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**From:** Kohler, Chuck  
**Sent:** 11 December 2006 16:47  
**To:** Andie Harper (andie.harper@tie.ltd.uk)  
**Cc:** Hutchison, David; Dolan, Alan; Chandler, Jason  
**Subject:** Utility IFC Production

Andie

Having the meeting with AMIS on Friday was a good idea. I think the 'gap' is much narrower than I first believed and I hope you do too. In addition to clarifying the deliverables and the working arrangement, it highlighted your points about the need for clear communication – something I hope the input of AMIS to the IFC development will further facilitate. In addition to delivery of the exemplar IFC utility drawings, I want to make sure tie and SDS both are clear on what I said about SDS's deliverables and the approach being taken to develop the detailed design and IFC drawings. The following points summarise this:

### **Detailed Design and IFC Drawings**

SDS will provide the permanent works design for the utilities. This will include critical elevations and coordinates at locations sufficient for all other layout data to be developed between these points by the contractor. A note will be included on all drawings stating that all locations and levels of existing services and infrastructure are subject to change after contractor field-verification. Typical details will be provided. Sections will be provided showing the relational arrangement of utilities and between utilities and other permanent infrastructure at critical locations. The design and details presented will conform to applicable Utility Company, Roads Authority, Tram Design Guide standards, etc. The SDS design will show estimated existing and final utility layouts, but will not show temporary utility diversions or the measures or works required to construct the permanent utilities as these are to be developed by the contractor. As always with underground utilities, it is expected that on site alterations will be required by the contractor and that he will make these within acceptable limits in conjunction with tie's site supervision staff.

### **Constructibility**

SDS welcomes the opportunity to consult with AMIS at an appropriate time during the development of the detailed design to review where, if possible, changes to the permanent works resulting from AMIS's works approach may be accommodated in the permanent works design. The SDS design of the permanent works will be based on a constructible scheme that will take into account other known infrastructure and utilities. It also will take into account applicable working regulations (eg. CDM, utility company SOPs). The SDS construction scheme will not be described in the documents (other than as required due to Utility Company, Roads Authority, Tram Design Guide requirements - typically via the specifications) as the means and methods are the contractor's responsibility. Provided the input from AMIS is timely, conforms to the applicable standards, does not result in additional work or delay to SDS, and does not transfer additional risk to PB, we will incorporate their input into the permanent works design.

### **Design to Budget**

SDS prepared an Engineer's Estimate of the utility construction cost based on the information available to SDS at the time and a construction scheme. This estimate (plus allowance for subsequently uncovered changed conditions and subsequent changes to the tram scheme itself) is the target for our design to budget performance. SDS are not privy to AMIS's contract with tie, the construction cost it contains or the construction scheme/methodology on which it was based and therefore cannot be measured against changes to AMIS's contract with tie.

Please feel free to give me a call if you want to discuss this further.

Regards  
Chuck