to the design within the limits of deviation. I do not know whether the claim was progressed.

273. Ailsa McGregor raised a number of points concerning disputes between tie and SDS in an email dated 19 June 2007 (**CEC01630532**). My understanding of the points raised in Ailsa's email is as follows. SDS were making claims for work that they considered to be changes. They never considered the possibility that tie were due a discount for the things they had not done. SDS would have been seeking the extension of time because they felt a lot of the delay was down to decisions not being made by tie. I think that the contract probably did not deal with the 'critical issues' nor foresee the charette changes. Similarly, the role of CEC was not really foreshadowed in the contract. I think that sign-off of the design by CEC would have been a key contract change (point 9 in the email refers). The role of tie was also changing/growing all the time and the contract did not envisage tie doing as much as they ultimately had to do. The impact of tie's procurement strategy was that SDS had to be more reactive to tie's procurement programme and to what the Infracos wanted; they were asked to do various things for both Infraco and Tramco. There were also changes filtering through such as the length of the tram being finalised after the procurement of Tramco. In relation to the utilities, there was delay in the design which impacted on AMIS performing the diversions and that was also an iterative process for SDS. All of the points raised in the email were live contractual issues which tie needed to discuss. I do not know how they were addressed and resolved.

274. I was critical of the information in SDS's programme (version 16) in an email dated 21 June 2007 (**TIE00043716**). I was concerned that the SDS programme did not seem to show interdependencies or connections between activities. It seemed to me that each activity was programmed in a silo and accordingly it was not clear to me that the programme actually worked or could be met. Also, certain timescales in relation to the prior approval process (such as the periods for pre-application consultations, submissions and consideration by CEC) had been agreed and these were not correctly reflected in the programme. From memory, the period for consideration by CEC was sometimes reduced in the programme to meet an overall end date, even although a realistic time frame had already been agreed with CEC. This made a bit of a mockery of the robustness and achievability of the programme. Further, the SDS programme did not seem to fit with the project programme (e.g. the key dates for procurement). From memory, this meant that any changes to the SDS programme had to go through the change process. I think the issue was, although the project and management was driven by the programme, there was no realistic achievable universal programme in place; there were various programmes which seemed to constantly change.

275. I refer to an email exchange between tie and CEC in July 2007 (**CEC01675773, CEC01675827**) in which CEC expressed concern about the design submission packages being incomplete, and Tony Glazebrook said "*We have to find a way of progressively accepting design or ETN won't happen*". My understanding of this is that CEC were still not getting the full packages of design drawings nor the assurance from SDS to enable them to effectively review and sign-off the detailed design. SDS had committed to providing these full packages but were unable to do so (one of the reasons being that the traffic modelling had not been completed). However, because they were trying to meet procurement dates, they were trying to progress the design and get sign-off, even although it was incomplete and subject to change. I do not know what was done in relation to this issue.

276. I cannot comment on whether the subject matter of an email in July 2007 (**TIE00492237**) is typical of the way design, stakeholder input and procurement interrelated as I was not close enough to it at that stage.

277. I cannot comment on the proposal for a new design review process made by Andy Steel (TSS) in an email dated 2 August 2007 (CEC01551796).

278. Ailsa McGregor summarised (in an email dated 23 July 2007) the issues which she saw as relevant in allocating responsibility for delay in the design (CEC01629062). The email contains 18 points and some additional information. I agree generally with Ailsa's summary. I cannot attribute delay to parties in the way Ailsa has, but I think there was more delay than what is set out in the email. In relation to point 3 (which relates to the RDP stage), Ailsa said there was a delay of three months. I think that a lot of that work might have been abortive anyway because there had been no input from the parliamentary process and I did not meet with SDS and do the brain-dump until about April 2006. Point 8 states that some of the preliminary design was delivered in June 2006. My understanding is that the majority of it was delivered then. There's mention in the email of the issue of the traffic modelled preliminary design. SDS did not have the control to get it traffic modelled and also modelling is an iterative process. Maybe they should have foreseen the issues around that and thought about giving the traffic modellers the designs sooner in the preliminary design phase. I think the period of delay in relation to this was longer than Ailsa's estimate. I think it was also the case that the roads design was so unacceptable when it came out at PD1 that it was not modelled at all at that point (at least some of it fell into that category). I do not think it was all modelled until it got to the point where the design principles had been agreed. Ailsa said at point 9 that the total delay was 3 months. Arguably preliminary design was not even closed off that year (2006). I would say collectively it was a longer period than 3 months. I agree with point 10 – both tie and SDS were focusing on the Infraco 'information drops' during September and October 2006 and were not working on closing the preliminary design out. Point 11 says that tie instructed SDS to proceed to detailed design in September 2006. I am not sure about the timing of that, but Ailsa was closer to it than me. I said before that SDS did not get the chance to properly close out all of the preliminary design because of the Infraco procurement and it was the case (as stated in the email) that they had to proceed to detailed design using PD1 as a baseline and take on board the records of reviews. I think the timing in point 12 is more or less right. I did not get close to the numbers (point 13) as that is not

my field. I agree with the statement made at point 14 - that is where things were. I have already commented on the issue with the SDS programme so I agree with point 15. I also agree with points 16 and 17 and 18. The email also mentions SDS change requests. I agree that some of the changes caused delay, but not all of them did because of the way the people on the ground were dealing with them (i.e working as though the change had been approved). My view is that the main causes of delay in the entire project were the preliminary design (in terms of the unacceptability of it due to insufficient engagement), and the reviewing of it (there was no process built-in initially for CEC to review). The charettes and changes did not help and did contribute some delay and costs, but that could have been avoided if there had been sufficient engagement in the first period. Ailsa's email splits it all out.

279. In an email dated 11 September 2007, Steve Reynolds made comments about delay and then progress in delivery of the design (TIE00277383). I agree that some of the delay had been caused by lack of timely decision-making by stakeholders. The way it is worded in the email suggests that that was the reason for all of the delay, which is not right. At that point, the project was already delayed so it was not as if everything was on programme and then delayed by the inaction of stakeholders. I think his point about it being time to get the designs done and stop looking at refining it was probably fair at that stage as all of the key areas where there were going to be difficulties (such as St Andrew Square, the interchanges, the airport, Carrick Knowe, Edinburgh Park etc.) had probably all been examined to the utmost degree. I am not sure, however, that the changes were all purely 'optioneering' (i.e. CEC planners wanting things done at a higher level); I think it comes back to lack of engagement at the outset.

280. David Crawley's response is in the above email chain. He stated that "*the original vision for the SDS contract was of a competent designer who would take the lead on everything from design to approvals and we have moved a long way away from that. We have begun the move back towards the original vision (recognising as we do that tie must also take on an active role)*". I think he was referring to the vision in the contract, which I believe was that SDS would produce the design and obtain all of the consents without much input from tie. I

am not sure that SDS could ever have done all of that themselves. The tram project was not a normal build project; it was complex and unusual. In hindsight, I think perhaps it was naïve to assume that SDS would know about all the consents that were required. I have said before that SDS were expert designers and had done tram schemes, but they had not done one in Scotland and the systems are slightly different. None of the railway schemes had been built at that point so this was the first attempt at implementing an Act of the Scottish Parliament. Also, to be fair to SDS, when the bills started, the building fixings were to be done in the same way as street lighting (i.e. not discretionary), but that changed to include a consents process. This comes back to the issue of lack of constructive liaison during the parliamentary process. I agree that they were trying to go back to the original ethos by agreeing to a reduction in the need for design review.

Utilities

281. I do not know whether the need to enter into contracts with third party utility companies actually caused any delay. I have looked at the emails dated September 2006 (**TIE00186144**) and July 2007 (**CEC01641244**). I think the MUDFA contract had already been entered into when the emails were sent. If that was the case, then it may have delayed the MUDFA contractor getting on with the works or getting the necessary access to start the works. In addition, it may have resulted in a mismatch between the terms of the MUDFA contract and the terms of the third party utility companies' contracts (which could have led to CEC taking on more risks and/or being stuck in the middle).

282. The implications of entering into the MUDFA contract before the design was completed were as follows. My recollection is that, under the MUDFA contract, tie were to provide the necessary access rights and design once the construction phase was triggered. Therefore, tie may have had to pay penalties/damages (to cover the costs of the contractor mobilising) as a result of being unable to meet their contractual obligations. The MUDFA contractor may also have had to reschedule/re-programme their works and that may have resulted in more costs. I think the contract assumed that all of the design would be available by the

construction stage (I think that there was a pre-construction phase). I do not know how workable the contract was given that the design was still evolving.

283. I said in an email to Andie Harper on 24 October 2006 (**TIE00000255**) that "*the Council said that we are 'being mauled' by MUDFA*". CEC felt that tie were not managing the contract effectively and that tie were being reactive rather than proactive; and consequently were losing control and giving the MUDFA contractor the upper hand. From memory, I think this was happening because MUDFA were ready to carry out works, but tie were not in a position to provide the design and access rights.

284. A new risk ('uncertainty of utilities location and consequently required diversion work', leading to a risk of increased MUDFA cost and redesign and delay in the Infraco works) was noted in the Primary Risk Register dated 31 October 2006 (**CEC01796593_9**). I think that generally there was an understanding that any delay in implementing the MUDFA contract would have a knock-on effect on the Infraco contract. However, once the Infraco procurement started, there were so many competing pressures on the design that perhaps some people (e.g. the procurement team) lost sight of this.

285. I refer to an email I sent to Susan Clark on 26 February 2007 (**CEC01815022**), in which I raised concerns about MUDFA works (which were due to begin) and whether appropriate access rights and traffic management issues could be addressed in time. I think that Susan Clark's response probably did not allay my fears. I think the response illustrates that we were not doing things properly and were taking a 'sticking-plaster' approach. The email concerns the first trial dig for MUDFA. Under the contract we should have got access rights to the land; however, as can be seen from the email, we had not done that and were intending to use BT powers for the trial. I did not understand why we were doing that. Susan also advised that "*advanced signage*" was not in AMIS' contract and that they were now going to cost that. I could not understand why that had been missed as you need to have some traffic management in place when digging up roads. They were intending to do the trial at a particular time to avoid the necessity of closing the road – that was trying to get round the contract

terms that had already been agreed and entered into and was being done either because we were behind programme, or because it was not being managed properly. I think the response I got was slightly patronising and flippant. It is indicative of the kind of responses I got when I raised my concerns. It got to a point where I realised I was always going to be told that things were under control when I raised concerns. There was only so much pushing, questioning and challenging I could do – they were never going to accept my concerns and talk through what could be done. Even reading the email now, I think that it was not under control. If the email from Susan had come back acknowledging that they were struggling and that they had to do certain things to work around the issues, that would have been a more honest answer. The response is an example of some of the things I have said about reporting.

286. While I see from the papers (**CEC01791722**) that I was given the MUDFA contract improvement role in March 2007, I do not recall doing anything in this role. I cannot remember whether that was my fault (i.e. I was choosing to be less involved in the project) or whether there was reluctance on the part of Susan Clark and Graham Barclay to let me do the role. I do not know what consideration was given to the possible effects of MUDFA delay on Infracore in March 2007.

287. I note that the papers for the DPD subcommittee meeting on 10 May 2007 (**CEC01567148_9**) recorded that a trial dig on 2 April 2007 had uncovered a number of utilities that were not indicated on any drawings. The survey problems must have caused some delay, but again I do not know if they caused any additional delay or whether this was just another issue that had to be resolved. It would have impacted on design. I think the problem was that the results were unreliable and often more/different utilities were found when the sites were dug up or there were no utilities there at all.

288. I sent an email to Matthew Crosse and Geoff Gilbert on 12 April 2007 (**CEC01623417**) in which I expressed concerns about MUDFA and advanced works. There were commercial issues with the MUDFA contractor but despite that, they were given several advanced works packages (such as the Ingliston 'Park and Ride' and excavation works for the depot). It seemed to me that this

was being done to try to keep them on board and to try to mitigate claims for delay/penalties. They had been procured on the basis of their track record of moving utilities and they may not have been the best option for the other work. I was concerned that we may have been breaching procurement rules as the contracts were worth about £3m and were not being properly tendered. It was unclear the basis on which the contracts were being let or what the terms of the contracts were. I was also concerned that it compromised our position in relation to the commercial issues with them as it would have been difficult to take a hard line on their performance when we were giving them more work.

289. I also said in the above email that I thought the tram board was becoming suspicious of the way we reported to them. I cannot recall now why I thought that. I was concerned that the TPB were not being made aware of the real issues, risks, changes to cost, programme etc. I felt that we were selectively reporting to the TPB.

290. An email chain in October 2006 (**CEC01808716**) makes reference to a lack of alignment between the SDS and MUDFA contracts. I do not know for certain what Ailsa McGregor was referring to. I can only guess that the SDS contract did not prioritise the utilities design in the way that MUDFA needed it to, and that the SDS design was being batched in a way that did not fit with the MUDFA programme. It would have meant that the SDS deliverables would require to be reprioritised and the MUDFA programme may have had to have been revisited. That would have meant a change to the SDS contract (with cost and programme implications) and perhaps also penalties under or changes to the MUDFA contract.

Infrastructure

291. I refer to an email sent to me by Bob Dawson on 17 December 2007 in which he identified tie's power, under the clause 80 change mechanism in Infraco, to instruct work at their estimate to prevent delay to Infraco (**TIE00898202**). He asked me to ensure that there was a "*corresponding mechanism in the Forth Ports agreement.*" I did not consider the change mechanism in clause 80 of

Infraco. I do not know if anyone in tie gave thought to the prospect that there might be a large number of disputes about changes under Infraco.

Management

292. The management culture in tie was that programme was king and had to be adhered to even if it was unrealistic or unachievable. The team reported that the project was on programme. However, milestones either came and went or were not properly completed; but the procurement dates did not seem to reflect that. Those in charge of the programme did not want to hear about issues which could put the programme at risk. That meant that a large number of issues were swept under the carpet and became bigger issues at more critical points. My feeling was that people had a good handle in the early stages about what the cost was going to be. I think, however, that there was not such a good understanding of the hidden costs that would flow from changes.

293. I think that CEC took on more staff to deal with the tram project. I think existing staff worked on the tram project and their posts were backfilled. I am not certain that the resource was always adequate, but that is not surprising given that local authorities do not have endless resources. In terms of the planning processes, they did try to ensure that there was adequate resource for that.

294. The non-engagement of CEC legal referred to in Geoff Duke's email dated 28 September 2006 (**TIE00072955**) concerns the General Vesting Declaration (GVD) procedure. Certain notices could only be sent/served by CEC so they had to be actively involved in this and, as can be seen from the email, there was delay on their part. Their non-engagement was a wider issue. In relation to the contracts, as can be seen from some of the documents sent to me (e.g. emails regarding third party utility agreements), the lack of engagement meant that at the point of signing/approving it they would raise fundamental issues which required further discussion and thus caused delay. I think that non-engagement of CEC legal was caused either by them not wanting to be involved nor liable, or tie not actively including/involving CEC legal when required.

295. I sent an email to Matthew Crosse and Willie Gallagher on 15 February 2007 (CEC01826792) advising that I wanted to discuss matters that had been raised with me by CEC officers. My email was deliberately vague and therefore I cannot recall what the issues were.
296. Following a problem with adverts about TROs, Willie Gallagher sent emails in March 2007 (CEC01813896, CEC01813895) in which he suggested he was "extremely concerned that we are not nearly fit or professional [enough] for the challenges ahead." This was a minor issue but I think that it made Willie concerned about how we would cope with the bigger issues. He would also have been concerned about the public's perception of tie. My view was that Willie was not interested in the detail and liked to think that all was going well. That was maybe the first time that he had had to think about whether tie were professional enough to deliver the project. I was not involved in any discussion about it afterwards so I do not know what else was said.
297. On 5 March 2007, Matthew Crosse emailed various members of the tie team about a need to identify each individual's role, and invited job descriptions (TIE00087949). I have said before that the issue in tie was not necessarily lack of resources, but lack of effective resource. I think this email shows that, while there was no clear understanding of what people did, there was recognition that that there may have been gaps. This was a 'bottom-up' approach rather than starting by identifying what resource was needed and then trying to get the resource.
298. I refer to an email sent by Matthew Crosse to various members of the team in March 2007 (CEC01791722), informing them that tasks had been agreed for me. There are eight bullet points in the email. In relation to the first bullet, I had some involvement in some historic claims along with Matthew Crosse in about March /April 2007, but did not do much more in relation to that from the date of the email onwards. The second bullet relates to the MUDFA improvement role previously mentioned – I have no recollection of doing much on that at all. Bullet point 3 states: "ensuring our advance works strategy doesn't fall foul of OJEU regs". That is probably there because I had raised issues about it. I do not remember being

asked to do anything on that. I have no recollection of bullet point 4 (blue skies day). I was never asked to get involved in the negotiations with Infraco (bullet point 5). I was not asked to do anything in relation to bullet points: 6 (looking at run-time problems); 7 (considering ways to improve governance arrangements); or 8 (considering future initiatives and strategic direction of tram). At that point in time, my role involved reacting to requests that came to me for input in relation to, for example, consents and approvals. It was very reactive as opposed to doing/being allowed to do anything strategic. That is because I was drifting away from the project and also because people did not want me to get involved. For example, Geoff Gilbert would never have asked me to get involved in the Infraco negotiations. Equally I did not feel that I should be involved as DLA were advising tie in relation to the procurement. It may seem strange for the project director to circulate an email around the team about my tasks and for me not to then carry out them out. My view was that Matthew was trying to find a role for me but that my involvement was less welcome by others in the team and therefore it was difficult to carry out these tasks as I need co-operation from others. When I did give views or advice it was often unwelcome and so I became less inclined to carry out these roles and as I say above I drifted away from the project.

299. I expressed concern in March 2007 that the monthly report to the TPB did not clearly identify the key issues (primarily because of the format) and proposed an executive summary to highlight the important ones (**CEC01791926**). My email in December 2006 (**CEC01786172**) also refers to the TPB monthly report and involves the same issue. I said in that email that I was not sure it was "*always capturing the key issues*." That was my concern. I cannot remember what the key issues were at that point in time. I do not know whether anything was done to address my concern.

300. I cannot comment much on Tony Glazebrook's email in April 2007 (**PBH00010291**), in which he described the delay by tie (or their agents) in relation to RFIs as "*patently unacceptable*". It was unacceptable that the responses to the RFIs had been held up – no-one had been given the responsibility of co-ordinating them or making sure that responses went back. That is maybe why Tony said that tie were in disarray and confusion.

Local Governance

301. I made a suggestion in an email to Andie Harper on 18 June 2006 (TIE00002060) that there required to be an operating or services agreement between TEL and tie which, together with other elements, I considered might "*simplify things and clarify roles and responsibilities*". It had been decided that the bus and tram companies would sit underneath TEL (and accordingly would have no link to tie). It was sensible for one entity to have control of the two companies so that they did not compete against each other. However, there needed to be a contractual relationship between tie and TEL so that tie could regulate what TEL were doing. For example, TEL may have decided to run the trams on a 24/7 basis to maximise revenue, and that could have prevented the company responsible for maintenance works (which sat under tie) from carrying out maintenance and repairs. There is now such an agreement in place today between CEC and Edinburgh Trams Limited as the operator.

National Governance

302. I do not know whether Transport Scotland went on to perform their role in the manner set out in Damien Sharp's email in September 2006 (CEC01784647).

303. I cannot remember precisely when I stopped going to the DPD subcommittee meetings. I think it was around March/April 2007. I note I was not on the circulation list for the June 2007 meeting. I said that matters were not being fully reported because it felt to me that there was a positive spin put on what was being reported. That was the case across the board. It felt a bit disingenuous. Generally, people were presenting their papers with a positive slant on matters. For example, Susan Clark reported on the programme. On one level it was right to say that SDS were on programme; however, I have explained the problem with the SDS programme before, and to simply say that it was on programme was not really giving the full picture. They may have been on programme when looking at that month's programme but that did not give any indication of how they were performing against the previous month's programme or perhaps even their first programme. It did not give an indication of the issues that were critical and the

consequences of not dealing with and resolving those issues. There must have been a collective feeling (consciously or unconsciously) that that was the way to present matters. Looking back, I think it was intentional, but not in a bad way – it was intentional that people wanted to report positively. I do not recall the programme being reported in a manner where the current programme could be benchmarked against the previous month's programme. That type of reporting is not wrong, but it does not convey the whole picture. I also said previously that the problems with delay were not accurately assessed. I think one of the reasons for that was that it had got to the point where things were no longer being done in a linear way and that makes it difficult to assess implications. There was so much delay and guddle and designs were being re-prioritised; it was almost impossible to unpick it. I do not think that anyone did a proper assessment of the delay at an early stage. To my knowledge, no one did the kind of assessment that was probably required – i.e. determining where SDS ought to have been at a point in time and fully considering the implications of the delay on all other aspects of the project. I have said that actions were introduced to mitigate the delay and have also explained my view that that these were not always thought through.

304. I cannot remember exactly what I raised at the meeting, after which Willie Gallagher shouted at me. I think I raised the concerns around what was happening with the MUDFA contractor being given the advanced work packages (these are the concerns I raised in the email to Matthew Crosse and Geoff Gilbert on 12 April 2007, **CEC01623417**) I think raised questions during the delivery of the MUDFA paper to the DPD in order to flag up these matters. I think I also raised issues with the programme. I remember Willie Gallagher asked me sarcastically whether I wanted to question or raise anything else after each item, so I think I must have raised other matters as well.

305. After the meeting, Willie Gallagher told me that I was never to do that again and I said that I would therefore not attend future meetings. No one from Transport Scotland approached me afterwards to discuss my concerns. I think that I had a chat with Duncan Fraser, who had been the 'points person' and who was a senior manager in the transportation department at CEC, but this was at

the point when CEC were more involved so they were probably becoming more aware of the issues anyway. I felt that there was a view in tie that they did not want to hear the concerns. Susan Clark had that approach to an extent. She was very focused on the programme and also possibly did not have full knowledge or understanding of the project as she had come in slightly later. I think also that Geoff Gilbert was so focused on procurement and did not want to hear concerns. Steven Bell also did not want to know about problems, until such time as the problem had to be dealt with. I think some TSS people may have raised concerns but were pushed back. I do not know of other specific incidents where people were actively discouraged from raising concerns. I think Willie Gallagher wanted the perception that everything was fine and he deliberately kept himself at a high level – if you do not know the detail and the problems, you are never then lying to people when you are selling the project to them. Whether that was right for him to do that is questionable, particularly when he was the chairman and chief executive. I think it was difficult to perform both roles.

306. An OGC Gateway 2 review of the trams project took place in September 2006 (see, e.g., **CEC01629382**). I cannot remember what I said at the OGC Gateway Reviews. The OGC Gateway process needs to be put in context. It is not an exhaustive review; it is a one/two day review process which is aimed at ensuring that processes are in place rather than looking at outcomes. The findings have to be looked at against that background. It may be that a 'green light' rating was allocated to the lateness of SDS deliverables in the risk register (**TRS00002791**) because it was considered that it was being properly managed.

307. I agree with the observations in the Gateway 2 Review follow-up report of 22 November 2006 (**TRS00003108**). I do not know if the points were fully taken on board by tie.

Other

308. I have referred throughout my statement to the occasions when I said tie should pause to review the works timetable. I suggested it orally at least four times. I said it to the readiness review panel when the Tramco contract was about

to be put out to tender. I suggested a one-month pause at that point. Andie Harper was present. The next time was when the Infraco contract was being put out to tender. I think that I suggested a three-month pause then. The senior team were present, which included Andie Harper and Geoff Gilbert. I said it again when the MUDFA contract was triggered in March 2007. I thought that we could use the election period to get the project back on track. Matthew Crosse and Susan Clark were present. I also said it to David Crawley when he interviewed me as part of his review of the design review process (CEC01811257 refers). I cannot remember if I ever put it in writing.

309. I produced a paper on "Lessons Learnt" (CEC02084810) which I emailed to Duncan Fraser on 4 June 2008 (CEC01247981). Duncan asked me to produce the note to help decide what CEC should do differently in relation to tram line 3. It was not produced with a view to fixing anything in the ongoing tram project nor to attribute blame. My understanding at the time was that the paper was solely for Duncan Fraser. I did not know that it had been sent to Colin McKenzie. I agree generally with the comments made by Colin McKenzie.

310. I identified in the paper a need for feasibility documents to be more "*robust*". That was a parliamentary evidence issue and did not have any detrimental impact on the project after the Acts had been passed.

311. I also identified a need to progress the parliamentary design further (for line 3) to ensure the limits of deviation were sufficient. That was because they were found to be tight in relation to lines 1 and 2. I can understand why you would not spend a lot of money on the design before a bill is approved, but not getting the limits of deviation right can cause difficulties if you later find that you need to do work outside the limits (as there are constraints on what you can do). In the tram project some of the Scottish Water pipes had to be reconnected in locations outside the limits of deviation. There was no power to do that work under the Act and tie had to rely on Scottish Water's powers. While that was not a huge issue, it was yet another issue that had to be worked around.

312. I said in the paper that the assumptions given to the designers had to be updated. What I meant by that was that they could not just give the designers for tram line 3 the same design assumptions that had been given to SDS as things had changed. For example, SDS were asked to design for a nominal 40 metre tram, and it was now known that the length of the tram was 43 metres.
313. The point I was making when I said that "*the knowledge from the authorisation process needs to be fed in to the procurement process in particular the design contract to minimise the need for changes to the scope of that contract*" is the same point I made about the changes during the parliamentary process not having been fed through to SDS early enough.
314. In relation to the issue of governance, the role between tie and CEC needed to be clearer. Not enough thought had been put in to that. CEC's role was very reactive for about the first third/half of the project. Their role should have been clearly set out in writing stating (for example): the stages at which they expected to be involved; what their route was in relation to various matters (e.g. did councillors have to be involved); which matters required CEC legal input; what (if anything) was needed to allow them to approve documents. As that did not exist, CEC were raising issues at the last minute and that definitely caused delay.
315. I said in my paper that there should have been greater engagement with CEC and stakeholders, and that the project lacked strategic guidance. This is linked to the comments I have made about insufficient engagement at the outset of the project up to delivery of PD1. In terms of strategic guidance, CEC should have stated what they wanted as a local authority and set down what their priorities were for the roads design. I think my estimate of 9-12 months delay was based on my gut feeling at the time.
316. I also said that the programme needs to be "*realistic*" and "*not based on bonuses*". I said previously that the programme dates for the tram project were not always realistic (see paragraph 276). I had also heard that bonuses were to be paid if the bills went in by 23 December 2003 and the Infraco documents were signed by a certain date. I think there needs to more than that to a matrix for

bonuses; they should not be paid for individual aspects of a project as that drives wrong behaviours and attitudes.

317. I did not participate in any discussion with CEC collectively about my paper. I cannot remember if I had discussions about it with Duncan Fraser.

318. The tie Project Management Plan dated 1 March 2007 (CEC00779488_58) states that ongoing "lessons learned" reviews would take place throughout the duration of the project. I cannot remember if that happened. The paper I provided to Duncan Fraser is not linked to this.

319. I do not have anything else to add to my statement. I think that I have covered everything I can comment on.

I confirm that the facts to which I attest in this witness statement, consisting of this and the preceding 112 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... 31.1.11

