

Bilfinger Berger – Siemens – CAF Consortium

**EDINBURGH TRAM NETWORK
INFRACO CONTRACT**

**PERIOD REPORT No 2-3
TO 20 JUNE 2009**

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1 EXECUTIVE SUMMARY

61,000 hours were worked in period 2-2, of which 31,000 were site hours with one reportable accident.

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 27 August 2012.

Production of civil and building drawings in accordance with the original design is 80% complete. In general earthworks, roads, track and structures drawings are available but drawings for the depot and tramstops are incomplete.

Civil drawings, revised to incorporate Siemens design (trackform including vibration isolation, OLE foundations, substations) are in progress. 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.

Programmes for EOT Entitlement and Revision 2 have been submitted to *tie* indicating a delay for the completion of the programme to 20 January 2013 and 02 October 2012 respectively. Meetings are in progress to achieve agreement on the programme.

A total of 409 Changes have been notified to *tie* with a submitted estimated value of £47,500,000. 56 of these estimates have been agreed by issue of a tie Change Order in a total value of £3,000,000.

Virtually all construction works are impacted by external issues which require resolution through the change process of the contract. Meetings of Principals representing *tie* and the BSC partners and follow-on discussions have continued.

2 HSQE

2.1 Health & Safety

2.1.1 Safety Management including CDM

The Network Rail Construction Phase Health & Safety Plan Rev 3 has been reviewed internally within BSC and will be issued by end of reporting period

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2-3, also the Safety Management Plan Rev1 will be issued within this period.

2.1.2 Accidents, Incidents and Near Misses/Unsafe Conditions:

Period 2-2 to 2-3 records up to the 5 June 2009

No reportable accidents recorded up to the date above.

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

- 2No areas of fencing blown down on Princes Street. Security guard made safe and investigation carried out 07 May 2009.
- Hole caused by burst water main appear in George Street on 04 May 2009.
- Gogar Depot – report of an untrained operator – 15 May 2009.
- CEC reported two areas of the southside of the carriageway were collapsing due to an ongoing water leak at South St Davids Street – 30 April 2009.
- Tracked excavator working outwith its safe parameters whilst pouring concrete on Princes Street – 04 June 2009.
- A member of the public complained to the client and HSE regarding plant working on/near a footpath on the Gogar roundabout – 04 June 2009.

7 Accidents/Incidents Recorded:

- Princes Street service damage during excavation of a duct box on the 29 April 2009.
- Princes Street service damage when removing bus shelters on the 07 May 2009.
- Princes street service damage when hand excavating to locate service 26 May 2009.
- During re-excavation of soft spots in the formation, McKenzie discovered a previously damaged cable, investigation ongoing with SP – 02 June 2009.
- Siemens had 2 injuries in the period to office personnel. On 27 May 2009 an employee tripped over a computer cable. The second incident happened on the 22 May 2009 when an employee walked into an open window at reception.
- McKenzie – back injury when moving shoring on the 19 May 2009 on Princes Street.

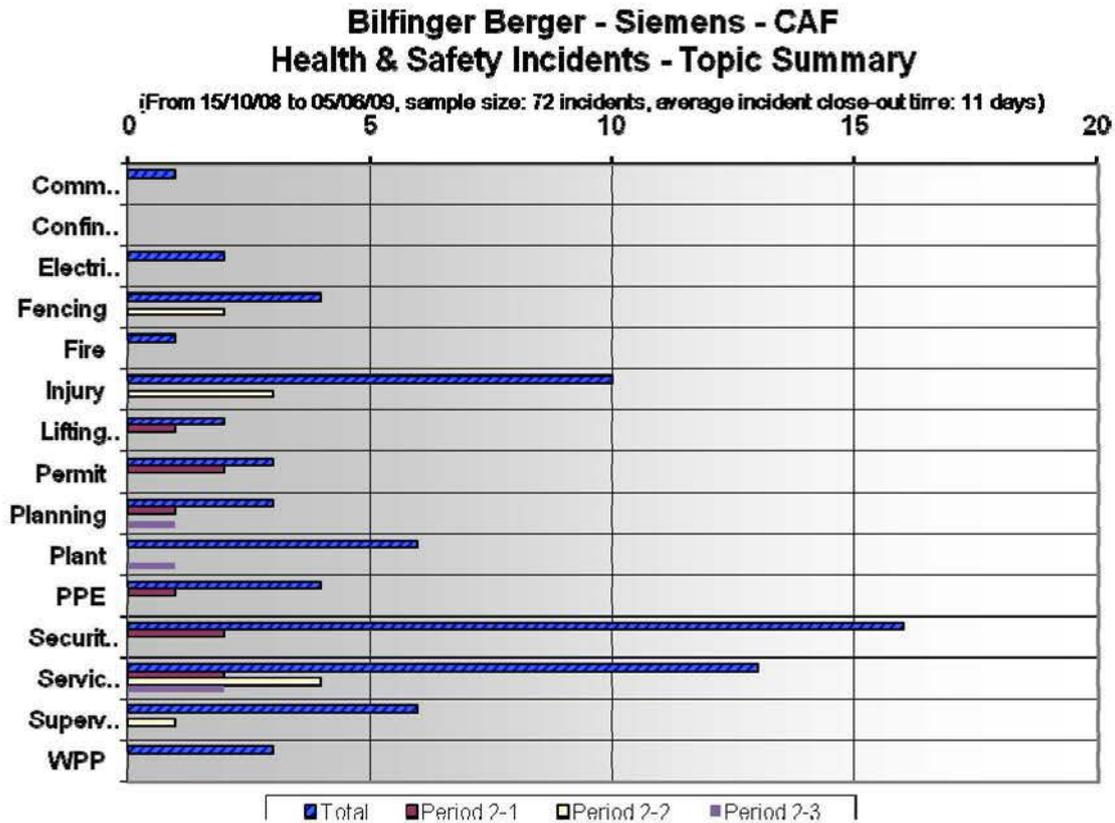
The AFR for period 2-2 is 0.20.

Total Hours worked in Period 2-2:

Total:	61,356
Non site hours =	30,658
Site Hours =	30,698

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2.1.3 Rolling Trend Analysis up to period 2-2 on safety related activities.



2.2 Environment

2.2.1 Construction Environmental Management Plan under review by an external provider to incorporate the Site Specific Environmental Management Plan, Waste Management Plan and incorporate other plans required by the Employers Requirements. A meeting will be held with *tie* on 08 June 2009 to verify the content of the Plan prior to being finalised and submitted.

2.2.1 An Environmental Audit was carried out in May to review and monitor on-site compliance and arrangements – 3 NCRs were raised.

2.2.2 BSI will be carrying out an audit on the 10 June 2009 to check against compliance with ISO 9001 and 14001 standards.

2.3 KPI

KPI spreadsheet for Period 2-2 is attached at Appendix 1.

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2.4 Quality

2.4.1 Quality Management System

BSC now has in place the following project specific procedures for 'BIW Training' & 'ETN Project Staff Induction'. Both of these documents have been submitted to *tie* for their information.

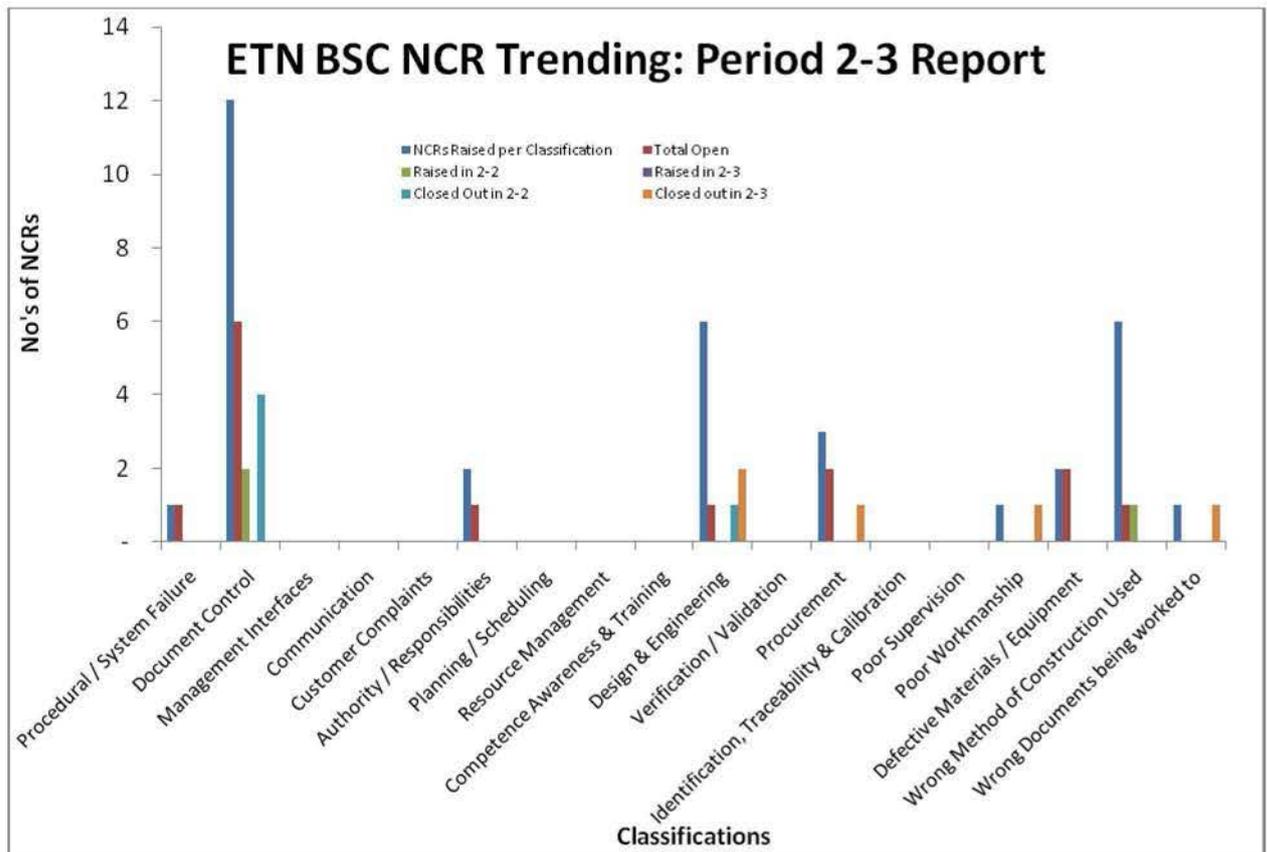
BSC now has in place an 'Interface Management Plan' which has been issued to *tie* for their acceptance.

BSC now has in place the 'BAM ITP for Track Installation' which has been issued to *tie* for acceptance. It has since been given acceptance, with comments status by *tie*.

2.4.2 NCRs

There are currently 14 'open' 'quality' NCRs from a total of 36 raised to date. 2 have been cancelled and the remainder have been closed-out. All of the currently 'open' 'quality' NCRs are overdue. 3 NCRs were raised during the last period.

The updated trending histogram for Quality NCRs is shown below.



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2.4.3 Audits

The bi-weekly 'Quality Surveillance Checklist & Reports' will replace the previously scheduled two-monthly 'Construction Activities' Audits. The same inspection, test and documentation checks will be carried out but on a continuous basis. These reports will be submitted to **tie** for information via transmittal within two days of report completion, starting on week beginning 15 June 2009.

A 'BSC Assessment Audit' on potential sub-contractor McKean is scheduled for the 9 June 2009. A **tie** representative will accompany BSC Auditors as an observer.

BSC now has a revised 'Audit Schedule for 2009 – Issue 2' which was submitted to **tie** for acceptance on the 5 June 2009. The schedule shows actual audits carried out up to early June 2009 as well as re-scheduled audits for the remainder of 2009. BSC would be happy to discuss aligning or merging both **tie's** and BSC's Audit Schedules for the remainder of the project.

2.5 Other Business

- 2.5.1 Occupational Health meetings and arrangements are ongoing with a meeting held on 25 May 2009 with the Contractors, as to their progression with their systems and procedures and the commitment to the project.
- 2.5.2 Meeting being arranged on site with the HSE (Murray Provan) to discuss management arrangements on site and BSC control of site activities.
- 2.5.3 Joe Richardson started on the 01 June 2009 at the ETN project to further support and strengthen the safety arrangements on the contract. His role will be HS&E Manager within the BSC consortium.

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 12 June 2009 has then been recorded against the above baseline including inputting the latest IFC dates received from SDS (V45).

No IFC date has been received for the redesign of South Gyle Access Bridge (programme defaulting to 12 June 2009).

The Programme identifies completion of MUDFA works in each Intermediate Section and uses these dates as a start milestone for the INFRACO work.

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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.

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 eg. dealing with abandoned services, misalignment issues etc.

The result is the following changes to Section Completion Dates:

	12 June 2009	15 May 2009	Programme
A	24 March 2011	31 March 2011	01 June 2010
B	31 May 2011	09 June 2011	01 July 2010
C	29 February 2012	14 February 2012	10 March 2011
D	27 August 2012	12 August 2012	06 September 2011

Higher than planned production rates are currently being achieved for the excavation and disposal of earthworks at the Depot, hence the improvement to Section Completion dates A & B.

The increased production at the Depot has moved the critical path, which now runs; South Gyle Access Bridge, 5B track laying, 1D track work, Picardy Place, 5C track work, 5C, 1B, 1C OHLE, 1C Electrical Cabling, Signalling and Wayside Equipment .

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.

If the corresponding constraints are broken in the “progressed” Revision 1 Programme the Sectional Completion D improves to the 31 July 2012.

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However, due to the vast growth in the scope of the works and the delays which have been suffered, the Revision 1 Programme no longer truly represents either the works to be constructed or their current state of production.

In the period an EOT Entitlement programme and a Revision 2 Programme were submitted. The EOT Entitlement programme and Revision 2 Programme shows section completion dates of 20 January 2013 and 02 October 2012 respectively. These programmes are data dated at the end of March 2009 which give a more accurate prediction of the anticipated completion of the works. However, further slippage will have occurred between their production and the date of this report (June 2009) eg. the issue of the Rev 8 MUDFA programme.

A series of meetings are being held between tie and Consortium Planners to agree this programme.

3.2 Look Ahead Programme

The Look-Ahead Programme for the period June to September 2009 is an extract from the current Construction Programme updated with the latest IFC dates from the SDS V45 Programme. MUDFA activities are now scheduled in accordance with their programme Rev 08 received 05 May 2008. Where MUDFA works are ongoing, the Completion Milestones will continue to default to the report date unless planned completion dates are later. The programme has also been updated with progress of the works recorded and assessed to 12 June 2009.

Section 1A

This section is currently re-scheduled to suit design change, timing of MUDFA diversion works and revised Traffic Management.

Section 1B - Leith Walk

A revised Traffic Management scheme is currently under review by the TMRP. An initial programme appraisal indicates a reduction in the period of disruption on Leith Walk. These works are planned to commence September 2009.

Section 1C - Picardy Place to Princes Street

A detailed construction schedule is being developed for this section in a similar format to 1D.

Section 1C/D - Princes Street

The Princes Street detailed construction programme has been revised to Revision D to reflect the further revised MUDFA completion date for the South St. Andrew Street (31 May 2009), increased outputs, 7 day working on selected activities, removal of the August embargo, inclusion of an anti-

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vibration design in the areas of St John's Church and the Art Gallery and re-scheduled to achieve the desired completion to surface level by the Christmas Festival on 3 December 2009.

The ongoing occupation of the site by MUDFA has limited the works on the east section (from South St. Andrew Street to Chainage 1,750 - west of The Mound) to approx 34% of the overall section length.

Track laying commenced as planned on 8 June 2009, 10 weeks behind Programme Rev 1.

The works are progressing to the new Revision D detailed construction programme giving planned completion 18 weeks behind Programme Rev 1.

Section 1D - Haymarket Junction to Shandwick Place

Infraco works at Haymarket Junction were originally planned to commence on 05 January 2009. Ongoing utility works currently delay the commencement of Infraco works in this section. Handover to the Infraco is currently anticipated on 2 August 2009, but with the possibility of 8 weeks of BT works to follow, which may affect access. A detailed draft programme for the construction of Haymarket Junction from the viaduct through Shandwick Place to Lothian Road tie-in has been updated to reflect a more efficient Traffic Management scheme.

A revised Traffic Management proposal for this section is under review. Should the proposal pass initial feasibility studies, it will be included in the plan which is currently expected to commence July 2009 following completion of MUDFA operations.

These works, as planned using the above dates, are 30 weeks behind Programme Rev 1.

Section 5B – Guided Busway

A detailed draft construction programme has been developed for the Guided Busway taking into account OLE, Drainage, Trackform, and design issues.

3.3 Design and Consents Programme Status

During the period a BSC design programme was submitted to tie for information only.

3.4 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 45 of the SDS programme was issued to BSC and *tie*. The programme identifies significant slippage in certain areas. SDS were asked to provide a statement for the causes.

Approvals

SDS reporting the progress as follows:

From a total of 220 planning and technical approvals:

87% are approved (195).

8% are pending approval (17).

5% are to be submitted (8).

Current status (today) is:

92% Planning Approvals granted.

86% Technical Approvals granted.

The remaining outstanding approvals are either to be approved immanently, or have been subject to re-prioritisation and long standing changes, which has caused the original dates to slide significantly.

BSC tracker shows progress per section:

	SW	1	2	3	5	6	7	Phase		Total
								1a	1b	
% IFC	8.48%	72.04%	75.38%	72.14%	87.17%	69.23%	78.31%	68.64%	72.14%	69.18%

Meeting with *tie* regarding different form of reporting on design production still to be arranged.

Road Pavement design was submitted for approval.

The design for OLE Pole Foundations and Track Improvement Layer were submitted to CEC for approval. Both designs are undergoing IDC/IDR procedure.

4.1.1.2 Approvals & Consents

Business Stream (BS) and Scottish Water (SW) have provided formal approval for all sections submitted to date (1A1, 1A2, 1A4, 1B, 1C3, 1D, 5A, 5B, 5C and 6). Sections 1A3, 1C1 and 1C2 are still to be submitted and are

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subject to change issues being instructed by *tie* prior to finalisation and submission to BS and SW for approval.

A flow chart process has been developed with SW to detail how the approvals of any design changes and submission of pre construction works documentation will be managed between BSC and SW.

Balgreen Road NWR Access Bridge (Section 5A) has been submitted to CEC for Technical Approval. The IFC target date was not met as Network Rail (NR) rejected the Form B submission. SDS has responded to NR's comments providing further clarification. NR are now reviewing their position. We anticipate a response from NR before 12 June 2009 – whether response is accepted or if further discussion is required.

The Roads Packages for Sections 1C2 and 6A are with CEC for approval. They are reviewing these packages based on the prioritisation list which was provided to CEC on 10 April 2009. CEC have advised that Section 6A approval should be issued week commencing 8 June 2009 having previously advised completion by 19 May 2009.

Section 1A3 Roads Package is outstanding and dependant on clarification from CEC/Forth Ports. A further Design Change Instruction in regard to Road 8 has been issued from *tie* and change estimate to be issued by 15 May 2009. Design is currently on hold to avoid any further abortive work. Section 1A3 completion is approximately two weeks from issue of instruction by *tie*.

The Road Design for Sections 1A1, 1A2, 1A4, 1B, 1C1, 1C3, 1D, 2A, 5A, 5B, 5C and 7A are approved with comments by CEC. Responses to comments have been agreed and submitted.

Roads Close Out Reports for 1A1, 1A2, 1A4 1B, 1D, 1C1, 1C3, 2A, 5A, 5B, 5C and 7A have been submitted to CEC. The Closeout Reports for 1B, 1C3 and 1D have been signed off by CEC. Close Out Report for Section 5B was due from CEC on 22 May 2009 but issued on 4 June 2009. Close Out Reports for Section 1A1 and 1A2 due 8 June 2009.

4.1.1.3 Issues and Concerns

- A weekly Design Change Issues Meeting between BSC, SDS and *tie* has been set up to work through and seek resolution to Design Change issues and includes the following key issues which are still to be resolved:
- New Ingliston Limited (NIL); BSC has provided supplemental estimate based on new scope of work. BSC are awaiting *tie* instruction.
- CEC preference for Demarcation between Tramway and Roadway; Demarcation solution accepted by SDS. Commercial issue to be resolved between *tie* and BSC (SDS). SDS has provided additional information to support their argument. BSC are reviewing and will issue to *tie* shortly.

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- CEC Transport request for relocation of OLE poles is deemed to be a genuine change. SDS has provided additional information to support this argument. Meeting held between **tie**, CEC, BSC and SDS to discuss and resolve this issue. BSC are awaiting **tie** (and CEC) response.
- Environmentally Friendly Bat Lighting – SDS has confirmed Bat Survey carried out in line with relevant standards and no bats are present within this area. **tie** to review with CEC. BSC awaiting **tie** response. This has a potential impact on the lighting design for all of Line 2. BSC are awaiting **tie** response.
- Picardy Place (Section 1C2) – Clarification provided by **tie**. SDS are preparing change estimate at present. It is noted CEC are reviewing existing design for this area at present.
- Resolution of Forth Ports (Road 8) in Section 1A3 as detailed above. Estimate has been submitted. BSC are awaiting **tie** instruction.

The following other issues need to be resolved as a matter of urgency:

- TRO Programme – meeting required **urgently** at a Senior Level to resolve this issue. Resolution and finalisation of Forth Ports Agreement. Further changes have been intimated by **tie** which could further delay finalisation of Section 1A3.
- Transdev comments received late and need **tie** instruction.
- RBS Gogarburn Tram Stop – Agreement between **tie** and RBS is required in order to complete the Gogarburn Tram Stop design. BSC are awaiting **tie** instruction.
- West End Tram Stop Review – **tie** to authorise change estimate.

4.1.1.4 Extended Construction Support and Design Support

The proposed organisational chart for the upcoming month is attached in Appendix 10.8. CVs and programmed activities were provided for Extended Construction Support and Design Support for May and June. The programmed activities for the month of July will be submitted at the end of this month.

4.1.1.6 Workshops

Development Workshops

A series of internal workshops were held to prepare Development Workshops with **tie**.

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The following Workshops have to be held.

- Trackform 11 June 2009 with *tie*
- Substations 11 June 2009 int.
- Cable ducts and Draw pits tbd.
- Power Supply tbd.
- Earthing and Bonding 10 June 2009 int.
- Loop Locations 03 June 2009 with *tie* ongoing.
- Point and Switch Heating tbd.
- Tramstops 09 June 2009 int.
- Informatives and Planning conditions 09 June 2009 int.

Depot

The second ducting distribution meeting for the Depot for LV Power, Signalling, Communications, and CCTV has taken place.

A Wheel Lathe specific conference call has moved the design incorporation of this element of plant forward, and resolved some of the outstanding technical issues. A similar exercise will now be arranged for under floor lifting plant between Siemens, BSC, and SDS.

Working drawings for the tram wash from the specialist plant supplier are due to be issued to BSC for checking during week commencing 8 June 2009.

Issues that are currently under Client review include the method of sanding to be utilised, selection of paint booth equipment, and the inclusion of a compressed air system for air powered tools. A8 batter instruction is awaited from *tie* to complete earthworks design. Decisions on these matters need imminent resolution.

Tram Stops

Commercial and technical review of the designs and tenders from Tram Stop shelter suppliers completed.

Substations

Tender responses from prospective suppliers for the provision of the substation building received. Two options proposed for the cabling sub-chamber under the substation equipment rooms. The implications of both options being reviewed as they would require different base and duct access designs.

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4.1.1.7 Request for Information

BSC and *tie* met on 29 April 2009 to discuss and close out open RFIs.

On status date 11May 2009 – RFI summarise as follows:

RFI's open:	48 overall
RFI's open and unanswered:	24 overall
RFI's open and need further clarification:	24 overall
RFI's issued in May 09:	8
RFI's responded in May 09:	8
RFI's closed in May 09:	23

BSC propose to continue RFI meetings between *tie* and BSC to close out open RFIs on a regular base.

4.1.2 Procurement

4.1.2.1 Sub-Contractors

A Sub-Contract Procurement Schedule, showing status at 9 June 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. Final negotiations continue however uncertainty over programme, service diversions and design is hindering progress.

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.

Section 1C

Crummock have submitted their price for 1C1 (MacDonald Road - London Road) and BSC are currently reviewing this. BSC's ability to conclude discussions with Crummock are restricted by the uncertainty over programme and access.

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

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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. This work is now not expected to start until January 2010 and a procurement process will commence late spring 2009.

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.

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.

Package quotations for the balance of the civils works in Section 5 have been received and are currently under review; however BSC's ability to review these prices is affected by the uncertainty over programme and access.

Section 6

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

In the meantime Barr Ltd has been issued with a Limited Instruction to Proceed to progress any area of the depot where it is possible to do so.

Section 7A

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

A response from tie in respect of the Edinburgh Airport Limited Subcontractor Collateral Warranty prevent BSC from concluding Farrans Sub-Contract.

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 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.

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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.

4.1.3 Materials

No comment.

4.1.4 Long Lead Procurement Management

A Letter of Intent was issued to Fairfield Mabey to secure delivery of the beams for the Water of Leith Bridge.

BSC are currently sourcing prices for the beams and bearings for Tower Dock Bridge to maintain programme. These materials relate to section 1A2.

4.1.5 Construction

**4.1.5.1 Progress on site to 12 June 2009
Reported against Revision 1 of the Contract Programme
Duration % Complete (workdays)**

Section	Planned Progress		Actual Progress	Completion Date		Anticipated Completion
	Programme Revision 1	Programme Revision 1		Programme Revision 1	Programme Revision 1	Date (Progressed Programme Revision 1)
1A	35%	0%	0%	07/03/2011	27/02/2012	
1B	40%	3%	3%	05/11/2010	27/10/2011	
1C	31%	1%	1%	11/03/2011	29/02/2012	
1D	43%	14%	14%	17/09/2010	04/08/2011	
2A	62%	8%	8%	03/03/2010	01/02/2011	
5A	41%	0%	0%	20/12/2010	12/12/2011	
5B	48%	17%	17%	31/08/2010	29/07/2011	
5C	46%	1%	1%	20/09/2010	09/09/2011	
6	52%	2%	2%	01/06/2010	24/03/2011	
7	50%	10%	10%	05/10/2010	05/09/2011	
Construction	45%	6%	Section C	Section C		
			10/03/2011	29/02/2012		
			Section D	Section D		
			06/09/2011	27/08/2012		

4.1.5.2 Section 1A Newhaven Road to Foot of the Walk

Lyndsay Road Retaining Wall

No activities carried out during period.
Currently 32 weeks behind Programme (Rev 1).

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Trackwork - Lyndsey Road to Ocean Terminal

No activities carried out during period.
Currently 26 weeks behind Programme (Rev 1).

Trackwork - Ocean Terminal to Port of Leith

No activities carried out during period.
Currently 20 weeks behind Programme (Rev 1).

Victoria Bridge

No activities carried out during period.
Currently 20 weeks behind Programme (Rev 1).

Tower Place Bridge

No activities carried out during period.
Currently 20 weeks behind Programme (Rev 1).

Trackwork – Port of Leith to Bernard Street

No activities carried out during period.
Currently on Programme (Rev 1). Scheduled commencement date
28 August 2009.

Trackwork – Bernard Street to Foot of the Walk

No activities carried out during period.
Currently on Programme (Rev 1). Scheduled commencement date
25 November 2009.

4.1.5.3 Section 1B Foot of Leith to McDonald Road

Trackwork – Foot of the Walk to Balfour Street

No activities carried out during period.
Currently 42 weeks behind Programme (Rev 1).

Trackwork Balfour Street to McDonald Road

No activities carried out during period.
Currently 26 weeks behind Programme (Rev 1).

4.1.5.4 Section 1C McDonald Road to Princes Street West

Trackwork McDonald Road to Picardy Place

No activities carried out during period.
Currently 33 weeks behind Programme (Rev 1).

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Trackwork Picardy Place to St Andrew Square

No activities carried out during period.
Currently on Programme (Rev 1). Scheduled to commence
10 February 2010.

Trackwork St Andrew Square to Waverly Bridge

No activities carried out during period.
Currently 17 weeks behind Programme (Rev 1).

Trackwork Waverly Bridge to Castle Street

Duct and drainage installation has continued. OLE foundation and
carriageway construction has commenced.
Currently 18 weeks behind Programme (Rev 1).

4.1.5.5 Section 1D Princes Street to Haymarket

Trackwork Castle Street to Lothian Road

Duct & drainage activities have continued. OLE foundation and track
improvement construction has commenced.
Track laying is scheduled to commence on 8 June 2009.
Currently 18 weeks behind Programme (Rev 1).

Trackwork Haymarket to Lothian Rd

No activities carried out during period.
Currently 18 weeks behind Programme (Rev 1).

4.1.5.6 Section 2A Haymarket to Roseburn Junction

Haymarket Station Viaduct

No activities carried out during period.
Currently 39 weeks behind Programme (Rev 1).

Trackwork Haymarket to Russell Road

No activities carried out during period.
Currently 43 weeks behind Programme (Rev 1).

4.1.5.7 Section 5A Roseburn Junction to Balgreen Road

Russell Road Bridge

No activities carried out during period.
Currently 51 weeks behind Programme (Rev 1).

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Russell Road Retaining Walls W3 & W4

No activities carried out during period.
Currently 43 weeks behind Programme (Rev 1).

Murrayfield Tram Stop Retaining Wall

No activities carried out during period.
Currently 46 weeks behind Programme (Rev 1).

Trackwork Russell Rd to Murrayfield Stadium

No activities carried out during period.
Currently 43 weeks behind Programme (Rev 1).

Roseburn Street Viaduct

No activities carried out during period.
Currently 25 weeks behind Programme (Rev 1).

Murrayfield Retaining Wall 21B

No activities carried out during period.
Currently 42 weeks behind Programme (Rev 1).

Murrayfield Stadium Underpass

No activities carried out during period.
Currently 42 weeks behind Programme (Rev 1).

Murrayfield Retaining Walls 21D

No activities carried out during period.
Currently 19 weeks behind Programme (Rev 1).

Water of Leith Bridge

No activities carried out during period.
Currently 3 weeks ahead of Programme (Rev 1).

Baird Drive Retaining Wall

No activities carried out during period.
Currently 41 weeks behind Programme (Rev 1).

Balgreen Bridges

No activities carried out during the period.
Currently 15 weeks behind programme (Rev 1).

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Trackwork Murrayfield Stadium to Balgreen Road

No activities carried out during the period.
Currently 25 weeks behind Programme (Rev 1).

4.1.5.8 Section 5B Balgreen Road to Edinburgh Park Central

Trackwork Balgreen Road – Carrick Knowe

Earthworks – Excavation of soft spots has commenced during period.
Placing of acceptable material from Depot has commenced.
Currently 38 weeks behind Programme (Rev 1).

Carrick Knowe Bridge

No activities carried out during period.
Currently 41 weeks behind Programme (Rev 1).

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

GI for OLE foundations has been completed and submitted to SDS.
Currently 41 weeks behind Programme (Rev 1).

Bankhead Retaining Wall

No activities carried out during period.
Currently 50 weeks behind Programme (Rev 1).

South Gyle Access Bridge

No activities carried out during period.
Currently 50 weeks behind Programme (Rev 1).

Track work South Gyle Access Bridge to Edinburgh Park

No activities carried out during the period.
Currently 41 weeks behind Programme (Rev 1).

Edinburgh Park Bridge

PC beam erection has been completed during period. Deck & Diaphragm construction has continued.
Currently 8 weeks behind Programme (Rev 1).

Track Work Edinburgh Park Station – Edinburgh Park Central

No activities carried out during period.
Currently 42 weeks behind Programme (Rev 1).

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4.1.5.9 Section 5C Edinburgh Park Central to Gogarburn

Track Work Edinburgh Park Central – Gyle Centre

No activities carried out during period.
Currently 41 weeks behind Programme (Rev 1).

Gyle Tram Stop Retaining Wall

No activities carried out during period.
Currently 52 weeks behind Programme (Rev 1).

Depot Access Bridge

No activities carried out during period.
Currently on Programme (Rev 1). Scheduled commencement Date
5 August 2009.

A8 Underpass

No activities carried out during period.
Currently 39 weeks behind Programme (Rev 1).

Trackwork Gyle Centre to Depot Stop

No activities carried out during period.
Currently 39 weeks behind Programme (Rev 1).

Track Work Depot Stop – Gogarburn

No activities carried out during period.
Currently 31 weeks behind Programme (Rev 1).

4.1.5.10 Section 6A Depot

Earthworks

Bulk excavation has continued in the period.
Currently 34 weeks behind Programme (Rev 1).

Trackwork

No activities carried out during period.
Currently 17 weeks behind Programme (Rev 1).

Depot Building

No activities carried out during period.
Currently 43 weeks behind Programme (Rev 1).

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Depot Substation

No activities carried out during period.
Currently 42 weeks behind Programme (Rev 1).

Access Roads

No activities carried out during period.
Currently 41 weeks behind Programme (Rev 1).

4.3.5.11 Section 7A Gogarburn to Edinburgh Airport

Gogarburn Culvert No 1

No activities carried out during period.
Currently 29 weeks behind Programme (Rev 1).

Gogarburn Bridge

Reinforced earth to both Abutments has been completed.
Removal of defective abutment concrete has commenced.
Currently 35 weeks behind Programme (Rev 1).

Trackwork Gogarburn to Ingliston Park & Ride

No activities carried out during period.
Currently 17 weeks behind Programme (Rev 1).

Gogarburn Culvert No 2

No activities carried out during period.
Currently 28 weeks behind Programme (Rev 1).

Gogarburn Culvert No 3

Precasting of Culvert units has been completed.
Currently 26 weeks behind Programme (Rev 1).

Gogarburn Retaining Wall

No activities carried out during period.
Currently 31 weeks behind Programme (Rev 1).

Trackwork Ingliston Park & Ride to Edinburgh Airport

No activities carried out during period.
Currently 31 weeks behind Programme (Rev 1).

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Issues and Concerns

4.1.5.2 Section 1A Newhaven Road to Foot of the Walk

Lyndsay Rd Retaining Wall

Change from BDDI to IFC has not been agreed.

MUDFA have not commenced diversion of existing Public Utilities.

Trackwork - Lyndsey Road to Ocean Terminal

Existing Public Utilities within re alignment of Lindsay Road have yet to be diverted.

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

Trackwork - Ocean Terminal to Port of Leith

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

Victoria Bridge

Change from BDDI to IFC has not been agreed.

MUDFA have not commenced diversion of existing Public Utilities.

Tower Place Bridge

Change from BDDI to IFC has not been agreed.

MUDFA have not commenced diversion of existing Public Utilities.

Trackwork – Port of Leith to Bernard Street

IFC design incomplete for carriageway and trackwork construction

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

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

MUDFA works incomplete

Trackwork – Bernard Street to Foot of the Walk

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.

Archaeological works are incomplete.

4.1.5.3 Section 1B Foot of Leith to McDonald Road

Trackwork – Foot of the Walk to Balfour Street

IFC design incomplete for carriageway 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.

Trackwork Balfour Street to McDonald Road

IFC design incomplete for carriageway 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.

4.1.5.4 Section 1C McDonald Road to Princes Street West

Trackwork McDonald Road to Picardy Place

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

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Trackwork Picardy Place to St Andrew Square

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.

Trackwork St Andrew Square to Waverly Bridge

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.

Trackwork Waverly Bridge to Castle Street

IFC design incomplete for carriageway and trackwork construction.

MUDFA works incomplete.

No allowance in Revision D construction programme for capping under carriageway or sub base improvement layer under track slab.

4.1.5.5 Section 1D Princes Street to Haymarket

Trackwork Castle Street to Lothian Road

IFC design incomplete for carriageway and trackwork construction.

MUDFA works incomplete.

No allowance in Revision D construction programme for capping under carriageway or sub base improvement layer under track slab.

Trackwork Haymarket to Lothian Road

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.

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4.1.5.6 Section 2A Haymarket to Roseburn Junction

Haymarket Station Viaduct

Changes from BDDI to IFC are yet to be agreed.

Trackwork Haymarket to Russell Road

IFC design incomplete for carriageway and trackwork construction.

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

4.1.5.7 Section 5A Roseburn Junction to Balgreen Road

Russell Road Bridge

Changes from BDDI to IFC are yet to be agreed.

Russell Road Retaining Walls W3 & W4

Changes from BDDI to IFC are yet to be agreed.

Wall W3 redesign has not been issued IFC.

Murrayfield Tram Stop Retaining Wall

No IFC drawings for construction.

Changes from BDDI to IFC are yet to be agreed.

Trackwork Russell Road to Murrayfield Stadium

IFC design incomplete for trackwork construction.

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

Roseburn Street Viaduct

IFC design incomplete for trackwork construction.

Murrayfield Retaining Wall 21B

Changes from BDDI to IFC have yet to be agreed.

Murrayfield Stadium Underpass

Changes from BDDI to IFC have yet to be agreed.

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Murrayfield Retaining Walls 21D

Changes from BDDI to IFC have yet to be agreed.

Water of Leith Bridge

Changes from BDDI to IFC have yet to be agreed.

Re design around existing sewer has yet to be issued IFC.

Baird Drive Retaining Wall

Changes from BDDI to IFC have yet to be agreed.

Balgreen Bridges

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.

Trackwork Murrayfield Stadium to Balgreen Road

IFC design incomplete for trackwork construction.

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

4.1.5.8 Section 5B Balgreen Road to Edinburgh Park Central

Trackwork Balgreen Road – Carrick Knowe

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.

Carrick Knowe Bridge

Changes from BDDI to IFC have yet to be agreed.

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

OLE design not yet issued IFC.

Trackwork design not yet issued IFC.

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

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

Bankhead Retaining Wall

Changes from BDDI to IFC have yet to be agreed.

South Gyle Access Bridge

Redesign has yet to be completed.

Changes from BDDI to IFC have yet to be agreed.

Track work South Gyle Access Bridge to Edinburgh Park

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.

Edinburgh Park Bridge

IFC details on OLE plinths & tram restraint plinths are yet to be issued IFC.

Earthworks changes under approach embankments from BDDI to IFC have yet to be agreed.

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

Soft spot changes have yet to be agreed.

4.1.5.9 Section 5C Edinburgh Park Central to Gogarburn

Track Work Edinburgh Park Central – Gyle Centre

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.

Gyle Tram Stop Retaining Wall

Changes from BDDI to IFC have yet to be agreed.

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Depot Access Bridge

Changes from BDDI to IFC have yet to be agreed.

A8 Underpass

Changes from BDDI to IFC have yet to be agreed.

Utility diversions are incomplete

Trackwork Gyle Centre to Depot Stop

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.

Track Work Depot Stop – Gogarburn

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.

4.1.5.10 Section 6A Depot

Earthworks

Excavation may be disrupted pending resolution of change to earthworks in sections 5 & 7.

Trackwork

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.

Depot Building

Changes from BDDI to IFC have yet to be agreed.

Depot Substation

Changes from BDDI to IFC have yet to be agreed.

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Access Roads

Changes from BDDI to IFC have yet to be agreed.

Stabling Yard

Changes from BDDI to IFC have yet to be agreed.

4.1.5.11 Section 7A Gogarburn to Edinburgh Airport

Gogarburn Culvert No 1

Changes from BDDI to IFC have yet to be agreed.

Gogarburn Bridge

Changes from BDDI to IFC have yet to be agreed.

Trackwork Gogarburn to Ingliston Park & Ride

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.

Gogarburn Culvert No 2

Changes from BDDI to IFC have yet to be agreed.

Gogarburn Culvert No 3

Changes from BDDI to IFC have yet to be agreed.

Gogarburn Retaining Walls

Changes from BDDI to IFC have yet to be agreed.

Trackwork Ingliston Park & Ride to Edinburgh Airport

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.

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4.2 E&M SYSTEMS

Programme update attached as Appendix 10.2.

CIVIL & BUILDING WORKS

4.2.1 OLE (Overhead Line Equipment)

Design

Number of packages submitted in total: 9

General review comments received from **tie**: 9 (“Level B – proceed subject to comments”).

BSC replied: 2

Resubmission for final close out: 2

Test planning is currently in preparation.

Approvals and Consents

No specific review comments have been received from **tie** with respect to location of poles within specified timescales.

An update of the concept of combined OCL poles has been presented to **tie**,

An updated version for CEC has been re-issued to **tie**.

Presentation to outside bodies in support of planning consents set for 12 May 2009 (Edinburgh Park) and 13 May 2009 (CEC and third parties).

Issues and Concerns

Clarification on approach to letting of long lead material and installation subcontracts in light of delays to preceding site works.

Production

Subcontractors for materials supply have been defined. Installation sub-contractors have been shortlisted.

See issues and concerns.

4.2.2 TPS (Traction Power Supply)

Design

Number of packages submitted in total: 11 (4 basic + 7 detailed design).

Review comments received from **tie**: 11 (1 Level A “no objection” + 10 Level B “proceed subject to comments”).

BSC replied: 11

Resubmission for final close out: N/A

Final closed out - successfully: 5

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Last remaining detail design document (11kV switchgear) has been finalized, is currently being reviewed internally and will be submitted shortly.

FAT procedures submitted: 6

Review comments received from *tie*: 6 (4 Level A “no objection” + 2 Level B “proceed subject to comments”)

BSC replied: 2 (rest was accepted with Level A)

Last remaining FAT procedure (“11kV switchgear”) has been finalized, is currently being reviewed internally and will be submitted shortly.

Test planning is currently in preparation.

Approvals and Consents

No current issues.

Issues and Concerns

tie's replies to both open derogation proposals have been received. Both were accepted (one with some further minor explanation has been provided by BSC for final close out by *tie*).

Clarification on approach to letting of long lead material and installation subcontracts in light of delays to preceding site works.

Production

Transformers, AC- & DC-switchgear have been ordered. Cable suppliers have been appointed. Formalisation of orders is imminent. Installation subcontractors have been notified that tender process has been halted as a result of a requirement from the main client to re-plan the Project. See issues and concerns regarding material and production.

4.2.3 TRW (Trackwork)

Design

- Vibration Field Investigation has been carried out, report expected CW 23.
- Meeting was held with *tie* to clarify RoR to the design documents:
 - Basis of Design Report Trackwork
 - Basis Design Rheda City C
 - Basic Design Document Longitudinal Calculations and Expansion Joints Trackwork
 - Detailed Design Drawings:
 - ETN(TRW=TD&ATB # 055861 Track Layout km 121.300 – 121.600
 - ETN(TRW=TD&ATB # 055862 Track Layout km 121.600 – 122.000
 - ETN(TRW=TD&ATB # 055871 Track Layout km 130.000 – 130.300
 - ETN(TRW=TD&ATB # 055872 Track Layout km 130.300 – 130.600
- Meeting was held with *tie* and CEC track drainage detail of drainage box.

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Approvals and Consents

- Basis of Design Sub System Trackwork is Level B approved by *tie* (confirmed within above mentioned meeting).
- Basic Design Document Rheda City C is Level B approved by *tie*.
- Basic Design Trackwork Specification Rails, Rail welds and Rail joints is Level B approved by *tie*.
- Basic Design Trackwork Specification Concrete is Level B approved.
- Basic Design Drawing Transition Rails is Level B approved by *tie*.
- Basic Design Drawing Alignment Definition is Level B approved by *tie*.
- Detailed Design Drawings:
 - ETN(TRW=TD&ATB # 055861 Track Layout km 121.300 – 121.600
 - ETN(TRW=TD&ATB # 055862 Track Layout km 121.600 – 122.000
 - ETN(TRW=TD&ATB # 055871 Track Layout km 130.000 – 130.300
 - ETN(TRW=TD&ATB # 055872 Track Layout km 130.300 – 130.600are Level B approved by *tie*
- ITP 24 Test & Inspection Plan Track (Draft) is Level B approved.

Issues and Concerns

- Changes in Design and Change Orders may influence the programme.
- Vibration Issues may influence design and programme.
- Un-clarified programme situation.

Following Activities are Planned within the Reporting Period

- Re-submittal of Basic design documents based on the above mentioned meeting.

Production

- Concreting of test track at South Gyle.
- Start of Trackwork construction Princes Street.

Following Activities are Planned within the Reporting Period

- Track Installation at Princes Street.
- Preparation to start trackwork construction Guided Busway.

4.2.4 DWE (Depot Workshop Equipment)

Design

Design is further progressing.

tie's RORs are answered for the Underfloor Wheel Lathe and the Storage Loads. The answers to the remaining equipment are under preparation.

Current progress includes preparation of detailed design of:

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- Machines
- Storage equipment

BSC 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

Under floor Wheel Lathe design submittals handed over in October 2008.
Crane Submittal handed over in January 2009.
Lifting Plant Submittal handed over in January 2009.
Washing Plant Submittal handed over in January 2009.
Service Vehicle Submittal handed over in April 2009.
Measuring Equipment Submittal handed over in May 2009.

Comments from *tie* to the submittals of:

- Underfloor Wheel Lathe Submittal
- Crane Submittal
- Storage Loads
- Lifting Plant Submittal
- Washing Plant Submittal
- Service Vehicles

have been received and will be answered and resubmitted as version B documents.

Resubmission of Crane and Underfloor Wheel Lathe in April 2009.
Resubmission of Storage Loads in May 2009.

Resubmission of the remaining submittals is scheduled for June 2009 depending on the input required by manufacturers and interface partners and on the receipt of *tie* comments.

Issues and Concerns

In order to finish these outstanding design submittals decisions are required regarding:

- additional turn table.
- change of fork lift to pallet stagger for the store.
- cancelation of ultrasonic cleaning bath and arc welding kit from BSC offer.
- provision of compressed air supply.

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Production

Procurement of long lead items finalised.

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

4.2.5 Signalling, Communication, SCADA, PIS, PA

Design

Signalling

Responses and resubmissions provided to all *tie* design Records of Review (RORs).

Loop development workshop held with *tie*, SDS, Transdev. Report to be issued by end of June.

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

Responses provided to all *tie* design Records of Review (RORs), resubmissions in progress.

Approvals and Consents

Proposals for tramstop equipment are being discussed with potential shelter and sign suppliers to ensure integration, after which photographic submissions can be made to *tie* for consideration.

Ofcom radio frequency license granted.

Issues and Concerns

Installation subcontracts deferred in light of delays to preceding site works.

Production

Radio equipment for first tram shipped to CAF factory in Irun, Spain.
TPDS detector equipment for Princes Street shipped to Edinburgh.
Integration test of TPDS and Tram on-board systems shall take place in Madrid Pinto on 9-10 June.

See issues and concerns.

4.2.6 TLC (Traffic Light Control)

Design

No current issues.

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Approvals and Consents

No current issues.

Issues and Concerns

No current issues.

Production

No current issues.

4.2.7 HV/LV - Supply

Design

Core are progressing Scottish Power off site works (i.e. in existing supply points) to support substation design, next progress meeting 8 June 2009.

Approvals and Consents

Third parties, outside LOD, wayleaves being progressed by Core; Gogar depot wayleave information required by Scottish Power clarified.

Issues and Concerns

Clarification on approach in light of delays to preceding site works, specifically Gogar Depot.

Production

See issues and concerns.

4.3 TRAMS

4.3.1 Design

Detailed design is nearly finished and CAF works in order to fully close this process.

There is a *tie* change request (INTC 303 and *tie* notice of change 0037) regarding the interior lay-out of the trams, with no impact for other BSC partners. The change has been agreed by *tie* although CAF has not received the letter officially yet.

Free issue equipment to CAF:
This definition refers to:

- TPDS, Radio supplied by Siemens
- Bus Tracker supplied by *tie*

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There is new information regarding the Bus Tracker equipment. CAF received information regarding a modification compared to the actual scope of supply. A CAF official letter (CAF_ETN_0247) has been sent to *tie* for clarification on the subject.

4.3.2 Procurement

Procurement for the trams is progressing in line with the CAF programme. CAF intends 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*).

4.3.3 Delivery

In order to meet CAF's programme, CAF needs all the materials to be delivered when necessary according to CAF programme. This needs to include Free Issue Equipment. Each material has a detailed delivery date to meet the different manufacturing stages of each module of the tram and the information has been delivered to each supplier.

Regarding Free Issue Equipment, if any material is not delivered as it is necessary to fit manufacturing purposes, CAF will evaluate the impact and will let the supplier know.

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

4.3.4 Manufacturing

CAF manufacturing process started at beginning of December 2008. The status is detailed on document "Estado fabricación Edimburgo 02_06_09", as a summary:

- First tramset of bodyshells are in finishing area.
- Second tramset of bodyshells are finished and being painted.
- Third tramset of bodyshells are finished.
- Fourth tramset of bodyshells are being manufactured.

4.4 SYSTEMS INTEGRATION

4.4.1.1 Earthing & Bonding

Clarification of individual civil structures is ongoing. Civil requirements of city center OLE foundations and Improved Track Layer are transferred into design proposals.

EMC Filed Survey Report and EMC Matrices have been submitted.

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4.4.1.2 Stray Current

As a result of the last SCWPs the Stray Current documentation has been updated.

Stray Current Corrosion strategy and Code of Practice for Stray Current Control are submitted.

Re-calculation of Stray current corrosion study is ongoing.

4.4.1.3 Network Rail Immunisation

Nottingham test report has been revised according to *tie*'s comments. Submission forthcoming.

A2B meeting with NR attended.

Meetings planned with two suppliers in respect to the provision of support for the Siemens Stray Current Simulation.

4.4.2 System Assurance

4.4.2.1 Deliverables issued

- System Hazard Log - Comments and updates on the Hazards have been received from Transdev, Comms and Control, REL, RA, Tram Maintenance.
- Hazard Log has been updated accordingly. PSCC Sub-Committee reviewed these comments on 20 May 2009. This highlighted some concerns in respect to the SDS information which were documented and are being managed with *tie* and the PSCC. Comments and mitigations still being progressed from SDS and CAF.

4.4.2.2 Activities completed

- Hazard Log - Operational Risk Assessments (ORA's). Transdev ORA have been reviewed so that where a risk has been identified that could have an impact on design, this has been cross referenced to hazards in the hazard log. Transdev have been requested to review this work.
- Immunisation – Immunisation Hazard agreed. Design mitigation now being supplied with objective of being able to close hazards from a design perspective. Outstanding work is identify hazards associated with Tram Traction packs and telecoms in respect to Immunisation
- Interface Hazard Analysis (Signaling). Report under internal review
- Review of *tie*/Transdev/SDS/BSC documentation - Reviewed and supplied comments to RA (Interface Hazard Analysis).

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4.4.2.3 Activities Ongoing and Planned:

- Update and manage Hazard Log based on Hazard owner's responses (ongoing). Based on mitigation provided by the Hazard owner the *tie* PSCC will review the hazard, rank the hazards' residual risk and confirm the if the hazard has been controlled so Far As Is Reasonably Practicable (SFAIRP) (Target Date ongoing)
- Audit of SDS Hazard Log being Planned for week 26 / 27 to enable closure of SDS Hazards via PSCC.
- Conduct Hazard Analysis Work Shops as per Detailed Design Assurance Plan (DDAP). The objective is to ensure that a complete set of risks / hazards is has been identified and managed. Meetings being organised with Hazard Owners to review Hazards and confirm mitigation measures.
- NR / ETN Immunisation Work - See above. A presentation is planned to the Network Rail Infrastructure Systems Review Panel (ISRP) a 'Case For Safety' to demonstrate that the two work streams that we have undertaken above have minimised the risk to the Network Rail Infrastructure ALARP. This document is due in fourth quarter of 2009.
- Human Factors - Control Centre - The contract requires an ergonomic assessment of the control centre against Standard - ISO 11064 "Ergonomic Design of Control Centres." To date some work has been done by the LOTS (REL, RA, York and Transmitton) to involve the Operator and Maintainer but this standard also requires an assessment in respect to the SCC furniture, lighting, climate control, etc). SDS Human factors assessment being chased.
- Case for Safety Template – Preparation of guidance for Sub-systems in respect to content and structure of the Case for Safety Documentation.

4.4.2.4 Regular activities and attendances:

- As well as the above a number of other activities are ongoing such as regular attendance at the following meetings; PSCC, PSCC Sub-Committee, Technical Coordination, Requirements Man, SCWP.

4.4.3.1 General

Following a review of the section design, it is proposed to reduce the number of development workshops to identify misalignments. These are as detailed below:

- Trackform (close out)
- Substations
- Cable ducts and Draw pits
- Power Supply

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- Earthing and Bonding
- Depot
- Point and Switch Heating
- Tramstops
- Loop positions

4.5 TESTING, COMMISSIONING AND START-UP

CAF manufacturing process commenced at the beginning of December 2008.

5 NOT USED

6 STAKEHOLDER AND THIRD PARTY ISSUES

Discussions have continued to agree how *tie's* existing Stakeholder Management and Communications team can be best used to mutual advantage. BSC are willing in principle to contribute in kind or cost transfer to supplement this team, rather than duplicating resources to comply with the specific requirements of the Employer's Requirements as drafted.

7 COMMERCIAL

7.1 Milestones

Preliminary Milestones Achieved in the Period:

Month 14 Preliminaries (BB)
Month 14 Preliminaries (S)

Construction Milestones Achieved in the Period

There were no construction milestones achieved in the period.

Milestones Programmed but not Achieved

Regular discussions take place now between *tie* and BSC on the subject of Milestones and the Milestones Programmed but not achieved are recorded elsewhere.

7.2 CHANGE MANAGEMENT

7.2.1 The BSC Change Register is presented in Appendix 10.7.

409 Changes have been notified to 5 June 2009 - 49 by tie and 360 by Infraco.

37 of these Changes have been superseded by further Changes or withdrawn.

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60 of these Changes have a delay only impact and will not require an Estimate (the impact of these is reflected in the EOT Entitlement Programme submitted to tie on 15 May 2009).

Therefore there are 312 Changes requiring Estimates.

Infraco has submitted to tie Estimates for 193 Changes for design only or for design and construction works.

The total Consortium value of the submitted Estimates is £47,500,000 including £11,160,000 for non-scope work on Bernard Street and St Andrew Square.

56 of the 193 submitted Estimates have been partly agreed by issue of a tie Change Order (application of preliminary percentages requires to be amended as a result of agreement on the percentage addition for preliminaries). A total of 33 submitted Estimates have not been accepted in principle by tie. The value of Change Orders issued by tie is £3,000,000

There are 119 remaining notified Changes for which Estimates are required. In addition, a further 33 construction Estimates need to be prepared for Changes for which a design only Estimate has been submitted to date.

Of the 119 outstanding Estimates, 20 have been accepted in principle by tie, 19 have been rejected and the remainder have neither been accepted nor rejected.

There are 18 Estimates proceeding through the internal Consortium Approvals Process.

A graphical pie chart is presented in Appendix 10.7.

A programme for preparation and/or submission of the outstanding Estimates has been prepared and submitted to tie. Prioritisation is based on the latest intended construction sequence and assessed value of the Changes. It should be noted that it is not possible to prepare 65 of the Estimates until an SDS design estimate is received, validated by BSC and approved by tie.

Included in *tie's* Change Order Pro-forma; "Relief required from compliance with Infraco obligations under the contract", "Programme impact and required Extension of Time", "Impact on Performance" remain unresolved for a number of the Changes.

Main reasons for not issuing Change Orders are: Change not agreed in principle, Estimates not yet submitted, figures in estimates not agreed, Base Date Design Information not agreed, percentages for preliminaries and overheads not agreed prior to 29 May 2009.

Cost related issues for INTC No.1 programme misalignment V26 - V31 remain not agreed. Time related issues have been agreed.

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Programmes for EOT Entitlement and Revision 2 have been submitted to tie in the period and meetings are in progress to achieve agreement. The commercial impact has not been submitted by BSC.

With regards to matters corresponding to the SDS provider notices, *tie* has rejected all SDS Provider's notices of extension of time and related impact. *tie* does not accept that these issues constitute a change.

The complexity, nature and amount of changes have overloaded the change mechanism included in the Infraco contract, because the estimates cannot be submitted within the time frame requested in the contract and also due to the fact that the overall impact to the programme from a given change cannot be assessed on an individual basis. It has been agreed that the estimates submitted by BSC will only deal with direct related effects (costs) of a given change. Time related effect will be assessed separately.

A series of high level management meetings with the aim of solving major outstanding issues (among others: Base Date Design Information, etc) are being held.

IFC Drawing Changes for:

- Carrick Knowe Bridge
- Gogarburn Bridge
- Russell Road Retaining Wall (W4)
- Baird Drive Retaining Wall
- Depot

will be discussed in a series of meetings between BSC and tie with a view to agreeing the Estimates.

8 RESOURCES

8.1 Organisation Charts

Consortium and Systems organisation charts are included in this report.

See Appendix 10.8.

9 OTHER ISSUES

No comments.

10 Appendices

10.1 KPI Report

Contractor Period H.S. & E. Return



To be completed and returned to tie Ltd (Pauline Goldie Pauline.goldie@tie.ltd.uk) by the Thursday of week 1 for each period (a period is 4 weeks, for dates of start and finish please contact Pauline)

RETURN DATA

Contractor –

BSC

Date completed –

02/06/09

Year –

09/10

Period –

2-2

PEOPLE DATA

Average number of direct employees on ETP –

185

Hours worked of direct employees on ETP –

30,698

Average number of subcontract / others inc visitors on ETP –

168

Hours worked of subcontract / others inc visitors on ETP –

30,658

Number of work sites –

5

INCIDENT DATA (leave blank if none)

	DIRECT	SUBCON	M.O.P.
Fatal	0	0	
Major	0	0	
Over 3 day	0	0	
Dangerous Occurrence	0	0	
Reportable Disease	0	0	
Injury – Non RIDDOR	2	1	
Near Miss/ Unsafe Condition	0	3	
Service Damage	0	4	
RTA (in and around ETP)	0	0	
Positive intervention (if measured)	0	0	
Environmental Incident	0	0	

ENFORCEMENT NOTICE / VISIT DATA

	NOTICE	VISIT
H.S.E Enforcement		
SEPA		
Local Authority		
Other		

CONTRACTOR AUDIT / INSPECTION DATA

	PLANNED	ACTUAL
Inspections	22	20
Audits		

Please supply supporting data for all RIDDORs, Service Damages and ENF visits if not previously submitted – Rev0

10.2 Programme Update

