



Internal Audit

Project 2008-03 & 2008-05: Review of Project and Programme Reporting/INFRACO

Final Report

September 2009



Commercially Sensitive and Confidential

*Expected to be subject to Freedom of Information request. Disclosure not to be made without consultation with **tie's** Project Director, due to potential conflict with ongoing commercial negotiations.*

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This report has been prepared on the basis of the limitations on page 13 and 71.

Review of Project and Programme Reporting/INFRACO

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Review of Project and Programme Reporting/INFRACO

Summary of Key Findings



General Observations

- At the outset, we would especially like to acknowledge the cooperation and professionalism demonstrated by **tie** management which has contributed to the successful conclusion of this review.
- The delivery of the Edinburgh Tram Project on time and within budget will be challenging and there are a number of key issues that must be resolved to facilitate progress. This summary captures our key findings and observations in relation to Project and Programme reporting and INFRACO/Princes Street Dispute at the date of our fieldwork. Our main fieldwork was undertaken between 14 May 2009 and 9 June 2009.
- The two significant findings from our fieldwork are issues that **tie** senior management has been focussing on resolving for a number of months and, as a result, the Audit Committee will be aware of the issues and the actions management has taken in an attempt to resolve the matters. The actions taken by **tie** include the introduction of the Strategic Options Workstreams, engagement with BSC through the Project Management Panel, the use of a Supplementary Agreement to resolve a specific issue and the appointment of experienced resource to provide additional technical, legal and commercial advice with particular focus on the areas of contractual disagreement.
- The two significant 'Red' findings are as follows:
 - An updated programme has not yet been agreed between the parties and until it has been agreed and baselined by **tie** and BSC, the reported Open for Revenue Service (OfRS) Date cannot be considered robust. There are several OfRS dates, ranging from 23 February 2012 (**tie's** best estimate of a deliverable OfRS date) to 20 January 2013 (unmitigated entitlement programme submitted by BSC), currently being forecast and these should be considered as best estimates made by management based on available information. **tie** management is currently predicting an OfRS date of 23 February 2012.
 - The Anticipated Final Cost (AFC) of the project cannot be considered robust. This observation is based on the uncertainty created by the ongoing commercial disagreements between **tie** and BSC and the significant risk to the AFC as a result of the commercial implications associated with the agreement of a rebaselined programme. This could include costs associated with any Extensions of Time or, if required, acceleration of the works.
- With the exception of programme and AFC issues above, we did not identify any material reporting issues during our review. However, opportunities to improve on the reporting processes currently in place do exist.

Review of Project and Programme Reporting/INFRACO

Summary of Key Findings



General Observations (contd.)

- The underlying cause of the current issues can primarily be attributed to the poor relations that exist between **tie** and BSC, although we stress that this is not a reflection on **tie** management who appear to have made every effort to engage with BSC at all levels. In order to reach a successful outcome, the engagement between the parties must improve and both **tie** and BSC need to reach agreement on the principal outstanding commercial matters, including agreeing a baselined programme, as a priority. Amongst other potential solutions, **tie** may need to consider the use of robust and detailed supplemental agreements (similar to that used on Princes Street) or a contractual "side letter" in order to resolve these matters.
- In our experience, when projects become more focused on managing or avoiding disputes rather than on managing the project, there is a danger that management efforts on both sides become less focused on delivery, which ultimately leads to a vicious circle of further disputes.
- Based on information provided by **tie** management, there are examples of BSC frustrating progress (including scope dispute on the Supplemental Agreement and lack of engagement to resolve programming matters). If BSC continues to adopt an aggressive commercial stance it will be incumbent on **tie** senior management to ensure they have put in place a robust action plan to defend their position.
- Assessing the affordability of the project will become particularly difficult and management should ensure that clear updates are issued to project stakeholders. Commercially, for the key project stakeholders any delay is costly and project progress must be maintained. However, maintaining progress may be at the expense of the best commercial resolution of specific elements of the project.
- **tie** management has introduced a number of initiatives and approaches in an attempt to address the issues experienced with BSC. The most recent initiative was a week long series of mediations on each of the areas of disagreement which commenced on 29 June 2009. The target for this exercise was resolution of the areas of disagreement and whilst progress was made by both parties on the issues, final resolution was not achieved. As a result, **tie** management has made a series of recommendations to the Tram Project Board on the next steps.

Review of Project and Programme Reporting/INFRACO

Summary of Key Findings



Project and Programme Reporting Observations

- There is a significant amount of reporting being completed on the project which generally is of a good standard. However, there is concern that a number of the key messages could be lost in the detail of the reports issued and we have identified opportunities to streamline elements of the reporting process in our detailed recommendations. There is no evidence to suggest that information is not available and when challenged, management was able to provide supporting information. Our comments in relation to the streamlining of reports refers to adapting existing information to ensure management clearly delivers the intended message.
- The timescales involved in the reporting process prevents all parties from agreeing the individual Project Managers report contents prior to issue of the reports internally for review. As a result, **tie** senior management consolidates the outputs of the Project Director reporting process and distils any conflicting information in terms of AFC's or risk allowances into a clear and consistent position for reporting to CEC, Transport Scotland and the Tram Project Board. **tie** management has demonstrated this process and whilst we identified no issues with the consolidation process itself, **tie** management should continue to ensure that the consolidation is clearly recorded to avoid any loss of organisational knowledge in the event of illness or absence of key **tie** management personnel.
- When significant amounts of reporting are completed on projects there is often a perception that someone will always identify and own a problem. In our experience this is often not the reality and **tie** management should also ensure that all reports make clear recommendations which are tracked to ensure implementation and resolution.

Review of Project and Programme Reporting/INFRACO

Summary of Key Findings



INFRACO/Princes Street Dispute Observations

- In order to determine if **tie** fully anticipated the impending dispute on Princes Street, we have reviewed a number of the period 8 to period 12 reports which consistently identify poor progress by BSC through lack of engagement and slow mobilisation. However, **tie** management has confirmed that they did not expect the dispute on Princes Street to materialise in the manner experienced.
- From our discussions with management, together with information made available during our fieldwork, it appears that **tie** management has responded in an appropriate manner to the dispute when the gravity of the dispute became apparent. However, industry good practice suggests that when agreement cannot be reached after a series of meetings on a specific matter, the client should prepare contingency plans for a worst case legal resolution. During the early stages of the dispute, **tie** continued to adopt a partnering ethos in attempts to reach agreement with BSC and a learning point for any future disputes is that **tie** must begin contingency planning for a full scale dispute at a much earlier stage.
- **tie** management has stated that the only way in which the dispute could have been avoided was for **tie** to agree to the commercial demands made by BSC, essentially paying the additional costs sought by BSC. Based on the information provided and discussions with **tie** management we are of the opinion that these disputes would have been difficult to avoid. Additionally, despite the best efforts of **tie**, it appears that BSC is applying a commercially aggressive stance on this project.
- Depending on the outcome of the heads of claim currently subject to the Dispute Resolution Process (DRP), it is very likely that there will be future disputes between **tie** and BSC as BSC seeks to recover additional costs elsewhere throughout the contract. However, of positive note is that agreement was reached at mediation on 29 May 2009 regarding preliminaries applied to changes.
- To reduce the likelihood of future disputes, improved engagement between the senior management of both parties, including the senior consortium members, will be required. Whilst the Project Management Panel (PMP) has been formed to address this matter, and resolve future disputes before they enter the DRP, there is concern that until the commercial matters of principal are resolved, the effectiveness of the PMP will be limited.

Review of Project and Programme Reporting/INFRACO

Summary of Key Findings



INFRACO/Princes Street Dispute Observations (contd.)

- In the event that the aggressive commercial stance currently adopted by BSC continues, which will be impacted in different ways by success or failure through the DRP, **tie** management will have no option but to maintain an appropriate resource structure to match the contractual approach applied by BSC.
- **tie** may wish to consider using a side letter between the parties to record an agreement setting out the principles of how to operate contract provisions going forward in order to avoid further delays to the programme and improve progress.
- The BSC is becoming increasingly commercially aggressive and there is a risk that a number of disputes may result in formal legal proceedings. During a pre-trial litigation process, each party can request relevant information and documents from the other side in an attempt to "discover" pertinent facts and there is a risk that under legal disclosure rules, BSC may be able to obtain access, as part of a pre-trial litigation process, to internal **tie** communications. **tie** should consult with their legal advisers to ensure that in the event of a legal dispute, internal information cannot be called for and used against **tie**.

Review of Project and Programme Reporting/INFRACO

Summary of Findings



Notes

The following table summarises our findings by priority. A detailed breakdown of our observations and recommendations for improvement is shown from slide 14.

Category	Total	Priority		
		1	2	3
Control Weakness	2	2	-	-
Process Improvement	6	-	2	4
Total	8	2	2	4

Review of Project and Programme Reporting/INFRACO

Glossary of terms



- **AFC** Anticipated Final Cost
- **BDDI** Base Date Design Information
- **BSC** Bilfinger Berger UK Limited, Siemens plc and Construcciones y Auxiliar de Ferrocarriles SA "the Consortium"
- **DRP** Dispute Resolution Process
- **Infraco** Bilfinger Berger UK Limited, Siemens plc and Construcciones y Auxiliar de Ferrocarriles SA "the Consortium"
- **IFC** Issued for Construction
- **MUDFA** Multi Utilities Diversion Framework Agreement
- **PMP** Project Management Panel

Review of Project and Programme Reporting/INFRACO

Detailed Scope and Objectives – Project and Programme Reporting



Background

- **tie** is committed to the highest standards of corporate governance to ensure the company provides value for the public money it receives. The effective stewardship of public funds is a core element in the governance framework of **tie** hence the need for robust controls over the monitoring of the status of the Tram project. The objective of this review is to undertake an assessment of the adequacy and effectiveness of arrangements adopted by **tie** to monitor and report on financial/programme status and key project risks.

Scope and Objectives

- The objective of this review is to undertake an assessment of the adequacy and effectiveness of arrangements adopted by **tie** to monitor and report on financial/programme status and key project risks. This review includes an assessment of the approach, robustness and effectiveness of project reporting currently prepared by **tie**, with a particular focus on:
 - the general approach currently adopted by **tie** with regard to the quality and clarity of key project reports;
 - a commentary on the effectiveness and transparency with which cost and programme certainty is conveyed to all key stakeholders, with consideration to the potential use of anticipated ranges as opposed to specific outturn targets;
 - the approach adopted by **tie** to prepare Transport Scotland update reports, with a focus on reporting frequency, the degree of challenge/scrutiny, and the robustness of reported information; and
 - a commentary on how this reporting aligns to good practice, with examples of where opportunities exist for potential improvements to be made.

Review of Project and Programme Reporting/INFRACO

Detailed Scope and Objectives - INFRACO



Background

- The internal audit plan presented to the audit committee in October 2008 included a review of the mobilisation of INFRACO and was to consider the overall contract management process. Given the difficulties encountered with the INFRACO consortium, it was agreed to focus a large element of our work towards the overall contract engagement strategy, and the strategy undertaken by **tie** to manage the contractual dispute.

Scope and Objectives

- The objective of this review is to consider the overarching management of the INFRACO and understand the reasons behind the difficulties that have been experienced in the working relationship between **tie** and INFRACO, since on-site work commenced. Our work also evaluates the robustness of the **tie** response and provides commentary on the risk management procedures that have been adopted in order to mitigate the likelihood of similar difficulties emerging during the remaining contract period.
- The review considers the core controls over the contract management process including: contract negotiation, site supervision, work instructions, communication between **tie** and contractors, change management and the process for evaluating and settling claims.
- The review also includes an assessment of the background to the recent dispute between **tie** and INFRACO, with a particular focus on:
 - the underlying cause of the dispute;
 - how **tie** mobilised in response to the dispute and recent short term activities to address and mitigate its potential impact; and
 - the long term plan for dealing with current or future disputes and lessons learnt for the remaining contract period.

Review of Project and Programme Reporting/INFRACO

Approach and Limitations



Approach

- We took the following approach to this review:
 - Held a series of meetings with a cross section of personnel across **tie** management to discuss the project and programme reporting process with specific discussion in relation to the dispute on Princes Street;
 - Reviewed the following reports:
 - BSC Infraco Contract Period Report No 2-1 to 25 April 2009;
 - Period 01 09/10 Project Managers reports for PD review including the supporting Project Managers Report Cost Summary and FM Summaries Period 1;
 - Period 1 2009/10 Transport Scotland Report;
 - Tram Project Board Report on Period 1; and
 - Period 8 to Period 13 Transport Scotland and Tram Project Board reports.
- We attended follow up review meetings with **tie** senior management.
- We also attended the 'Infraco' element of the Period 2 Project Directors review meeting.

Limitations of our Work

- Our analysis specifically excludes:
 - An assessment of projects within the programme with the exception of Infraco (for a full list of projects please refer to slides 63 and 64);
 - An analysis of the main contract; and
 - An assessment of the responsibility of each party in relation to the commercial disputes.

Review of Project and Programme Reporting/INFRACO

1. Detailed Findings - Agreement of Programme



#	Finding/Observation	Risk/Opportunity	Recommendation	Management Comments	Risk
1	The currently agreed baselined programme between tie and BSC is now out of date and an agreed, updated programme does not currently exist between tie and BSC.	<p>In order to ensure consistent reporting of progress, and increase the robustness of the reported AFC, a baselined programme must be agreed between tie and BSC as soon as possible.</p> <p>The lack of an agreed programme also makes stakeholder communication difficult.</p>	<p>tie and BSC should build on the progress made during the recent mediation sessions and arrange further workshops/meetings as necessary to reach agreement and baseline a programme as soon as possible to limit further impact on progress.</p> <p>tie should also ensure that BSC programme attendees have senior consortium member backing to agree a programme that is in the best interests of the project.</p>	<p>Discussions ongoing with BSC in relation to programme but this is likely to be referred to DRP. tie has recently rejected BSC's Revision 2 of the programme and is preparing for the DRP process. tie aim to encourage BSC to put a construction programme in place to assist with stakeholder management and planning in the meantime.</p> <p>Currently an agreed programme is in place for Princes St to attain 28/11/09 Completion.</p>	High

Review of Project and Programme Reporting/INFRACO

2. Detailed Findings – Resolution of Disputes currently in the DRP Process



#	Finding/Observation	Risk/Opportunity	Recommendation	Management Comments	Risk
2	<p>There are a number of commercial disagreements between tie and BSC (including resolution of the programme) which remain outstanding.</p> <p>The only disagreement progressing through the formal Dispute Resolution Process was resolved on 29 May 2009.</p> <p>None of the remaining disagreements have been placed in the formal Dispute Resolution Procedure at the date of our discussions with management (July 2009).</p>	<p>The key areas of contractual disagreement between the parties must be resolved as a priority, as these may have a material impact on the level of certainty of the outturn AFC. Resolution will allow a greater degree of confidence to be developed.</p> <p>In addition, there is unlikely to be any step change in progress until these matters are resolved.</p> <p>Future disagreements will rely on the quality of documentation and associated audit trail. Where there is a disagreement over the content of a report, set of meeting minutes or other document this must be recorded formally.</p>	<p>tie and BSC must continue to build on the progress made during the recent mediation sessions to reach agreement on the outstanding contractual disagreements as soon possible to limit impact on progress and increase confidence in the reported AFC.</p> <p>tie should continue to ensure that all matters of disagreement are recorded formally to ensure that a clear record and audit trail exists.</p>	<p>Following extensive, and ultimately unsuccessful mediation and attempts to close out commercial differences, tie has commenced the process to launch a series of DRP items through the formal contractual process. This is planned to test some of the crucial contractual disagreements. As part of this process there is a documented action plan, position papers being produced and a challenge process applied before launch.</p> <p>Additionally an increased focus on the correspondence relating to these contractual matters has been put in place.</p> <p>Minutes of all DRP related meetings are being recorded.</p>	High

Review of Project and Programme Reporting/INFRACO

3. Consolidation of Reports



#	Finding/Observation	Risk/ Opportunity	Recommendation	Management Comments	Risk
3	<p>tie senior management consolidates and reconciles a number of reports during the four weekly reporting cycle to ensure clear and consistent reporting.</p> <p>Management demonstrated that a period end process is in place which allows personnel to follow a period end close out process.</p>	<p>The risk is that due to absence or illness the consolidation and reconciliation process cannot be fully completed by other members of the team.</p> <p>There is also an opportunity for senior management to streamline the current reporting templates to reduce the requirement to complete a consolidation exercise in future reports.</p>	<p>tie management should continue to ensure that the consolidation and reconciliation process is clearly set out and the process updated as required to avoid future issues through illness or absence.</p> <p>Management should analyse the content of the Project Directors review pack and identify opportunities to increase the efficiency of the reporting templates and streamline the process.</p>	<p>- tie finance have clearly documented the financial consolidation period end processes which can be followed in rote fashion to complete the month-end process if necessary. This significantly reduces reliance on individual team members in the event of absence or illness.</p> <p>- tie finance and ICT teams are currently working on an exercise to simplify and automate the periodic reconciliation process to take away manual input and better use systems currently available to us.</p>	Low

Review of Project and Programme Reporting/INFRACO

4. Internal Document Management



#	Finding/Observation	Risk/Opportunity	Recommendation	Management Comments	Risk
4	<p>The BSC is becoming increasingly commercially aggressive and there is a risk that a number of disputes may result in formal legal proceedings.</p> <p>During a pre-trial litigation process, each party can request relevant information and documents from the other side in an attempt to "discover" pertinent facts.</p>	<p>There is a risk that under legal disclosure rules, BSC may be able to obtain access, as part of a pre-trial litigation process, to internal tie communications.</p>	<p>tie should consult with their legal advisers to ensure that in the event of a legal dispute internal information cannot be called for and used against tie.</p>	<p>tie's correspondence with legal advisers and their advice which is generated in contemplation of legal proceedings is subject to a general rule of privilege from production. This is why DLA advice is always covered with the "FOISA and legally privileged" rubric.</p>	Moderate

Review of Project and Programme Reporting/INFRACO

5. Estimates of Change – Programme Impact



#	Finding/Observation	Risk/ Opportunity	Recommendation	Management Comments	Risk
5	<p>tie management has advised that BSC does not complete the programme impact section of the change estimates. This is an important element of any change estimate and should be correctly completed on all future estimates.</p> <p>tie management reports that the BSC rarely completes the estimate template correctly and does not complete the section identifying the impact on programme caused by the proposed change. tie management reports this is by agreement with BSC as BSC has indicated that to provide a programme impact would be too complex. tie management is of the view that not instructing the change is a greater risk and therefore accepts programme risk on instructed changes without clearly defined programme implications.</p> <p>When tie issues a tie Notification of Change, the programme implications section originally stated "none". This has now been changed at the request of BSC to denote this section as "to be assessed" and therefore by definition, requires further agreement.</p>	<p>The risk is that tie instructs a change without the impact of the change having been fully highlighted, accepted or recorded.</p> <p>However, in discussion with tie management we understand that tie is satisfied that the cost of the change is defined and that any programme implications will be addressed by the overall update to the project programme.</p>	<p>tie should ensure that all future estimates are fully completed and the implications clearly recorded on the tie Change Order to avoid future disagreement with BSC and reduce risk to tie.</p>	<p>tie continue to raise with BSC that estimates should indicate programme impact. This is a key element of the disagreement with BSC over programme information to allow assessments for claims to EOT and likely to be tested in DRP to gain clarity and certainty going forward.</p> <p>tie and BSC are seeking to agree the input of change up to 31/03/09 via a Revision 2 programme.</p>	Moderate

Review of Project and Programme Reporting/INFRACO



6. Use of ranges in drawdown forecasts

#	Finding/Observation	Risk/Opportunity	Recommendation	Management Comments	Risk
6	<p>Due to fluctuations in the progress of works, management is encountering difficulties in accurately estimating the cash drawdown applications from Transport Scotland.</p>	<p>The risk is that payments due to external parties exceeds the drawdown request made by tie to CEC/Transport Scotland.</p> <p>There is an opportunity to work with CEC/Transport Scotland as key stakeholders to improve forecasting.</p>	<p>tie management should discuss with Transport Scotland the opportunities for using limited range forecasting or an alternative process for forecasting future drawdown payment requirements.</p>	<p>tie pull together the cash drawdown with CEC. CEC then send the cash application onto TS for processing.</p> <p>Requesting a range of 'cash' drawdown may not be a viable proposition because tie must invoice CEC a specific value and in-turn CEC invoice in-line with their agreed split. tie continue to closely monitor the sensitivities of cashflow forecasting and amend drawdown requirements with these.</p>	<p>Low</p>

Review of Project and Programme Reporting/INFRACO

7. Opportunities to improve on reporting



#	Finding/Observation	Risk/Opportunity	Recommendation	Management Comments	Risk
7	<p>There are a number of additional opportunities to enhance the current reporting process.</p>	<p>An opportunity exists for tie management to enhance the reporting on the project.</p>	<p>1. Management could introduce a KPI spreadsheet for summary reporting. This could be used in a number of instances including the Transport Scotland report and Tram Project Board report.</p> <p>2. An opportunity to improve the programme reporting could include the introduction of a mid period target vs actual fortnightly progress update.</p>	<p>1. tie management require to agree non-financial KPI measures best suited to give a view on how the project is performing. Once agreed, some of these (non commercially sensitive) KPI's should be used to inform the executive summary of the TS report.</p> <p>2. Weekly and 4 weekly programme monitoring and reporting of actual vs. target is being implemented by tie.</p>	<p>Low</p>

Review of Project and Programme Reporting/INFRACO

7. Opportunities to improve on reporting (contd.)



#	Finding/Observation	Risk/Opportunity	Recommendation	Management Comments	Risk
7	There are a number of additional opportunities to enhance the current reporting process.	An opportunity exists for tie management to enhance the reporting on the project.	<p>3. We support the reporting template updates proposed by the Infraco Director (to move towards a KPI based Weekly Project Managers report, Weekly Flash Report and PMP report).</p> <p>4. We also support the introduction of the new Infraco Commercial summary template used in the Period 2 Project Directors review.</p> <p>5. The contract deliverables are tracked on the BSC Deliverables Tracking Register. This document records that tie has not responded to a number of submissions and should be monitored carefully to ensure tie is complying with their contractual responsibilities.</p>	<p>3. A weekly Infraco KPI report is currently in place. This is completed and circulated by the Infraco programme planner. Additionally, a daily flash report of issues is in place for all Infraco and utilities works, completed and circulated by the programme team.</p> <p>4. Infraco Commercial summary report in place and working well as part of the PD review report.</p> <p>5. A summary will be included in the Infraco Director's 4 weekly report. This will show progress and identify areas where action is required.</p>	Low

Review of Project and Programme Reporting/INFRACO

8. Introduction of a formal dispute management report



#	Finding/Observation	Risk/Opportunity	Recommendation	Management Comments	Risk
8	No single report exists which identifies and collates the progress on all current or forecast areas of potential disagreement or dispute.	<p>The status of current disagreements or disputes is identified in a number of different reports.</p> <p>An opportunity exists to identify possible future material disputes and give the key stakeholders early warning of the nature of the disagreement and the actions taken by management to mitigate the issue.</p> <p>The report could identify the current live issues and give commentary or context on the next 5 – 10 issues that could develop into larger disagreements.</p>	<p>tie management could consider introducing a summary table of issues that may develop into larger disagreements or disputes. This could then be reported at senior level to aid in the advance warning of possible future issues.</p>	<p>A DRP action plan has been produced which identifies all potential and live disputes and timetable for working through the process. This is reviewed weekly at the DRP meeting and at the Finance, Commercial & Legal Committee (FCL) which includes the Tram Monitoring Officer. An overview from FCL is presented to the Tram Project Board.</p>	Low

Supplemental Information – Programme and Project Reporting



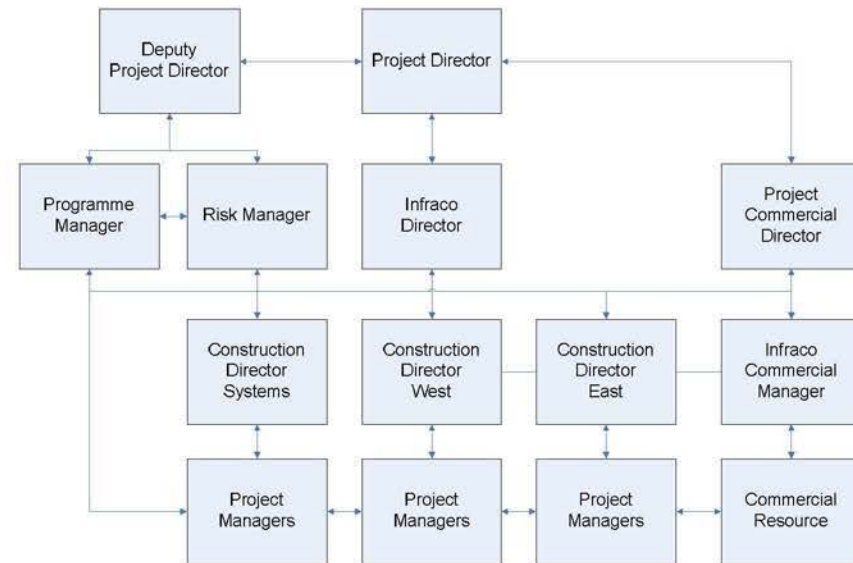
Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Background and Management Structure



Background

- The contract between **tie** and the Infraco (Bilfinger Berger UK Limited and Siemens plc) was executed on 14 May 2008. A minute of Variation dated 14 May 2008 recorded Construcciones Y Auxiliar De Ferrocarriles as a member of the Infraco. Herein after, Infraco refers to the three member organisations.
- Since execution of the contract, **tie** management has been developing the structure of the management team to meet the requirements of the project in terms of both management of the works and reporting.
- When we met **tie** management to discuss the direct management of the Infraco, a revised management structure was in the process of being introduced with a target date for implementation of the end of August 2009. The proposed structure is shown on the adjacent organisation chart.
- Site supervision is managed by an operations team and commercial team. The operations team is led by the Infraco Director who is supported by a team of Construction Directors and Project Managers.
- The Commercial team is led by the Commercial Director who is supported by the Infraco Commercial Manager and a team of Quantity Surveyors.



Source: Discussions with tie management

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Background and Management Structure



Background (contd.)

- Although the structure of the management team is changing to support the requirements of the project, the key reporting processes adopted by this management team remain intact. This reporting process is outlined in the following slides.

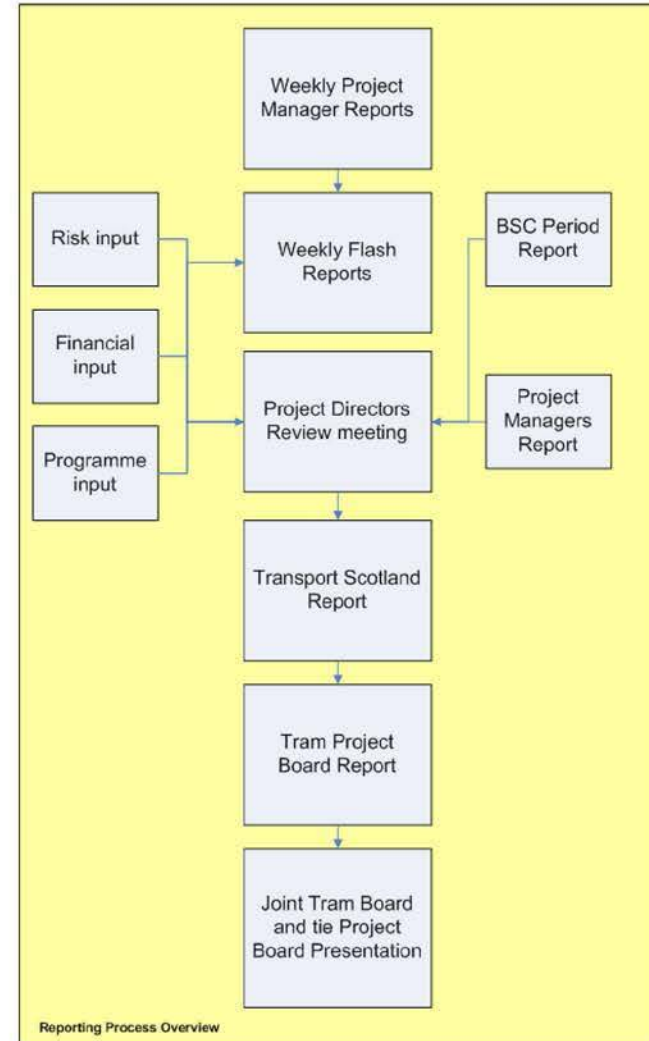
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Current Reporting Framework – Summary Reporting Process



Primary Reporting Inputs

- Appendix A (slide 59) was provided by the **tie** Reporting Manager and shows the **tie** reporting process in detail.
- Through discussions with **tie** management, we have selected the primary inputs to this process and have identified these in the adjacent flow diagram.
- The content of this report is based on the key reporting inputs, and we have provided an overview of each of the inputs in the following order:
 - **Weekly Project Managers Report**
 - **Weekly Flash Report**
 - **BSC Four Weekly Period Report**
 - **Project Directors Report and FM Summaries inputs for Review Meeting**
 - **Transport Scotland Report**
 - **Tram Project Board Report**
- The format and content of these reports are provided in detail in Appendix B.
- The key inputs are supported by documents issued under the risk management and change management processes and we have provided a summary overview of these processes within this report for completeness.



Reporting Process Overview

Source: Discussions with tie management

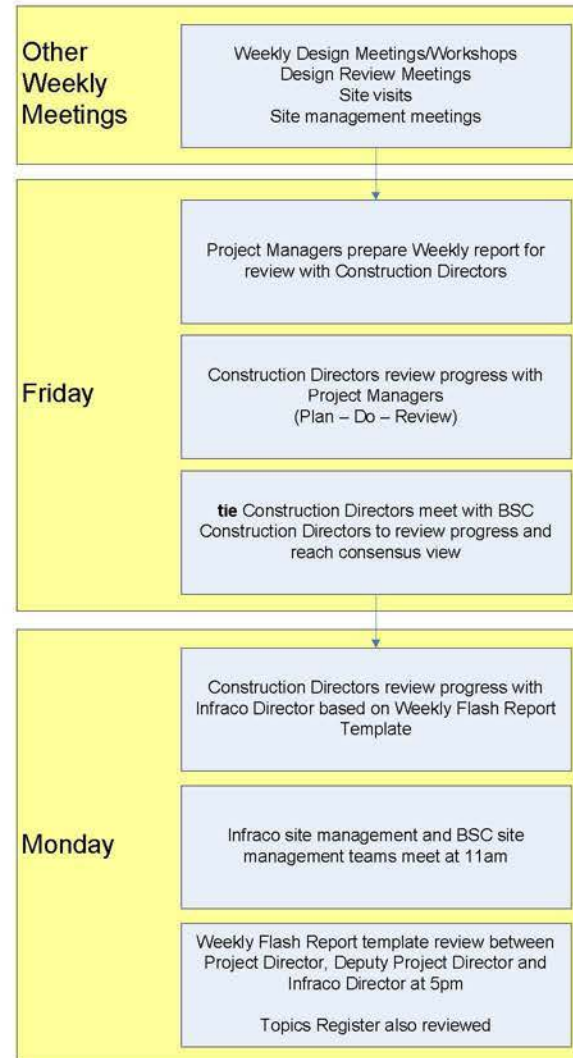
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Current Reporting Framework – Infraco Level Reporting



Principal Communications

- In addition to the formal reports identified in the preceding slide, the management team hold a number of internal and external meetings on a daily and weekly basis.
- The weekly formal communication between the Infraco site based team and the non site based senior management team is the **Weekly Flash Report** which is discussed by conference call on a Monday afternoon between the Infraco Director and Project Director.
- The following slides draw on comments made by **tie** management during discussions and our observations on the key inputs to the reports.



Source: Discussions with tie management

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – General Reporting Observations



Weekly Flash Report

- The Infraco Director confirmed during our discussions that he is preparing a proposal to submit to the Project Management Panel (PMP) to develop a standardised KPI reporting template based on an amended weekly flash report. The standardised template would be adopted as the base weekly Project Managers Report which would also be used as the Weekly Flash Report to the Project Director. At the end of each four week period, these reports will be consolidated into a summary report for the PMP. These reports would encompass Health & Safety, Quality Assurance (QA), Requests For Information (RFI), Non Conformance Reports (NCR), Code of Construction Practice Breaches, the Design Review Process, Traffic Management, Barriers, Topics and a section reporting the top 3 risks in each section. The Infraco Director believes this will be a strong management tool that will demonstrate to the PMP members where non performance is delaying progress.
- Contract deliverables are tracked in the **BSC Deliverables Tracking Register**. We were provided with a copy as at 03/08/2009 which states that **tie** has yet to reply to some documents submitted, for example, on 11/02/2009. it is not clear if this schedule requires updating and **tie** should review this document to ensure they are complying with their contractual responsibilities and are formally recording any incorrect statements made by BSC.
- **tie** management has confirmed that engagement with BSC is reported to be a problem as the BSC management team does not recognise the Barriers and Topics Registers used by **tie** for reporting. Please refer to Appendix B for details of the Barriers and Topics reporting.
- **tie** management has also confirmed that the BSC Project Director rejected the offer to participate in a joint weekly progress review with the Infraco Director although engagement takes place at a Construction Director level and below.

BSC Four Weekly Report

- BSC is using this report to set down their position in relation to progress of the works. **tie** management retains the view that the BSC report is not detailed enough and fails to recognise any culpability on the part of BSC for delays and lack of resolution of issues, choosing instead to apportion delays to **tie**. **tie** management is also concerned that the report does not provide sufficient visibility in terms of tracking change notices being converted into revised designs.
- We noted specific items in relation to **tie**, for example; the report suggests that **tie** is slow to respond to RFI's and has not commented within specified timescales on the OLE design review; that commercial discussions with Crummock had been delayed by uncertainty over utilities programme/access; and that BSC raises a number of issues and concerns in their report in a number of areas.

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – General Reporting Observations



BSC Four Weekly Report (contd.)

- It is important that **tie** management formally records their disagreement to these statements since future disputes will rely heavily on reports and correspondence. In response to this, **tie** management has confirmed that in order to formally record their view in relation to disagreement over statements in the BSC report, **tie** writes to BSC rejecting specific statements including commentary on the specific matters identified.
- We also noted that the total number of changes identified in the BSC change register does not match the **tie** schedule. This is reported to be due to not all BSC changes on their register being issued to **tie**. Also, the procurement schedule does not appear to be current for example, the design package Issued For Construction Column has not been completed for a civil engineering package due to start in August 2008.

Project Directors Review Report

- The reports included in the Project Director Review Report (please refer to slide 63), contain a significant amount of detail on progress, risk and financial outturn by project based on a standardised template. However, there is a danger that key issues could be lost in the detail. The consolidated report is almost 200 pages and there is a risk that the important points get lost in this amount of detail.
- Not all the projects reporting to the Project Director Review had completed the 'standard' progress report template. We are not, however, concerned specifically in relation to any of the non standard reports as the project managers are challenged on progress during the formal two day Project Directors review.
- The Murrayfield Advanced Works report and the Network Rail report made reference to meetings scheduled for 24 February and 29 January 2009 respectively. Given this report is to the end of April 2009, we would have expected to see to these comments updated to reflect the current position at the time of reporting. We discussed this further with management who advised that these specific items did not represent a risk to the project and had been addressed.
- We noted discrepancies between the Project Managers Report Cost Summary and the summary spreadsheet relating to these financials. For example, the Infraco Report identifies a Project Control Budget of £240,446k but the Project Managers Report Cost Summary identifies £241,437k. We were advised that the discrepancies relate to the apportioning of funding or contributions by third parties. Whilst management can explain the differences, we would expect the numbers cascading through reports from the same source to correspond.
- We also noted that no sub contractor warranties have been provided to **tie** by BSC. This represents a risk to **tie** and management should continue to address this with BSC.

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – General Reporting Observations



Project Directors Review Report

- With respect to the financial aspects we noted the following:
 - Initial AFC's are forecast and reported by the individual Project Manager's;
 - This information is then consolidated by the Project Finance Manager and Risk Manager to consolidate and reconcile the individual forecasts to a clear and consistent position. We were advised by management that this is then reviewed by the Deputy Finance Director, Finance Director and Tram Project Director before being reported externally.
 - The reconciliation is calculated from the financial close Project Control budget using the base and revised risk allowances.

FM Summaries Report

- The reports submitted contain a detailed update on each specific area. However, as with the main Project Directors report, there is a concern that key risks, issues and opportunities are "lost" in the detail of the reports. For example, there is an issue in the period 2 report in relation to the failure of the Gogarburn Bridge concrete but this message is lost in the detail of the programme reporting, contained in page 21 of the report and not identified in the executive summary. This issue was also identified on page 20 of the Infraco period 2 report.
- An update matrix on projects external to the Tram project, but which may affect the works, is contained in the programme section. This is a good management tool which allows the project team to identify issues which could impact the project.

Transport Scotland Report

- The structure of this report is set by Transport Scotland and tie has limited opportunity to alter the format.

Tram Project Board Report

- The structure of this report is the same as the Transport Scotland report albeit in a slightly amended order.
- In addition, this report also includes a number of papers submitted for board approval which outline specific requests for a decision or support for a decision or strategy already implemented.

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Financial and Commercial Reporting



Financial and Commercial Reporting

- The overall project financial outturn reporting is founded on the following key inputs:
 - Project Managers' Report Cost Summary;
 - Risk Quantitative Risk Analysis output;
 - Infraco Commercial team forecast outturn;
 - Finance team GAP report;
 - Change Control summary; and
 - Opportunities register.
- Each 'sub-project' as listed as part of the Project Directors Review produces a Project Managers' Report Cost Summary which identifies forecast AFC, the financial year outturn and various Cost of Works to Date (as shown in the adjacent diagram).
- The documentation in support of these outturn numbers varies in level of detail by project with the two most detailed relating to Infraco and MUDFA. We have assessed the Infraco reporting in detail as outlined below as part of our review process.
- The site based **tie** Commercial Manager attends (when required) the Monday morning progress review meeting between the Construction Directors and Infraco Director.

Project Managers Report Cost Summary

Project	Project to date COWD				Outturn				AFC			
	Actual	Forecast	Change	Variance	Actual	Forecast	Change	Variance	Actual	Forecast	Change	Variance
100	1,000	1,000	0	0	1,000	1,000	0	0	1,000	1,000	0	0
101	2,000	2,000	0	0	2,000	2,000	0	0	2,000	2,000	0	0
102	3,000	3,000	0	0	3,000	3,000	0	0	3,000	3,000	0	0
103	4,000	4,000	0	0	4,000	4,000	0	0	4,000	4,000	0	0
104	5,000	5,000	0	0	5,000	5,000	0	0	5,000	5,000	0	0
105	6,000	6,000	0	0	6,000	6,000	0	0	6,000	6,000	0	0
106	7,000	7,000	0	0	7,000	7,000	0	0	7,000	7,000	0	0
107	8,000	8,000	0	0	8,000	8,000	0	0	8,000	8,000	0	0
108	9,000	9,000	0	0	9,000	9,000	0	0	9,000	9,000	0	0
109	10,000	10,000	0	0	10,000	10,000	0	0	10,000	10,000	0	0
110	11,000	11,000	0	0	11,000	11,000	0	0	11,000	11,000	0	0
111	12,000	12,000	0	0	12,000	12,000	0	0	12,000	12,000	0	0
112	13,000	13,000	0	0	13,000	13,000	0	0	13,000	13,000	0	0
113	14,000	14,000	0	0	14,000	14,000	0	0	14,000	14,000	0	0
114	15,000	15,000	0	0	15,000	15,000	0	0	15,000	15,000	0	0
115	16,000	16,000	0	0	16,000	16,000	0	0	16,000	16,000	0	0
116	17,000	17,000	0	0	17,000	17,000	0	0	17,000	17,000	0	0
117	18,000	18,000	0	0	18,000	18,000	0	0	18,000	18,000	0	0
118	19,000	19,000	0	0	19,000	19,000	0	0	19,000	19,000	0	0
119	20,000	20,000	0	0	20,000	20,000	0	0	20,000	20,000	0	0
120	21,000	21,000	0	0	21,000	21,000	0	0	21,000	21,000	0	0
121	22,000	22,000	0	0	22,000	22,000	0	0	22,000	22,000	0	0
122	23,000	23,000	0	0	23,000	23,000	0	0	23,000	23,000	0	0
123	24,000	24,000	0	0	24,000	24,000	0	0	24,000	24,000	0	0
124	25,000	25,000	0	0	25,000	25,000	0	0	25,000	25,000	0	0
125	26,000	26,000	0	0	26,000	26,000	0	0	26,000	26,000	0	0
126	27,000	27,000	0	0	27,000	27,000	0	0	27,000	27,000	0	0
127	28,000	28,000	0	0	28,000	28,000	0	0	28,000	28,000	0	0
128	29,000	29,000	0	0	29,000	29,000	0	0	29,000	29,000	0	0
129	30,000	30,000	0	0	30,000	30,000	0	0	30,000	30,000	0	0
130	31,000	31,000	0	0	31,000	31,000	0	0	31,000	31,000	0	0
131	32,000	32,000	0	0	32,000	32,000	0	0	32,000	32,000	0	0
132	33,000	33,000	0	0	33,000	33,000	0	0	33,000	33,000	0	0
133	34,000	34,000	0	0	34,000	34,000	0	0	34,000	34,000	0	0
134	35,000	35,000	0	0	35,000	35,000	0	0	35,000	35,000	0	0
135	36,000	36,000	0	0	36,000	36,000	0	0	36,000	36,000	0	0
136	37,000	37,000	0	0	37,000	37,000	0	0	37,000	37,000	0	0
137	38,000	38,000	0	0	38,000	38,000	0	0	38,000	38,000	0	0
138	39,000	39,000	0	0	39,000	39,000	0	0	39,000	39,000	0	0
139	40,000	40,000	0	0	40,000	40,000	0	0	40,000	40,000	0	0
140	41,000	41,000	0	0	41,000	41,000	0	0	41,000	41,000	0	0
141	42,000	42,000	0	0	42,000	42,000	0	0	42,000	42,000	0	0
142	43,000	43,000	0	0	43,000	43,000	0	0	43,000	43,000	0	0
143	44,000	44,000	0	0	44,000	44,000	0	0	44,000	44,000	0	0
144	45,000	45,000	0	0	45,000	45,000	0	0	45,000	45,000	0	0
145	46,000	46,000	0	0	46,000	46,000	0	0	46,000	46,000	0	0
146	47,000	47,000	0	0	47,000	47,000	0	0	47,000	47,000	0	0
147	48,000	48,000	0	0	48,000	48,000	0	0	48,000	48,000	0	0
148	49,000	49,000	0	0	49,000	49,000	0	0	49,000	49,000	0	0
149	50,000	50,000	0	0	50,000	50,000	0	0	50,000	50,000	0	0
150	51,000	51,000	0	0	51,000	51,000	0	0	51,000	51,000	0	0
151	52,000	52,000	0	0	52,000	52,000	0	0	52,000	52,000	0	0
152	53,000	53,000	0	0	53,000	53,000	0	0	53,000	53,000	0	0
153	54,000	54,000	0	0	54,000	54,000	0	0	54,000	54,000	0	0
154	55,000	55,000	0	0	55,000	55,000	0	0	55,000	55,000	0	0
155	56,000	56,000	0	0	56,000	56,000	0	0	56,000	56,000	0	0
156	57,000	57,000	0	0	57,000	57,000	0	0	57,000	57,000	0	0
157	58,000	58,000	0	0	58,000	58,000	0	0	58,000	58,000	0	0
158	59,000	59,000	0	0	59,000	59,000	0	0	59,000	59,000	0	0
159	60,000	60,000	0	0	60,000	60,000	0	0	60,000	60,000	0	0
160	61,000	61,000	0	0	61,000	61,000	0	0	61,000	61,000	0	0
161	62,000	62,000	0	0	62,000	62,000	0	0	62,000	62,000	0	0
162	63,000	63,000	0	0	63,000	63,000	0	0	63,000	63,000	0	0
163	64,000	64,000	0	0	64,000	64,000	0	0	64,000	64,000	0	0
164	65,000	65,000	0	0	65,000	65,000	0	0	65,000	65,000	0	0
165	66,000	66,000	0	0	66,000	66,000	0	0	66,000	66,000	0	0
166	67,000	67,000	0	0	67,000	67,000	0	0	67,000	67,000	0	0
167	68,000	68,000	0	0	68,000	68,000	0	0	68,000	68,000	0	0
168	69,000	69,000	0	0	69,000	69,000	0	0	69,000	69,000	0	0
169	70,000	70,000	0	0	70,000	70,000	0	0	70,000	70,000	0	0
170	71,000	71,000	0	0	71,000	71,000	0	0	71,000	71,000	0	0
171	72,000	72,000	0	0	72,000	72,000	0	0	72,000	72,000	0	0
172	73,000	73,000	0	0	73,000	73,000	0	0	73,000	73,000	0	0
173	74,000	74,000	0	0	74,000	74,000	0	0	74,000	74,000	0	0
174	75,000	75,000	0	0	75,000	75,000	0	0	75,000	75,000	0	0
175	76,000	76,000	0	0	76,000	76,000	0	0	76,000	76,000	0	0
176	77,000	77,000	0	0	77,000	77,000	0	0	77,000	77,000	0	0
177	78,000	78,000	0	0	78,000	78,000	0	0	78,000	78,000	0	0
178	79,000	79,000	0	0	79,000	79,000	0	0	79,000	79,000	0	0
179	80,000	80,000	0	0	80,000	80,000	0	0	80,000	80,000	0	0
180	81,000	81,000	0	0	81,000	81,000	0	0	81,000	81,000	0	0
181	82,000	82,000	0	0	82,000	82,000	0	0	82,000	82,000	0	0
182	83,000	83,000	0	0	83,000	83,000	0	0	83,000	83,000	0	0
183	84,000	84,000	0	0	84,000	84,000	0	0	84,000	84,000	0	0
184	85,000	85,000	0	0	85,000	85,000	0	0	85,000	85,000	0	0
185	86,000	86,000	0	0	86,000	86,000	0	0	86,000	86,000	0	0
186	87,000	87,000	0	0	87,000	87,000	0	0	87,000	87,000	0	0
187	88,000	88,000	0	0	88,000	88,000	0	0	88,000	88,000	0	0
188	89,000	89,000	0	0	89,000	89,000	0	0	89,000	89,000	0	0
189	90,000	90,000	0	0	90,000	90,000	0	0	90,000	90,000	0	0
190	91,000	91,000	0	0	91,000	91,000	0	0	91,000	91,		

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Financial and Commercial Reporting



Financial and Commercial Reporting

- On the preceding Wednesday to the Project Directors Review a meeting is held between the Infraco Director, Commercial Director, Commercial Manager, the **tie** Infraco commercial team, the **tie** MUDFA Commercial team and the Deputy Finance Director to review the commercial status of the project.
- This meeting considers the commercial aspects of the project and reviews all Infraco Notice of Tie Change (INTC) change notices issued in the period.
- The **tie** Risk Manager also attends this meeting to agree the Infraco risk profile prior to updating the Quantitative Risk Analysis (QRA).
- The **tie** Commercial Director also meets the BSC Commercial Director weekly to review the commercial position on the project.
- Funding is provided by the two key project stakeholders, Transport Scotland and City of Edinburgh Council. The split of funding is 91.7% and 8.3% respectively. If **tie** exceeds the £545m budget, CEC must meet 100% of additional funding requirements.
- There is also funding being provided by external bodies to deliver specific elements of work. These organisations include, amongst others, RBS and Forth Ports.
- The headline financials are shown in the adjacent table.

	£
Project Control Budget (PCB) Anticipated Final Cost (AFC)	£512.0m
Forecast AFC (unapproved)	£527.1m
Suspensions costs for line 1b	£6.3m
Total AFC - as reported in Period 1.	£533.3m
Funding Cap	£545.0m
Remaining Headroom	£11.7m

Source: *tie* management

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Financial and Commercial Reporting



Financial and Commercial Reporting

- Following our fieldwork, we have shown in the adjacent table the AFC reconciliation as discussed with **tie** management.
- For completeness, we have also shown the reconciliation of the revised risk allowance.
- **tie** management recognises that until agreement is reached with BSC on the outstanding commercial disagreements and baselined programme, the robustness of the AFC is uncertain.
- **tie** has agreed with the key project stakeholders that speculation on AFC would be unhelpful until agreement is reached and has reflected the commercial uncertainty by reporting ranges of possible outcomes to Transport Scotland, CEC and the Tram Project Board.
- This approach is reported by **tie** management to have been fully supported by all parties.

	Original Forecast	Current Forecast
Project Control Budget (PCB) Base Cost	£481.7m	£481.7m
Risk Allowance	£30.3m	£45.4m
Forecast AFC	£512.0m	£527.1m
Suspensions costs for line 1b		£6.3m
Total AFC		£533.3m Note – difference relates to rounding
Funding Cap		£545.0m
Remaining Headroom		£11.7m
		Revised Allowance Reconciliation
Period 9 QRA Allowance for line 1A		£37.5m
Risk Allowance Increases		
Non Delivery of VE		£2.2m
Delay & Disruption		£5.0m
Opportunities		(£1.8m)
Non QRA risk items		£2.5m
Total Risk Allowance		£45.4m

Source: *tie* management

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Financial and Commercial Reporting



Financial and Commercial Reporting

- We recognise the tension/conflict between transparency and commercial confidentiality. Given the project is subject to Freedom of Information requests, management must treat the reporting process carefully depending upon the target audience and must continue to monitor and review the status of report content.
- We have also been advised by **tie** management that separate correspondence and briefing is provided outwith the reporting process as appropriate. Our comments in relation to the AFC consistency are based on the information made available during our fieldwork.
- The project risk allowance and contingency will remain under pressure for the duration of the project especially given the current commercial approach by BSC.
- We are advised by **tie** management that all Liquidated and Ascertained Damages (LADS) are excluded from current forecast outturn.

Cash Drawdowns

- We are advised by **tie** management that the following process is adopted for cash drawdowns. The exception to this process is land purchased directly by CEC:
 - **tie** applies to CEC estimating a forecast drawdown two periods in advance;
 - Transport Scotland makes payment to CEC; and
 - CEC transfer the payment to **tie**.
- We noted during our attendance at the period 2 Project Directors Review that estimating the quantum of the drawdown was difficult and as a result, management may wish to consider the use of range forecasts after discussion and agreement with Transport Scotland and CEC.

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Programme Reporting



Programme Reporting

- The **tie** programme manager has been involved in a number of discussions with BSC over recent months in an attempt to reach an agreed and baselined programme. However, currently no baselined programme exists other than that agreed in December 2008 and there are a number of programmes, prepared by both parties, in existence on the project reporting different Open for Revenue Service (OfRS) dates. These are summarised in the adjacent table.

Live Rebaselined Contract Programme

- This programme is prepared by **tie** and is used as a baseline for tracking progress and reporting. The programme was updated in detail in period 12 and forecast an OfRS date, with the correct mitigation measures applied by BSC, of **23 February 2012**. This date is reported in the Transport Scotland report and represents **tie's** best estimate of a deliverable OfRS date.
- tie** management advised during our discussions that it is reasonable to conclude that given the Period 3 update to this programme forecasts an unmitigated OfRS date of 26 August 2012, that the mitigated date could now be later than February 2012. The delay is primarily attributed to a lack of progress on site.

Entitlement Programme (Unmitigated)

- This programme was prepared by BSC and issued on 15 May 2009. The programme is based on information available to BSC at 31 March 2009.

	Open for Revenue Service Date
Contract Programme	16 July 2011
Revised Contract Programme (Approved in December 2008 following 38 day Extension of Time Award)	6 September 2011
BSC Period 1 Report	14 October 2012
Live Rebaselined Contract Programme	Unmitigated – 6 June 2012 Mitigated – 23 February 2012
Entitlement Programme	Unmitigated - 20 January 2013 Based on information available to BSC at 31 March 2009.
Recalibrated Programme	2 October 2012 Based on information available to BSC at 31 March 2009.

Source: *tie* management

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Programme Reporting



Entitlement Programme (Unmitigated) (contd.)

- Information available to BSC after this date has not been considered in this programme.

Recalibrated Programme

- This programme is also prepared by BSC and was issued on 20 May 2009. This programme is also based on information available to BSC at 31 March 2009 and does not consider any information available after this date. This programme is used as the basis of calculating any Extension of Time due to BSC and has also been used in the recent mediation sessions conducted during the week commencing 29 June 2009.
- However, **tie** management reports that the Recalibrated programme excludes key impacts already encountered on the project. These include the latest design programme, MUDFA Revision 8 programme, modified logic used by **tie** programmers, improvements to the construction sequence (Princes Street improved productivity, improved depot earthworks duration and change in Leith Walk works methodology). On the basis of these exclusions, **tie** management does not believe that the recalibrated programme as currently proposed by BSC, is a true reflection of the likely OfRS delivery date.

Additional Programme Information

- BSC also provides a **3 Month Look Ahead Programme** and a **2 Week Look Ahead Programme**. **tie's** programme manager confirmed that the 3 Month programme uses the same structure as the contract programme but is not a direct extract. We were also advised that the 2 Week programme is different again and as a result, **tie** is having great difficulty in following programme reporting by BSC.

Reporting of Progress

- **tie** management advised that BSC is unwilling to provide a detailed man hour and resource programme for them to review and interrogate. **tie** programmers have therefore had to allocate tasks across resource types (for example if a task takes 10 man days to complete and is 50% complete, 5 man days of works is completed). This approach has been pro rated across all 10-12 Work Breakdown Structure (WBS) Levels on a logic basis of track, structure, overhead lines etc. This structure is then applied to track sections to develop an overall programme.
- **tie** continues to receive period programme information in the correct software format but this information continues to exclude or show limited resource levels.

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Programme Reporting



Programme Reporting (contd.)

- The **tie** Programme team attends integration meetings with the Infraco Project Managers and MUDFA Project Managers every two weeks.
- Project progress is reviewed formally with the Project Managers every four weeks. This process requires the Project Managers to mark up actual progress percentages against planned.
- Although the Project Managers provide a weekly view on progress in the weekly reports, a review and mark up against programme is only carried out every four weekly cycle.
- MUDFA Programme – the MUDFA contractor, Carillion, produces a programme to completion for the utilities diversion works. The overlap between this and the commencement of the Infraco works has only recently been developed to show the follow on activities after completion of the diversions prior to the Infraco start. These activities include Scottish Gas Network and BT works for new cable ducts and cable laying.
- A further issue raised by the **tie** programming team is that BSC has introduced a further (non contractual but internal) review process to the Issued For Construction (IFC) drawings. At the date of our discussion with management, 89 of the 112 IFC design packages had been issued by SDS (BSC's designers). However, BSC has only internally approved 10-12 of the 89 packages issued. It is not clear what impact this has had on progress but it is likely to have had an adverse impact which management should ensure is addressed.

Progress of Externally Managed Projects

- An external project reporting matrix is included in the FM Summaries Report for the Project Directors Review.
- To update the matrix, the **tie** Programme Manager attends CEC Road Traffic Meetings, and meets Transport Scotland every four weeks.

Programme Observations

- As there is no agreement between **tie** and BSC as to the programme, the OfRS date can only be considered as a best estimate until the parties reach agreement.
- There are a large number of risks to the delivery of the programme and continuous monitoring and reporting will be extremely important as the project progresses.
- Programming actions going forward are to agree a baselined contract programme which takes account of all issues reported to be excluded from the programme recently issued by BSC.

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Programme Reporting



Programme Observations (contd.)

- **tie** management is concerned about the method BSC applies to ensure change notices issued by **tie** to the BSC are implemented into the design and ultimately IFC drawings. **tie** is concerned that they have limited visibility of this and the impact on programme and that BSC's reporting does not provide sufficient visibility in terms of tracking change notices being converted into revised designs.
- **tie** management also produces 'pictorial' versions of the programme for communication purposes. These are the **Programme Storyboard** and the **Chainage Summary**. Both of these methods of communication have been well received by users.
- **tie** management has advised that BSC does not complete the programme impact section of the change estimates. This is an important element of any change estimate and should be correctly completed on all future estimates.
- An opportunity to improve the programme reporting could include the introduction of a mid period target vs actual fortnightly progress update.

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Risk Management and Reporting Procedures



Risk Management and Reporting Procedures

The risk reporting hierarchy on the project is as follows:

- The risk management status is updated by the Risk Manager following meetings with the Project Managers at least once during every four week reporting period; and
- A summary of the risk status on the project is provided in the FM summaries document for the Project Director review meeting. The content of this report is reviewed by the Project Director during the meeting and then included in the Transport Scotland report and the Tram Project Board report.

The risk control hierarchy on the project is as follows:

- **Corporate Risk Register** – this risk register identifies and records **tie** corporate risks. This risk register is reviewed and updated by the **tie** board and at the time of our review was being converted from an excel document to a word document for reissue.
- **Project Risk Register**
 - Edinburgh Tram Network Risk Register – Active Risk Manager (ARM) software output
- **Quantitative Risk Analysis (QRA)** – there are three key QRA's currently used as control documents:
 - Project Control Budget QRA – risk allowance total £30,336m
 - Period 9 (08/09) revised QRA – risk allowance total £37,495m
 - Period 1 (09/10) Revised QRA – risk allowance total £51,131m
- The period 9 and Period 1 risk allowances shown above are unapproved risk scenarios based on a range of outcomes updated to reflect changes in available information. An increase in risk allowance does not indicate an increase in BSC's entitlement.
- **Concerns Register** – concerns are identified as items that are not risks but that need to be managed. We understand that concerns are elevated to risks as appropriate.
- **Topics Register** – the **tie** risk manager has advised that this records similar information to the concerns registers and identifies key blockers to progress.
- **tie** management uses a series of management tools to monitor progress against the identified risks. These include – regular reviews of identified risks, the preparation and implementation of Risk Treatment Plans and the continual review and updating of the Topics Register and Barriers identified in the weekly flash report.

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Risk Management and Reporting Procedures



Risk Management and Reporting Procedures (contd.)

- The process for drawdown from the risk allowance is, for a change request to be submitted to the **tie** board or Tram Project Board for approval. If approved, the drawdown is shown in the risk allowance reconciliation in future period reports.
- We were advised by management that a risk drawdown application is made to the Change Panel and is managed via the Change Management process. Additionally, all changes are highlighted to the Board in a report each period and, where applicable (i.e. A change greater than £1m), Board approval is sought.
- An **Opportunities Register** is also operated by the Risk Manager which lists opportunities to reduce costs or increase design or production efficiencies. These are reviewed regularly and discussed at the Project Director's review meeting.

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Risk Management and Reporting Procedures



Observations on the Period 1 report

- A number of risk QRA's have been completed and range in outturn from the Financial Close risk allowance to the period 1 reported figure upwards.
- There is an opportunity to enhance the reporting of the risk, change and opportunities reporting by showing a summary overview on a best/most likely/worst case scenario. We have suggested a possible format for this summary report in the adjacent table.

Additional Observations

- The risk total against Infraco on the Period 9 QRA does not match exactly the Infraco budget/risk reconciliation in the Infraco report as two risk allowances included by Infraco are general allowances on the QRA. Management confirmed that only Infraco would need to drawdown on this risk allowance and therefore would default to the Infraco project.

Best Case

Project	Current Approved Budget (A)	Forecast AFC (B)	Risk Allowance (C)	Opportunities (D)	Forecast Outturn AFC (E) (B+C+D)	Variance to Approved Budget (F) (A-E)
Traffic Regulation Orders	1	2	3	-1.5	3.5	-2.5
JRC	1	2	3	-1.5	3.5	-2.5
TEL	1	2	3	-1.5	3.5	-2.5
Infraco	1	2	3	-1.5	3.5	-2.5
Advanced works non depot	1	2	3	-1.5	3.5	-2.5
Murrayfield	1	2	3	-1.5	3.5	-2.5
Archaeological advance works	1	2	3	-1.5	3.5	-2.5
Network Rail	1	2	3	-1.5	3.5	-2.5
SDS	1	2	3	-1.5	3.5	-2.5
Tramco	1	2	3	-1.5	3.5	-2.5
MUDFA/Utilities	1	2	3	-1.5	3.5	-2.5
Engineering Services	1	2	3	-1.5	3.5	-2.5
Total	12	24	36	-18	42	-30

Most Likely Case

Project	Current Approved Budget (A)	Forecast AFC (B)	Risk Allowance (C)	Opportunities (D)	Forecast Outturn AFC (E) (B+C+D)	Variance to Approved Budget (F) (A-E)
Traffic Regulation Orders	1	3	3	-1.5	4.5	-3.5
JRC	1	3	3	-1.5	4.5	-3.5
TEL	1	3	3	-1.5	4.5	-3.5
Infraco	1	3	3	-1.5	4.5	-3.5
Advanced works non depot	1	3	3	-1.5	4.5	-3.5
Murrayfield	1	3	3	-1.5	4.5	-3.5
Archaeological advance works	1	3	3	-1.5	4.5	-3.5
Network Rail	1	3	3	-1.5	4.5	-3.5
SDS	1	3	3	-1.5	4.5	-3.5
Tramco	1	3	3	-1.5	4.5	-3.5
MUDFA/Utilities	1	3	3	-1.5	4.5	-3.5
Engineering Services	1	3	3	-1.5	4.5	-3.5
Total	12	36	36	-18	54	-42

Worst Case

Project	Current Approved Budget (A)	Forecast AFC (B)	Risk Allowance (C)	Opportunities (D)	Forecast Outturn AFC (E) (B+C+D)	Variance to Approved Budget (F) (A-E)
Traffic Regulation Orders	1	4	4	-1.5	6.5	-5.5
JRC	1	4	4	-1.5	6.5	-5.5
TEL	1	4	4	-1.5	6.5	-5.5
Infraco	1	4	4	-1.5	6.5	-5.5
Advanced works non depot	1	4	4	-1.5	6.5	-5.5
Murrayfield	1	4	4	-1.5	6.5	-5.5
Archaeological advance works	1	4	4	-1.5	6.5	-5.5
Network Rail	1	4	4	-1.5	6.5	-5.5
SDS	1	4	4	-1.5	6.5	-5.5
Tramco	1	4	4	-1.5	6.5	-5.5
MUDFA/Utilities	1	4	4	-1.5	6.5	-5.5
Engineering Services	1	4	4	-1.5	6.5	-5.5
Total	12	48	48	-18	78	-66

Note: numbers in above tables are for illustrative purposes only

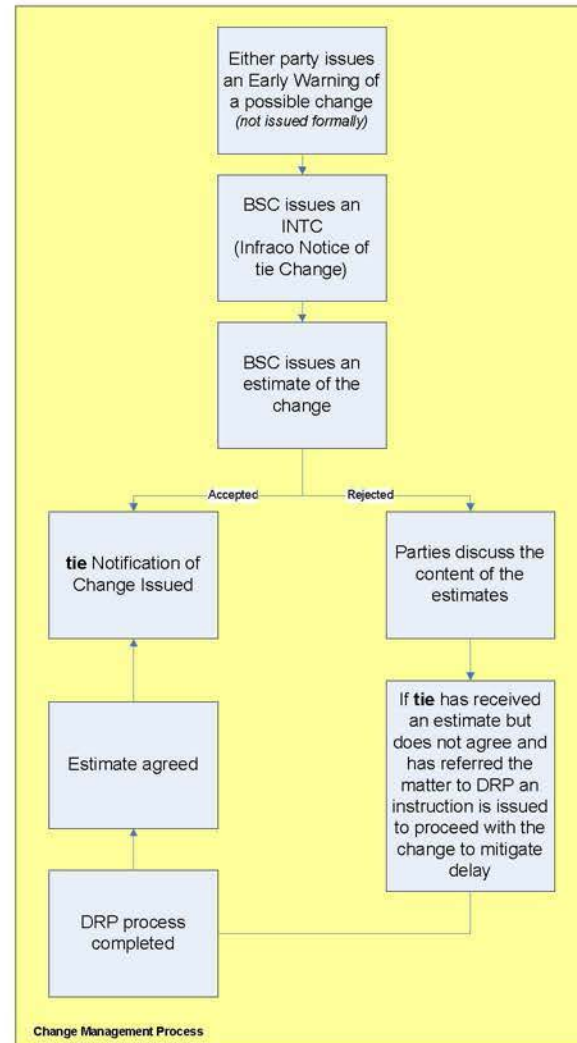
Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Change Management



Change management

- The Change Management Process is summarised in the adjacent diagram.
- The first dispute to go through the formal process reached agreement through mediation on 29 May 2009. As a result of this agreement, **tie** and BSC are reviewing all changes agreed prior to the mediation to ensure that the revised amount is correctly applied to all agreed changes.
- Two change registers currently appear to be in operation. One is contained as an appendix to the BSC report and the other is operated by the **tie** team (denoted as Infraco Notices of **tie** Change). At the time of our analysis there was a different number of changes reported on each register, 368 on the BSC register versus 341 on the **tie** register. Management advises that this is due to not all BSC changes on their register being issued to **tie**.
- **tie** management reports that the BSC rarely completes the estimate template correctly and does not complete the section identifying the impact on programme caused by the proposed change. **tie** management reports this is by agreement with BSC as BSC has indicated that to provide a programme impact would be too complex. **tie** management is of the view that not instructing the change is a greater risk and therefore accepts programme risk on instructed changes without clearly defined programme implications.



Source: Discussions with tie management

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – Comparison to Reporting Good Practice



Good Practice and the Use of Ranges in Forecasting

- Part of the scope of our work includes commenting on the use of range forecasting and how this compares with good practice based on our assessment of the reports being prepared by **tie** management.

Use of Ranges in Forecasting

- From discussions with **tie** management, our understanding is that use of ranges in current reporting is already being adopted on both a formal (programme) and informal (cost (AFC) and risk) level. This is demonstrated by the different OfRS programme dates currently being reported, the different AFC outturns in existence and the three QRA risk allowances currently being used for benchmarking risk.
- **tie** management has expressed the view that range forecasting in programming can be useful for specific purposes and on defined elements of work such as the installation of overheads wires (where resource and access can be easily defined) as part of the systems installation. This then allows the impact on duration in terms of increases in team resources to be more accurately quantified. However, management has also suggested that range forecasting is less appropriate on areas of uncertainty, for example where unforeseen ground conditions could cause delays. Range forecasting on the programme will be more effective once a baselined programme has been established.
- We are conscious of the need on this project to maintain a degree of confidentiality to avoid weakening **tie's** commercial position and to avoid project managers obtaining reports that show risk allowances against certain project elements have been increased. We also recognise the need to limit the release of potential cost AFC outturn positions to certain bodies through the formal reporting process. We are however of the view that where a detailed QRA exercise has been completed which shows a worst case position based on available information, or where the outcome of a contractual disagreement can have a impact on the AFC outturn, these should be communicated to key stakeholders. We understand from management that this is communicated via correspondence outwith the reporting cycle. Our concern in relation to this approach is that not reporting these potential outcomes through the reporting process could be seen as inconsistent or lacking transparency.

Comparison to Good Practice

- Comparison of the current reporting process to good practice can be split into **People** and **Process/Systems**. In terms of People, the **tie** management team encountered during our work were experienced in large complex projects and demonstrated a knowledge of what is required to deliver the project.
- In terms of Process and Systems, and as identified elsewhere in this report, **tie** has an opportunity to improve on elements of the current reporting process as identified in the next slides.

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – General Reporting Observations



Opportunities for Development

We have identified in this report a number of opportunities to enhance the reporting process. The key opportunities include:

1. Management could introduce a KPI spreadsheet for summary reporting. This could be used in a number of instances including the Transport Scotland report and Tram Project Board report. We have included in the adjacent table an example of the content that could be included.
2. As identified on slide 41, there is an opportunity to enhance the clarity of the risk, change and opportunities reporting to show a summary overview on a best/most likely/worst case scenario.
3. An opportunity to improve the programme reporting could include the introduction of a mid period target vs actual fortnightly progress update.
4. In addition to the above, we support the reporting template updates proposed by the Infraco Director (to move towards a KPI based Weekly Project Managers report, Weekly Flash Report and PMP report).
5. We also support the introduction of the new Infraco Commercial summary template used in the Period 2 Project Directors review.

Edinburgh Tram Project Balance Scorecard							
This report, or an abbreviated version, could be used to summarise progress on key issues during the reporting period. tie will need to agree the KPI's to report on in advance of the report being introduced. A method of assessing progress will also need to be established by tie. One recognised method of assessment would be the use of a RAG or BRAG coding.							
Financial				Programme			
	Actual AFC v Target				OIRS v Target		
	Actual COW in period v Target				Milestone achieved v Target		
	Risk allowance v Target						
	Opportunities v Target						
HSQE				Output			
	Actual AFR v Target						
	NCR's closed in period v Target						
The detail performance metrics that underpin each of the BRAG ratings are analysed below, with actual performance measured against targets for the current period and year to date.							
BRAG	Measure	Month (€m)		Annual (€m)		Variance: month	Comment
		Target	Actual	Target	Actual		
Financial							
F	Actual AFC v Target						
F	Actual COW in period v Target						
F	Risk allowance v Target						
F	Opportunities v Target						
Programme							
Pr	OIRS v Target						
Pr	Milestone achieved v Target						
Pr							
Pr							
HSQE							
HSQE	Actual AFR v Target						
HSQE	NCR's closed in period v Target						
HSQE							
HSQE							
Output							
Ot							
Ot							
Ot							
Ot							
Key							
G	Target achieved, performance in line with expectation						
Y	Target not achieved, performance not in line with reporting or expectation						
R	Target not achieved, performance significantly behind expectation						
B	Target not achieved, performance is significantly outside the performance parameters and achieving the strategic objective is at risk						

Note: the above example KPI report is for illustrative purposes only

Review of Project and Programme Reporting/INFRACO

Current Reporting Framework – General Reporting Observations



tie Reporting to Transport Scotland and Tram Project Board

- We have been asked to make specific reference to the frequency, challenge and robustness of the reporting to Transport Scotland and Tram Project Board:
 - **Frequency** – our concern on the frequency of the reporting relates to the time taken to update the reports and whether the reports are out of date at the time of the Tram Project Board meeting. In terms of currency of the report content, we are advised by management that any changes to detail are addressed in the presentation to the Tram Project Board meeting. We do not support an increase in the frequency of reporting as the current reporting process places significant time demands on **tie** management;
 - **Challenge** – we attended the Period 2 Project Director review which demonstrated that the reports presented are interrogated and challenged during the meeting; and
 - **Robustness** - we have made detailed comment elsewhere in this report about the robustness of the reporting.

Supplemental Information – INFRACO/Princes Street Dispute



Review of Project and Programme Reporting/INFRACO

Dispute Context



Context

- In the lead up to the formal dispute on Princes Street, management reports that there were significant problems being experienced by **tie** in relation to the behaviour of BSC. These issues included slow mobilisation, a lack of engagement, an apparent lack of delegated authority of the BSC Project Director and difficulties resolving design issues and commercial matters.
- The following comments have been extracted from historic reports which support this statement. These extracts were reported as a statement of fact and progress at the time of their inclusion in the period reports:
 - **Period 8** (12/10/2008 – 8/11/2008) – the Transport Scotland report states that “*progress remains behind both the four month look ahead and the master programme*” reasons cited include design slippages, slow mobilisation and utilities delays. The report also states that planning is progressing for works to commence on Princes St “*in early 2009*”.
 - **Period 9** – (9/11/2008 – 6/12/2008) – the Transport Scotland report continues to state that “*progress remains behind both the four month look ahead and the master programme*” reasons cited include design slippages, slow mobilisation and incomplete utilities. The report also states that planning is progressing for works to commence on Princes St “*in early 2009*” with a work recommendation to be presented to the full Council meeting on 18 December 2008.
 - **Period 10** – (7/12/2008 – 3/01/2009) – the Transport Scotland report continues to state that “*progress remains behind both the four month look ahead and the master programme*” reasons cited include design slippages, slow mobilisation and incomplete utilities. The report also states “*Works implemented to progress and plan the Princes St blockade in early 2009. This will commence on 5 January with the start of the enabling works before the full diversions are implemented in mid-end February*”.
 - **Period 11** – (4/01/2009 – 31/01/2009) – the Transport Scotland report states “*Planning for the full closure of Princes St, including traffic management, enabling works and construction methodology, as well as work package plans, has progressed well during the period. The Princes St diversion will be implemented from Saturday 21 February*”.

Review of Project and Programme Reporting/INFRACO

Dispute Context



Context (contd.) –

- The overall timeline in relation to the dispute is reported by management to be as follows:

September 2008	General progress issues were first identified in formal reporting. We were advised that around this time BSC asked tie informally to consider delaying the works to Princes Street as they were experiencing design issues in relation to this element. No formal record of this approach appears to exist.
November 2008	As the Princes Street mobilisation drew nearer there were weekly meetings during November 2008 between key parties involved in the Princes Street mobilisation.
January 2009	12 January – tie Notice of Change issued (INF CORR 573) We have been provided with copies of meetings notes between tie and BSC dated 26/1/09, 2/2/09 and 23/2/09 which suggests discussions were held at the meeting in relation to possible changes to the payment mechanism for the Princes Street works.
February 2009	11 February – Infracore response enclosing Estimate (INTC 274) 12 February – Letter from tie to BSC raising concerns regarding progress since contract was signed 13 February – tie issues Change Order No.21 18 February – BSC states by e-mail, they are not obliged to commence work on Princes Street 19 February – tie letter from Chief Executive in response to BSC’s e-mail 19 February – tie letter faxed to BSC requesting meeting the following day 20 February – meeting held between tie and BSC 23 February – BSC responds to tie’s letters of 12 and 19 February 25 February – Letter from tie Chief Executive to BSC responding to BSC’s letter of 23 February

Source: **tie** management and Peer Review Team Memo dated 19 March 2009

Review of Project and Programme Reporting/INFRACO

Dispute Context



Context (contd.) –

- The original target date for commencement of the works in Princes Street was **5 January 2009**.
- The roadworks commencement date was subsequently revised to **3 February 2009** as a result of traffic management enabling works.
- A series of negotiations then took place between **tie** and BSC and agreement was finally reached on **20 March 2009**. This is recorded in a Supplemental Agreement document which was signed on 29 May 2009.
- Works to the Princes Street section of the route commenced on **23 March 2009**.
- It was agreed between the parties that meetings would be held in an attempt to agree a process to progress the disputed items in parallel with the formal Dispute Resolution Procedure. Following these discussions, both parties recorded in the Supplemental Agreement their agreement to commence works whilst progressing resolution of the fundamental matters through the **Dispute Resolution Procedure (DRP)** identified in the contract. An overview of this process is provided overleaf.

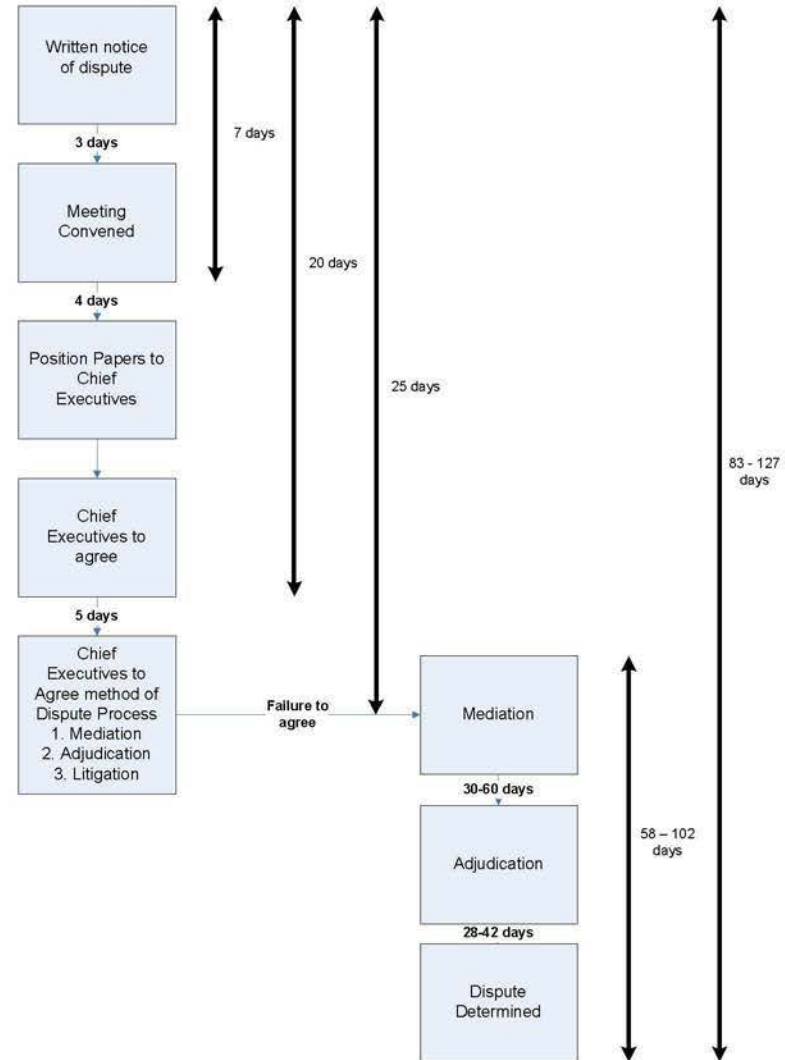
Review of Project and Programme Reporting/INFRACO

Dispute Resolution Procedure



The Dispute Resolution Procedure

- The contract **Dispute Resolution Procedure (DRP)** identified in the contract is shown in the adjacent diagram.
- Both parties also agreed to implement a **Project Management Panel** which is made up of senior management from **tie** and **BSC**.



Source: Strategic Options Update and Workstreams Document - 130409

Review of Project and Programme Reporting/INFRACO

Project Management Panel



The Project Management Panel (PMP)

- The PMP was introduced as a result of the Princes Street dispute between **tie** and BSC. It is attended by senior management from both organisations and its goal is to attempt to resolve key project issues before the formal Dispute Resolution Procedure.
- The remit of the PMP is to establish a *"framework development team as soon as possible to develop a working methodology to: expedite the work, expedite the changes and associated commercial agreements, expedite a recovery programme, expedite design and approvals, expedite access and expedite a greater focus on consortium and tie integration"*.
- One of the key areas that the PMP is trying to resolve is the issue of estimates associated with the INTC process and a process is now in place whereby commercial representatives from both **tie** and BSC present their disagreements on the changes estimated to the PMP.
- **tie** management reports that the introduction of the PMP has helped resolve some matters and improve engagement but that the PMP is only addressing smaller issues and has yet to resolve a major area of dispute.
- Management has also advised that whilst the PMP has been formed to improve engagement, addressing issues, and resolving future disputes before they enter the DRP, there is concern that until matters of principal are resolved, the effectiveness of the PMP will be limited.

Review of Project and Programme Reporting/INFRACO Supplemental Agreement



The Supplemental Agreement

- We have been asked to comment on the content of the Supplemental Agreement (SA). From our reading of the document, our assessment of the agreement is that it is extremely limited in scope and was used as a method of reaching agreement and therefore progressing the works on Princes Street as an isolated matter. The SA sets out an alternative method of payment for use on this element of the works also. Our scope of our work excludes an analysis of the main contract and we cannot therefore comment on how **tie's** liability under the SA compares to the main contract.
- We are advised by **tie** management that the level of liability contained in the Supplemental Agreement is no different to that contained in the contract. An element of the SA included BSC proceeding on demonstrable costs until the dispute was resolved. This is an alternative payment method to the milestone schedule agreed in the main contract but the overall cost of these works is not reported to be impacted by the change in payment process.
- An issue that has recently been identified is a difference of opinion between **tie** and BSC's interpretation of the scope of the SA. The issue relates to the scope of the drainage design and what constitutes design development. This disagreement demonstrates that even the scope of the SA is open to interpretation and this should be of concern to **tie**.

Recording of Information Required by the Supplemental Agreement

- Appendix C of the SA sets out a clear process for the recording, collating and agreement of resource. We have discussed this process with management who have advised that minor amendments have been made to the recording process but that generally it is workable. **tie** management has implemented a reconciliation of the costs under both the application of the contract and the application of the SA to monitor progress.

Review of Project and Programme Reporting/INFRACO

Key areas of Dispute between tie and BSC



Key areas of Dispute between tie and BSC

- The scope of our instruction was to identify and confirm with management the significant areas of dispute. In depth analysis to ascertain liability is specifically excluded. **tie** has a team of external experts currently assessing these matters and for completeness, we have set out below the five key areas of disagreement between the parties. A resolution to item three below was reached at mediation on 29 May 2009.
- 1. Responsibility for design management and evolution** – BSC has identified a number of design changes they believe **tie** is responsible for between the tender stage design (termed the Base Date Design Information – BDDI) and the final drawings Issued For Construction (IFC). **tie's** view is that BSC is responsible for normal design development and as such no additional entitlement exists.
 - 2. Liability for delays to date and risk of future delays** – **tie's** position is that BSC has a contractual obligation to mitigate programme delays and to recover the fair costs of delay and disruption. BSC's position is that until they have complete and unfettered access to a worksite or section of the route they are under no obligation to commence works. The added complexity to this element is the matter of concurrent delay and **tie's** assertion that BSC could not have started work anyway as their supply chain was not in place.
 - 3. Preliminaries percentage added to changes** – the contract provides for preliminaries to be added to direct costs. **tie's** view is that the quantum of preliminaries costs are grossly inflated and not in accordance with the contract.
 - 4. Unforeseen ground conditions responsibility and cost impacts** – contractually, **tie** is responsible for unforeseen ground conditions and the matter in dispute is whether the ground conditions encountered in elements of the route could have been foreseen by BSC or their design team.
 - 5. Failure to provide estimates** – BSC's position is that they are not required to commence work on a change, and a section of works affected by the change until the estimate of cost and programme consequences of the change has been agreed by **tie**. Management has reported that BSC has not however submitted estimates for a large proportion of the changes and **tie's** position is therefore that the changes cannot be agreed until the information is submitted.

Review of Project and Programme Reporting/INFRACO

Strategic Options



Strategic Options Workstreams

- Once the magnitude of the disagreement between **tie** and BSC was identified, **tie's** response was to remain committed to the partnering ethos together with a series of tangible actions. These included:
 - Continuing engagement through the Project Management Panel;
 - Referral of some disagreements to formal Dispute Resolution; and
 - The analysis of the strategic options available to **tie** and the implementation of a series of workstreams to assess these options and to work towards resolving the areas of disagreement.
- **tie** senior management set out their view of the strategic options for the project and identified a series of key workstream areas to focus on resolving the key project challenges and manage risk. The workstreams were agreed as follows:
 - A. Rebaselined Programme
 - B. Key commercial and legal disagreements
 - C. DRP/Infraco Breach
 - D. Settlement of existing changes
 - E. Review of risk allowance and outturn cost estimates
 - F. Review of other cost uncertainties
 - G. Contract and risk management regime and governance
 - H. Broader scope and funding options
- Key to the success of this approach was a series of clearly defined assumptions made by **tie** management. These included:
 - Significant improvement in commercial engagement and delivery impetus with Infraco;
 - That workable solutions could be developed with BSC; and
 - That equitable commercial positions could be agreed under the contract provisions.
- At the date of our discussions with management during July 2009, there was a concern that the assumptions stated by **tie** management had not been achieved in terms of a continued lack of engagement with BSC, a lack of workable solutions being developed and a lack of equitable realisation under the contact provisions.

Review of Project and Programme Reporting/INFRACO

Strategic Options



Strategic Options Workstreams (contd.)

- The commercial strategy identified by the joint Boards was to pursue the disagreements through the contractual Dispute Resolution Procedure (DRP), to use the DRP to gain greater confidence in the cost and programme matters and to leverage greater involvement from Siemens and CAF to resolve matters between **tie** and Bilfinger Berger.
- The 13 April 2009 update to commercial strategy reported the commencement of work under the Supplemental Agreement, the establishment of a Project Management Panel to improve engagement between the parties and an improvement on progress at work sites on the project.
- The 13 April 2009 Strategic Options update memo also provided an update against the strategic workstreams, each of which were set milestones to resolve outstanding matters in an attempt to improve confidence levels in terms of cost and delivery. These workstreams required additional resources that allowed **tie** to engage with BSC in an attempt to resolve the various dispute matters. Over a number of weeks, the workstreams were set a series of milestones between the 13 April 2009 update and the end of June 2009 with the goal of resolving all the outstanding issues between the parties. This culminated in a series of mediation sessions during the week commencing 29 June 2009.
- Having reviewed the strategic options approach applied by management, we are of the view that this approach has provided clear direction to **tie** management and facilitated clear options analysis and reporting to the key project stakeholders. It has also allowed management to break down the areas of disagreement and set specific management tasks and milestone dates in an attempt to resolve the issues.

Review of Project and Programme Reporting/INFRACO

tie Response to Princes Street Dispute



tie also introduced the following changes as a result of the Princes Street dispute:

- To demonstrate **tie's** concern over the likelihood of an ongoing dispute with BSC, **tie** has employed a mixture of direct and external consultants.
- **Increase in staff to progress claims position** - as the parties agreed to pursue disputes through the DRP, **tie** engaged a number of experienced claims specialists (commercial, technical, forensic programme analysis and legal) to review each of the key matters of dispute and provide a view on **tie's** position together with evidence in support of this.
- **Increase in staff to progress claims position** - **tie** has also increased their internal team to match BSC operations in order to make progress. These include:
 - Senior Construction Manager on structures;
 - Appointment of a Strategic Commercial Manager from July 2009;
 - Senior commercial management for Infraco and MUDFA teams; and
 - External commercial support from consultants on specific issues.
- **Project Controls** - **tie** management has advised that limited changes to the project controls were required as the key controls were already in place. In the last six months, **tie** has focussed more on correspondence and every Friday there is a correspondence review carried out between the Infraco Director and Project Director. A correspondence review tracker has been introduced. At the time of our discussion with management, of the 1576 letters received from BSC, **tie** had replied to 1253. 132 letters had been received in the preceding 14 days and 44 in the preceding 7 days.

Changes in BSC since Dispute Crystallised

- During the course of our discussions, **tie** management stated that BSC replacement team members have begun to make small amounts of positive progress in the right direction. It was also reported that team relations are improving.
- As a result of the actions taken, some changes have now been agreed but these were agreed subject to resolution of the application of preliminaries. This matter subsequently reached agreement at mediation on 29 May 2009.

Review of Project and Programme Reporting/INFRACO

General Dispute Observations



Could the Dispute have been Avoided?

- **tie** management has reported that given the recurring issues that had been identified with BSC prior to the Princes Street dispute, it is likely that the dispute would have manifested itself elsewhere had it not occurred on Princes Street.
- Management did not expect the issue on Princes Street to develop in the manner experienced. BSC is reported to have raised the gravity of the dispute only one week before works were due to start, prior to this there was no evidence to suggest that BSC would not commence works as planned.
- **tie** believes that the correct controls were in place and recurring issues were being reported.
- Management also reported that, in their opinion, some of the dispute matters could have been resolved before they were elevated to the DRP.
- **tie** senior management believes that the only way the dispute would have been avoided would have been to agree to the changes submitted by BSC with the associated financial implications.
- Based on the information provided and discussions with **tie** management we are of the opinion that these disputes would have been difficult to avoid. Additionally, despite the best efforts of **tie**, it appears that BSC is applying a commercially aggressive stance on this project.

Likelihood of Similar Disputes/Possibility of Future Disputes

- Given the aggressive commercial stance taken by BSC, unless there is a step change in the approach adopted by BSC, we concur with **tie** management that future disputes are likely. However, key to delivery of the OfRS date is that BSC continues to progress work whilst the disputes are being resolved. Key issues likely to be encountered could include:
 - The MUDFA delay and disruption claim - £4.5m claimed, £950k accepted by **tie**;
 - Further entitlement as a result of delays to the MUDFA contract;
 - Agreement of a baselined programme and associated commercial implications;
 - Any additional Extensions of Time submitted by BSC;
 - Costs deemed by BSC to be acceleration costs; and
 - Resolution of the outstanding commercial matters including design changes from BDDI to IFC.

Supplemental Information – Appendices

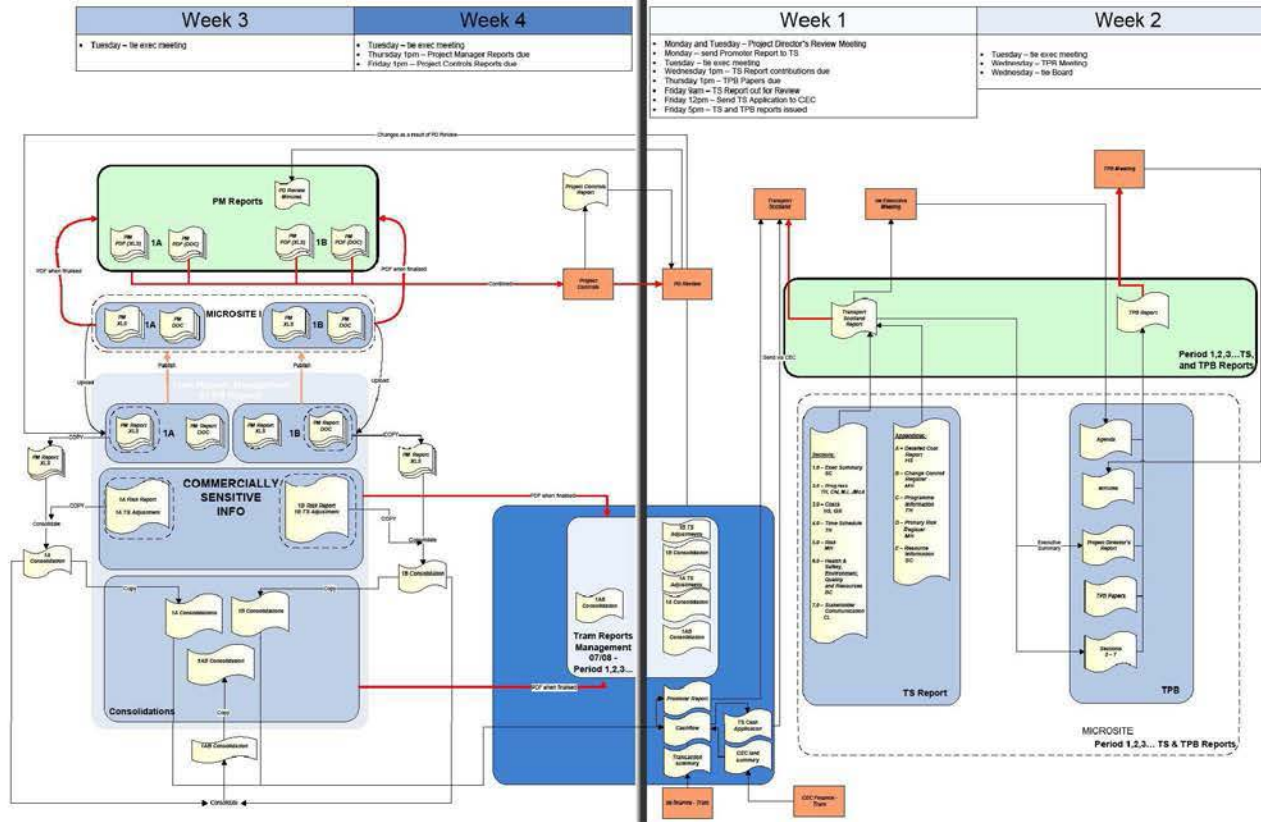


Review of Project and Programme Reporting/INFRACO

Appendix A - Current Reporting Framework – tie Overview Flowchart



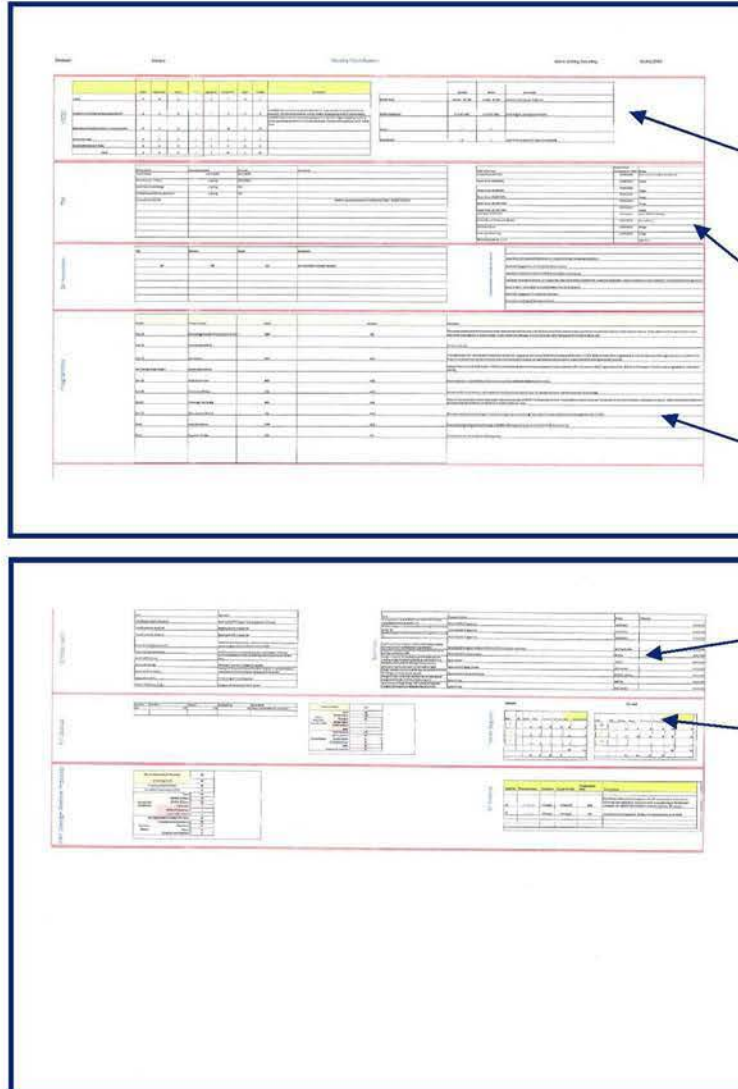
Reporting Process



Source: tie Reporting Manager

Review of Project and Programme Reporting/INFRACO

Appendix B - Current Reporting Framework – Infraco Weekly Flash Report



The Weekly Flash Report

- The Weekly Flash Report contains the following key information:
- **HSQE Statistics** - (Health, Safety, Quality and Environmental)
- **Health & Safety Inspections** – we are advised by management that BSC has rejected an invite to undertake joint safety inspections with the tie Infraco Director.
- **Traffic Management Status**
- **QA inspections and Stakeholder Communications**
- **Programme Information by line section**
- **Programme Critical Path Items**
- **Barriers to Progress** – the barriers are defined as the top topics preventing progress in the coming week
- **RFI Status**
- **Topics Register**
- **Design Review Process – Progress update**
- **Progress update on BT cabling**

Review of Project and Programme Reporting/INFRACO

Appendix B - Current Reporting Framework – Infraco Weekly Flash Report

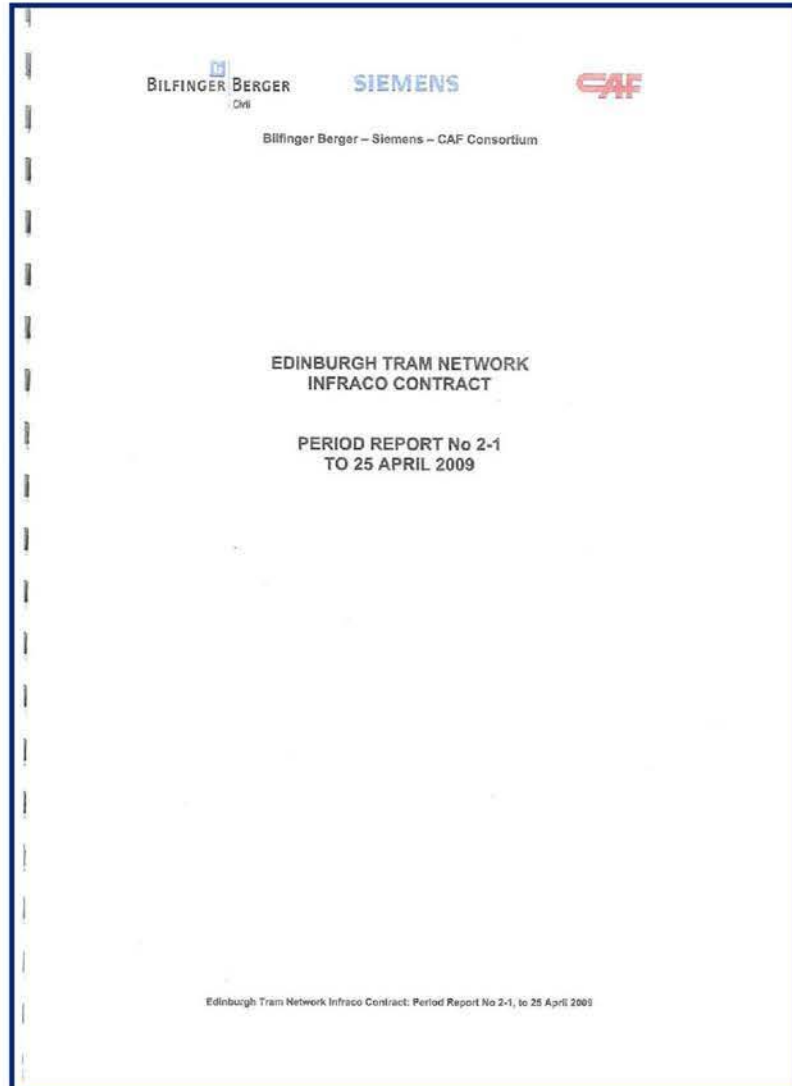


The Weekly Flash Report (contd.)

- Each of the Project Manager's inputs to the **Weekly Flash Report**.
- One of the key inputs to the weekly flash report is the **Topics Register** which is used to identify and report on a blocker to progress. This report was introduced 5-6 months ago for the civil engineering elements of the project but has only recently been introduced for the Systems elements.
- The Topics Register adopts a high level set of reporting symbols:
 - A red cross signifies a problem with no immediate plan for resolution;
 - An amber exclamation mark signifies that something has happened to affect the works but progress has been made to resolve the issues; and
 - A green tick signifies the issue has been resolved. The issue then stays on the register for a week and is then removed.

Review of Project and Programme Reporting/INFRACO

Appendix B - Current Reporting Framework – BSC Four Weekly Period Report

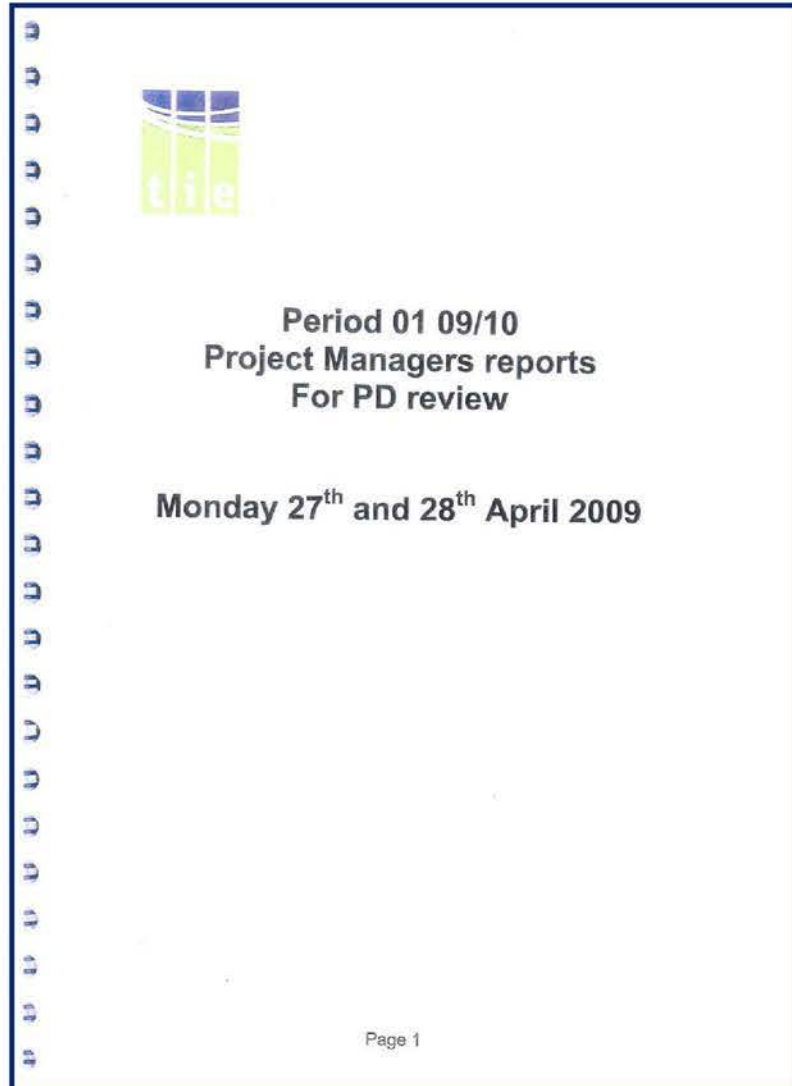


BSC Four Weekly Period Report

- This report provides BSC's view of the status of the project and the content of this report has evolved as the project has developed. The key elements of the Period 1 report are listed below:
 1. Executive Summary
 2. HSQE Management
 3. Programme
 4. Progress
 5. Not Used
 6. Stakeholder and Third Party Issues
 7. Commercial
 8. Resources
 9. Other Issues
 10. Appendices - which include a KPI Report, Programme Update, Look-Ahead Programme, Tram Programme, RFI Register, Civil Works Procurement Report, Change Register, Organisation Charts, Production of Design Statement, Development Schedule, Proposed Staffing Chart and Design Issues and Concerns.

Review of Project and Programme Reporting/INFRACO

Appendix B - Current Reporting Framework – Project Directors Review Report

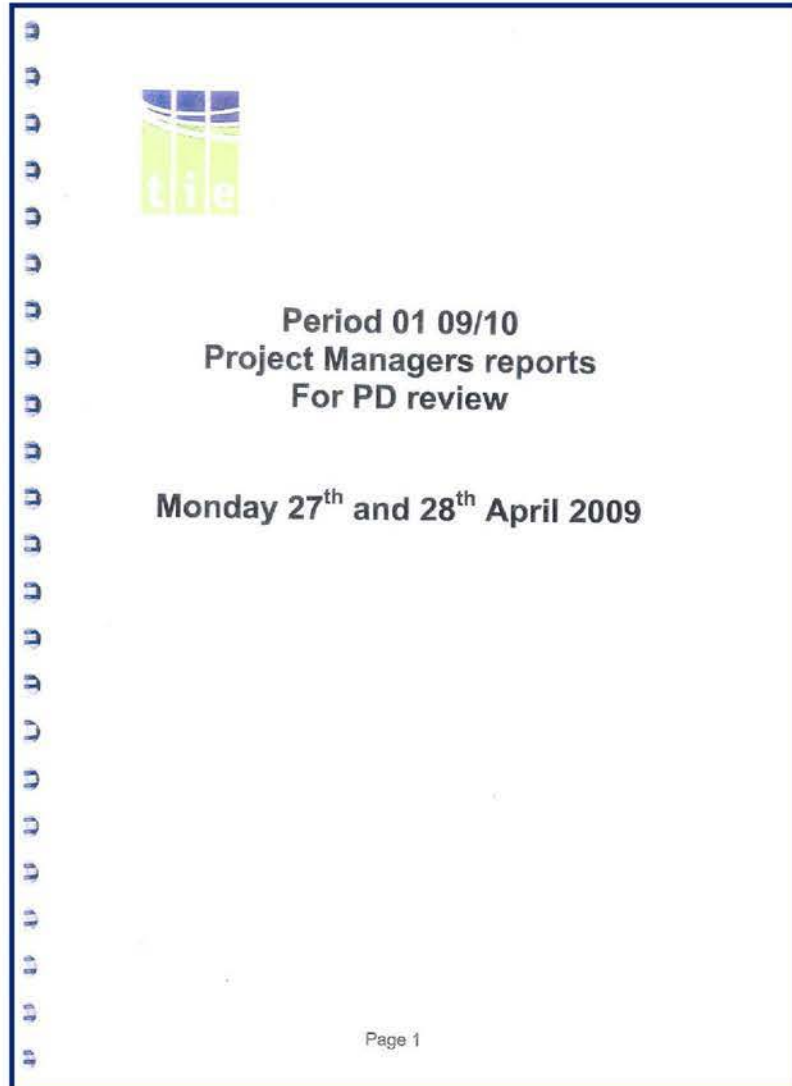


Project Managers reports for Project Director Review

- This report is presented by each individual Project Manager to the Project Director over a two day period at the end of each reporting cycle. The two day workshop provides the Project Director with an opportunity to review and challenge the reported status of each individual project.
- The contents of the Period 1 report are listed below:
 1. Agenda
 2. General Minutes
 3. Traffic Regulation Orders
 4. JRC
 5. Temporary TM
 6. District Valuer
 7. LP Purchases
 8. D&W
 9. Communications
 10. Business Support
 11. CEC
 12. Insurance
 13. TSS
 14. DLA
 15. **tie** PM costs

Review of Project and Programme Reporting/INFRACO

Appendix B - Current Reporting Framework – Project Directors Review Report



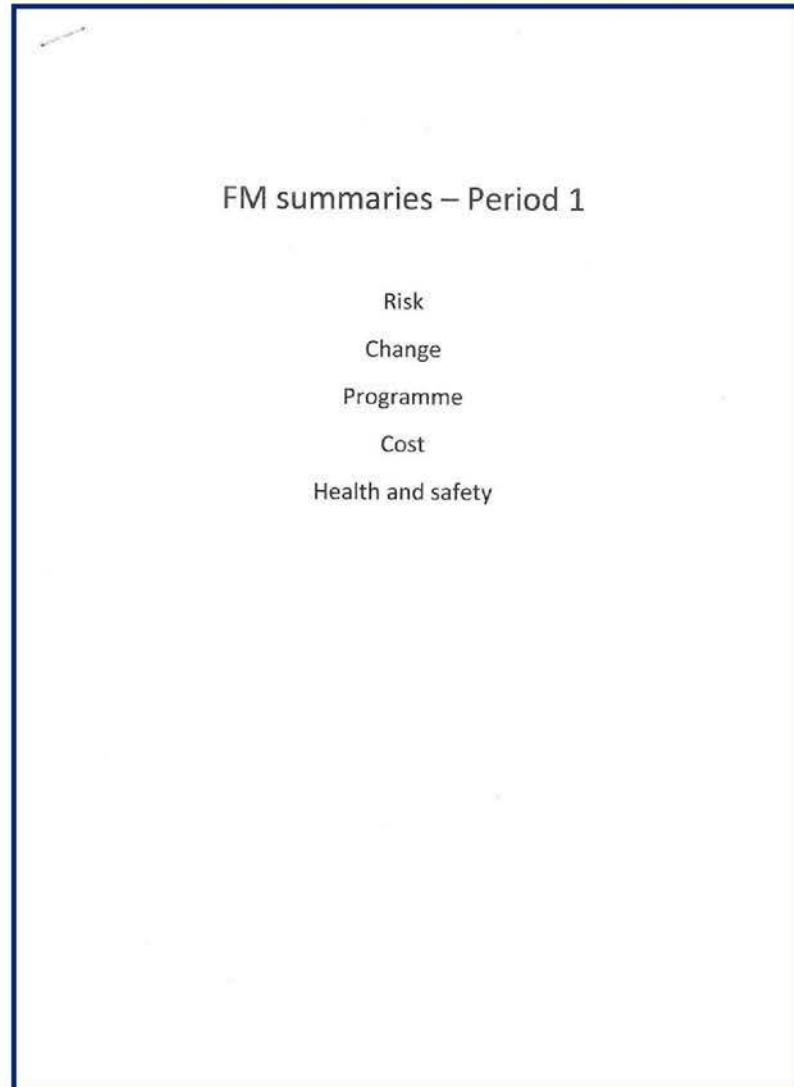
Project Managers reports for Project Director Review

16. Transdev
17. TEL
18. Infraco
19. Advanced works non depot
20. Murrayfield
21. Archaeological advance works
22. Network Rail
23. SDS
24. Tramco
25. MUDFA/Utilities
26. Engineering Services

- The above reports are also supplemented by a number of additional submissions. The key supplemental report is entitled FM Summaries.

Review of Project and Programme Reporting/INFRACO

Appendix B - Current Reporting Framework – FM Summaries Report



FM Summaries Report

- This report presents an opportunity for the Project Director to interrogate additional members of the team when assessing the status of the project.
- The contents of the Period 1 report are listed below:
 1. **Risk** – please refer to slide 39 for additional comments in relation to risk management.
 2. **Change** – please refer to slide 42 for additional comments in relation to change management.
 3. **Programme** – please refer to slide 35 for additional comments in relation to programme management.
 4. **Cost** – please refer to slide 31 for additional comments in relation to cost management.
 5. **Health & Safety**

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Appendix B - Current Reporting Framework – Transport Scotland Report



2/2010 - Transport Scotland
1/4/09 - 2/8/10

4 Week Period Reporting Pack 09/10

Project Title:
Edinburgh Tram Project

Reporting Period:
Period 01 2009-10

Transport Scotland Project Manager:
John Ramsay

Progress Meeting Date:

Report authorised by: Susan Clark

Signature: *[Signature]*

Date: *[Date]*

For and on behalf of *[Signature]*

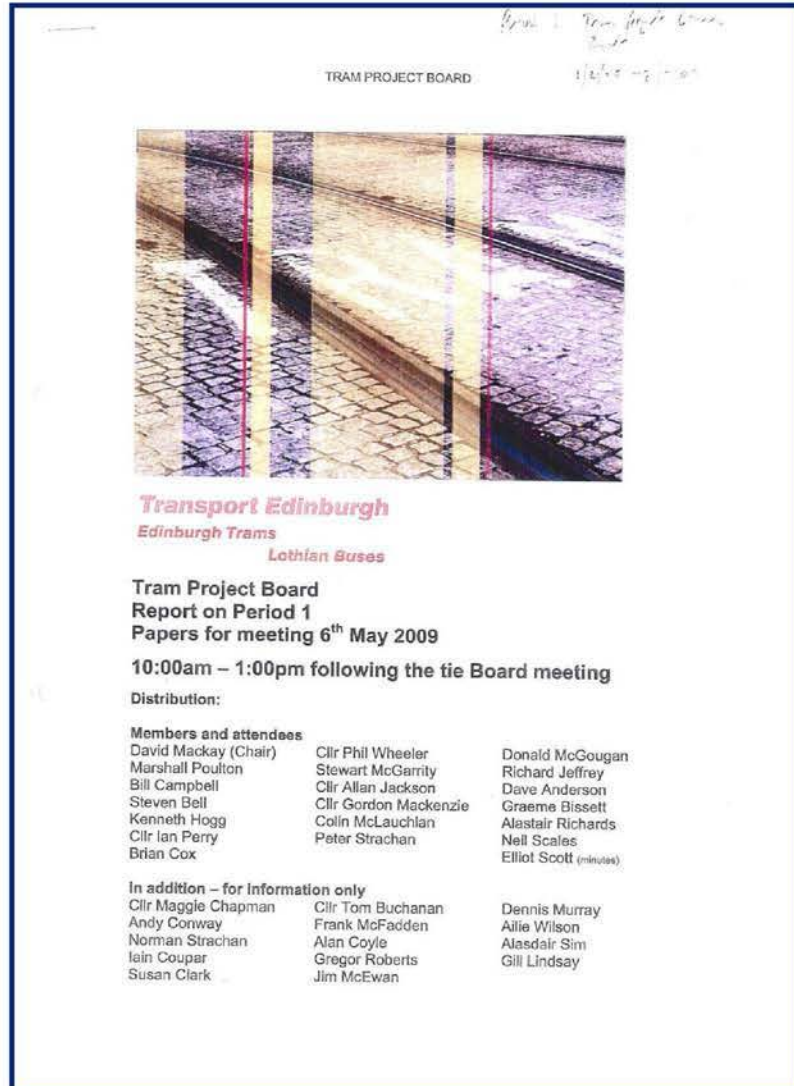
TRAM WORK ONLY

Transport Scotland Period 1 Report

- The key contents of the Transport Scotland report is as follows:
 1. Executive Summary
 2. Progress
 3. Headline Cost Report
 4. Time Schedule Report
 5. Risk and Opportunity
 6. Health, safety, quality and environment
 7. Stakeholder and communication
 8. Appendices – detailed cost report, change control register, programme information, primary risk register, resource information.

Review of Project and Programme Reporting/INFRACO

Appendix B - Current Reporting Framework – Tram Project Board Report



Tram Project Board Period 1 Report

- The key contents of the Tram Project Board Period 1 report as follows:
 1. Executive Summary
 2. Progress
 3. Headline Cost Report
 4. Time Schedule Report
 5. Risk and Opportunity
 6. Health, safety, quality and environment
 7. Stakeholder and communication
 8. Appendices – detailed cost report, change control register, programme information, primary risk register, resource information.

Review of Project and Programme Reporting/INFRACO

Appendix B - Current Reporting Framework – Other Reporting tools identified



Other Reporting Tools identified

- We identified the use of the following additional management tools during our discussion with management:
- Topics Register
- Correspondence tracker
- Statutory Consents tracker – this document is reviewed at every Design Review Meeting although the contractual responsibility for obtaining consents rests with BSC. **tie** management advised that the contract has been structured such that IFC drawings cannot be issued until the statutory consent has been received.
- Programme Story Board
- Chainage Summary
- Value Engineering Action Summary
- Statistical analysis of INTC change estimates

Review of Project and Programme Reporting/INFRACO

Appendix C – Process risk evaluation and finding priority criteria



<p>Process risk evaluation</p>	<table border="1"> <thead> <tr> <th data-bbox="562 377 815 440">Risk Rating</th> <th data-bbox="824 377 1917 440">Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="562 447 815 543"> <p>High</p> </td> <td data-bbox="824 447 1917 543"> <p>Major control weaknesses or opportunities identified or, a considerable volume of important weaknesses or opportunities</p> </td> </tr> <tr> <td data-bbox="562 549 815 645"> <p>Moderate</p> </td> <td data-bbox="824 549 1917 645"> <p>Important control weaknesses or opportunities for improvement identified or, a significant volume of lower risk weaknesses</p> </td> </tr> <tr> <td data-bbox="562 652 815 748"> <p>Low</p> </td> <td data-bbox="824 652 1917 748"> <p>Some control weaknesses or improvements but generally of a lower risk nature, or no findings identified in this section</p> </td> </tr> </tbody> </table>	Risk Rating	Detail	<p>High</p>	<p>Major control weaknesses or opportunities identified or, a considerable volume of important weaknesses or opportunities</p>	<p>Moderate</p>	<p>Important control weaknesses or opportunities for improvement identified or, a significant volume of lower risk weaknesses</p>	<p>Low</p>	<p>Some control weaknesses or improvements but generally of a lower risk nature, or no findings identified in this section</p>
Risk Rating	Detail								
<p>High</p>	<p>Major control weaknesses or opportunities identified or, a considerable volume of important weaknesses or opportunities</p>								
<p>Moderate</p>	<p>Important control weaknesses or opportunities for improvement identified or, a significant volume of lower risk weaknesses</p>								
<p>Low</p>	<p>Some control weaknesses or improvements but generally of a lower risk nature, or no findings identified in this section</p>								
<p>Findings priority</p>	<p>The recommendations arising from our audit and the testing performed are prioritised in order to provide an assessment of their significance:</p> <ul style="list-style-type: none"> • Priority 1 Recommendations which are fundamental to the system and upon which the organisation should take immediate action. • Priority 2 Recommendations which, although not fundamental to the system, provide scope for important improvements to be made. • Priority 3 Recommendations concerning issues which are considered to be of a minor nature, but which nevertheless need to be addressed. 								
<p>Notes</p>	<p>The assessment on any gradings provided in our internal audit report are not comparable with the International Standard on Assurance Engagements (ISAE 3000) issued by the International Audit and Assurance Standards Board.</p>								

Review of Project and Programme Reporting/INFRACO

Appendix D – List of interviewees



Name	Position
Steven Bell	Tram Project Director
Susan Clark	Deputy Tram Project Director
Mark Hamill	Risk Manager
Tom Hickman	Programme Manager
Frank McFadden	Infraco Director
Stewart McGarrity	Finance Director
Dennis Murray	Commercial Director
Gregor Roberts	Deputy Finance Director
Elliot Scott	Reporting Manager

Review of Project and Programme Reporting/INFRACO

Appendix E – Statement of Responsibility



We take responsibility for this report which is prepared on the limitations set out below.

The matters raised in this report are only those which came to our attention during the course of our work and are not necessarily a comprehensive statement of all the weaknesses that exist or all improvements that might be made. Recommendations for improvements should be assessed by you for their full impact before they are implemented. The performance of internal controls work should not be taken as a substitute for management's responsibilities for the application of sound commercial practices. We emphasise that the responsibility for a sound system of internal controls rests with management and work performed by Deloitte should not be relied upon to identify all strengths and weaknesses in internal controls, nor relied upon to identify all circumstances of fraud or irregularity. Auditors in conducting their work are required to have regards to the possibility of fraud or irregularities. Even sound systems of internal control can only provide reasonable assurance and not absolute assurance and may not be proof against collusive fraud. Our procedures are designed to focus on areas as identified by management as being of greatest risk and significance and as such we rely on management to provide us full access to their accounting records and transactions for the purpose of our audit work and to ensure the authenticity of these documents. Effective and timely implementation of our recommendations by management is important for the maintenance of a reliable internal control system.

Deloitte LLP

Edinburgh

September 2009

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