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Our Ref: ULE90130-SW-LET-00333

16th November 2006

tie Limited
CityPoint, 1st Floor
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Attention: Ailsa McGregor

Dear Ailsa

| | |
|-----------------|-------------|
| Received/Issued | 16/11/06 |
| Document No: | 003494 |
| Signature: | [Redacted] |
| For Information | |
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Infraco ITN 2nd Release. Addendum Applicable to the Employer's Requirements

We refer to our letter of 20th October within which we advise you that we are reviewing the Infraco Volume 5 (Employers Requirements) issued by you to the Infraco Bidders on 3rd October 2006 and copied to PB under cover of your letter of 20th October 2006.

We would respectfully point out that we await response to our letter

- Sight of and copies of the tie Policy documents referenced in 2.6 – Pages 116, 157, 160 etc.
- Clarification of your requirements for CCTV – Clause 2.7.3, Clause 3.1.16 etc
- Copies of the balance of the ITN documentation (less any commercially sensitive information)

We are subsequently in receipt (Email 8.11.06 12.05Hrs - by hand 9th November 2006) of extracts of your 2nd Release Documentation which we understand to have been issued by you to the bidders on 4th November 2006. This 2nd issue contain a number of addenda applicable to the Employers Requirements.

This obviously has an impact on our review process of the original Employers' Requirements and we will advise you of our finding in due course. These will now accommodate the content of the Employers Requirements issued by you with the ITN as well as the Addenda applicable to same.

As we have previously advised, the fact that both the format and content has changed since our production and issue to you of the earlier version of the Employers Requirements, has made the process more complicated as we need to ensure 'nothing slips through the net'

Scope change, Functionality, Constraints, Scope creep are some issues being reviewed.

In the mean time, as previous, we offer initial comments on those 2nd release ITN documentation referenced above.

We believe, as we believe tie do, the Employers Requirements define the key Edinburgh Tram Network characteristics which will be perceived by the public and judged and measured by the public as a means of the project being a success or not.

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Such characteristics as Accessibility, Availability, Appearance, Functionality, Maintainability, Reliability, Safety, Security, Comfort, and Dependability are all aspects which the public will take into account in making their judgement and when mentioned in the Employers Requirements are matters that should not be open to interpretation. Hence a number of our queries.

Addendum 1 - Employers Requirements - Page 24 - Calculation of Round Trip Times –

We note the whole of paragraph 7.2 has been deleted and replacement text provided to the Bidders

Your revised requirements have been issued to our Design Engineers to review and we will respond as soon as possible.

Addendum 2 - Employers Requirements - Ticket Vending Machines -

Clause 2.5.12 – Page 195 - We note your removal of references to Ticket Validators

Clause 2.1 – Page 424 - We note your removal of references to Ticket Validators

Addendum 3 - Employers Requirements – Page 218 - Roads and Utilities

We note your addition of the reference to the document titled 'Standards for Street Manual (CEC) and are able to confirm that our designers have been working with this document in mind.

Addendum 4 - Employers Requirements – Page 237 - Pantograph Characteristics

We note your transfer of responsibility for the provision of the Pantograph from that of the Infraco to that of the Tramco

We also note that the remainder of the paragraphs forming this clause remain as do the sub clauses 3.1 to 3.12 inclusive. These were originally intended to outline to the Infraco the Pantograph appearance, functionality and technical parameters he had to accommodate in his bidding whilst allowing time to maintain the necessary flexibility bearing in mind the tram supplier was/is not yet known (paragraphs 2 and 3 in particular)

SDS believe a number of these sub clauses (e.g. 3.8, 3.10, 3.11 & 3.12) are no longer relevant to the Infraco however SDS - whilst fully recognising their role and responsibilities - also believe the responsibility for the liaison and coordination aspects of this important technical interface process needs to be clearly allocated to each of the parties.

Addendum 5 - Employers Requirements – Page 285 – Hand Held Mobile radio Equipment

We note your requirement to increase the number of hand held Mobile radios from 40 each with a spare battery to 130 sets each with two spare batteries and your specific requirement for Carrying Cases which we had included as a 'necessary operational accessory'. Our brief when this matter was raised as a query and discussed some months ago was to provide for Operational Personnel only and not cater for any maintenance requirement.

Sufficient charging racks for your 130 radios will require additional allocated space within the Control Centre (limited though it may be) as will other items now being requested and these will be taken into account at the forthcoming Depot design Meeting requested by Ailsa in her letter of 09.11.06 (Rev AM/RC) to discuss Transdev requirements.

Addendum 6 - Employers Requirements – Page 289 – CCTV Technical Requirements.

We note your addition of the wording 'ETN will provide only feeds to third parties' and seek clarification as to your intention.

We believe the requirement to communicate to and from 'others' to be additional requirements to those originally requested by tie and this will be the subject of separate correspondence however in the mean time in order to progress the works we seek clarification as we find this additional wording to be somewhat confusing as you are also seeking the facility to view 'images generated by cameras that are part of the other interconnected CCTV systems to be selected by the operator and displayed in the Control Room'

Is it your intention for the physical interconnection between the interface located within the Equipment Room and the various third parties to form part of the Infraco works and our design? If so we require access to and or communication with these third parties to identify the various communication protocols necessary to effect such communication. The subject of maintenance of such links is also a matter for discussion.

There is also a budget implication as we do not believe this has been included within any budget figures we have produced.

Addendum 7 - Employers Requirements – Page 425 – Hand held ticket Machines

We note that a lot of the text covering this subject originally produced by SDS was omitted from the ITN when issued in October.

We also note that some of this has been reintroduced in your Addendum 7 however we see a large increase in the capacity required of the central management system from being able to communicate and manage the data fro some 85 TVM's etc - at the time we wrote the Integrated fare Collection Employers Requirements earlier this year - to 300 TVM's. This begs the initial question as to the disposition of such a large quantity of machines as space on the platforms is limited.

This is as well the Managements Systems ability to 'manage' the incoming data from the 60 Hand Held Ticket Machines and their 20 Docking Stations.

We understand these items will be 'free issue' hence the technical detail and timing of the interfaces will be required as you state in your addenda.

We also have a concern over the ability of the hand held machines to validate any similar tickets issued by another hand held machine. Perhaps we could discuss.

Addendum 8 - Employers Requirements – Page 430 – Reactive & failing maintenance.

We note the contents and respectfully suggest that specific reference is made to the removal of 'Racist graffiti' and 'graffiti of a sexual nature'. It is the experience of our staff that your reference to 'offensive' can be open to interpretation and cause difficulties at the very time action is required.

Addendum 9 - Employers Requirements – Page 446 – Environment - Landscape Design.

We note the replacement of the wording re aftercare of landscaping which we assume brings the requirement into line with your Infraco maintenance requirements

Road Demarcation Agreement - Additional Information.

Whilst this document relates to the interface and split of responsibilities between the Operator, the Infraco Maintainer and the City of Edinburgh we have a number of constructive comments/observations to make.

- *Bridges supporting the road and the tram will be maintained by CEC and Infraco on a prorate basis.* We believe this requires further definition as the road authority has a legal obligation to maintain road bridges and we believe there could be dispute at some time in the future if an existing structure requires additional maintenance which could be the result of the presence/introduction of the Tram.
- It is more normal for the operator, in this case the Infraco Maintainer, to be responsible for the area within the swept path and the Road or Highway Authority to look after the rest.
- If one of the stops on the Roseburn Corridor, or indeed anywhere else on the system requires the introduction of a footpath/footway which is exclusively for access and egress to a tram stop are CEC anticipating that they shall be responsible for the maintenance of same including that of lighting. This would normally be the Operator, or in this case the Infraco maintainer. What is meant by 'except at tramstops'?
- Street furniture can include such items as Trackside Isolators, Point machine cabinets etc which should, in our opinion, be the responsibility of the Infraco Maintainer.
- Do the Swept path markings come under the definition of carriageway markings and if so it would appear CEC are to maintain them the timing of which will then be dictated by the operator.
- It is our understanding that certain tram signage falls within the requirements of the Traffic Signs Regulations and General Directions 2002 which means that CEC are responsible for their maintenance. Is this wise or would it be better and less disruptive to the operation of the tram system to make the Infraco Maintainer responsible for the maintenance of all tram signage.
- Tram signals should, in our opinion, be the responsibility of the Infraco Maintainer to minimise service disruption in the event of a failure.
- Will the CEC winter maintenance cover the Roseburn Corridor?
- Cleaning - do CEC carry out cleaning and waste management within the swept path?
- Permits will have to be issued by the Operator, having followed a system yet to be agreed with the Infraco Maintainer – e.g. isolation of OLE supplies etc before CEC are able to access certain operational areas
- Removal of all obstructions – certain obstructions e.g. those affecting the correct operation of point machines, a failed overhead line, can only be carried out by trained maintainers and should not fall into the category of 'all' obstructions blocking the tramway/tram road.
- Lighting – see comments above re footpaths/footways.



- Events – there are other consultations that are necessary other than the shutting of overhead lines. It is an operational tramway which requires clear defined written procedures covering all eventualities. Not only with CEC but with all the emergency authorities.

I do not believe we are yet in receipt of the requested full set of Infracore documentation (less any commercially sensitive information) whilst we now have a copy of the MUDFA contract a full copy of the Tramco contract and the Transdev contract would be of assistance to the development of our detailed design.

Who is responsible for what obviously influences many aspect of the design.

May we respectfully advise **tie** that our Systemwide Team have recorded over 200 changes between the presently received ITN information (Majority of Changes being within the Employers Requirements and Addenda) and our Technical Specifications which form part of the SDS contractual deliverables in accordance with our Agreement. Technical evaluation on these changes will follow and we give notice that SDS will advise on the items considered to be changes to our Agreement and the subsequent request for Change Orders against this scope.

Yours sincerely



PH

**David Hutchison
Parsons Brinckerhoff**