

Document Number: C222-HS2-EN-MRC-020-000001			
Meeting Date:	22/10/13		
Meeting Location:	Rooms GA and GB, High Speed Two (HS2) Ltd, Eland House, Bressenden Place, London SW1E 5DU		
Meeting Type:	REPA Tunnel Proposal Discussion		
Meeting note taker:	██████████ (HS2 Ltd)		
Attendees:			
██████████ (CB)	HS2 Ltd	Bev Manton Eades (BME)	REPA
██████████ (CR)	HS2 Ltd	Bruce Weston (BW)	REPA
██████████ (NC)	HS2 Ltd	Chris Bridger (CBR)	REPA
██████████ (AR)	Atkins	Hilary Wharf (HW)	REPA
██████████ (IG)	Atkins	Jim Conboy (JCO)	REPA
██████████ (JC)	Atkins	Rodney Craig (RC)	REPA
Meeting notes			
<p>Welcome and Introductions Meeting started with round table introductions between HS2 Ltd, Atkins and the Residents Environmental Protection Association (REPA) followed by a safety moment.</p> <p>REPA took this opportunity to state that they were an association representing 11 community based groups in the South Heath, Chesham, Amersham areas of the Chiltern's Areas of Outstanding Natural Beauty (AONB) and not an action group.</p> <p>REPA mentioned that they had made an earlier request to HS2 Ltd regarding extensions to the bored tunnel but in the draft environmental option these were rejected. In their opinion, this was a decision made with no basis and the outcome was cost based. Therefore when Alison Munro announced that Atkins was doing more work for HS2 Ltd, REPA wanted to discuss their report and findings. REPA stated a response to their first request had not been provided but HS2 Ltd reminded them that reasons had been given. REPA was unsatisfied with this outcome and the lack of specific detail in the response from HS2 Ltd.</p> <p>Presentation of the REPA proposals HS2 Ltd noted that today's meeting was specifically regarding the latest REPA proposal and the report REPA had submitted.</p> <p>HS2 Ltd distributed an agenda as proposed by REPA and announced that the purpose of the meeting was not to provide specific details of actual cost calculations but to discuss the overall broad costs and the REPA report</p> <p>Discussion of specific aspects of the proposal Construction REPA spoke about the earlier M25 to Chesham bored tunnel and subsequent extension to Mantles Wood. REPA stated that during the February 2011 consultation that HS2 Ltd emphasised that the tunnel extension to 13km would save £250 million. HS2 Ltd noted that whilst that was the saving quoted for that section, costing of the current REPA proposal was based on a comparison of Proposed Scheme costs vs REPA proposal costs, costed on the same basis. In response to a question, HS2 Ltd confirmed that the internal tunnel was currently 8.8m internal diameter.</p> <p>REPA claimed that with their proposal there should be no need for the disposal of surplus spoil on the</p>			

Chilterns or for the road and footpath diversions currently required. HS2 Ltd noted that the excess spoil from the longer REPA tunnel would need to be disposed of either at the tunnel entrance in Dedham or removed off-site. Discussion turned to the REPA proposal. HS2 Ltd responded that this was a viable route and that Atkins had identified a vertical alignment which is similar to the REPA report with a tunnel portal between Ch49+400 and 49+470. It was noted and accepted by REPA that the track separation as it left the REPA tunnel would be wider than the Proposed Scheme at this point with wider and deeper cuttings. However, the tracks could revert to standard separation before reaching the Wendover Dean viaduct. The vent shaft location proposed by REPA was acceptable.

REPA informed the group that information in their Appendix 7 was based on content taken from the CRAG report which HS2 Ltd had provided in June 2013.

Programme

REPA asked about specific engineering aspects of the project, HS2 Ltd provided an explanation on the programme implication due to the extra length of tunnel that would be incorporated.

REPA emphasised that there were two separate issues needing to be addressed. The first being tunnel boring drive rates and costs; and the second the fit out of the tunnel which could potentially lead to a 1 year extension of the program.

REPA identified potential float in the programmes included in the draft Environmental Statement (ES) from May 2013 which would appear to limit the programme extension required. HS2 Ltd stated that current programme requirements indicated that the Chiltern tunnel remained on the critical path and tunnel extensions would therefore impact on the overall programme. The formal ES will contain updated programmes.

REPA queried provision of the tunnel boring machine (TBM) and manufacturing time. HS2 Ltd advised that TBM's would not be ordered or built ahead of the Parliamentary process.

Cost

REPA highlighted the findings from their cost report on the extended tunnel length. They noted that they had drawn on general figures provided by HS2 Ltd in the June 2013 HS2 Ltd review of the CRAG proposed tunnel and had also used the HS2 Ltd published average unit costs provided in Appendix A of the March 2012 'Cost and Risks model report'.

REPA also said that they felt that the bored tunnel extension they had calculated was within 4.2% of tunnel costs derived from the CRAG report, so they were perplexed at the difference in cost estimates between their estimate and the HS2 Ltd estimate.

HS2 Ltd noted that

- Our estimate was based on a comparison of costs between our Proposed Scheme and the REPA proposal, but using a consistent 'bottom-up' costing for both schemes. This ensured that both schemes were costed in a comparable way. HS2 Ltd costs estimate was based on specific cost rates for the actual works required, rather than the average rates noted in the cost report above which REPA had used.
- Costs omitted from the REPA costs but included in the HS2 Ltd cost estimate were noted as rail systems costs at approx. £15m, which would account for some of the difference between the REPA and HS2 Ltd cost estimate.
- It was recognised that there would be a land cost saving, estimated by HS2 Ltd at approx. £10m.
- There remained an unexplained difference between the REPA estimate and the HS2 estimate, believed to be mostly in the civils costs, which may include assumptions on 'green tunnel' costs.

Drive rates for bored tunnels were discussed. HS2 Ltd noted that average drive rates of 85-90m per week were currently assumed. REPA felt this could be higher, but HS2 Ltd noted that they needed to take a conservative estimate to ensure ES assessments were realistic. It was agreed that initial drive

rates would normally be slower at the start of tunnelling, increasing with time. Hence longer tunnels could potentially be 'cheaper' per metre run of tunnel than shorter tunnels, though HS2 Ltd noted that increasing tunnel lengths increase cost risks due to long handling and tunnel servicing requirements which could increase tunnel costs. HS2 Ltd confirmed that our cost build-up does assume fixed establishment costs plus time related drive rate costs and thus properly reflected the different tunnel lengths.

HS2 Ltd agreed to provide some additional comment on the REPA cost assumptions to assist in understanding the estimate differences.

Land

HS2 Ltd noted that land cost savings were approximately £18 million for CRAG and should be approximately £10 million for the REPA proposal.

Environmental issues

REPA raised the issue of the disposal of surplus material from excavations including Mantles Wood, South Heath tunnel and adjacent cuttings. HS2 Ltd confirmed that under the Proposal Scheme surplus material would be placed locally to minimise lorry movements, and this assumption was built into current cost estimates.

Next steps

REPA referred to the correspondence between Alison Munro and their PM. HS2 Ltd confirmed that the REPA proposal will be reported in the formal ES.

REPA noted that HS2 Ltd cost estimate for the longer bore tunnel will cost more and take 9-12 months to complete compared to the Proposed Scheme. HS2 Ltd agreed to provide some additional comment on the analysis of the REPA report's Appendix 4.

REPA asked for the disclosure of work Atkins has done subsequent to Alison Munro's email on the earlier alternative tunnel extensions. HS2 Ltd emphasised that the context of the letter was misunderstood by REPA and that the new topographical information and draft assessment will not be specifically provided. REPA requested that HS2 Ltd be more direct with their communication in future to which HS2 Ltd agreed.

HS2 Ltd offered a follow up meeting once the formal ES has been published and REPA had reviewed this; and REPA was grateful for this suggestion.

Any other business

None