

Bilfinger Berger – Siemens – CAF Consortium

**EDINBURGH TRAM NETWORK
INFRACO CONTRACT**

**PERIOD REPORT No 2-9
TO 5 DECEMBER 2009**

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1 EXECUTIVE SUMMARY

86,715 hours were worked in period 2-8, of which 51,461 were site hours with no reportable accidents.

The basis for progress measurement in this report is the Programme Rev 1 showing the agreed mitigated impact of the initial design slippage as 38 days (7 weeks 3 days) on the end date. The incorporation of design information from the current design issue programme, actual progress on site and known access dates after MUDFA completion delayed the original programme completion date to 23 December 2012.

Production of civil and building drawings in accordance with the original design is approximately 88% complete. In general earthworks, roads, track and structures drawings are available and drawings for the depot, substation and tramstops are being completed to support construction.

Civil drawings, revised to incorporate Siemens design (trackform including vibration isolation, OLE foundations, substations) are largely complete. Drawings are being prioritised to support construction.

System engineering design is finalised for OLE and traction power and approaching finalisation for track, depot equipment, signalling and other disciplines.

Tram manufacturing is progressing well.

A total of 523 Changes have been notified to *tie* with a submitted estimated value of £68,686,000. 112 of these estimates have been partly agreed by issue of a *tie* Change Order in a total value of £7,861,000.

Virtually all construction works are impacted by external issues which require resolution through the change process of the contract.

Dispute Resolution Procedure: tie have referred 1) Financial aspects to EOT 1 – “Settlement reached through Mediation”, 3) Carrick Knowe Bridge – “Adjudicator rejected redress sought by tie” and 4) Gogarburn Bridge – “Adjudicator rejected redress sought by tie”. BSC have referred 1) Delays Arising from MUDFA Programme Rev 8 – “Suspended pending Programme Revision 3 Negotiations” and 2) Russell Road Retaining Wall 4 – “Referred to Adjudication and determination expected in next Reporting Period”

BSC have requested that *tie* and BSC jointly appoint a Tram Inspector which has not been appointed in line with the Infraco Contract.

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2 HSQE

2.1 Health & Safety

- 2.1.1** Network Rail Health and Safety Plan Revision 4 is under final review, formal submission to *tie* is planned for the week ending 27 November 2009.

The Construction Phase Health and Safety Plan Revision 5 was sent to Paul Colquhoun of *tie* on 10 November 2009 for review and comment before formal submission to *tie* at the beginning of December 2009.

5No Safety Stand-down sessions on Princes Street have been carried out so far with a total of 169 staff briefed. All staff were thanked for their hard work so far and asked to stay focused and work safely as Princes Street draws to a close.

- 2.1.2** Accidents, Incidents and Near Misses/Unsafe Conditions:

Period 2-8 to 2-9 records up to the 20 November 2009.

No reportable accidents recorded up to the date above.

7 Infraco Near Misses/Unsafe Conditions Recorded in the Period:

1. 14 October 2009 – Depot – rope jam observed during lifting operation. Rope replaced and re-rigged – lift carried out successfully.
2. 25 October 2009 – Heras fencing blown down in area of Princes Street/Lothian Road. Security guards re-erected fencing same night.
3. 26 October 2009 – JCB excavating within 500mm of cable. Work stopped.
4. 26 October 2009 – The Mound – works temporarily suspended due to ineffective task lighting.
5. 30 October 2009 – Roseburn Retaining W4 – asbestos concrete discovered – procedures followed. Samples sent away for confirmation.
6. 5 November 2009 – The Mound – noise complaint received re pressure washing – worked stopped.
7. 11 November 2009 – Princes Street/Frederick Street – noise complaint.

13 Accidents/Incidents Recorded:

1. 12 October 2009 – Princes Street – undetected cable encountered while breaking out concrete.
2. 15 October 2009 – Princes Street – operative cut his leg with a Stanley knife while opening packaging.
3. 26 October 2009 – Princes Street/Frederick Street – 4inch water main burst during excavation – Scottish Water notified.
4. 26 October 2009 – Frederick Street – LV cable damaged – works stopped. ScottishPower notified.
5. 26 October 2009 – The Mound – LV cable strike 100m west of Mound Junction. ScottishPower notified.

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6. 27 October 2009 – Princes Street, between Frederick Street & South Charlotte Street - 11kv cable shorted during rain storm. No injured personnel, power supply interrupted. ScottishPower contacted.
7. 27 October 2009 – Princes Street adjacent to Marks & Spencer – while lifting kerbs, pallet collapsed and load fell against Rhino barrier.
8. 27 October 2009 – Princes Street/South Charlotte Street – DR Security guard's laptop stolen from site hut.
9. 6 November 2009 – Princes Street – BSC engineer almost struck by reversing road sweeper.
10. 7 November 2009 – Princes Street/South Street David Street – during excavation caught a 25mm BT duct exposing the cable. BT contacted.
11. 8 November 2009 – Princes Street – operative injured back during hand digging. Visited A&E and returned to work the same day. Now performing light duties.
12. 14 November 2009 – George Street/ Hanover Street – pot ended cable damaged during excavation works. ScottishPower contacted.
13. 16 November 2009 – Princes Street/ South Street David Street – water leak on South Street David Street. No excavations near leak – damage to old water main. Scottish Water attended 17 November 2009.

The AFRs at the end of period 2-8:

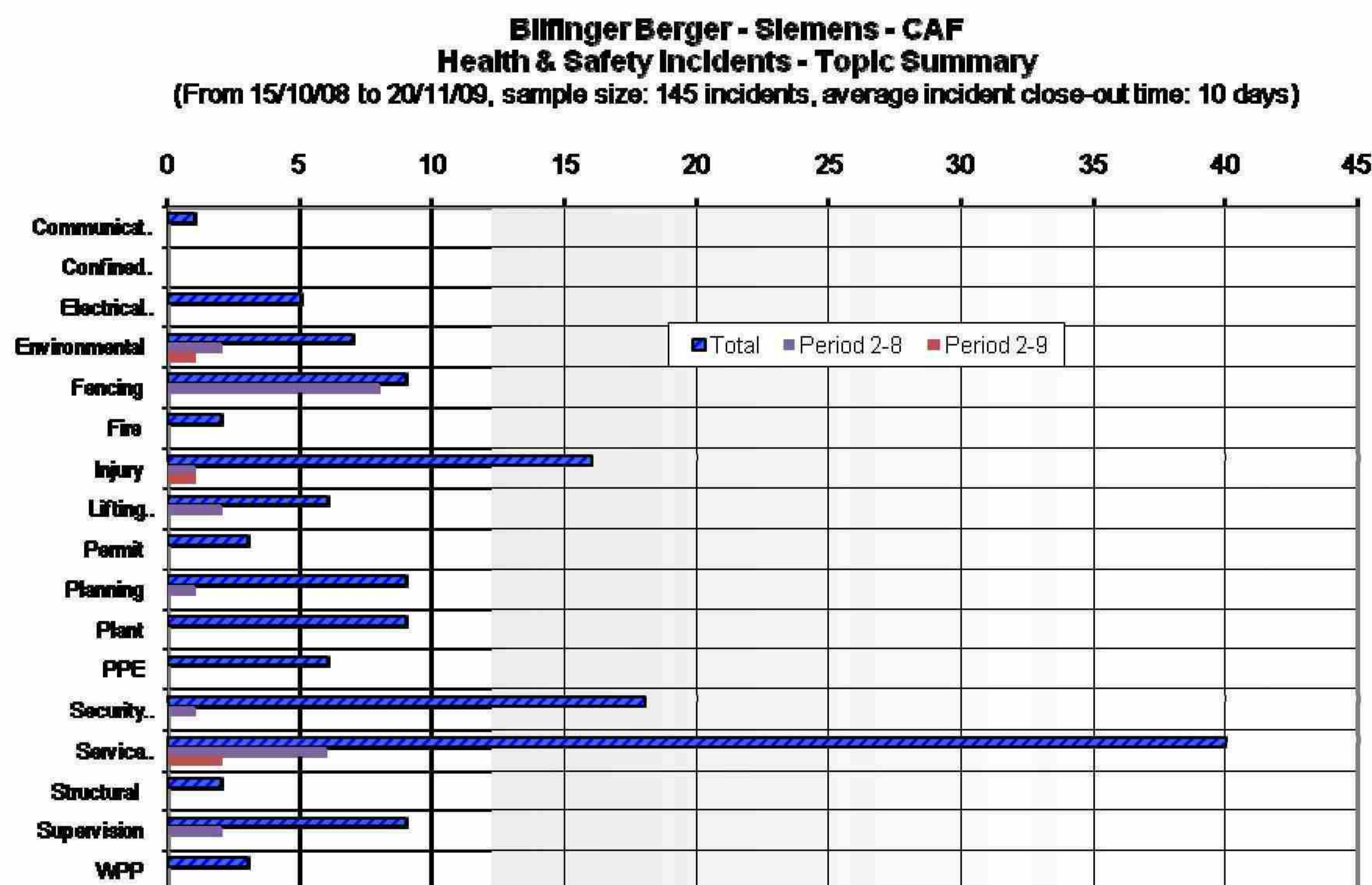
Project AFR:	0.11
Yearly AFR:	0.13

Total Hours worked in **Period 2-8:**

Total:	86,715
Non site hours =	35,254
Site Hours =	51,461

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2.1.3 Rolling Trend Analysis for period 2-8 & 2-9 up till the 20 November 2009 on safety and environmental related activities.



2.2 Environment

2.2.1 Actions in response to the concrete slurry – NCR have been completed, documentation to close out NCR is being finalised.

2.2.2 The Environment Audit carried out 26 October 2009 by Yvonne Rowse of ECUS Ltd has resulted in one NCR relating to Crummock’s waste handling.

2.2.3 JDC Ecology has been heavily involved in the monitoring of the Japanese Knotweed at Russell Road/Viking Building area.

2.3 Any Other Business

2.3.1 BSC is currently preparing return to work briefings/presentations for January 2010. Topics will include re-induction of site personnel, lessons learnt in 2009, re-brief of Permit to Dig procedure.

2.3.2 ScottishPower and Scottish Water are planning audits of Permit issuers in January 2010 to review compliance with the Permit to Dig procedure and competence of Permit issuers.

KPI spreadsheet for Period 2-8 and Schedule 40 is attached at Appendix 1.

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2.4 Quality

2.4.1 Quality Management System

All 14 BB ITPs reviewed by *tie* are now ‘Level A – No Objection status’, whilst another 2 (from Barr) are currently being reviewed. Siemens ITP for Track Installation is ‘Level B’ status and the ITP for ‘OLE Pole Erection’ is currently being reviewed by *tie*.

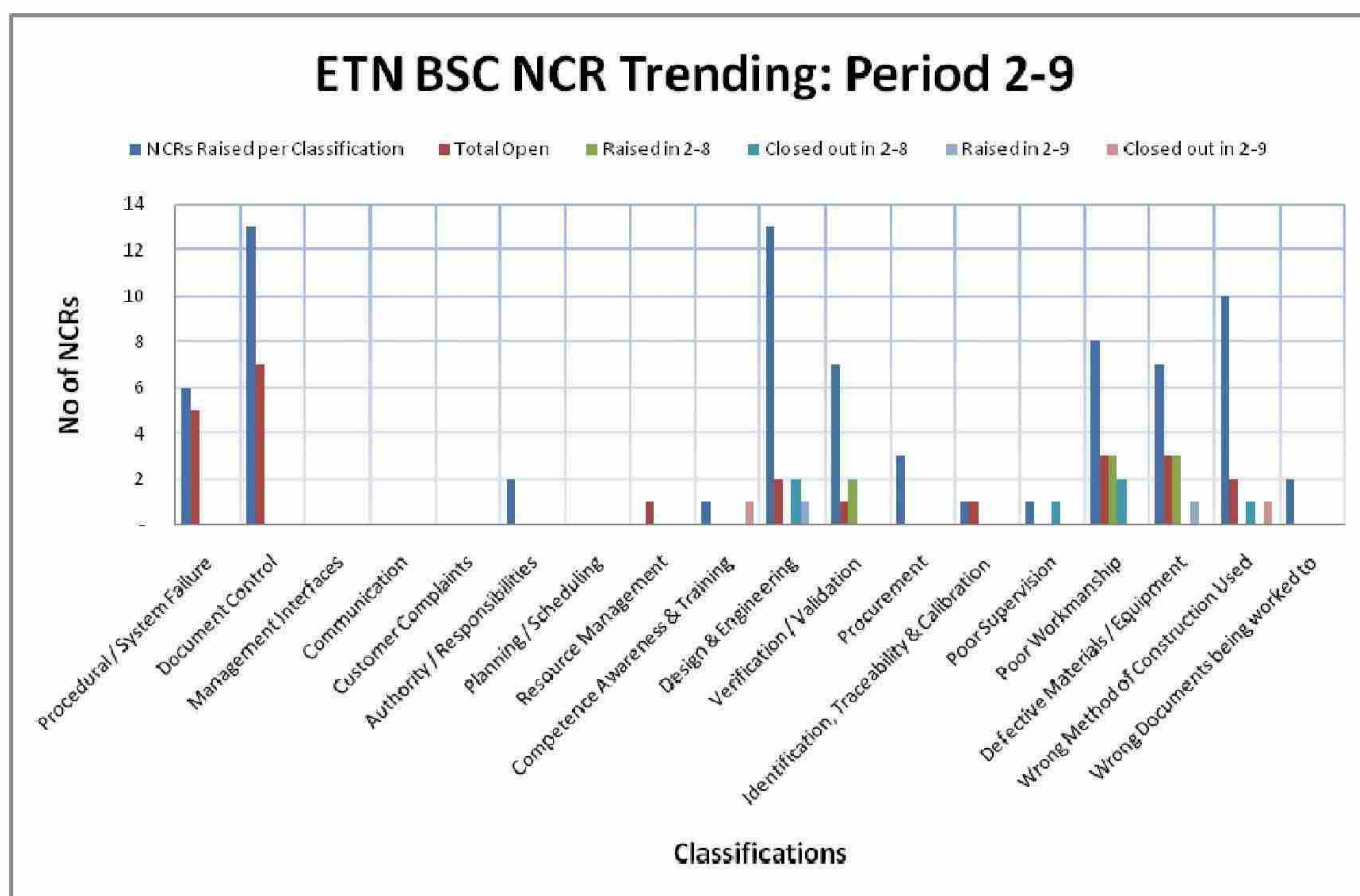
‘ITP Packaging Readiness Workshops for Princess Street Works’ were carried out on 28 October and 10 November 2009. Another one is scheduled for 24 November 2009.

A meeting to discuss the As-Built process and the gathering of information in preparation thereof is scheduled for 23 November 2009.

2.4.2 NCRs

There are currently 31 open quality NCRs from a total of 78 raised to date. 4 have now been cancelled and the remaining 43 have been closed-out. 6 NCRs were raised during the last period. 2 NCRs were closed during the last period.

The latest trending histogram for Quality NCRs is shown below.



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2.4.3 Audits

During the last period:

tie carried out a Design Safety Assurance Audit on BSC (CAF mainly) on 18 November 2009. The audit report and findings will be finalised once CAF, who have been given two weeks to provide relevant documentation as evidence of compliance, have responded.

tie carried out a Design Change/Validation Audit on BSC on 19 November 2009 at Edinburgh Park Offices. The audit report and findings are still to be issued, after clarifications are provided, but no major findings are expected.

tie carried out a Depot Structural Steel Erection on BSC on 12 November 2009. Both *tie* and BB visited Solway Structural Steel on a verification of records assessment on the 19 November 2009. *tie* are to issue an audit report on Structural Steel for the Tram Depot, covering both manufacture and erection. BSC submitted a letter to *tie* on the 20 November 2009 with proposals for records handover, and asking for clarification on which records to be handed over in accordance with the 'Body of Evidence File'.

The scheduled (for October) Internal BSC Technical Change Management Audit should go ahead during next period.

The scheduled (for November) Internal TRW/BAM will be replaced by an audit on the BAM design process in December 2009.

3. PROGRAMME

3.1. Programme

The programme at Appendix 10.2 to this report has the V31 mitigation programme incorporated. This programme has been accepted by *tie* in accordance with Clause 60.4 as the "Programme" (Rev 1) and is used as a baseline for reporting progress.

Progress achieved up to 27 November 2009 has then been recorded against the above baseline including inputting the latest IFC dates received from SDS (V51).

No IFC date has been received for the redesign of South Gyle Access Bridge (programme defaulting to 27 November 2009).

The Programme identifies completion of MUDFA works in each Intermediate Section and uses these dates as a start milestone for the INFRACO work. BSC have progressed ("progress to date") the Programme in accordance with the Contract and the MUDFA completion dates have been extracted from MUDFA revision 8.0 programme. A number of the MUDFA revision 8.0 programme completion dates have now passed and their works are still incomplete. These milestones are therefore defaulting to the programme data date (27 November 2009).

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It should be recognised that the Programme has only been progressed were noted in this report and does not include for all changes that we are aware of or have been notified to date e.g. dealing with abandoned services, misalignment issues, growth in work scope etc.

The result is the following changes to Section Completion Dates:

	27 November 2009	30 October 2009	Programme
A	20 June 2011	3 June 2011	01 June 2010
B	07 November 2011	10 October 2011	01 July 2010
C	26 June 2012	22 June 2012	10 March 2011
D	23 December 2012	19 December 2012	06 September 2011

The critical path to the completion of the works now runs through soil nailing at the Depot, 6A, 5B, 5C, 7A, 5A, 1C, 1D, 5C, 1C & 5A track work 5A & 1A OHLE.

Although the soil nailing activity in the Programme represents soil retention alongside the A8 road adjacent to the depot, the logic is equally applicable for the earth retention measures that will be required on the north side of the depot excavation.

At a number of locations the construction sequence has been changed, from that originally considered, to suit current constraints. Presently the logic of the Programme remains unaltered from that envisaged at Contract Award. Therefore some inaccuracies occur when “progress to date” has been entered into the Programme.

Note – the links between the third party consents and the related activities present in the Programme have been deleted to enable a true analysis to be provided of the current situation.

As a result of events which have negatively impacted on the Programme the works have had to be re – sequenced in an attempt to mitigate the delays which are being incurred. Effectively the following constraints have been disregarded by the BSC construction team:

- Completion of MUDFA works in Intermediate Section 1D and the start of the INFRACO works.
- Completion of other sections of track work prior to commencing in Princes Street.

This broken logic has now been used to produce the Programme for this report.

The attached Programme considers progress achieved against the agreed Revision 1 Programme. The Revision 1 Programme was based on the base date design information (BDDI) and other Programme Assumptions. Hence the analysis to provide the predicted Section Completion does not take into

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account the increased scope of works which is now apparent post BDDI. These predicted dates are thus significantly earlier than would be expected if all factors governing the construction of the works are taken into account.

Currently BSC and *tie* are working together to produce a Revision 3 Programme by 31 January 2010.

3.2 Look Ahead Programme

This programme is provided for information and coordination purposes only; and without prejudice to the rights of the Infraco under the Agreement.

This programme constitutes a target programme and as such, contains durations that are based on a risk profile not consistent with the Accepted Programme."

The Look-Ahead Programme for the period December 2009 to February 2010 is an extract from the current Construction Programme updated with the latest IFC dates from the SDS V51 Programme and also updated with progress of The Works recorded and assessed to 27 November 2009. MUDFA activities are scheduled in accordance with their programme Rev 08 received 5 May 2009. Where MUDFA Works are ongoing, the Completion Milestones will continue to default to the report date unless planned completion dates are later.

Section 1A

MUDFA temporary works at Tower Bridge are complete and Infraco works are currently scheduled to start after 4 weeks mobilisation pending resolution of Change Items; the estimate for which was re-submitted on 9 October 2009. MUDFA/Utility Works on Section 1A Newhaven to Casino were planned 10 June 2009 to 16 December 2009, and at Lindsay Road were planned 6 July 2009 to 14 September 2009.

Lindsay Road utility diversion work was started by *tie* (Clancy Docwra) on 16 November 2009 and BSC understand this work will continue until mid January 2010. BSC also understand that diversion works by BT will then take place from 4 January 2010 for 4-5 weeks which may allow a start to Works on Lindsay Road in early February 2010. In the absence of further planning information Infraco Works for Tower Bridge are scheduled to commence on 4 January 2010 and the site establishment is now under review. The Forth Ports Authority Agreement has to date not been signed. This signing is required for Works to commence and is detailed as a further constraint; Tower Bridge access ramp being under review with FPA and CEC.

Utility diversions (by others) from Victoria Bridge to Ocean Terminal started w/c 16 November 2009.

The proposed Traffic Management Scheme was accepted by CEC and Forth Ports Authority on 30 June 2009.

A revised draft construction programme for Section 1A was issued on 19 November 2009 for the OSSA review.

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Section 1B/C - Leith Walk

A re-start meeting was held on 19 October 2009.

MUDFA Works are to be clear by 30 November 2009. Detailed BT Works drawings indicate completion on 27 December 2009.

Trial holes are required to confirm construction requirements, but should be carried out before 30 November 2009 or in January 2010. No works to be undertaken during December.

Utility Conflict Schedules are being prepared by *tie*. A revised draft construction programme for Section 1B was issued on 19 November 2009 for the OSSA review.

Works in this section were planned to commence in three sections of Leith Walk on 4 January 2010, but BSC have learned that at least one of the phases may not be fully available at that time due to ongoing utility works by others.

Section 1C - London Road to St Andrew Square

A draft indicative construction programme for this section was issued on 19 November 2009 for the OSSA review.

Section 1C – St Andrew Square to Princes Street (Waverley Bridge Junction)

A detailed draft construction programme for this section was issued on 19 November 2009 for the OSSA review.

Section 1C/D - Princes Street

The Princes Street detailed Programme Revision E was finally updated to 30 October 2009 which indicated completion on 15 January 2010. This is now superseded by regularly updated programmes to completion which target 29 November 2009. The Infraco remains concerned that this target date may not be achieved as time is now being lost due to weather and unforeseen issues with services.

Section 1D - Haymarket Junction to Shandwick Place

Infraco Works on Haymarket Junction were originally planned to commence on 5 January 2009. Ongoing utility works currently delay the commencement of Infraco Works in this section. Handover to the Infraco remains as notified by *tie* to be 10 October 2009 extending to 27 November 2009 for switching of BT cables which allows Infraco Works to commence after the Christmas embargo.

Following rejection of the previous Traffic Management proposal a further scheme utilising the crescents was approved on 27 July 2009. Pending completion of MUDFA ongoing gas main abandonment works in Shandwick Place, any Infraco Works in this restricted area before the Christmas Embargo would be limited. In addition, agreement of Change Items would be required before commencement of works.

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A detailed draft construction programme (Revision 08) for the Haymarket Junction from the viaduct through Shandwick Place to Lothian Road tie-in was issued on 19 November 2009 for the OSSA review. Significant changes now include the infilling of the existing underground chambers and full depth construction with capping layer.

Section 2

Package Contractor programme received.

Awaiting agreement of Change.

Package contractor commenced work at Haymarket Viaduct on 23 November 2009.

Section 5A

Package Contractor programme received.

Awaiting agreement of Change.

Russell Road Retaining Wall W4

Piling commenced on 29 October 2009 but stopped on 4 November 2009 due to striking underground obstructions. Further Site Investigation was undertaken until 19 November 2009 to find a solution. This is currently delaying the planned Works.

Section 5B

Carrick Knowe Bridge
Construction ongoing.

Guided Busway
Construction ongoing.

Edinburgh Park Bridge
Construction ongoing.

Section 5C

Gyle Tram Stop retaining Wall

Awaiting agreement of Change to allow works commencement.

S28 A8 Underpass

Service diversions by the Infraco started on 4 November 2009. There has been some additional instructed works but diversions should be complete by 19 November 2009.

It is estimated that piling may be able to re-commence on phases 1 and 2 by February 2010, pending resolution of Change Items.

Section 6

Construction ongoing.

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Outstanding Change items for main doors and piling of the Stabling Yard may impact on progress.

The remaining 35,000 cu.m. of excavation will take place at a later stage. Earthworks batters are being trimmed and installation of drainage has commenced.

Section 7

The Gogarburn Bridge ongoing.

Construction of the Hilton Hotel car park ongoing.

Other programme activities are delayed pending resolution of Change Items (Especially Drainage & Earthworks).

3.3 Tramco Programme Status

Updated tram design, procurement, manufacturing, delivery and commissioning programme is attached as Appendix 10.4.

4 PROGRESS

Programme update attached as Appendix 10.2.

4.1.1 Civil & Building Design

4.1.1.1 Production IFC Design

Programme

Version 50 of the SDS Design Programme was issued to BSC and *tie*. The programme identifies some slippage in certain activities. Any slippages are shown within the Variance Statement that was issued with the Design Programme. Version 51 is currently being developed with SDS and will be issued shortly to *tie*.

BSC have set up regular management meetings with SDS to enquire general slippage, resourcing constraints and the way this is being managed moving forward.

Approvals

SDS is closing in on obtaining the final planning and technical approvals required. There has been a recent increase in the number of approvals required due to new instructions received, and as such, the percentages may indicate lower completion rates than last period.

SDS reporting progress as follows:

From a total of 230 planning and technical approvals:

88 % are approved (202)

8 % are pending approval (19)

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4 % are to be submitted (9)

Current status (today) is:

92% Planning Approvals granted

84% Technical Approvals granted

4.1.1.2 Issues and Concerns

A weekly Design Changes Issues meeting between BSC, SDS and *tie* has been set up to work through and seek resolution to Design Change issues. This is positive and continues to unblock long outstanding changes; however, the following key issues are still to be resolved:

- Section 1C2 Technical Approval – Internal CEC Planning/Transport issues to be resolved. This was due to be resolved and approval granted by 7 July 2009 but is still outstanding. *tie* has been requested through Approvals Taskforce and Design Changes Meeting to assist in resolving this issue with CEC.
- CEC Transport request for relocation of OLE poles in Section 1A is deemed to be a change. SDS has provided additional information to support this argument. BSC are awaiting *tie* response to agree the change or otherwise. *tie* to provide necessary utility as built information to BSC to move this issue forward.
- Picardy Place (Section 1C2) – *tie* has instructed the Stage 1 & 2 design work of INTC 321. Letter issued by CEC on 18 September 2009 identifying additional changes required Further CEC changes need to be instructed to BSC by *tie* as part of the finalisation of the Picardy Place design. This is holding up Section 1C2 Technical and Scottish Water Approvals.
- Transdev comments - this is being worked through the ODR meetings with *tie*. It has been accepted by *tie* that some comments will be a change if still deemed necessary by *tie* and will need to be instructed. *tie* have provided response to BSC comments. BSC are reviewing currently with SDS and will provide further clarification to *tie* shortly.
- Roseburn Viaduct – the impact of the late delivery of information from *tie* has pushed back the IFC date as indicated in V50 of the SDS Design Programme. Utility information is still required from Network Rail and *tie*'s assistance is sought to gain this information to inform the utilities design.
- TRO Programme – BSC/SDS/*tie* meeting has agreed resolution of INTC 242 and allowed finalisation of TRO 1 drawings and subsequent issue of drawings to CEC on 28 September 2009. Further TRO changes to be discussed at meeting to be set up by *tie* week commencing 23 November to progress this issue.

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- Resolution and finalisation of Forth Ports Agreement. Further changes have been intimated by *tie* which could further delay finalisation of Section 1A. *tie* to review with CEC and Forth Ports and advise BSC.
- Section 1 A Drainage Approval - SDS are currently preparing an estimate for this new approval. This has potential for redesign and needs to be resolved urgently to avoid any abortive construction works. We have requested SDS to prioritise this estimate.
- RBS Gogarburn Tram Stop – BSC have assisted *tie* in finalising future proofing requirements for the RBS Tram Stop and await instruction from *tie* to progress this. This is one of the last major approvals issues that remain outstanding. *tie* have issued letter without drawings or clear scope of what needs to be done as part of this change. BSC await a revised and clear scope including necessary drawings to allow the design estimate to be prepared. BSC are currently preparing design estimate for the future proofing requirements.
- South Gyle Access Bridge Redesign – A draft report was issued to *tie* and the final report is expected to be issued to *tie* on 23 November 2009 with an estimate for the detailed design to follow. It is understood *tie* are considering reverting to the original design. Confirmation is sought from *tie* on which option they wish to proceed with.
- MUDFA Conflicts – this is being coordinated by *tie* and *tie* will advise BSC of impacts once conflict schedule and MUDFA as built have been reviewed by *tie*. We await an update from *tie* on this. As built information is requested from *tie* for the known ‘specials’ where there is reduced cover (depth or width). This includes Scottish Power Tunnel and 275kV cables.
- INTC 277 – Airport Canopy and Boundary Treatment. Design change is on hold until *tie*/BAA comments provided to allow design to be finalised. *tie* to follow up with BAA and advise. *tie* have provided comments and meeting held to advance design. Meeting with BAA still required prior to progression of design to Planning Approval stage. Drawings have been submitted to *tie* and BAA for comment and we await details.
- Informatives – BSC have received confirmation on the Informatives that are the responsibility of *tie*. A further discussion is required on this and will be raised through the Approvals Taskforce.
- Earthworks Audit – a further meeting was held between BSC and *tie* on 11 November 2009. All technical issues were discussed and closed.

4.1.1.3 Extended Construction Support and Design Support

The proposed organisational chart for the upcoming month is attached in Appendix 10.8. Updated CVs were provided to support resources proposed for Extended Construction Support.

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Stephen Surtees was added to the Extended Construction Support Org-chart as M&E Engineer. There has been no instruction from *tie* to provide the proposed resources.

4.1.1.4 Workshops

Development Workshop Earthing & Bonding, workshop report was published on 14 October 2009. No *tie* instruction has been received.

Development Workshop Drainage workshop, report was published on 14 October 2009. No *tie* instruction has been received.

Development Workshop SCC Loops, workshop report was published as draft on 24 September 2009.

The DKE Report has been produced to show the interface between the CAF DKE and the civil design. BSC will inform *tie* whether a Development Workshop to identify misalignments is required.

The current status of all Development Workshops is shown in Appendix 10.9.

Depot

Concrete reinforcement details & schedules have been issued for the bogie turntable, the wheel lathe, and under floor lifting jacks. Coordination of electrical containment routes for the Depot equipment is now to be addressed to allow the slab details to be finalised. Piling schedules for the stabling area have been issued and will allow progress in that area.

Critical design issues to be progressed include ducting distribution from the substation to the OLE poles, Substation details including trenching and cable routes, and M&E details around the Control Room & Equipment Room. Draft Substation drawings are expected week commencing 23 November 2009.

Automated Sand Filling Plant – documents have been received via Interface Control Form from CAF. Additional information on foundation loadings & details have been requested from specialist Klein and are expected at the end of November 2009.

High level inspection platforms – preliminary meetings with selected suppliers are scheduled.

Tram Stops

BSC equipment is being integrated into the detailed shelter design. Shelter and platform furniture is being incorporated into the civil design to discharge informatics.

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4.1.1.5 Request for Information (RFI)

On status date 20 November 2009 – RFI summarise as follows:

RFI Civil

RFIs open:	2 total
RFIs open and unanswered:	2
RFIs responded to but require further clarification:	0
RFIs issued in November 09:	1
RFIs responded in November 09:	2
RFIs closed in November 09:	4

RFI System

RFIs open:	13 total
RFIs open and unanswered:	1
RFIs responded to but require further clarification:	12 (To be taken off the register and raised as correspondence)
RFIs issued in November 09:	0
RFIs responded in November 09:	0
RFIs closed in November 09:	0

4.1.2 Procurement

4.1.2.1 Sub-Contractors

A Sub-Contract Procurement Schedule, showing status at 24 November 2009, is attached as Appendix 10.6.

Section 1A

Section 1A has now been split into three areas, Newhaven to Ocean Terminal (1A1), Ocean Terminal to Port of Leith (1A2) and Port of Leith to Foot of the Walk (1A3).

BSC intend to sublet Section 1A1 and 1A2 to McKean and Company (Glasgow) Ltd. BBUK are now concluding the terms and conditions of McKean subcontract order. They were issued with a Letter of Intent on 4 August 2009.

BSC intend to extend Crummock’s involvement down from Foot of the Walk to Port of Leith (1A3).

Section 1B

BSC have concluded the procurement process for Section 1B.

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Section 1C

Crummock have submitted their price for 1C1 (MacDonald Road - London Road) and BSC are currently reviewing this.

BSC are concluding terms and conditions with Mackenzie Construction Ltd over section 1C3 (Castle Street - Waverley Bridge).

It is BSC's current intention to self deliver the remaining works in Section 1C2 (London Road – Waverley Bridge) and a final strategy for carrying out the works is still to be agreed, a prequalification process is underway.

Section 1D

Final negotiations are proceeding with MacKenzie to conclude a Sub-Contractor order.

Section 2A and 5A (Part)

Final negotiations are proceeding to conclude a Sub-Contractor order with Grahams. Following the issue of a Change Order pursuant to Clause 80.15 to proceed with Russell Road Retaining Wall 4 Expanded Piling have been issued with an extension to their current letter of intent to cover the mobilisation of a piling rig to complete the piling on Wall W4, units 11 to 18.

Section 5A (Part), 5B and 5C (Part)

BSC intend to sublet the remaining structures on Sections 5A, B and C to Expanded Ltd. Discussions continue over finalising programme and terms and conditions. A revised Letter of Intent was sent to Expanded Ltd on 29 May 2009 to allow for procurement and mobilisation which has been later extended to include the preparation and submission of Form C's. Following receipt of a Change Order pursuant to Clause 80.15 Expanded Ltd's letter of intent has been further increased to cover the construction of Carrick Knowe Bridge.

Smaller trade package quotations for the balance of the civils works in Section 5 have been received, e.g. ducting and drainage, service diversions and others are currently under review.

Section 6

BSC have finalised the terms and conditions of the full Sub-Contractor order for Barr Ltd for the construction of the depot.

BSC and Barr are considering *tie's* response in respect of the Edinburgh Airport Limited Subcontractor Collateral Warranty.

Section 7A

Final negotiations with Farrans on the terms and conditions of a Sub-Contract order have been concluded.

BSC and Farrans are considering *tie's* response in respect of the Edinburgh Airport Limited Subcontractor Collateral Warranty.

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General

Procurement of relevant key Sub-Contractors (Major Civil Works Contractors, Piling Contractors, Ground Stabilisation Specialists) includes the requirement for provision of a Collateral Warranty, in accordance with Clause 28.7 of the Contract.

BSC may need to offer *tie*, in some instances, alternative wording for their Collateral Warranty agreement, as BSC have not as yet been able to conclude our negotiations with potential Sub-Contractors using the template in Schedule 8 Part F.

The length of time it has taken to either procure, negotiate and conclude any Sub-Contract has been affected by the complexity of the main contract negotiations and how BSC and *tie* require step down into the subcontract, the necessity to operate a complex milestone schedule which can be adversely affected by progress and change on site and the overall uncertainty on programme.

BSC have concluded the procurement process for the supply and erection of Tramstop Shelters and equipment and a request under Clause 28.2 was submitted to *tie* on 9 September 09. BSC await *tie's* response.

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4.1.5 Construction

**Progress on site to 27 November 2009
Reported against Revision 1 of the Programme
Duration % Complete (Workdays)**

Section	Planned Progress Programme Revision 1	Actual Progress to 27-11-2009	Completion Date Programme Revision 1	Anticipated Completion Date (Progressed Programme Revision 1)
1A	52%	0%	07/03/2011	26/06/2012
1B	60%	3%	05/11/2010	26/03/2012
1C	49%	1%	11/03/2011	15/06/2012
1D	64%	48%	17/09/2010	30/01/2012
2A	86%	8%	03/03/2010	13/07/2011
5A	59%	2%	20/12/2010	24/04/2012
5B	68%	22%	31/08/2010	20/01/2012
5C	65%	1%	20/09/2010	07/02/2012
6	75%	12%	01/06/2010	27/06/2011
7	67%	15%	05/10/2010	24/02/2012
Construction	65%	11%	Section C 10/03/2011	Section C 26/06/2012
			Section D 06/09/2011	Section D 23/12/2012

Infraco Works Commenced/Completed during the period

Section 1A

Started - Utility Works (others) - Lindsay Road
Started - Utility Works (others) - Victoria Bridge to Ocean Terminal

Section 1B

Ongoing - Utility Works (others)

Section 1C (McDonald Rd to Sth St Andrew St)

Ongoing - Utility Works (others)

Section 1C/D

Ongoing - Princes Street

Section 1D (Shandwick to Haymarket)

Ongoing - Utility Works (others)

Bilfinger Berger – Siemens – CAF Consortium

Section 2A

Started – Re-started Haymarket Viaduct
Awaiting – Agreement of Change (other areas)

Section 5A

Ongoing - Walls W3 & W4 - Piling delayed (obstructions)

Section 5B

Ongoing - Carrick Knowe Bridge
South Abutment completed
North Abutment ongoing

Ongoing - Guided Busway
Piling completed
Started track

Ongoing - Edinburgh Park Bridge –
Deck substantially completed
Ongoing finishes
Started North Approach Ramp

Section 5C

Awaiting - Agreement of Change

Section 6A

Depot –
Drainage - Outfall Manhole completed
Drainage ongoing

Building - Structural Steelwork ongoing
Started cladding
Started Metal Decking

Section 7A

Ongoing - Gogarburn Bridge –
Corbels completed
Started Transition Slabs
Started Hilton Hotel Car Park

**4.1.5.2 Section 1A Newhaven Road to Foot of the Walk
Lindsay Road Retaining Wall**

Progress
No activities carried out during period.

Time lost in the period 4 weeks.

Issues and Concerns
Changes from BDDI to IFC have not been agreed.

Bilfinger Berger – Siemens – CAF Consortium

Anticipated start date 1 March 2010, 70 weeks later than indicated on Programme (Rev 1).

Commencement date is dependent on completion of utility diversions by *tie*.

IFC scope of works will increase duration of construction activities.

Trackwork - Lindsay Road to Ocean Terminal

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Issues and Concerns

Commencement date is dependent on completion of utility diversions by *tie*.

Anticipated start date 1 March 2010, 71 weeks later than indicated on Programme (Rev 1).

IFC design incomplete for carriageway and track work construction.

Track work & carriageway changes from BDDI to IFC have yet to be agreed.

Change estimates on Utility transferred by *tie* have not been agreed.

IFC scope of works will increase duration of construction activities.

Trackwork - Ocean Terminal to Port of Leith

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 26 January 2010 anticipated completion will be 3 August 2011, 58 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

IFC design incomplete for carriageway and track work construction.

Track work & Carriageway changes from BDDI to IFC have yet to be agreed.

Change estimates on Utility transferred by *tie* have not been agreed.

MUDFA Works incomplete.

IFC scope of works will increase duration of construction activities.

Bilfinger Berger – Siemens – CAF Consortium

Victoria Bridge

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 13 December 2011 anticipated completion will be 7 February 2012, 72 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Change from BDDI to IFC has not been agreed.

IFC scope of works will increase duration of construction activities.

Tower Place Bridge

Progress

Mobilisation and erection of site accommodation has commenced in the period.

Time lost in the period 4 weeks.

Assuming commencement on 4th January 2010 anticipated completion will be 13th April 2011, 51 weeks later than indicated on Programme (Rev 1).

Issues and concerns

Changes from BDDI to IFC have not been agreed.

Additional design information requested by Forth Ports may delay issue of Licence to commence construction.

IFC scope of works will increase duration of construction activities.

Trackwork – Port of Leith to Bernard Street

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 8 October 2010, anticipated completion will be 1 April 2011, 58 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

IFC design incomplete for track work.

Re design of carriageway pavement incomplete.

Track work & carriageway Changes from BDDI to IFC have yet to be agreed.

Change estimates on Utility transferred by *tie* have not been agreed.

MUDFA works incomplete.

Bilfinger Berger – Siemens – CAF Consortium

IFC scope of works will increase duration of construction activities.

Trackwork – Bernard Street to Foot of the Walk

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 9 March 2011 anticipated completion will be 10 February 2012, 75 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

IFC design incomplete for track work.

Re design of carriageway pavement incomplete.

Track work & carriageway Changes from BDDI to IFC have yet to be agreed.

Change estimates on utility transferred by *tie* have not been agreed.

MUDFA works incomplete.

Archaeological works are incomplete.

IFC scope of works will increase duration of construction activities.

4.1.5.3 Section 1B Foot of Leith to McDonald Road

Trackwork – Foot of the Walk to Balfour Street

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 4 January 2010 anticipated completion will be 10 May 2011, 64 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Quantity of Utility conflict

Re design of carriageway pavement incomplete.

Track work & carriageway Changes from BDDI to IFC have yet to be agreed.

Change estimates on Utility transferred by *tie* have not been agreed.

MUDFA works incomplete.

IFC scope of works will increase duration of construction activities.

Bilfinger Berger – Siemens – CAF Consortium

Trackwork Balfour Street to McDonald Road

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 3 March 2010 anticipated completion will be 27 February 2012, 70 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Quantity of Utility conflict

Re design of carriageway pavement incomplete

Track work & carriageway Changes from BDDI to IFC have yet to be agreed.

Change estimates on Utility transferred by *tie* have not been agreed.

MUDFA works incomplete.

IFC scope of works will increase duration of construction activities.

4.1.5.4 Section 1C McDonald Road to Princes Street West

Trackwork McDonald Road to Picardy Place

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 4 January 2010 anticipated completion will be 16 April 2012, 78 weeks later than indicated on Programme (Rev 1).

Issues and Concerns.

Anticipated commencement date is not achievable.

Re design of carriageway pavement incomplete.

IFC design incomplete for track work.

Track work & carriageway Changes from BDDI to IFC have yet to be agreed.

Change estimates on utility transferred by *tie* have not been agreed.

MUDFA works incomplete.

Agreement is required on revised Traffic Management principle.

IFC scope of works will increase duration of construction activities.

Bilfinger Berger – Siemens – CAF Consortium

Trackwork Picardy Place to St Andrew Square

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 11 May 2011 anticipated completion will be 1 June 2012, 64 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

IFC design incomplete for carriageway and trackwork construction.

Trackwork & carriageway changes from BDDI to IFC have yet to be agreed.

Change estimates on utility transferred by *tie* have not been agreed.

MUDFA works incomplete.

IFC scope of works will increase duration of construction activities.

Re design of carriageway pavement incomplete.

Trackwork St Andrew Square to Waverly Bridge

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 4 January 2010 anticipated completion will be 8 January 2011, 29 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

IFC design incomplete for carriageway and trackwork construction.

Trackwork & carriageway changes from BDDI to IFC have yet to be agreed.

Change estimates on Utility transferred by *tie* have not been agreed.

MUDFA works incomplete.

Re design of carriageway pavement incomplete.

IFC scope of works will increase duration of construction activities.

Trackwork Waverly Bridge to Castle Street

Progress

Duct and drainage installation has continued. Carriageway construction has continued. Track improvement layer and track installation has been completed in the period. Surfacing and footway activities have continued in the period. Finishing activities including erection of bus shelters, pedestrian fencing and application of road markings has commenced in the period.

Bilfinger Berger – Siemens – CAF Consortium

Activities are currently 7 weeks behind programme, when monitored against Rev E of the construction programme which indicates completion on 15 January 2010.

Issues and Concerns

Revision E construction programme has numerous critical paths and no contingency allowance for any future unforeseen events.

**4.1.5.5 Section 1D Princes Street to Haymarket
Trackwork Castle Street to Lothian Road**

Progress

Duct and drainage installation has continued. Carriageway construction has continued. Track improvement layer and track installation has been completed in the period. Surfacing and footway activities have continued in the period. Finishing activities including erection of bus shelters, erection of pedestrian and application of road markings has commenced in the period.

Activities are currently 7 weeks behind programme, when monitored against Rev E of the construction programme which indicates a completion date of 15 January 2010.

Issues and Concerns

Revision E construction programme has numerous critical paths and no contingency allowance for any future unforeseen events.

Trackwork Lothian Road to Haymarket

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 9 January 2010 30 October 2009 anticipated completion will be 19 February 2012, 85 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Track work & carriageway changes from BDDI to IFC have yet to be agreed.

Change estimates on Utility transferred by *tie* have not been agreed.

MUDFA works incomplete.

Re design of carriageway pavement incomplete.

IFC scope of works will increase duration of construction activities.

Bilfinger Berger – Siemens – CAF Consortium

4.1.5.6 Section 2A Haymarket to Roseburn Junction

Haymarket Station Viaduct

Progress

Remobilisation and establishment of site accommodation has commenced in the period.

Time lost in the period 4 weeks.

Assuming recommencement on 23rd Nov anticipated completion will be 14 May 2010, 60 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

None.

Trackwork Haymarket to Russell Road

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 7 December 2009 anticipated completion will be 6 January 2011, 64 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Track work changes from BDDI to IFC have yet to be agreed.

IFC design incomplete for track work.

IFC scope of works will increase duration of construction activities.

4.1.5.7 Section 5A Roseburn Junction to Balgreen Road

Russell Road Bridge

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 4 January 2010, anticipated completion will be 4 October 2010, 79 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC are yet to be agreed.

IFC scope of works will increase duration of construction activities.

Russell Road Retaining Walls W3 & W4

Progress

Piling to panels 11-18 commenced in the period but were suspended as a consequence of the unforeseen ground conditions that were encountered. Additional GI has been undertaken in order to determine most economical

Bilfinger Berger – Siemens – CAF Consortium

alternative solution. Ground investigation to determine extent of possible ground contamination has been completed in the period.

Preparatory works to allow demolition of Mclean building have commenced in the period.

Time lost in the period 4 weeks.

Assuming recommencement on 23 November 2009, anticipated completion, based on BDDI work scope, will be 30 September 2010, 48 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC are yet to be agreed.

Change for alternative piling has yet to be agreed.

IFC scope of works will increase duration of construction activities.

Murrayfield Tram Stop Retaining Wall

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 24 February 2010, anticipated completion will be 11 January 2011, 88 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

No IFC drawings for construction.

Changes from BDDI to IFC are yet to be agreed.

Trackwork Russell Road to Murrayfield Stadium

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 5 November 2010, anticipated completion will be 8 September 2011, 65 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

IFC design incomplete for trackwork construction.

Track work Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

Bilfinger Berger – Siemens – CAF Consortium

Roseburn Street Viaduct

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 7 October 2010, anticipated completion will be 15 September 2011, 71 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

IFC design incomplete.

Murrayfield Retaining Wall 21B

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 23 April 2010, anticipated completion will be 11 November 2010, 83 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

Murrayfield Stadium Underpass

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 30 November 2009, anticipated completion will be 16 May 2010, 64 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

Murrayfield Retaining Walls 21D

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 5 April 2010, anticipated completion will be 25 August 2010, 55 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC have yet to be agreed.

Bilfinger Berger – Siemens – CAF Consortium

IFC scope of works will increase duration of construction activities.

Water of Leith Bridge

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 5 August 2010, anticipated completion will be 4 April 2011, 57 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

Baird Drive Retaining Wall

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 30 November 2009, anticipated completion will be 30 March 2010, 63 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

Balgreen Bridges

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 30 November 2009, anticipated completion will be 27 January 2012, 106 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Rail Bridge

IFC drawings have yet to be issued.

Changes from BDDI to IFC have yet to be agreed.

Tram Bridge

Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

Bilfinger Berger – Siemens – CAF Consortium

Trackwork Murrayfield Stadium to Balgreen Road

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 1 September 2011, anticipated completion will be 28 March 2012, 65 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

IFC design incomplete for trackwork.

Trackwork Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

4.1.5.8 Section 5B Balgreen Road to Edinburgh Park Central

Trackwork Balgreen Road – Carrick Knowe

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming recommencement on 30 November 2009, anticipated completion will be 4 September, 69 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Trackwork changes from BDDI to IFC have yet to be agreed.

Earthworks changes from BDDI to IFC have yet to be agreed.

Drainage changes from BDDI to IFC have yet to be agreed.

IFC design incomplete for trackwork construction.

IFC scope of works will increase duration of construction activities.

Carrick Knowe Bridge

Progress

Time lost in the period 1 week.

Sub Structure

South abutment stem pour has been completed and wing wall construction has commenced. North abutment fixing of reinforcement has commenced.

Commencement on 14 September 2009, anticipated completion, based on BDDI work scope, will be 19 August 2010, 70 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

IFC scope of works will increase duration of construction activities.

Bilfinger Berger – Siemens – CAF Consortium

Trackwork Carrick Knowe – South Gyle Access Bridge (Guided Busway)

Progress

No activities carried out during period.

Anticipated completion is 19 May 2010, 59 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Remedial solution for piles with incorrect cover must be agreed.

Drainage changes from BDDI to IFC have yet to be agreed.

Bankhead Retaining Wall

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 27 November 2009, anticipated completion will be 7 January 2010, 74 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC have yet to be agreed.

Commencement dependant on resolution of re design at South Gyle Access Bridge or diversion of existing sewer

IFC scope of works will increase duration of construction activities.

South Gyle Access Bridge

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 30 November 2009, anticipated completion will be 29 July 2010, 79 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Redesign has yet to be completed.

Changes from BDDI to IFC have yet to be agreed.

Trackwork South Gyle Access Bridge to Edinburgh Park

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Bilfinger Berger – Siemens – CAF Consortium

Assuming commencement on 7 December 2009, anticipated completion will be 23 May 2010, 65 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Trackwork changes from BDDI to IFC have yet to be agreed.

Earthworks changes from BDDI to IFC have yet to be agreed.

Drainage changes from BDDI to IFC have yet to be agreed.

IFC design incomplete for trackwork construction.

IFC scope of works will increase duration of construction activities.

Edinburgh Park Bridge

Progress

1 week lost in the period.

Cope construction has been completed. Earthworks changes under approach embankments have commenced Anticipated completion is 10 February 2010, 34 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Structure changes from BDDI to IFC have yet to be agreed.

Track Work Edinburgh Park Station – Edinburgh Park Central

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 30 November 2009, anticipated completion will be 8 March 2011, 73 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Trackwork changes from BDDI to IFC have yet to be agreed.

Earthworks changes from BDDI to IFC have yet to be agreed.

Drainage changes from BDDI to IFC have yet to be agreed.

IFC design incomplete for trackwork construction.

IFC scope of works will increase duration of construction activities.

4.1.5.9 Section 5C Edinburgh Park Central to Gogarburn

Trackwork Edinburgh Park Central – Gyle Centre

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Bilfinger Berger – Siemens – CAF Consortium

Assuming commencement on 27 November 2009, anticipated completion will be 8 July 2010, 65 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Trackwork changes from BDDI to IFC have yet to be agreed.

Earthworks changes from BDDI to IFC have yet to be agreed.

Drainage changes from BDDI to IFC have yet to be agreed.

Utility changes Instructed by *tie* have yet to be agreed.

IFC design incomplete for trackwork construction.

IFC scope of works will increase duration of construction activities.

Gyle Tram Stop Retaining Wall

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 30th Nov 2009, anticipated completion will be 5th Jan 2010, 80 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

Scottish Power must clarify position regarding spiking of cables under retaining wall.

Depot Access Bridge

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 28 September 2010, anticipated completion will be 23 March 2011, 60 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

A8 Underpass

Progress

Slewing of existing utilities has commenced in the period.

Bilfinger Berger – Siemens – CAF Consortium

Time lost in the period 4 weeks.

Assuming recommencement on 30 November 2009, anticipated completion will be 28 October 2010, 64 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC have yet to be agreed.

Utility diversions are incomplete.

Scope of Utility protection measures have not been agreed

IFC scope of works will increase duration of construction activities.

Trackwork Gyle Centre to Depot Stop

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 23 March 2011, anticipated completion will be 1 February 2012, 110 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Trackwork changes from BDDI to IFC have yet to be agreed.

Earthworks changes from BDDI to IFC have yet to be agreed.

Drainage changes from BDDI to IFC have yet to be agreed.

IFC design incomplete for trackwork construction.

IFC scope of works will increase duration of construction activities.

Track Work Depot Stop – Gogarburn

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 29 March 2010, anticipated completion will be 30 March 2011, 68 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Trackwork changes from BDDI to IFC have yet to be agreed.

Earthworks changes from BDDI to IFC have yet to be agreed.

Drainage changes from BDDI to IFC have yet to be agreed.

Bilfinger Berger – Siemens – CAF Consortium

IFC scope of works will increase duration of construction activities.

4.1.5.10 Section 6A Depot

Earthworks/Drainage

Remedials to existing earthworks has been completed in the period.

Drainage works to parking and building area have continued

Time lost in the period 1 week.

Assuming recommencement on 30 October 2009, anticipated completion will be 29 March 2010, 70 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Drainage changes from BDDI to IFC have yet to be agreed.

Trackwork

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 29 March 2010, anticipated completion will be 8 November 2010, 58 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Trackwork changes from BDDI to IFC have yet to be agreed.

Earthworks changes from BDDI to IFC have yet to be agreed.

Drainage changes from BDDI to IFC have yet to be agreed.

IFC design incomplete for trackwork construction.

Depot Building

Progress

No time lost in the period.

Steel work erection has continued in the period and roof cladding installation has commenced.

Anticipated completion is 1 December 2010, 58 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Numerous Changes from BDDI to IFC have yet to be agreed.

Depot Substation

Progress

No activities carried out during period.

Bilfinger Berger – Siemens – CAF Consortium

Time lost in the period 4 weeks.

Assuming commencement on 30th Nov 2009, anticipated completion will be 1 July 2010, 64 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Issued IFC drawings will be subject to further change.

Access Roads

Progress

Bulk earthwork, drainage and second stage earthworks has commenced.

Time lost in the period 2 weeks.

Assuming commencement on 30 October 2009, anticipated completion will be 25 November 2010, 63 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Soil nailing /revised slope solution requires resolution.

Issued IFC drawings will be subject to further change.

Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

4.1.5.11 Section 7A Gogarburn to Edinburgh Airport

Gogarburn Culvert No 1

Progress

Now substantially complete.

Issues and Concerns

Gogarburn Bridge

Progress

No time lost in the period.

Parapets construction has continued.

Anticipated completion is 11 December 2009, 43 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

IFC detail for transition slabs outstanding.

Trackwork Gogarburn to Ingliston Park & Ride

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Bilfinger Berger – Siemens – CAF Consortium

Assuming commencement on 8 October 2010, anticipated completion will be 11 August 2011, 66 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Changes from BDDI to IFC have yet to be agreed.

IFC scope of works will increase duration of construction activities.

Gogarburn Culvert No 2

Progress

Culvert substantially complete.

Issues and Concerns

None.

Gogarburn Culvert No 3

Progress

Now substantially complete.

Issues and Concerns

None.

Gogarburn Retaining Wall

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 25 January 2010, anticipated completion will be 17 May 2010, 60 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Revised design may delay commencement.

Changes from BDDI to IFC have yet to be agreed.

MUDFA works are incomplete.

Trackwork Ingliston Park & Ride to Edinburgh Airport

Progress

No activities carried out during period.

Time lost in the period 4 weeks.

Assuming commencement on 8 October 2010, anticipated completion will be 11 August 2011, 66 weeks later than indicated on Programme (Rev 1).

Issues and Concerns

Trackwork changes from BDDI to IFC have yet to be agreed.

Earthworks changes from BDDI to IFC have yet to be agreed.

Bilfinger Berger – Siemens – CAF Consortium

Drainage changes from BDDI to IFC have yet to be agreed.

IFC design incomplete for trackwork construction.

IFC design incomplete for earthworks construction.

4.2 E&M SYSTEMS

4.2.1 OLE (Overhead Line Equipment)

Design

Revised design documents, which address design review comments received and design changes requested by others (ie. SDS/ *tie*/ CEC) are being submitted and ROR's are in the process of being responded to.

Approvals and Consents

Princes Street revised detailed planning consent formally accepted by CEC.

Issues and Concerns

As expressed in earlier *tie*/BSC monthly progress meetings and in view of the magnitude of the overall programme delay exceeding one full year, Siemens confirms having deliberately postponed the procurement of several equipment and materials, in order to mitigate the “cost-over-time” factors (extended storage, expiration of manufacturer warranties, obsolescence for high-tech items, risk of theft, loss or damage). This shall not be construed as concurrent delay, but as a deliberate management measure to reduce cost of delay. Siemens shall ensure that all items whose procurement is so postponed shall still be timely delivered before actually needed on the site, i.e., within the float of the subsequent installation activities as already delayed in the programme.

A similar approach applies to various installation subcontracts, deliberately not yet activated nor mobilized by Siemens, as a mitigation measure (not concurrent delay). Mobilization shall still be managed by Siemens without causing any critical path delay.

All above applies to all technical lots of Siemens, although for simplicity it shall only be reported here in OLE, as an introductory statement.

Additional request made by CEC that OLE poles to be of uniform height whether with a lighting element or not is now withdrawn. Additional request by CEC that all OLE poles whether with lighting or not should have finials is being assessed in programme and cost impact.

BSC is waiting for *tie* Notice of Change for poles 110-076A and 110-099A where *tie*/CEC now require a building fixation instead of an OLE pole that was shown in all prior approvals and previous BSC designs.

Bilfinger Berger – Siemens – CAF Consortium

Production

Fifteen poles have been erected in Princes Street during November, although in overly inefficient conditions due to very small workload and night shifts. Installation of the remaining poles in Princes Street will be coordinated later, also at night shifts, but in sufficient quantity to allow a reasonable efficiency and continuity.

Material for building fixations has been delivered. Installation planned to commence mid-January 2010. This would allow ensuring that such installation shall be kept away from the overall Programme's critical path.

4.2.2 TPS (Traction Power Supply)

Design

No changes.

Approvals and Consents

Details of disconnecter cabinets to be covered by overall submission of on-street consents.

Issues and Concerns

Same comments as mentioned in OLE above.

Production

Installation subcontractor tender requests re-issued to include mitigation of programme delays. See issues and concerns regarding material and production.

All TPS FATs completed successfully (all major DC switchgear components, 11kV AC switchgear, rectifier transformer, power cables) in accordance with documentation submitted to and accepted by *tie* earlier. Shipment of all main equipment as listed above to new warehouse in Edinburgh currently waiting for dispatch as soon as said new warehouse will be fully mobilized. Expected time of arrival during Q1, 2010, will be tracked in future monthly reports.

4.2.3 TRW (Trackwork)

Design

- Details of the internal drainage design together with CEC and Scottish Water approval has been submitted to *tie*.
- Basic Design: Rheda city Stations and Level Crossings Report has been submitted to *tie*.
- Detailed Design: Rheda City Open Formation – Drainage Details on Guided Busway has been submitted to *tie*.
- Detailed Design: Rheda City Open Formation - Reinforcement Details on Guided Buisway has been submitted to *tie*.
- Detailed Design: Rheda City Open Formation – Earthing Details on Guided Busway.
- Detailed Design: Drainage Details Saughton Tram Stop (#055994) has been submitted to *tie*.

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- Detailed Design: Drainage Details Saughton Tram stop (#055995) has been submitted to *tie*.
- Detailed Design: Track Layout drawings #055961, #055962, #055963, #055964, #055965 has been submitted to *tie*.

Approvals and Consents

- Detailed Design Rheda City Open Formation Broomhouse Road Bridge on Guided Busway (Rev A) has been accepted by *tie*.
- Detailed Design Rheda City Open Formation Broomhouse Road Bridge on Guided Busway (Rev A) has been accepted by *tie*.
- Detailed Design Track Layout Drawings (Guided Busway) 055914, 055915, 055916, 055917, 055918, 055919 has been accepted by *tie*.
- Basic Design Report: Tram Section on Guided Busway – Drainage Design has been accepted by *tie*.
- Detailed Design: Tolerances Rheda Track – Horizontal/Vertical has been accepted by *tie*.
- Detailed Design: Trackwork Specification – Concrete (Rev. C) has been submitted to *tie*.
- Details of the internal drainage design has been accepted/approved by CEC.

Issues and Concerns

- Groundborne Noise & Vibration Issues may influence the TRW design and programme. A *tie* Notice of Change is still required to further proceed with the detailed engineering and with a construction Estimate.
- Still unresolved final trackform design to overcome 275 kV cable and ScottishPower tunnel at Leith Walk. MUDFA as built drawings as basis for further design development not available as yet.
- Need to re-synchronize detailed configuration and actual status of definition of which trackform shall apply in which exact line section. Changes have been introduced in parts of SDS Design at the request of third parties (mainly planning authorities) but without consideration of any possible commercial impact on the project. A careful discussion with *tie* about such possible commercial impacts might force to renegotiate with the planning authorities the choice of other trackforms at specific locations.
- Still no track solution for Victoria Dock Entrance Bridge and Tower Place Bridge available (due to extremely reduced vertical clearance). A Rheda City solution is due to construction height and structural load constraints not possible for this two structures. Therefore BSC decided to go back to original SDS track design, which at time of novation was not yet sufficiently completed and presently needs to further progress.
- Changes in design and Change Orders may influence the TRW programme. Exact impact has not yet been evaluated.
- Ground conditions and utilities that cannot be / have not been relocated to lower levels may influence the TRW design and programme.
- Wheel-rail interface concerns of *tie* at turnouts still need to be finally closed out. This issue is presently impacting the closeout of the related design and the triggering of S&C procurement.

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- Markle Mains Quarry ballast is not yet formally approved by *tie*. Also, design of ballast to slab track transition needs to be reviewed (minimum ballast depth).
- Need to agree on derailment containment provision in a few locations (Notified Departure).
- Urgent need to release more sites for trackwork construction beginning of 2010. Present rates of production are insufficient, given the degree of mobilization of our subcontractor BAM.

Following design activities are planned within the reporting period

- Rail-Wheel Interface final clarifications.
- Switches and crossings detailed design.
- Depot trackwork detailed design.
- Floating Slab design (*tie* Change).
- Re-design of transition from embankment to structures.
- Finalising Guided Busway trackwork design details.

Production

- TRW construction finished at Princes Street, although at lower than planned rates of progress due to MUDFA obstructions and extra construction time in Civil Works due to the Track Improvement Layer.
- Final works like joint milling and rail sealing have started, and should be completed in Princes Street still in November 2009.
- Sleepers and rails have been delivered to the Guided Busway, Trackwork construction has started. First sections planned to be poured early December 2009.

Following production activities are planned within the reporting period

- Finalising joint sealing at Princes Street.
- Further Track Installation on the Guided Busway, planned to continue during December and January 2009 (or slightly beyond in case of inclement weather).

4.2.4 DWE (Depot Workshop Equipment)

Design

Design is further progressing.

tie's RORs Level A approval is obtained for the following design submittals:

- Underfloor Wheel Lathe,
- Measuring Equipment,
- Service vehicles
- Crane

tie's RORs Level B approval is obtained for the following design submittals:

- Washing Plant,
- Lifting Plant and
- Shop Equipment Part 1,
- Tools

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Clarification process (from *tie* to BSC and vice-versa) to *tie's* RoR comments is ongoing.

Related SDS civil works detailed design (foundations, cableways, pits, etc.) is progressing, following the Siemens detailed design of equipment.

Current progress includes preparation of detailed design of:

- Shop Equipment Part 2

all in support of procurement of long lead time items and to provide design input. In order to finish these outstanding design submittals the topics mentioned under “Issues and Concerns” needs to be clarified.

Technical meetings with the tram maintenance for the performance requirements of the equipment are conducted and will be followed up.

Approvals and Consents

Essentially, DWE does not require Approvals nor Consents of external Approval Bodies, but only, the formal review by *tie*, as stated above under “Design”.

Comments from *tie* have been received to the submittals of:

- Underfloor Wheel Lathe Submittal
- Crane Submittal
- Storage Loads
- Lifting Plant Submittal
- Washing Plant Submittal
- Service Vehicles
- Shop equipment Part 1
- Tools

all have been answered and resubmitted except the Washing Plant.

Further comments given with *tie's* ROR to the Washing Plant latest Submittals will be answered after clarification on the comments have been completed.

An Infraco Change proposal (in substitution of the earlier Derogation Proposal) has been presented to substitute the original full-sized forklift vehicle by a smaller, motorized hand propelled pallet stager, to cancel ultrasonic cleaning bath and arc welding kit and deliver in addition a bogie turntable.

A further Infraco Change Proposal has been presented to put straight the tram throughput within the washing plant.

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Issues and Concerns

In order to finish the outstanding DWE design submittals, acceptance of the above Infraco Change proposals is required.

Delays to Site availability

In view of the magnitude of the overall programme delay exceeding one full year, Siemens confirms having deliberately postponed the procurement and/or the production process of several equipment and materials, in order to mitigate the “cost-over-time” factors (extended storage, expiration of manufacturer warranties, obsolescence for high-tech items, risk of theft, loss or damage). This shall not be construed as concurrent delay, but as a deliberate management measure to reduce cost of delay. Siemens shall ensure that all items whose procurement is so postponed shall still be timely delivered before actually needed on the site, i.e., within the float of the subsequent installation activities as already delayed in the programme.

Production

Procurement of DWE long lead items is well underway. For other items procurement is postponed according to mitigation strategy above.

Orders placed for underfloor wheel lathe, underfloor lifting plant, washing plant and crane.

Postponement of the production process has been initiated as far as possible and reasonable. This will be followed up according to the project progress and adapted as far as possible.

Current expected production completion dates are:

- underfloor wheel lathe - May 2010
- underfloor lifting plant March 2010
- washing plant March 2010
- crane March 2010

4.2.5 Signalling, Communication, SCADA, PIS, PA

Design

Signalling

All received Records of Review (RORs) comments from **tie** have been responded.

Loop development workshop report has been issued to **tie** for review. No comments received.

Alarms workshops held with **tie**/Transdev 25 June and 20 October (covering all SIG, COM, SCA, PIS, PA functions).

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SCADA, PIS, PA (RailCom Manager), PABX, Radio

All detailed designs have been submitted to *tie*, and all ROR comments have been responded. Review clarification meeting was held on RailCom Manager Design.

Approvals and Consents

Information for formal submissions for consent of PID, PA, PHP provided in support of overall Tramstop submission. Ticket Vending Machine details which will be required to obtain consents (free issue from TEL) have not been provided. No progress of this item.

Joint FAT of CAF and Siemens for TPDS onboard computer and radio equipment completed. CARs to be acted upon by CAF.

Issues and Concerns

Delays to Site availability. Confirmation from *tie* of one outstanding third party agreement for radio base stations continues to delay progress. Same general comment as for OLE above (mitigation strategy in procurement).

Production

TPDS detector earth box equipment in Princes Street, (23 units) has been installed. Also two TPDS loops installed in setts at Princes Street Tramstop.

Note: Although procurement is being postponed as a cost mitigation measure, any residual risk of extended storage, expiration of manufacturer warranties, obsolescence of electronic items, risk of theft, loss or damage of the delivered equipment will be attributed to the ongoing EOT discussions.

Demonstration PID display in Project office.

4.2.6 TLC (Traffic Light Control)

General

TR 2500 Configuration files now approved by CEC and Factory Acceptance Testing scheduled for completion on 18th November.

Princess St Mobilisation is underway for Junctions 41, 32, 37, 38, 39. Installation schedule shows completion of Castle St, Fredrick St, South St Davids St by 20 November 2009. Site Acceptance Testing scheduled for week commencing 23 November 2009 as sites become available.

Work has started on the Mound/Hanover St and is scheduled for completion 22/23 November 2009. South Charlotte St site has not been handed over for Signals installation. Anticipated start date 23 November 2009. Charlotte Street Cut over scheduled for 29 November 2009.

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Design

ELV Tram signal heads currently undergoing environmental testing, scheduled for completion end of November 2009. Optical testing scheduled to commence December 09.

Approvals and Consents

Awaiting approval of main contract.

Issues and Concerns

No current Issues to date to report.

Junction 41 (Charlotte St) has been mobilised without order cover from *tie*. To ensure scheduled Princess St opening Date, either main order approval or order cover for J41 will be required to cover mobilisation of labour, materials at this location.

Production

No current issues, except those under General above.

4.2.7 HV/LV - Supply

Design

No comments

Approvals and Consents

Third parties, outside LOD, way leaves are in progress.

Issues and Concerns

Clarification on approach in light of delays to preceding site works, specifically Gogar Depot. Same general comment (mitigation strategy in procurement) as for OLE above.

Lack of confirmation of Electricity supplier preventing progress with location of meters.

Production

Trench work for Gogar supply, outside LOD >500m completed
See issues and concerns.

4.3 TRAMS

4.3.1 Design

Detailed design is considered finished except for the system for which there is not enough information.

Free issue equipment to CAF:
This definition refers to:

- TPDS and Radio supplied by Siemens, closed.
- Bus Tracker supplied by *tie*

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4.3.2 Procurement

Procurement for the trams is going according to programme.

4.3.2.1 Delivery of Materials

According to CAF manufacturing needs, all equipment for the first tram should be available at CAF premises in Irun from mid April.

For the materials that are not available, CAF will evaluate the impact of not having these materials delivered and available as it is necessary to meet manufacturing dates. Meanwhile the trams will be assembled without these materials.

4.3.3 Manufacturing

CAF manufacturing process started at beginning of December 2008. The status is detailed on document “Estado fabricación Edimburgo 18_11_2009”.

Trams No 4, 5, 6, 7 and 8 are in the finishing and assembly area and some modules of tram No 9 will also be in the finishing area at beginning of December 2009.

4.3.4 Testing in CAF Irun

CAF intend to install and test all systems on the different phases of the testing process (CAF premises, Test Track and Edinburgh Tram Network), including Free Issue Equipment delivered by Siemens (TPDS and Radio) and Bus Tracker (*tie*).

With the material and information available today CAF will perform as many tests as possible.

Tests on tram No1 are being performed at the test bay and are due to be finished by mid December in order to send the unit to the external test track for dynamic tests.

Tests for tram No2 are also ongoing and tram No3 is also ready for testing.

4.3.5 Dynamic testing at Wegberg-Wildenrath

CAF will make the dynamic tests for tram No1 and tram No2 at the Wegberg-Wildenrath Test and Validation Centre (Siemens) at the beginning of 2010.

This option also facilitates the testing that has to be performed by Siemens, regarding their Free Equipment.