

## **Julian Weatherley – Areas for Discussion**

This note identifies the broad subject areas which we would like you to include in your statement. We have tried to include all documents that may assist you in answering the Inquiry's questions.

The following matters are covered in this Note:

- General
- Involvement with the Tram Project
- Beginning of involvement in the Tram Project
- Management
- Programming
- Design
- Utilities
- Infrastructure
- Pricing
- Risk
- Change Management
- Disputes

## General

1. Please could you provide a copy of your CV.? If it is not shown on your CV, could you explain what experience you already had by 2010 of delivery of trams / light rail schemes?

A1 I am a Director within Turner & Townsend's Infrastructure Division with 30 years' experience of taking senior roles on large, complex transport projects, including the Thameslink Programme, London Bridge Station Redevelopment, The Channel Tunnel Rail Link and Gautrain Rapid Rail Link (in South Africa). I also have experience of the design and construction of highway works, including the M20 widening and local authority schemes. I have extensive experience of delivering rail and highway projects, of dealing with complex project interfaces in a live operational environment, and of complex stakeholder environments, including working with Network Rail, all of which are relevant to the Edinburgh Tram Project. It was based on this experience that T&T considered it appropriate for me to lead this project.

Prior to 2010 I had not worked on a tram scheme. I was project Controls Lead for the Dubai Metro and was lead designer for the Portsmouth Monorail feasibility study. Both of these were light rail schemes.

A copy of my c.v is included within my response.

## Involvement with the Tram Project

2. When did you first become involved in the tram project. What was your role? What did it entail?

A2 I was not involved in the pre mediation phase, the Mar Hall mediation or the Settlement Agreement. I first became involved in the project towards the end of August 2011. My role was as the Director of Project Delivery. I was Turner & Townsend's Commission Director responsible for managing our team to deliver the defined scope of services in our contract with CEC.

My responsibilities were to lead the client side project management team and to act as the named client representative under the Infracore and Tram contracts. This entailed leading and providing direction to the client side project management, commercial, controls and assurance functions.

My full time involvement ceased in January 2013 once the issues of the project were better understood and with the support of CEC. I was available to our team after this date to assist with queries. Rob Leach became the Turner & Townsend Project Director from February 2013.

3. How many persons from T&T were involved in the project – full time and otherwise? Please identify the principal personnel and the roles that they played. There is an organogram attached to **BFB00095321** (page 15). Does this accurately record who was involved and their various titles/roles? There is a slightly different organogram on the following page. Which is correct? It is apparent that there is a greater number of people engaged on the utilities works than on the infrastructure works. Why was this?

- A3 The number of T&T persons involved on the project varied throughout our commission to reflect the needs of the project. Our post transition organisation (end of Sept 2011) had 48 roles identified within the project delivery of which 28 were filled by full time T&T staff, seven by Tie staff who would TUPE to T&T and the remainder by CEC staff and consultants acting under T&T direction. A number of additional persons supported on a part time basis for project set up activities such as office construction and document management. The principal personnel were as follows:

**Director of Project Delivery:** My role, responsible for leading the project

**Head of Project Controls:** Responsible for schedule management, document controls and progress reporting

**Commercial Manager:** Responsible for cost control, change control and commercial reporting



**Section Lead - On Street Works:** Responsible for leading the T&T On Street works team, managing and reporting on design and construction issues and their resolution.

**Section Lead - Off Street Works:** Responsible for leading the T&T Off Street works team, managing and reporting on design and construction issues and their resolution.

**Tram Delivery Lead:** Responsible for managing the Team Delivery contract and it's interface with Infraco contract.

**Project Assurance Manager:** Responsible for managing the client side health & safety Team, quality management and technical assurance.

The organograms shown were appended to the minutes of a Joint Project Forum, a regular meeting between CEC and Infraco. T&T weren't represented at that forum, nor did we receive the minutes of the forum. I don't recall the organogram on page 15. The organograms on page 16 shows the T&T managed team in February 2012. The entire team worked on infrastructure works with seven dedicated to utilities at that time in the project. The number of persons working on utilities changed to reflect the extent of the utilities risk with the evolution of the project and the efforts required to mitigate the risk.

## **Beginning of involvement in the Tram Project**

4. What did you do at the outset of your involvement to acquaint yourself with the project and when did you do it? What assistance were you given in this regard by the personnel who had previously been administering the project?
- A4 Turner & Townsend deployed me and some T&T colleagues to gain an initial understanding of the project through a desktop review of project information and through meetings with CEC and TIE representatives involved in the project. To assist our mobilisation, we prepared a Preliminary Report, September 2011, (Ref WED 00000103). During September 2011 we started to mobilise our team, had further discussions with CEC, TIE and the Contractors

(BBS/Siemens, etc) and took over administration of the contracts in October 2011 following a period of transition.

5. What were your first impressions of the project, the performance to date, the state of utilities works, the state of design, the performance of the Infraco contract and the problems that had occurred in all these areas?

A5 I was not involved in the pre-mediation phase and had no information on what affected performance in this stage.

My first impressions were that I did not see the clarity in some of the client side Project Management functions that I would expect to see on a project such as this. For example, programme, risk and reporting functions all required greater clarity. My relationship with BBS, CEC and the stakeholders was positive from the start and we worked closely to agree how we would deliver the project.

The utilities risk was evident from my first involvement but the extent of utilities related issues did not become fully clear until Spring 2012. It was my view that addressing the utilities risk was one of the key elements of a successful outcome, as this would minimise change within the Infraco contract. I considered that the team addressing the utilities risk was under resourced at the point of T&T's mobilisation and this was addressed as one of our initial actions.

My first impression of design was that a large proportion had been completed with some notable exceptions (see my response to question 30). A number of elements were re visited to bring about a cost effective solution (e.g. mast foundations and track slab depth, highway tie in details and pavement finishes).

The performance of the Infraco contract historically spoke for itself. The project had failed to deliver. My focus was on making the new Infraco contract a success. I worked closely with my T&T Colleagues, CEC and BBS to agree and set in place the necessary meetings, governance and process which would provide the right platform for a successful outcome.



6. **WED00000103** is a Preliminary Report by T&T from September 2011. Are you familiar with this? Did you play any part in producing it? What was the purpose of this report.

A6.1 The purpose of this report was to gain an initial understanding of the project through a desktop review of project information and through meetings with CEC and TIE representatives involved in the project, in order to inform and coordinate our mobilisation

I was involved in the interviewing process which was used to gather information in support of the report and contributed to the drafting of Sections 6 (Organisational Structure) and 7 (Transition). While this report is under my name that does not mean that I drafted or was involved in the detail of every section. My role was to manage the collation of the report and add content and views to certain specific sections.

The report was produced by T&T in order to understand existing practices, confirm project issues and risks and to inform the establishment of our team structure and processes going forward.

- Page 1 notes that TTPM (Turner & Townsend Project Management) have been instructed to carry out an 'initial review'. This was at the stage when the Mar Hall talks had produced agreement. What was the purpose of the 'review' at this stage? Were TTPM engaged on other works at this time?

A6.2 Refer response to 6 above. To my knowledge T&T were not involved in any other Edinburgh Tram Project related works at this time.

- The Report notes that TTPM had managed utility diversions in Sheffield, Nottingham and Croydon. Were you involved in any of these? In managing the Edinburgh project, what input was there from the people who had been involved?

A6.3 I was not involved in any of these projects however a number of Turner & Townsend people who were involved in these projects and other Light Rail Projects, such as Dublin Metro North, were involved in the mobilisation and delivery of the project.

- The scope of this review was noted as being, to review current information, establish the control requirements with CEC and conduct interviews with existing managers to establish the current management approach, reporting regime & associated data flows. (page 2)  
What did you determine and what were your conclusions on the management approach, reporting regime & associated data flows

A6.4 The conclusions I drew in relation to those parts I was directly involved in are set out in sections 6 and 7 of the Report, whereas the overall conclusions can be found in Section 4. These were used to establish the main risks to delivery going forward and the mitigation actions necessary to minimise their impact. The risks identified and initial thoughts on mitigating actions are contained in Section 5 of the report.

- There are references on page 2 to “the emerging utilities diversion scope”. To what is this referring”? Previous reports to the TPB had said that the utilities were over 97% finished? Was this correct?

A6.5 The comments regarding “emerging utilities diversion scope” refers to information and discussions we gathered during the initial meetings. There remained some utilities identified within the tram envelope which needed to be resolved if any clashes could not be designed out.

I was not involved pre-mediation and therefore did not receive the TPB reports and cannot comment on this assessment of progress.

- On page 18, the Mar Hall deal is described as an “unfavourable arrangement”. What was the basis of this view? Can you explain the bullet points on this page?

A6.6 I was not involved in the review of the contract arrangements and do not know the basis of this view. However, my understanding is that this comment relates to the draft proposal for the On Street Section.

I believe the bullet points were intended as a summary of the commercial risk arising from the On Street Works, and in particular the concerns over a change in the risk allocation between Client and Contractor.

- Under the heading 'Planning Perspectives' on page 20, there is a discussion was consideration of the problems that had arisen in relation to programmes. Can you explain what they were and how in, practical terms, the difficulties were addressed?

A6.7 I assume reference is being made to the words under the heading Planning Perspectives under Section 4.3.1 of the report on Page 17. I was not involved in drafting this section of the report.

The report appears to be explaining that the programme owned and managed by BBS was not set up to manage the project holistically but simply the elements for which they were responsible. This issue was addressed through the production, by Turner & Townsend, of a Master Schedule which included all activities required to deliver the works and not just the BBS elements.

- Why was Schedule 3A so critical (page 22)?

A6.8 Schedule 3A was BBS's contract programme, at the time the settlement agreement was signed, following mediation. It therefore represented the contractual baseline for the project against which the impact of all post settlement agreement change would be measured. Any client or 3rd party initiated change to the activities contained within the programme may have led to a variation in the overall project cost and programme.

During our mobilisation stage we obtained further information to create an integrated Master Schedule.



- The first paragraph on page 23 states, “This highlights the fundamental structural deficiencies and failures of process that pervade the Edinburgh Tram schedules, which are peculiarly susceptible to risks of integration. The reality is that there are a number of elemental schedules with interdependent links, many which need to be connected to form a coherent model of the project. With the current planning regime and disparate versions and types of planning tools in play across the project community, which includes the consortium’s supply chain, the quality of a schedule compiled to show the route to an operational tram is at best weak.”  
Can you explain this?

A6.9 I assume reference is being made to the words under the heading Schedule Quality under Section 4.3.1 of the report on Page 19. I was not involved in drafting this section of the report.

Best practice for schedule management is that all project activities and interfaces are contained within a single schedule. At the time of mobilisation this was not in place. T&T created a Master Schedule to fulfil this need.

- Further down page 23, a paragraph states “Schedule revision 3A may be an acceptable foundation from which to build a more complete model of the remaining work for the Edinburgh Tram, but it is not an acceptable model on which to base contractual obligations”.  
Can you explain what is meant by this?

A6.10 I assume reference is being made to the words under the heading Next Steps under Section 4.3.1 of the report on Page 20. I was not involved in drafting this section of the report.

I believe this is referring to the fact that the Revision 3A schedule did not contain sufficient information from which all project interfaces could be managed. Without the presence of a more detailed client side schedule containing all activities required to deliver the works, there was a risk of the client failing to fulfil their contractual obligations, in accordance with the Schedule 3A assumptions.

T&T mitigated this risk through the introduction of an end to end client side Master Schedule.

- Page 58 of the Report states, "Following initial discussions with TIE and Infracore it appears that a fundamental difference of opinion remains over the definition of a Utility, and what Utility Free means. Can you explain what these means? Was it surprising that a disagreement of this nature existed on a contract such as this?"

A6.11 I assume reference is being made to the words under the heading Background under Section 4.9.1 of the report on Page 54. I was not involved in drafting this section of the report.

I believe it was Tie's understanding that a Utility was one which was live and owned by a Statutory Undertaker, whilst Infracore interpreted Utility to mean any utility whether live or dead and including services to street furniture. I would expect Utility to be defined and if it was not then a difference of view is not entirely surprising. However, I am not aware of any impact resulting specifically from this difference of interpretation during my time on the project.

- To what extent did T&T adhere to the conclusions and recommendations of this Preliminary Report once works started?

A6.12 The recommendations of the Preliminary Report were used to inform the delivery team's understanding of priorities and in particular the risk profile of the project going forward. They were used to inform transitional arrangements, from Tie to T&T and to structure the project delivery organisation. The majority of the recommendations of the report and risk mitigation actions identified were implemented.

## Management

7. What was your impression – both initially and after working on the project for some time – of the way in which the project had been managed by TIE? In particular, what were your views on the project governance / decision making



structures, the involvement of TIE, TEL and the Tram Project Board and on the reporting that has taken place? Examples of the reports from the project director can be found in the following sets of papers to the Tram Project Board (**CEC00473005**, **CEC00474418**, **TIE00894384**, **CEC00420346**, **CEC00245907** and **CEC00261936**). These papers are for six consecutive meetings at the start of 2010. They have been chosen as a random sample and are not intended to relate to any specific event or stage in the project. A full set of TPB papers can be made available to you if you wish). Were there matters which had not been done which you consider should have or *vice versa*?

A7 I have no 1st hand knowledge of the way in which the project had been managed by Tie. I made a conscious effort to focus on the success of the project moving forward.

I am not aware of the governance or decision making arrangements in place under Tie. We were not asked by the Client to look backwards but to work the CEC, BBS and stakeholders in order to complete the project successfully.

I have not seen the Tram Project Board papers previously and was not involved in the project during the period which they cover. I therefore not able to comment on these reports specifically. From my knowledge of the project review undertaken by me and my T&T colleagues as part of our mobilisation, we concluded that the project reporting at that time was unclear, was inconsistent between Tie and Infracore and did not place adequate emphasis on addressing the main issues facing the project.

8. In the Preliminary Report by T&T from September 2011 (**WED00000103**) the existing procedure for contract administration is described as “not adequate” (page 48). Can you explain the basis for this view?

A8 I was not involved in drafting this section of the report.

Robust change control procedures were implemented on the project following T&T's mobilisation, which dealt with any issues around contract administration.



9. What changes did you make to the way that the project was managed when you took over and why did you make these changes?

A9 My focus was to address any notable shortfalls and establish best practice going forward, based on my previous project experience and through the experience of the T&T team. We worked with CEC, BBS and the project stakeholders to set up meetings, governance and procedures in order to provide clarity and support good decision making. All of the areas identified within the risk assessment contained within the Preliminary Report were points of focus, with particular emphasis on:

Building team morale;

The production of a master schedule;

The implementation of clear and robust reporting;

The establishment of robust change control and approval procedures;

The adequate resourcing of a utilities enabling works work stream;

The implementation of a simple document management system;

The establishment of good working relationships with key stakeholders, particularly Network Rail and Scottish Water.

10. How were the new governance structures agreed? Were you involved in this? Can you explain the PowerPoint presentation found at **TIE00358862**?

A10 The new governance structure was developed and implemented by The City of Edinburgh Council and I am therefore not best placed to explain it. T&T were involved in some meetings and forum referred to within the governance structure, namely:

The Project Delivery Group: For T&T to present out detailed progress report to CEC with TS present;

The Tram Briefing Meeting: For T&T to present our summary progress dashboard to CEC;

The four control meetings (Programme & Risk, Tram Commissioning & Integration, Design Consents & Commercial, Utilities Princes St & Construction): Detailed discussion meetings on issues and their resolution.

11. What was the purpose of the Tram Briefing Meetings. What was the extent of your inputs to the meeting? The agenda for the meeting frequently notes

presentation of progress reports from. Turner and Townsend. To what extent were you held accountable for what was happening, the time it was been taken and the expenditure involved?

- A11 These meetings were attended by representatives from T&T and CEC. The purpose of the Tram Briefing Meetings was to appraise the representatives of project progress, issues arising, matters for escalation for the Utilities Works, Infracore and Tram Delivery projects, as well as providing a commercial update for each.

In advance of the meeting T&T prepared a dashboard report covering the main elements of the project. A power point presentation was also prepared for each meeting. The presentation of this was led by me, supported by senior representatives of the T&T team.

T&T's accountability was set out within our Scope of Service and that is what was delivered.

12. What was the function of the Project Delivery Group?

- A12 This meeting was attended by representatives from T&T, CEC and Transport Scotland. The purpose of the Project Delivery Group was for T&T to present its detailed progress report and to appraise the representatives of project progress, issues arising, matters for escalation for the Utilities Works, Infracore and Tram Delivery projects, as well as providing a commercial update for each.

13. In the Summary in the Dashboard Report dated 18<sup>th</sup> of December 2011 (**TRS00013293**, page 7) you note that meeting was to be held with McGrigors, solicitors, to resolve issues concerning the scope of the settlement agreement. What was the controversy or dispute? What impact did it have on planning or carry out the works? It appears that there continue to be uncertainty as to the school of obligations. **TIE00359229** is an email with an attachment (**TIE00359230**) which set out the areas of controversy. Were you aware of these? Did these uncertainties continue to have any effect on the work and the implementation of them at the time when you were involved?



A13 I was not present at the meeting with McGrigors and was not involved in the negotiation of the Settlement Agreement.

I believe the purpose of the meeting was to clarify what scope of work had been included in the Settlement Agreement and how some of the clauses operated.

14. **CEC01891191** is the T&T Progress Report No. 3 from December 2011. At page 8, there is another of the initial contingency sum all £32.7 million only £7 million pounds remaining. Was there a concern that so much of the contingency sum had been used that such an early stage of the works?

A14 There was concern that so much of the contingency had been allocated at this stage of the project. The progress report referred to states that the remaining contingency of £7m is unlikely to be sufficient for a project at this stage.

15. Early in 2012 the Council issued a report entitled, "Baseline Project Instructions– 2012" (within **CEC01890999**, page 11). Within this there is a note that the report had been made available by the willingness and open cooperative approach exhibited by the Contractors, the Council, Transport Scotland and Turner and Townsend (page 14). Do you consider that this is an accurate representation of the relationship that existed between the parties? In your view, what had been done to create such a relationship after the acrimony and disagreements of the past? It appears from page 26, savings a little short of £13 million were identified by a cost engineering exercise. Is that correct? It also appears that the benefit of the savings most shared 50-50 with the Council. Is that correct? In the period after Mar Hall, it seems that there were efforts made to reduce costs through value/cost engineering. Efforts in this regard in the phase of the contract prior to Marr Hall were not successful. Although you were not involved at that earlier stage, are you aware of any reasons why the process bore fruit after Mar Hall when it had not beforehand? Why were the cost-engineering exercises required – what is the meaning of section 4.2.6 in the Progress Report No. 6 (**CEC01942255**)?

A15 A cooperative approach had been adopted by the parties leading up to the workshop.



I was not involved in the mediation or the settlement agreement therefore I cannot comment on historical relationships and I don't know if discussions took place regarding working relationships.

After the mediation, to build the working relationship between the parties, T&T worked collaboratively with CEC and BBS in support of initiatives which could bring benefit to the project. With CEC's agreement, T&T brought on board a project manager to collate and research initiatives for value engineering, through discussion with the parties. A workshop was held to agree initiatives to be taken forward and T&T managed their implementation.

I was not involved in the agreement for sharing the savings and have nothing I can add to the content of the report on the scale of the savings. The sharing of savings was agreed between CEC and BBS.

I can't comment on what happened during the pre-mediation stage as I was not involved.

16. The Minutes of the Joint Project Forum of 17 November 2011 (**CEC01890994**) note that Martin Foerder raised a concern as to the Turner & Townsend interpretation of the contract (Item 3.1). Sue Bruce is noted as having said that this was not the current client instructions to T&T. What she meant by this? What was the interpretation issue that had been raised? Were you informed of the basis for the CEC instructions not to pursue this? The issue arises again in the Minutes of the Joint Project Forum of 21 March 2012 (**CEC01942260**). At item 3 Sue Bruce notes that the working relationships was a key factor in what had been achieved but that T&T's approach had "caused some tension". Do you know what she meant by this?

- A16 I do not know what discussions took place as I did not attend the Joint Project Forum. I cannot comment on what Sue Bruce is noted as having said.

Our only instructions were from CEC and they were to administer the contract. I cannot comment on any other remarks that may have been given in the meeting as I did not attend.

17. The Minutes of the Project Delivery Group of 19 January 2012 (**CEC01891213**) note an improvement in relations between T&T, CEC and BBC. What were the initial difficulties in the relationship and how were they improved?

A17 I am not aware of problems in relationships on the project. There may have been differences in views from time to time, however the meetings structure and change management process provided mechanisms to reach agreement.

18. Can you explain the background to the TIE Notice of Change dated 1 March 2012 (**BFB00000913**)? Why was it required? If this was merely implementing the Mar Hall agreement, why was it only issued in March 2012? What stage of development was the secondary Phase? To your knowledge, to what extent would the work be of use in the event that the tram line is extended down Leith Walk? Why was a decision taken at this stage not to proceed further with the design work for this element of the intended line?

A18 I was not involved in discussions around the details of this change.

My understanding is that the completion of outstanding design elements north of York Place mutually agreed by T&T, CEC and BBS to be of limited value, since the works would not be constructed as part of this contract and may not be for some time afterwards. I would expect the design work to be of limited value given changes that may occur before construction of the extended section.

19. **TRS00014775** is a diagram showing the post Mar Hall governance structures. Based on your experience of structures and other contracts, what was your impression of these? In particular, were they more complex than usual?

A19 To the extent of my involvement within the various groups and meetings prescribed by the governance structure, it appeared to be effective in facilitating timely decision making and dealing with matters of escalation. I do not consider them overly complex for this project or in general for a similarly sized project.



20. In Progress Report No 11 (**CEC01951549**), the Cost Summary in section 5.3 notes that the figure for changes has increased to £13.7m and notes that £4.5m of this represents the delay in signature. What delay was this? How did it increase the costs? In Progress Report No. 12 (**CEC02017359**), paragraph 5.1.3, there is discussion of additional costs arising from delays. Can you explain these? In relation to this issue, you note that Infraco has not provided the information that the independent certifier said should be provided. Although this remained the position you were ultimately directed by CEC to make payment nonetheless (see Progress Report 17, **CEC02085657**, page 25 – although this report post-dates your departure from the project, as noted above, the issue was one that had arisen while you were there). Why was payment made despite the lack of vouching?

A20 Commencement of the contract was delayed as a result of the Council's re-consideration of the scope of the project in summer 2011.

Resolution of the cost issues were addressed by the commercial teams (T&T and BBS), the Independent Certifier and CEC.

I was neither involved in the detailed discussions relating to this change, nor in the certification which was governed by the Independent Certifier. I cannot comment on why CEC instructed T&T as they did in relation to this payment.

21. It appears from Progress Report No. 13 (**CEC01891277**), page 23, that CEC had an agreement with the contractors and had not told T&T the details. When were you aware of this? Did it affect the ability of T&T to carry out their responsibilities?

A21 I became formally aware that CEC had come to an agreement with Infraco on 3 October 2012 on receipt of an email from CEC. The details of this agreement were not shared with me at that time.

During August 2012 I was aware, through discussions with CEC, that BBS were seeking a share of the cost savings resulting from re-sequencing the construction phasing. A number



of discussions took place between CEC and T&T and we were asked by CEC to produce an advice note. T&T's advice on potential causes of action by CEC and the possible associated outcomes is contained within two advice notes which also form part of Progress Report no. 12.

I did not attend the meeting where CEC decided to authorise this sum. CEC instructed T&T to issue a change order addressing this matter.

T&T complied with its responsibilities to administer the contract and, outside of these specific circumstances, this was not affected by these events.

22. Can you explain the reason for the increase in Progress Report No.14 (CEC01932700) in the cost forecast of £6,460k in respect of the 22 week cost engineering saving referred to on page 23? It is noted that CEC decided to authorise this charge. What was the advice that had been provided by T&T in relation to this? Why had CEC decided to authorise this sum?

A22 T&T's advice was set out in its two Advice Notes. I do not know why CEC decided to authorise this sum but believe CEC would have been considering the wider project implications of not taking this course of action.

## Programming

23. When and how did you prepare a programme for the works remaining after T&T became involved? The project had encountered delays before you were involved. What were the causes of these and what measures were taken to prevent them happening again? What changes were made to the programming processes once T&T took over management?

A23 As part of T&T's mobilisation, discussions were held with the existing Tie planners, BBS, CEC and stakeholders to understand how the Tie planning function worked and where the current planning information was held.

T&T worked with BBS to construct a holistic master schedule for the entire project, which incorporated the BBS contract programme. This provided a single point of truth for the schedule, with the contractual programme embedded.

I am unable to comment on the reasons for delay prior to my involvement on the project.

Included within the new project governance arrangements was a two weekly "Planners Forum". This forum comprised representatives from T&T, BBS and CEC who were briefed to reach cross party agreement on the status of the contract schedule and the methodology for controlling and reporting progress throughout the remainder of the project. This forum proved effective in providing a joined up view of progress and identification of critical and near critical paths. This provided a look ahead to potential schedule issues thereby informing decision making.

Information from the Planners Forum was translated by T&T into clear reporting narrative and graphics and was used, at the Tram Briefing Meeting and Project Delivery Group, to brief CEC and Transport Scotland of progress and potential future programme issues.

24. There is reference within in the Progress Reports to a 'time bank' of 22 weeks. What was this? How was it built up, how was it used and what difference did it make? How did the idea come about? What had it not been done before?

A24 Following T&T's mobilisation, discussions were held between T&T, BBS and CEC on the potential for altering the project construction sequence to provide construction access to larger worksites. This led to a programme saving ("time bank") which would likely be eroded as a result of the impact of the utilities or other delays on the Infraco contract. This is another aspect of the value engineering exercise which I have answered in relation to question 15.

Progress was monitored and agreed on a weekly basis between T&T and BBS and this led to an ongoing agreed position on erosion of the time bank.



The implementation of the time bank was possible as a result of the re-sequencing of the traffic management arrangements within the on street section of the project. It's implementation resulted in greater disruption to road users within the city centre, albeit for a reduced period. Agreement to the revised traffic management was facilitated by CEC and required discussion with multiple stakeholders.

25. Was it the case that the works managed by T&T were completed in accordance with the programme? What were the changes that had been made to achieve this when compared to the delays that had been evident before T&T were involved? When delays arose during the works overseen by T&T, what was done to control or remedy them?

A25 The works managed by T&T were completed on programme.

I don't have information relating to management of the project prior to T&T's involvement and therefore am unable to comment. My approach was to work with CEC and BBS to look forward. There were many actions taken to achieve this including:

- Building a team and capability around the high risk areas of the project including (utilities, On street Works).

- Establishing regular, collaborative working relationships between T&T, CEC, BBS and the main project external stakeholders at all levels.

- Establishing a Master Schedule to provide visibility of up and coming activities and interface points.

- Setting in place a clear and robust progress reporting regime.

- Establishing the Planners Forum to report a cross party joined up view of progress and critical activities at regular intervals.

- Establishing a robust governance and decision making structure with clear routes of escalation.

- Establishing robust and effective processes for the management of risk.

As and when issues were identified that could impact on the progress of the works T&T worked with BBS and McNicholas (and the SUPs) to agree the most effective solution and to minimise impact on the Infracore works.



26. Programming was one of the issues considered in the Preliminary Report by T&T from September 2011 (**WED00000103**). Could you elaborate on the comment on page 47 that, "From this it is clear that the Employers Requirements relating to schedule management are either not adequate or being ignored"?

A26 I assume reference is being made to the words under the heading Change Management - Schedule Impact under Section 4.7.2 of the report on Page 44. I was not involved in drafting this section of the report and therefore cannot elaborate.

27. It appears from the minutes of the Tram Briefing Meeting on 2 February 2012 (**TRS00014989**) that a meeting with BBS on 1 February 2012 to discuss programme had been 'challenging' and there was still difficulty in getting a programme from BSC (page 7). Why was the meeting challenging? What was done about this? Did the absence of a programme cause practical problems?

A27 I don't recall the discussion referred to in this question.

28. What is the difficulty with programming that is considered in section 3 of Progress Report No. 14 (**CEC01932700**) and what was done to address it?

A28 I believe the difficulty being considered is the collation of the data to update T&T's Master Schedule and ensure that it properly recorded and quantified potential programme benefits.

T&T, working with BBS and McNicholas, amended their Master Schedule to reflect the current logic and progress at that time. Forecasts on likely programme outcome, within T&T's progress reports were based on outputs from T&T's Master Schedule.

29. In that Progress Report, can you explain what is shown in the diagram on page 19?

A29 This diagram shows the output from the Montecarlo schedule risk analysis on T&T's Master Schedule for the Section D Completion date. Montecarlo is an industry standard statistical

analysis technique used to establish the likelihood of activities being completed by a certain date. Outputs are usually reported in terms of P50 and P80 dates, i.e. a 50% and 80% chance of completing an activity by a certain date. In this case, the P50 and P80 dates for the achievement of Section D are reported as 20 February 2014 and 19 April 2014 respectively.

## Design

30. To what extent was the design not yet complete when T&T commenced work on the job?

A30 Design issues were resolved between T&T's design representatives and the BBS design team. A number of design items remained outstanding at the time T&T commenced work on the project, for example: the design of public realm works, tram and carriageway alignment in York Place, Cathedral Lane sub-station, On Street Works traffic modelling, Edinburgh Gateway retaining wall, Scottish Water legacy works and works north of York Place.

31. What were the reasons for the design still being incomplete then T&T took over?

A31 The contract was a design and build contract. It would be normal practice for design works to be progressing at the same time as the construction of other elements.

32. What work was required to complete the design and when was it ultimately completed? Were approvals required from third parties? If so, what were they required for and who had to give them? Has there been difficulties in getting approvals in the past? What changes did you make to procedures for getting approvals? Were they successful?

A32 A number of design items required completion (see response to question 30). The progression of design was ongoing during the majority of my time on the project.

Some further third party approvals were required for items such as utilities works OLE design and building fixings, and rail interface works. These approvals were managed



successfully through a combination of Design & Consents and Utilities Control Group Meetings and direct discussion with SUPs on site.

I cannot comment on any difficulties with obtaining approvals before I joined the project. Design progress was managed between T&T's design representatives and the BBS design team. In our role as Project Manager, we monitored progress against the programme requirements and supported resolution of the various consents.

33. **CEC01891188** includes the minutes of the meeting of the Project Delivery Group on 24 November 2011. At page 6 there is an item that notes that the design at St John's Church was "gross incompetence". What was the problem here? How was it resolved? What were the consequences of the design having been poor? Were instances of poor design common? On page 7 of the same minute, there is a statement that Infracore were refusing to provide estimates of prices. Can you explain what this dispute was about? How was it resolved? Did additional cost arise as a result?

A33 I do not recall the issues associated with the design of St John's Church or how they were concluded.

34. The PowerPoint presentation of 15 March 2012 (**TRS00014985**) makes reference to drainage re-design (page 6). In Progress Report Number 6 it appears that this was caused by requirements of Scottish Water to connect to existing manholes (**CEC01942255**, page 23 and 24). Can you explain the problem and why a re-design was required at this stage? Page 24 suggests that although the liability might properly fall on BBS, in order to maintain good working relations part might be borne by CEC. What happened in this regard? Were there other instances in which CEC did not stick to the letter of the contract because the principal concern was to preserve good relations and get the job done?

A34 I was not involved in the detailed analysis, discussions and correspondence between the parties. My understanding is that the Contractor believed they had an acceptable design

solution and Scottish Water had a different view. The cost issues were resolved through the change process and confirmed by the Independent Certifier or CEC.

## Utilities

35. What was the position in relation to the utilities when you first became involved? How much of the works had been carried out and how much remained? In relation to the works that had been completed, were they of a satisfactory quality?

A35 During mobilisation, T&T's utilities team met with Tie and BBS to inform the status of the utilities scope. A "utilities working group" was formed, involving T&T, BBS and representatives from SUPs. They were responsible for resolving utilities issues.

T&T undertook a desk study and procured a programme of surveys. This informed the remaining scope of utility works more accurately and helped mitigate potential utility issues.

As more construction was undertaken and work faces opened up more utility conflicts became apparent.

I am unable to comment on the quantity and quality of the works undertaken by Tie, only that, at the point of T&T's mobilisation, there remained a significant quantity of un-resolved legacy design issues with Scottish Water, and unresolved utility clashes (clashes with proposed tram works).

36. In your view, what were the problems that existed in relation to the delivery of the utility works and what did you do to address them?

A36 The main issues with utilities were:

1. There was insufficient knowledge of the location and form of utilities.
2. There was a lack of accurate utility record data.
3. Insufficient work had been done to establish the location of services and to clash check with the design on the infract works.



4. The existing traffic management sequence and Infraco construction phasing didn't provide for proving and addressing service clashes in advance of the Infraco works.
5. The risk associated with utility clashes was not adequately quantified.
6. The allocation of resources to addressing the utility risk was insufficient.
7. Scottish Water legacy works had not been closed out and accepted.

T&T took a number of actions to address the utilities risk, including:

1. Undertaking a desk study to identify the location of potential utility clashes.
2. Procuring utility surveys to validate desk study findings.
3. Improving communication and collaboration through the establishment of a co-located team to address utilities comprising designers and representatives of utility authorities as well as T&T project and commercial managers.
4. With support from CEC and Infraco, obtaining agreement to revised traffic management and early access to On Street areas to enable the rectification of utility works in advance of Infraco works.
5. Establishing a Utility Conflicts Database to record and report the nature utility clashes and proposed remedial measures to all parties.

37. What was the position in relation to design of the utility works? It is clear that in 2011 there were a large number of remaining utility conflicts. The utility contract was supposed to have been finished. Are you aware of any reason why there were still so many conflicts? Was this in areas in which no works have been carried out by that date or was it that the works that have been carried out inadequately?

A37 My view of the reasons why so many utility clashes remained is set out in my answer to question 36.

38. Did the need to complete the utility works or the need to carry out remedial works on the utilities cause delay to the infrastructure works? If so, where and to what extent? What was the consequence of this in terms of the delays and cost to the project?

A38 Addressing utility works did impact the Infracore works activities. This was particularly the case for the On Street Works. The extent of this was determined and recorded in the T&T Master Schedule. The identified impact was mitigated through re-sequencing of the On Street works construction phasing and subsequent progress and erosion of time bank (as referred to in my answers to questions 15 and 21) were recorded and agreed between the parties on a weekly basis.

39. To what extent were the statutory utility companies (SUCs) co-operative in relation to the works to be carried out? Did they give approvals in a reasonable time and on a reasonable basis? If there were problems, what did they concern and were they just one SUC or was it call of them?

A39 T&T's relationship with the SUPs was managed by the On Street works team and our representatives of the Utilities Working Group. As far as I am aware the SUPs were generally cooperative.

There were challenges in relation to dealing with clashes to Scottish Water's assets. To my knowledge these issues largely related to difficulties reaching agreement on solutions to legacy works.

40. McNicholas seems to have performed in a way much better than AMIS / Carillion. Do you agree and do you have any views as to why this was the case?

A40 McNicholas generally performed well on the project. In my view this was down to a combination of following factors:

1. McNicholas' senior management commitment to the success of the project.
2. T&T's hands on approach to the management of the utilities works.
3. A collaborative approach between the parties to work together.

I was not involved in the project prior to or during mediation and I am therefore unable to comment on the performance of utility contractors.



41. The final cost of the utilities works post Mar Hall was almost 10 times the sum budgeted. Why was this? It appears that works in relation to the Scottish Water assets had the greatest increase over budget. What was the problem with them?

A41 T&T were not involved in preparing the post Settlement Agreement budget. This budget would have been derived at a time when limited information in relation to the On Street Works utilities had been derived (either through desk study or survey). The true extent of the On Street Works utilities did not become clear until Spring 2012, once the majority of the On Street excavation had been completed and long after the budget was set.

The largest proportion of utility issues to be addressed related to Scottish Water assets. A number of these were legacy issues which were not addressed under the pre September 2011 MUDFA contracts. The nature of the Scottish water assets meant that scope for easy fixes was limited, due to their scale and proximity to other services and highway features.

42. Experience prior to Mar Hall has disclosed many of the problems that were inherent in the utilities diversions. Why were these not taken into account in preparation of the budget costs? What information and designs were available at the outset of the works and what was still outstanding? As the experience from before Mar Hall was often of finding additional utilities not shown on plans provided, were additional surveys carried out before the works commenced?

A42 T&T were not involved in preparing the post Settlement Agreement budget. We were however responsible for assessing the project risk exposure against the available contingency. Within T&T's early progress reports (e.g. of 10 November 2011) reference is made to potential utility conflicts known about at that time and a forecast cost for addressing them. This cost was included within the total identified risk at that time.

Some desk top studies had been undertaken at the time T&T mobilised, in order to ascertain the presence of potential utility clashes. Desk top surveys were incomplete and had largely not been proven by intrusive survey. It was T&T's view that this work stream was behind where it needed to be in order to successfully mitigate the risk of impacting on the Infracore

contract. Our response was to increase the utilities team size and to implement a programme of surveys to inform the scope.

43. In relation to utilities, there is often reference to 'legacy' works. What are they?

A43 These were unresolved utility works issues left over from the MUDFA contract managed by Tie. They related to works within the On Street section of the tram works and works north of York Place (beyond the tram works).

The scope of works was very varied and included:

- Repairs / replacement of fire hydrants

- Adjacent services with insufficient separation or protective cover

- Insufficient cover to services

- Lead water main supplies requiring replacement

- Gully pots not correctly connected

44. What changes were there in the way that the utility conflicts were dealt with after mediation as compared to the situation before? **CEC01891190** is the minutes of the project delivery group meeting of 8 December 2011. There was discussion of how Turner and Townsend were managing the utilities. Can you explain how this has been done?

A44 I was not involved before or during the mediation and therefore cannot comment on how utilities were managed during those periods.

Following T&T's mobilisation a contract was let to McNicholas to undertake utilities survey works and to address utilities conflicts in advance of the Infracore works. T&T co-located experienced project managers, commercial managers and McNicholas. This team had a strong site presence such that all works were closely overseen and we were able to anticipate and resolve issues swiftly and in an informed way.



45. Which works were carried out by the SUCs themselves rather than a contractor appointed for the project? How was it determined which works would be done by the SUCs?

A45 I am not certain of the extent of works carried out directly by the SUPs. McNicholas undertook the vast majority of the utilities works modifications during my time with the project, to ensure a common approach was adopted. I believe the SUPs input was largely the approval of design and sign off of completed works.

46. Page 59 of the Preliminary Report by T&T from September 2011 (**WED00000103**) refers to information missing from the Utility Conflict Schedule. What information was missing and what was the effect of it being missing?

A46 I assume reference is being made to the words under the heading Work Done to Date under Section 4.9.2 of the report on Page 55. I was not involved in drafting this section of the report.

The report lists this information missing from the Tie Utility Conflicts Schedule as:

- Legacy MUDFA works that remains outstanding
- BT conflicts due to outstanding information
- SW conflicts due to outstanding information

I believe this information was added to the T&T overall plan for executing the utility works, following our mobilisation. Once included, this additional scope would have further increased the utilities impact on the Infracore contract completion date.

47. Page 60 of that Report notes that CEC will be in breach of its obligation to provide a utility free zone on the proposed start date of 5 September 2011. How much of a concern was this? What work was done to validate / clarify the utility conflicts? On page 61 it is said that there should be a working group with the utilities that are "suitably empowered". What does this mean? Was it done?

A47 I assume reference is being made to the words under the heading UCS Analysis under Section 4.8.3 of the report on Page 56. I was not involved in drafting this section of the report.

The presence of utilities represented a significant risk to the progress of the Infracore contract. Dealing with utilities effectively was therefore a concern.

The steps implemented by T&T to validate / clarify utility conflicts are set out within my answer to questions 35 to 40 above.

Reference to a working group being suitably empowered is referring to the need for SUP representatives to have delegated authority to make design and construction decisions on behalf of the SUP. Generally this was the case. Representatives with suitable delegated authority to accept designs, and the built works, was essential in order to minimise delay to the utilities works.

48. **BFB00095321** is a minute of the meeting of the Joint Project Forum on 25 January 2012. Item 4 on page 5 notes that utility conflicts were still a major threat to the contract. Why was this? What were the conflicts referred to? This minute also notes that the procedure set by T&T for managing utility conflicts was working well. What was the procedure and how was it helping?

A48 T&T were not represented at the Joint Project Forum and did not receive the minutes. I am therefore unable to comment on the specific discussion at this meeting.

By January 2012, further excavation of utilities within the On Street areas remained outstanding and therefore the extent of future utility conflicts and their impact was unknown at this time.

T&T's approach to addressing utility conflicts is described within my answers to question 36 above. The approach was very hands on with a strong site presence. All potential utility clashes were confirmed by on site survey and trial digging prior to a solution to that clash being determined.



49. By the time that T&T were involved in the project, it was apparent that the trams would not be running beyond York Place to Leith and beyond. What work was carried out on the utilities in this area in which it was no longer intended (at that time) to build the tram line.

A49 My recollection is that no significant tram related utilities works were carried out in this area following T&T's mobilisation in September 2011. Any works undertaken related to Scottish Water legacy items which had not been resolved prior to T&T's involvement. These were addressed through a separate contract and did not impact on the Infraco tram works.

50. An email from a colleague of yours, Stephen Lewcock, to Colin Smith of 18 October 2011 (**ETI01\_00000475**, page 67) refers to problems with new utility services that has been laid in St Andrew Square under the MUDFA contract as a result of a reduction in road levels. What was the issue here? What had to be done about it? Were there other instances where the MUDFA works done had to be done again because of location of the new service? What was done in these other locations?

A50 The issue being referred to was that utility moves undertaken under the MUDFA contracts prior to T&T's mobilisation clashed with the Infraco tram alignment. Any such instances were addressed as utility conflicts by T&T and the utilities working group, either by moving or designing out the conflict. I am not clear on the extent of MUDFA works which had to be revisited.

51. **CEC01889514** is a minute of a Tram Briefing Meeting on 27 October 2011. Page 3 of the minute notes that the utilities contract is being run on a cost reimbursable basis. Why was the change made from the previous basis of a schedule of rates to one based on cost? What effect did this have on the costs of works?

A51 A cost reimbursable contract was selected by Tie for the utilities contract prior to T&T's engagement. I cannot comment on Tie's reasons for selecting this approach.

The use of a cost reimbursable contract enabled T&T and the utilities contractors to respond quickly thereby minimising impact of utilities works on the Infraco contract.

52. At page 21 of Minutes of the Tram Briefing Meeting of 19 January 2012 (**TRS00009718**), there is a note that the utility works were being done under the NEC Option 3 – Cost Reimbursable form contract. Were you involved in the decision as to which contract form to use. Why was a change made this one rather than the bespoke one that had been used before?

A52 A cost reimbursable contract was selected by Tie for the utilities contract prior to T&Ts engagement. I cannot comment on Tie's reasons for selecting this approach.

53. **CEC02085662** is the Progress Report from November 2011. On page 3, there is a note that delays were currently occurring because of problems with utilities. Can you explain what the problem was? What was done to solve the problem and unable time to be recovered?

A53 As part of the Infraco contract, BBS were required to install overhead line electrification (OLE) bases along the On Street route. During excavation for these works near Haymarket Station, utilities were encountered including an un-charted fibre optic cable. I do not recall the specific solutions to these clashes, however, generally such occurrences were dealt with through a combination of re design of foundations (either moving or changing from spread footings to piles), or diverting / slewing utilities.

54. The Minutes of the Tram Briefing Meeting of 19 January 2012 (**TRS00009718**) record that you were to consider whether utility works could be done at the same time as infrastructure works to avoid the road being opened twice (page 5). What was the outcome of this? Would it have been feasible to do this at the earlier stages of the project.

A54 Within Shandwick Place, St Andrew St and York Place, the utilities contract was extended to cover excavation for the track slab and placement of sub-base material prior to track slab construction. This work was de scoped from the Infraco contract with Infraco agreement. This approach enabled utility conflicts to be addressed at the time of excavation without the



need for excavations to be reopened by Infraco. Achievement of this was dependent on the close cooperation of the utilities and Infraco contractors such that the track slab works followed immediately behind the enabling works.

I do not know whether it would have been feasible to adopt this approach pre mediation as I am not familiar with the constraints of the project at that time. The approach adopted post mediation did require the support and cooperation of all parties.

55. In the Minutes of the Tram Briefing and Project Delivery Group Meeting of 5 April 2012 (**TRS00014114**) there is reference to works to remedy previous Infraco and MUDFA works related to Forth Ports and in Lindsay Road (page 5). How extensive were these required remedial works? Can you indicate the approximate costs of them? In that the decision has been taken not to take the tram down Leith Walk, why were these works required?

A55 I do not recall the detail of these works but I believe they were of relatively small value and comprised rectification of incomplete highway structures and traffic management.

56. In Progress Report No. 7b (**CEC01890163**), in the dashboard for the on-street works (page 43), there is reference to continuing discovery of utilities in the course of the Infraco works. To what extent were further utilities still being discovered at this stage? What was the effect of these discoveries on the timing of the infrastructure works and on their cost?

A56 This progress report relates to the period up to 28 April 2012. By this point in the project, a significant portion of the required excavation for the On Street areas had been completed, with the exception of York Place, and the location of much of the assets to be constructed by Infraco had been proven. Nonetheless, the ongoing discovery of utility clashes remained an issue.

On discovery of utility clashes, discussions took place between the parties to agree how these were best resolved and who should undertake the works. The impact to the Infraco programme was recorded through assessment of erosion of the time bank (as set out in my

answer to question 21). Cost impact was assessed as a Pricing Assumption Variation, to the On Street works fixed price, between T&T and Infracore commercial teams.

57. In Progress Report No. 10, (**CEC01932286**), can you explain the increase in approved change noted in the first bullet point in section 5.3 (page 16)? What was Utility Drawdown 003 referred to in the table at 5.4.1?

A57 I was not involved in drafting this part of the report, it was prepared by T&T's commercial team. My understanding is that during the period to which this progress report refers (Period to 21 July 2012), agreement to drawing down part of the risk allowance for the utilities works (utilities drawdown 003) was formalised.

58. Can you explain the issue being considered by Colin Smith in section 7.0 of this report entitled, "Review of Commercial Matters prior to and arising from Application for Payment Valuation No. 58)" of August 2012 (**CEC01933624**)? CS refers to meetings not being enacted by TIE (page 5). Is this a reference to what happened after Mar Hall? Do you understand why this is described as 'slipshod'. What effect did this have? Do you agree?

A58 My understanding is that the IC's comments relate to issues prior to September 2011. I was not involved on the project prior to September 2011 and therefore I am unable to comment on the performance of Tie in dealing with this matter.

The Independent Certifier's review related to his opinion on a third party utility issue which was un-resolved prior to September 2011.

A lack of clarity on risk allocation in relation to Off Street Works utilities frustrated resolution of commercial issues between BBS and T&T's commercial teams.

59. By the time of Progress Report No. 13 (**CEC01891277**) it is clear that there are problems in the relationship with Scottish Water. What was the cause of the problems and what was done in relation to them?



A59 I became aware that SW had concerns over technical issues as a result of the MUDFA contract works although I was not involved in the project at the time the MUDFA works were undertaken. Progress was made in closing these out. However, a technical solution for a number of these items was unable to be reached at the time of this report.

A Steering Group attended by me and senior representatives of Scottish Water was established to discuss ways forward on all Scottish Water issues. This was effective in resolving a number of legacy items. Resolution of a number of issues remained outstanding at the point I left the project (Jan 2013).

60. In Progress Report No. 14 (**CEC01932700**), page 23, there is a reference to remedial works at Leith Walk and that the Council has instructed that works be carried out only to the extent of £900,000. There is further reference to the same issue in the second last bullet point on page 27 and on page 30. Can you explain this?

A60 These sections of the progress report relate to the existence of a number of utilities issues resulting from the period prior to T&T's involvement but which had not been resolved to Scottish Water's satisfaction. The reference to £900,000 reflects CEC's available budget for addressing these legacy works. CEC determined this budget.

61. In the same Report, at page 24 there is a reference to there being contested liability for off street utilities and a reference to "lack of visibility regarding risk pricing". What was the nature of the dispute and what position was taken by each of the parties?

A61 This is the same issue which is being referred to in question 58. This section of the report was drafted by T&T's commercial team.

My understanding is that Infraco had made allowances for risk items within their pricing but that there was a lack of clarity on the extent of risk allocation in relation to the SGN diversion works at Ingliston. Infraco were of the view that since no specific provision was made within their price then the cost of undertaking these works would be a change order.

T&T's view was the subject of a technical note prepared by T&T's commercial team. I do not recall the outcome of the issue.

62. It is apparent from the table at page 92 of Progress Report No. 14 (**CEC01932700**) that there was no sum originally budgeted for payment to the Statutory Utility Companies. Did this reflect the fact that the intention was that all work would be carried out by Infraco? Why did this change? Under the heading 'McNicholas', there are a number of items in respect of which no sum had been allowed in the original budget. What did these matters consist of? Were they things which could not have been foreseen even after all the works that had been carried out between 2009 and 2010?

A62 I was not involved in the allocation of budget to the project. The budget was set by CEC and the allocation of contingency by CEC and T&T commercial representatives.

63. The cost report in Progress Report No. 16 (**CEC02085656**) at page 64 notes that the original budget for utilities had been £1.8m, that there had by that time been a variation of £13.665m and that it was anticipated that there would be a further increase of £1.791m. The anticipated final costs of £17.268m is almost ten times the original budget. Why was this? The breakdown of the figures for utility costs on page 91 provides some breakdown of the increases into categories. Can you explain each of these categories?

A63 I was not involved in the allocation of budget to the project. However, it is likely that a budget for undertaking works to utilities would have been difficult to define given the significant level of unknowns within the utilities scope prior to September 2011. The specific budget would have been supplemented by part of the contingency allowance for the project.

The Top half off the table on page 91 shows the budgeted, committed and forecast costs for works undertaken by McNicholas. The bottom half of the table sets out costs associated with statutory utilities providers.

## Infrastructure



64. It appears from the Preliminary Report by T&T from September 2011 (WED00000103) that there had to be a complete overhaul of all the procedures and processes for joint working with the Consortium, for communication and information and the IT systems. Is this correct? Can you explain the problems that existed in the way that things had been done to date and the changes that were required? Were the shortcomings observed in the existing processes etc things that are common in projects of this scale? Did you form a view on the manner in which the project has been run prior to your involvement? What was that view?

A65 SharePoint was being used by Tie as a communication tool when T&T took responsibility for the project. Although this was capable of storing project records, storage and retrieval of documents was complex. Access to historical documentation was therefore problematic. I have seen similar issues with document control systems on other projects.

On T&T's arrival, the future needs of the project were re-assessed and a new instance of SharePoint established. This simplified the uploading and retrieval of project information and provided access to those who required it within T&T and CEC. BBS had their own communication management system.

My focus on joining the project was to put in place appropriate processes and tools to support successful delivery going forwards. I did not actively assess the manner in which the project had been run previously but focused on whether the processes in place were adequate to be maintained or required change.

65. Can you explain what was meant by the "score sheet" referred to in the Minutes of the Project Delivery Group meeting of 25 October 2012 (CEC01891310, page 3)?

A65 I have no knowledge of the meaning of the term "score sheet" in the minutes. In document CEC01891310 T&T are recorded as having stated that there was no project score sheet.

## Pricing

66. Can you explain the pricing assumption variations (PAVs) provided for under the contract and how it was intended that they would operate? How did they operate in practice? It appears from section 4.2.7 in the Progress Report No. 6 (CEC01942255) that they caused some difficulties. How were these resolved?

A66 I cannot comment on these pricing assumption variations as I was not involved in the Settlement Agreement. The commercial teams managed change and where there were differences in views, they were referred to the Independent Certifier in accordance with the contract conditions.

## Risk

67. Was a Quantified Cost Risk Analysis carried out afresh for each Progress Report? Is that common? Who was involved in consideration of the risk analysis and what decisions were taken on the basis of it? How often was the risk register reviews, who carried out this task and what did it entail?

A67 Risks were reviewed each period (monthly) to make sure the project assessment of risk was current and to check that appropriate mitigations were in place. This was undertaken internally within the T&T team, led by the T&T risk manager and also at the Schedule and Risk Control Meeting, run by CEC and attended by BBS, CEC and T&T representatives. At this meeting agreement was reached on the most appropriate risk mitigation actions and who would lead them.

A formal QRA process was undertaken by T&T approximately every three months. This approach is good practice within the industry.

68. What was the TTPM view of TIE's risk management? Can you explain the concerns in the table beginning at page 37 of the Preliminary Report by T&T from September 2011 (WED00000103)? The contents of the table appear to say that all the *ingredients* for proper risk management were present but seems to hint that, despite the boxes being ticked, it was not well managed in



practice. Is this the intent? Although there is mention of what happened once the project entered the mediation phase (page 40), as far as you are aware, what was the position in the preceding two years?

A68 The purpose of the Preliminary Report was to gain an initial understanding of the project through a desktop review of some project information and meetings with CEC and TIE people involved in the project, to coordinate our mobilisation.

For risk management to be effective all of the concerns raised in relation to the current process in the table on page 34 of the report would need to be addressed. Most significantly, it is essential that there is integration between cost, schedule and risk.

I was not involved in the project either prior to or during mediation and cannot comment on the preceding two years.

69. On page 64, item 21 in the table states, “No rigorous risk management process currently in place within client team”? Can you explain and comment on this?

A69 I believe that this is a summary of the consequences of the broader analysis of the processes in place before the mediation.

70. **TRS00012990** is the minutes of the Tram Briefing Meeting from 3 November 2011. On page 3, there is a note that T&T would undertake the analysis on the risk allowance to provide a more specific risk provision. Were you involved in this? Why is it considered necessary that Turner and Townsend provide an analysis of risk on top of the work that are already been carried out? How was the analysis undertaken? To what extent were the result of that different from the risk analysis that had been undertaken prior to your involvement? Was a QRA carried out? Were the results of any such exercise undertaken compared to those results that had been produced prior to your involvement and what was disclosed by such comparison?

A70 In accordance with normal practice, risk assessments were undertaken on a periodic basis to reflect the up to date holistic risk position of a project. In each of T&T's progress reports, we included an assessment of available contingency vs assessed risk and opportunity. Risk reviews were led by T&T's Risk Manager, attended by me and senior representatives of the T&T team.

The analysis was informed by the outcome of Risk Control Meetings with CEC and BBS, during which the project risk register was reviewed. On a quarterly basis, Quantitate Cost and Schedule Risk Analysis were undertaken to provide a holistic assessment of cost and schedule risk.

I don't have sufficient knowledge of the risk assessment process prior to T&T's involvement to comment on how it differed from T&T's approach. To my knowledge we did not compare our results to those from Tie.

71. It appears that you were the 'owner' of various of the risks (see, for example, the Risk Allowance tab of the spreadsheet in **TRS00019515**. What did this entail? How were the risks allocated to owners?

A71 I don't recognise this risk register, or the allocation of these risks to me. I held ultimate responsibility for all risks under the control of T&T which were identified within the jointly agreed Edinburgh Tram Project Risk Register, reviewed at the Schedule and Risk Control Meetings. This register was managed by T&T's Risk Manager and allocated actions to representatives of T&T, CEC, BBS representatives.

72. **CEC02085662** progress report from November 2011. On page 6, there is a statement almost £18.7 million of risk items had already been identified. How are these sums identified at this early stage of contract?

A72 The figure of £18.7m relates to identified anticipated risk at that point in the contract. Further detail of the breakdown of this risk is provided under Section 4.2 of the progress report (change).



It is normal practice for anticipated risk to be identified during the early stages of a project and for actual emerging cost of changes to be drawn down against risk as risks are realised.

73. In section of the Dashboard Report dated 18<sup>th</sup> of December 2011 (**TRS00013293**, page 8) entitled, "Top Ten Risks" there is reference to risks arising from utility works, that the contract is moved to cost reimbursable and that additional work is required. Could you explain these risks and the treatments for them in more details? These risks had existed earlier. What changes (if any) were made to the treatment strategies?

A73 The Infraco On Street works was a fixed price for a fixed scope. The contract, as a result of the Mar Hall mediation, contained a trigger to move to a cost reimbursable basis in the event that the amount claimed exceeds the contract price by £0.75m or there is an EoT in excess of 21 days. With the large quantity of utilities works present and their potential to impact on the delivery of the Infraco scope, there was a risk that the On Street works would be triggered to cost reimbursable. Under these circumstances the risk allocation in the project would change and the project may require additional resources to support contract administration.

The mitigation of these risks included:

1. Dealing with utilities clashes in advance of the Infraco contract through the McNicholas works.
2. Working with BBS to coordinate their works such that utilities clashes could be resolved prior to their planned construction.

The utilities risk had always existed. However its scope and potential impact was not fully clear until Spring 2012. T&T's strategy for dealing with utilities remained in place until all utility issues were addressed.

74. How was risk managed and accounted for? It appears from the Minutes of the Project Delivery Group of 19 January 2012 (**CEC01891213**) that there were problems in co-ordinating the approach with the contractors (page 5). Was this correct? What was done in relation to it?

- A74 Initially, following T&T's mobilisation, T&T and BBS kept separate risk registers which made coordination more challenging. This was addressed through discussions between the parties and the project moved to a position where a single risk register was used by T&T, CEC and BBS at their joint meetings simplifying coordination.
75. In the Risk Register (**CEC01891219**, page 95) you are the owner of the risk with the description, "Risk of further breakdown in client / contractor relationship". The Existing Controls include, "Using new relationship to "wipe slate clean" and build new relationship". How did they work? Was it successful?
- A75 In general I would describe the working relationship between the parties to be a positive one, built on mutual respect and trust. This was encouraged by the meeting structures and content and by the good working relationships between the leaders of the parties. The success of the approach was evident by the sharing of challenges within the various project meetings and the resulting working together by the parties in order to move forward positively.
76. What measures were in place to avoid the contractors 'helping themselves' to the risk allowance?
- A76 Risk allowance could only be drawn upon through formalised contract change. This was governed by a weekly change meeting between CEC and T&T where potential changes to scope/cost/programme were discussed and either their implementation was formalised or they were rejected.
77. Progress Report No. 8 (**TRS00014772**) has a note that the cost risk forecast is prepared on the basis of P50 while the schedule risk is based on P80 (pages 25 and 30). The P50 level is lower than that which was in existence at the time of the first part of the contract. At page 30 there is a note that there would be discussions regarding a move to the more cautious P80 level. Was there a reason to use this lower level and, if so, what was it?



A77 I do not recall the detailed reasoning for the use of a P50 confidence level at this time in the project. There was a fair level of uncertainty remaining on the project at this time and there is reference to undertaking more detailed risk analysis. In the absence of the more detailed analysis it is reasonable to consider whether P50 or P80 is appropriate.

78. In Tram Project Report 16 (**CEC02085656**) there is a note on page 5 that the risk allowance had been increased. What was the purpose in increasing the risk allowance at this stage?

A78 The reported risk exposure increased by £288k during the reported period as a result of higher than anticipated Scottish Water costs. It is normal practice for risk exposure to be assessed on a periodic basis. Whilst generally the trend of risk exposure reduces with time, as money is drawn down from risk and the impact of risks crystallises, on occasion the risk exposure will increase to reflect specific events during the reporting period.

## Change Management

79. What changes were made in change management and procedures when T&T took over project management? Was the issue simply that there was less need for change as the design had been completed to a greater degree by then and the price was fixed to a greater extent?

A79 I am not aware of the change management procedures in place prior to me joining the project or the level of approved / unapproved change.

The procedure implemented between CEC and T&T comprised a weekly change control meeting during which potential emerging change requests were discussed and either agreed (by CEC), rejected or identified as requiring further detail. Changes were developed offline through regular discussions between the respective T&T and BBS commercial teams. Draft change requests were prepared in advance of the weekly meeting for consideration.

The change meetings were also informed by discussion and decisions arising from the four fortnightly control meetings described in my response to question 10.

80. It appears from **TIE00661087** and the document attached to it that new procedures are put into manage change. Why were they considered necessary? What were considered to be the shortcomings in the previous system and what were the key elements of the new system?

A80 I am not aware of the change management procedures in place prior to me joining the project. New procedures were put in place because new representatives of T&T and CEC had been brought into the project and this was their preferred way of working, to clarify responsibilities and levels of delegated authority. The procedures were discussed and agreed between the parties prior to implementation.

81. In the Change Log in **CEC01891219** (page 91), for a number of items the 'Reason for Change' is marked as being 'Historic Post Mediation Change'. What was meant by what?

A81 I assume it refers to changes which related to events which occurred whilst Tie were running the project but which had been resolved post mediation but I do not now recall the precise meaning of this term.

## Disputes

82. What arrangements were made to deal with or avoid disputes in the period after the Mar Hall mediation? What was the function of the "Independent Certifier" and what difference did the existence of this role make to the implementation of the contract?

A82 After the Mar Hall mediation, the following measures were implemented to avoid disputes:

1. The implementation of fortnightly control group meetings attended by T&T, CEC and BBS. These covered design & consents, risk & schedule, utilities & construction, tram integration. These were chaired by CEC and were a forum for all parties to share and address issues and concerns.
2. The use of working meetings between T&T and BBS to agree practical working interfaces between the utilities and Infracore contracts.



3. The use of weekly commercial meetings to review and agree changes to the Infraco contract.

The Independent Certifier reviewed T&T's assessment of BBS's application and made his own assessment before certifying the amount to be paid. The existence of this role was intended to provide an independent view of the administration of payments and was intended to provide challenge and adjudication where there was a difference of opinion between T&T and the contractors.

83. **TIE00359080** is an email chain from late November 2011 which appears to indicate that there was a dispute as to a decision given by the Independent Certifier. What happened in relation to this?

A83 I believe this issue related to Infraco entitlement to costs in relation to different foundation solutions within the On Street works section. T&T's commercial team had a differing view of entitlement to that of BBS. The difference in opinion was referred to the Independent Certifier in accordance with the agreement. I was not involved in the detailed resolution of this matter.

84. The Executive Summary in Progress Report No. 12 (**CEC02017359**), page 4 and 5, notes a dispute as to whether BBS were entitled to a change order for the 22 week period saving. Can you explain the issue that had arisen and how it was eventually resolved?

A84 The issue related to Infraco's entitlement to the cost saving resulting from changes to traffic management and construction sequence. T&T advice was contained within two advice notes (see my response to question 21).

CEC instructed T&T to issue a change order addressing this matter.

I confirm that the facts to which I attest in the answers contained within the document consisting of this and the preceding 45 pages are within my direct knowledge and 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

Signature

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Julian Weatherley

Date

27 July 2017