

Our ref: ETN(BSC)TIE\$M&ABC#051033  
Your ref: INF CORR 4510/RB

06 July 2010

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| Date     | 08 JUL 2010 |
| Time     |             |
| Author   |             |
| Editor   |             |
| Reviewer |             |

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**For the attention of Steven Bell, Tram Project Director**

Dear Sirs,

**Edinburgh Tram Network Infraco  
Design Assurance, System Integration and Best Value Audit 28 January 2010**

Reference is made to Nichols Audit Report dated 1 March 2010 received under cover of tie letter ref INF CORR 4510/RB dated 25 March 2010

Generally, we found the Report to be balanced and fair and we were particularly pleased to note, in Section 4, the recognition given to the Infraco attendees for their co-operation, openness and support during the audit. Nevertheless, there are some statements with which we disagree, that may have arisen as a result of misunderstanding or misinterpretation by the Auditor:

#### **AUDIT FINDINGS**

##### **Programme**

The Auditor reports that there is no integrated design programme is correct, but the Report omits to add that any design programme aligned with the Programme (Rev 1) would be of very little or no value. The Report also omits to add that the Infraco had submitted for discussion Rev 3 of the Programme, but that this had not yet been agreed. As a matter of fact, it has later been rejected by tie.

The Report omits to include the Infraco's advice to the Auditor that, in the absence of an agreed realistic Programme, the Infraco had been unable to carry out a meaningful integration of the design programme.

We would clarify and reiterate statements made by the Infraco during the Audit that, in the absence of an integrated design programme, a system of focus and prioritisation has been used to identify and focus on key programme drivers. The control programmes are not linked electronically, but, through this focus and prioritisation process, they are aligned with each other.

We would like to correct the Auditor regarding the IDR process, in that this is not the final step in the design integration process. There is a follow-up IDC workshop which serves to ensure all comments generated in the IDR process have been incorporated.

The final status of drawings is called IFC not IDC.

##### **Best Value**

##### **Value Engineering**

The Auditor's statement is incorrect. The Infraco is contracted to undertake in conjunction with tie a formal value engineering exercise as described in Schedule Part 4. The Infraco does therefore follow a formal value engineering exercise, which has been ongoing.

The figure of £11M on page 4 is incorrect. This should be £12,635,006.

Risk Management

With regards to risk, BSC maintains an Infraco Risk Register which was periodically submitted to tie until January 2010. tie requested a different format which has been addressed and a further workshop was subsequently arranged for 9 June 2010. tie declined to attend this meeting. tie does not reciprocate in sharing its risk register, so BSC is not in a position to integrate the BSC and tie registers. Only tie can do this and, indeed it is tie's responsibility under paragraph 12.11.1 of the Employer's Requirements (Schedule Part 2).

Regarding the risk of unmarked services referred to on page 5, for the avoidance of doubt, the consortium always considers the health and safety risk register of encountering unmarked services. With regards to the project risk of encountering unmarked services, the Auditor should note that utilities are outside the Infraco scope. This is for tie, therefore, to identify within its risk register, as set out in paragraph 12.11.1 of the Employer's Requirements.

Best value

The parties' differing positions on Infraco's best value obligations are well-known and we would reiterate that point. Nevertheless, the bullet points on page 4 would seem at odds with the Infraco's obligations under the Contract.

Integrated design and acceptance criteria

The Auditor has misquoted the Infraco statements. The Infraco explained that the Design Assurance Statements would be issued by section. These would be issued at some point after the design was complete, not at the end of construction, testing and commissioning, as recorded by the Auditor. The requirements for DASs are set out in Schedule Part 14. However, the DASs will be issued prior to the commencement of operations.

The process utilised by the consortium to determine a section of works ready for construction is defined in the Design Management Plan, which was submitted to tie on 22 September 2009. No adverse comments have been received from tie on the Design Management Plan in this regard at any time since and, in fact, the Project Management Plan has received RoR Level A. This was referred to and was tabled in the Audit. The comment in Nichols' report that the process is not well defined is not understood, as no detail is provided. We are therefore unable to respond to this comment in any detail.

On page 8 we would clarify that the nine documents provided were, in fact, examples of minutes/comments from IDR meetings. The reference to Leith Walk was made because Leith Walk was the focus of the Audit, but this was not the only area referred to in the minutes.

The statement at the end of page 8 is incorrect. It appears that Nichols misunderstood the statements made:

The Infraco noted that "construction can commence" (Not "the design is ready for construction"). In addition, bullet point 1 is incorrect. Construction may commence once drawings are at IFC (Issued for Construction) status.

The statement at the top of page 9 is incorrect as it is not in line with the provisions of the Infraco Contract and the Approved Design Management Plan. In the particular case of Leith Walk, the reason construction could not commence was because tie had not given access in accordance with the provisions of the Contract, as the MUDFA works were at the date of the Audit Report still incomplete.

The Report does not record the advice given to the Auditor that the Infraco had attempted to commence work in Leith Walk. However, the Infraco was prevented from making any meaningful progress by the ongoing MUDFA Works and lack of access to be provided by tie.

The Infraco complies fully with tie's system for commencement on site. A system has been in place using a tie Permit to Commence Works Form. See enclosed example.

## AUDIT RECOMMENDATIONS

### Programme

The consortium agrees milestones with SDS and system designers in the process described during the Audit and as referred to by the Auditor under Item 1 of their Findings in the Executive summary.

The Programme is currently at Revision 1, which is out of date. The current Programme, Rev 3B is not agreed with tie.

- Approvals Tracker – This is periodically updated and issued to tie, although not included in the monthly report. The monthly report includes an extract of the tracker summarising status.
- AFC Tracker – AFC is not a defined term in the contract and is not a drawing status. The final status will always be IFC. AFC is used in the Design Management Plan to mean Agreed for Construction, meaning that no further IFC status revisions are likely. The IFC Tracker summary is submitted to tie periodically.

During 2009, tie requested that reporting in the monthly reports against individual drawings was ceased. Instead, tie requested reporting by package as being more meaningful to them. A package is a number of batched disciplines inside a section. Eg Roads package, which contains roads, landscaping, lighting, drainage, track.

- IDR/IDC Tracker – This is organised by section and subsection, which align to priority milestones. The Infraco will consider how this information could be incorporated within the monthly report.

Design Milestones – The Nichols Report refers to the Variance Tracker, but we interpret that it is the Variance Statement that is meant. The variance statement is currently issued to tie periodically and referred to within the monthly report.

### Best Value

There is already a Value Engineering process in place in accordance with Schedule Part 4.

The consortium is already collaborating with tie in the matter of joint risk workshops. For example a meeting was suggested under letter reference ETN(BSC)TIE&ABC#054036 letter dated 27 April 2010. Unfortunately the proposed meeting was subsequently cancelled by tie.

### Integrated Design and Acceptance Procedure

Nichols' recommendation is noted and the consortium is willing to address with tie any additional information on design integration required on a periodical basis.



For the avoidance of doubt, the consortium will prepare and submit to tie Design Assurance Statements. The consortium is willing to explore with tie progressive submissions to build upon the DASs already submitted.

Clause 3.4 of the CoCP requires Infraco to submit and have signed a tie Permit to Commence Works. This has been implemented on all construction sites where work has commenced to date. The form represents a check list to ensure all necessary documentation is in place. All documentation referred to on

the PICW form is submitted to tie already. The Infraco has fully complied with the contractual requirements in this respect.

Finally, we would like to record that, since the Audit, the draft Systems Integration Plan has been formalised and issued and endorsed by tie with Level B

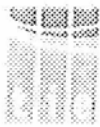
Yours faithfully,

**Martin Förder**  
Project Director  
Bilfinger Berger Siemens CAF Consortium  
MFO/SDE/LSM

Attachment: tie Permit to Commence Works Form

cc: Michael Wilken - Infraco (Siemens)  
Ineke van Klaveren - Infraco (Siemens)  
Shabu Dedhar - Infraco (Siemens)  
Patrick Scully - Infraco (Siemens)  
Kevin Russell - Infraco (Bilfinger Berger)  
Stefan Rothaus - Infraco (Bilfinger Berger)  
Baltazar Ochoa - Infraco (Bilfinger Berger)  
Martin Hutchinson - Infraco (Bilfinger Berger)  
Alejandro Urriza - Infraco (CAF)  
Document Control



# Permit to Commence Works

Trams for Edinburgh

Serial Number BSC - PCW - 112

| Section 1 - Work Description  |                          |                |                               |                          |                          |
|---|--------------------------|----------------|-------------------------------|--------------------------|--------------------------|
| Location of Work ... Section 5C- A8 Underpass....   |                          |                |                               |                          |                          |
| Work Description ... Phase 4 Enabling Works .....   |                          |                |                               |                          |                          |
| Start work - Date   | 15/02/10                 | 03 25/10       | 1 1                           | 1 1                      | 1 1                      |
| Stop work - Date  | 30/04/10                 | 11 06/10       | 1 1                           | 1 1                      | 1 1                      |
| Name  | D. Lambert               | D Lambert      |                               |                          |                          |
| Signature   | [Redacted Signature]     |                |                               |                          |                          |
| Organisation  | BSC                      | BSC            |                               |                          |                          |
| Date  | 19/01/10                 | 27/04/10       |                               |                          |                          |
| Section 2 - Licenses Required   |                          |                |                               |                          |                          |
| Identify all licenses that are to be raised by the Contractor. <span style="float:right">✓ all boxes that are applicable</span>                   |                          |                |                               |                          |                          |
| Activity  | Applicable               |                | Activity                      | Applicable               |                          |
| Environmental license   | <input type="checkbox"/> |                | Third party license           | <input type="checkbox"/> |                          |
| Others  | <input type="checkbox"/> |                |                               |                          |                          |
| Section 3 - Third Party Approvals Required  |                          |                |                               |                          |                          |
| Identify all third party approvals that are required by the Contractor. <span style="float:right">✓ all boxes that are applicable</span>          |                          |                |                               |                          |                          |
| Organisation  | Applicable               | Organisation   | Applicable                    | Organisation             | Applicable               |
| Network Rail  | <input type="checkbox"/> | First ScotRail | <input type="checkbox"/>      | BAA                      | <input type="checkbox"/> |
| Forth Ports   | <input type="checkbox"/> | TTRO / TRO     | ✓                             |                          |                          |
| Others  | <input type="checkbox"/> |                |                               |                          |                          |
| Section 4 - Permits Required  |                          |                |                               |                          |                          |
| Identify all permits or licenses that are to be raised by the Contractor. <span style="float:right">✓ all boxes that are applicable</span>        |                          |                |                               |                          |                          |
| Activity  | Applicable               |                | Activity                      | Applicable               |                          |
| Permit to dig   | ✓                        |                | Confined spaces               | <input type="checkbox"/> |                          |
| Isolation of services   | <input type="checkbox"/> |                | Gas / Electrical H/V/LV       | <input type="checkbox"/> |                          |
| No permit required  | <input type="checkbox"/> |                | Others                        | <input type="checkbox"/> |                          |
| Hot works   |                          |                | <input type="checkbox"/>      |                          |                          |
| Access to live facilities   |                          |                | <input type="checkbox"/>      |                          |                          |
| Section 5 - Control Measures Required   |                          |                |                               |                          |                          |
| Identify the specific control measures that are to be applied by the Contractor. <span style="float:right">✓ all boxes that are applicable</span> |                          |                |                               |                          |                          |
| Activity  | Applicable               |                | Activity                      | Applicable               |                          |
| Method Statement(s) (CAT 3)   | ✓                        |                | Work Package Plan (High risk) | <input type="checkbox"/> |                          |
| Work Package Plan (Low risk)  | <input type="checkbox"/> |                | Lifting plan                  | <input type="checkbox"/> |                          |
| Other   | <input type="checkbox"/> |                |                               |                          |                          |
| if any of the above apply include details on the reverse of this permit.  |                          |                |                               |                          |                          |
| Section 6 - Notification Required   |                          |                |                               |                          |                          |
| Identify the necessary parties & time periods for notification of the works commencing.   |                          |                |                               |                          |                          |
| Party   | Method                   |                | Time period                   | Notified                 |                          |
| Local Authorities   | TMWG                     |                | 4 weeks                       | <input type="checkbox"/> |                          |
| Section 7 - Contractor's Confirmation to Proceed  |                          |                |                               |                          |                          |
| Contractor's Authorised Person to certify that the appropriate control measures will be implemented.  |                          |                |                               |                          |                          |
| Name  | D Lambert M/D Lambert    |                |                               |                          |                          |
| Signature   | [Redacted Signature]     |                |                               |                          |                          |
| Organisation  | BSC                      |                |                               |                          |                          |
| Date  | 19/01/10 27/04/10        |                |                               |                          |                          |
| Section 8 - The Authorisation to Proceed  |                          |                |                               |                          |                          |
| The Authorised Person to authorise the commencement of the works identified above.  |                          |                |                               |                          |                          |
| Name  | A Scott A. Scott         |                |                               |                          |                          |
| Signature   | [Redacted Signature]     |                |                               |                          |                          |
| Date  | 18/11/10 28/10/10        |                |                               |                          |                          |

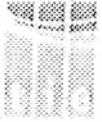
Original - Contractor

Copy 1 - the construction

Copy 2 - the HSQE

| DOC NO       | VERSION | STATUS  | DATE     | APPLICATION            | SHEET  |
|--------------|---------|---------|----------|------------------------|--------|
| DEL.HSQE.317 | 2       | For use | 04/12/07 | Edinburgh Tram project | 1 of 2 |

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# Permit to Commence Works

Trams for Edinburgh

Serial Number BSC - PCW - 112

## Section 5 -- Details of Control Measures Required

Identify the specific control measures that are to be applied by the Contractor.

| Activity   | Method Statement(s) (CAT 3) | Work Package Plan (High risk) | Work Package Plan (Low risk) | Lifting plan | Other |
|--|-----------------------------|-------------------------------|------------------------------|--------------|-------|
| Method Statement to be produced prior to works commencing. | x                           |                               |                              |              |       |
|  |                             |                               |                              |              |       |
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| DOC NO       | VERSION | STATUS  | DATE     | APPLICATION            | SHEET  |
|--------------|---------|---------|----------|------------------------|--------|
| DEL.HSOE.317 | 2       | For use | 04/12/07 | Edinburgh Tram project | 2 of 2 |

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