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Meeting date:	28/01/2013
Meeting Location:	HS2, Eland House
Meeting Type:	CRAG tunnel review meeting No.2
Meeting notes taker	Deanne Payne HS2
Attendees:	
Neil Cowie – HS2	Shaun Ruffles– ETM
Colin Rawlings – HS2	Barnaby Osborne – CRAG
Andy Robson – Atkins	Ray Payne – Chiltern Conservation Board
John Chapman – Atkins	Mike Barden – CRAG
Ian Gee - Atkins	Rodney Craig – CRAG
Charles Crowther – ETM	John Henderson - Wendover Action Group
Apologies – Roger Waller - Wendover Action Group, Chris Thomas - ETM	
Meeting notes	
<p>Meeting starting with round table introductions between HS2, Atkins, ETM and Chiltern Ridges Action Group (CRAG) followed by a safety moment, in which the attendees were advised of the emergency exit procedure in case of a building evacuation.</p> <p>The CRAG tunnelling options T1 and T2 have been assessed by Atkins on behalf of HS2. A draft engineering report has been produced, which was sent to CRAG on the 21st December 2012. CRAG acknowledged receipt of this report with thanks.</p> <p>Report content CRAG wanted some clarification on the basis of comparisons that Atkins used to produce the report.</p> <p>It was reiterated that as advised at the previous meeting, the CRAG submitted tunnel options had been amended to comply with the current HS2 project requirements. This included an assumption of a larger internal tunnel diameter of 9.7m being required compared to the original published route assumption of 8.9m (though this remains under consideration by HS2). Atkins confirmed that the comparison was thus being made on a like for like basis with the current development of the HS2 Post Consultation Route (PCR). The northern limit assumed for the CRAG tunnels had been defined as the northern end of the green tunnel at Wendover for consistency of assessment with the PCR. Due to the need to retain appropriate cover to the bored tunnel, it was assumed that this would need to transition to a green tunnel just to the north of Ellesborough Road.</p> <p>HS2 noted that no changes could be made to the location of the recently advised maintenance loop included near Stoke Mandeville and hence any revisions to the vertical profile due to longer tunnels need to ensure that the existing profile through this location is retained.</p> <p>Atkins clarified that the current bored tunnel separation (C/L to C/L) is 21m and hence this would require a wide section of green tunnel at the transition, or two separate tunnels. There are several design options available for tunnels when transferring from bored to green tunnel.</p> <p>To provide a fair comparison between the CRAG tunnel options and the current HS2 scheme, HS2 costs for the T1 and T2 options have been based on current cost assumptions, rather than earlier scheme costings as used for the January 2012 reports. It was noted that the Brett report cost estimates were based on information in the 2012 published reports.</p>	

HS2 noted that the Atkins report will remain in draft status for the time being. It was acknowledged that the 25 seconds estimated extra time travel is incorrect (it was based on theoretical design speeds, not actual) and is to be amended. In addition, we are continuing to look at tunnel sizes and the construction cost estimates will be reviewed and reflected in the report if we revert to a smaller tunnel diameter. Tunnel speed, ventilation and aerodynamics all need to be considered in assessments on tunnel diameter.

Atkins confirmed that the current cost estimates are +/- 40% (reflecting items not specifically costed, contingencies etc.), but that estimated costs were consistent between options.

HS2 noted that the CRAG report was discussed at the recent Bucks County Council Planning Forum on Thursday 24th of January.

CRAG enquired how the ventilation shafts will work. The ventilation shafts will operate to control smoke emissions during fire incidents and may provide pressure relief. Ventilation shaft spacing may vary, HS2 are proposing 3km spacing though spacing can be closer if required. It was confirmed that the cost for shaft S8 (near Bacombe Lane) required as part of the long tunnel options is included in the cost estimate.

It was agreed that diversion requirements of electrical pylons would be less for the CRAG tunnel options than for the current proposed route.

Environmental impacts and other costing's (eg property) were not included in the draft report, only engineering and rail systems costs. The environmental assessment for the long tunnel will be noted in the draft ES

CRAG queried whether the draft ES would contain drawings of the long tunnel options. HS2 advised that they would be described as alternative options looked at but no drawings would be included, in line with any other alternative options noted.

It was reiterated that costings cannot be applied for a smaller tunnel diameter at this stage on the T1 and T2 options as desired by CRAG as we are currently assuming larger diameter tunnels being required and need to be consistent on the option comparison.

TSI Requirements

CRAG understood that the current TSI was under review and wanted clarification if a revised version of the TSI has been taken into account by HS2. HS2 confirmed that the published TSI is still being used as that remains the current valid version.

On the PCR, the Mantles wood portal provides tunnel maintenance and emergency facilities in accordance with the TSI, and has been presented at the community forums.

For long tunnel options the open box structure required will have unique facilities to service two separate tunnels. It was noted that shared access down to the portals is possible subject to the safety authority approval but each tunnel would require separate emergency facilities. Road access to Mantles Wood portal can realistically only be from one side. The open sections assessed by HS2 on the CRAG proposals would meet current TSI requirements.

CRAG enquired if the train size has been decided yet? It cannot be determined at this stage but it will be after Hybrid Bill.

Spoil disposal

For the long tunnel options it is assumed that excavated material disposal from the northern tunnel will come out at the Wendover end of the tunnel and may need to be run off-site (possibly by rail). This would be noted in the draft environmental assessment. Alternatively, it may be used for embankments northwards on the route or into other landscape uses. CRAG stated that spoil placed in the AONB would prevent the landscape from coming back to its natural state.

The draft ES to be published in the spring will address landscaping on the route and will be available to the public.

Costs

CRAG considered that the estimated cost of the PCR had increased from £1.13bn to £1.42bn; CRAG also noted that the difference in cost calculated between the CRAG options and the current PCR estimate was over £400m compared to the £35-£65m assessed in the Brett report. HS2 stated that cost estimates were being refined, with current tunnel costs based on the larger tunnel diameter currently assumed, although HS2 were unable to say how much of the increase was due to the change in tunnel diameter for reasons of commercial sensitivity. Also there is more detail available on the route which will not have been specifically assessed in the original PCR base figure which allows a more accurate estimate to be made.

CRAG asked for the breakdown of the individual cost elements in the draft report to understand how the cost was determined. However, due to commercial sensitive around the costs, HS2 are unable to release this information. It was noted that cost estimates are based on information drawn from other projects and current tender rates. CRAG was disappointed that they could not get further clarification on the cost breakdown.

CRAG find it difficult to accept HS2 conclusions on costs, as no cost breakdown information can be given out and they don't understand why the difference in cost between Tunnel options T1/T2 and the developed PCR is so much more now than their assessment. HS2 stated that the original published Arup assessment was done at an early stage of the project based on tunnel assumptions at the time, some of which are no longer currently valid. Since then more construction detail is available, the tunnel diameter is currently different to that used in the earlier assessment and these form part of the cost estimates for the current PCR scheme vs the current long tunnel options. These ensure a fair comparison is made at this point.

CRAG wanted to re-iterate that they are very disappointed that not more cost information was given and that no explanation was provided on the increase in cost difference between their estimate and the HS2 estimate.

Wendover portal

Sound levels at Wendover will be addressed in the draft ES as well as identifying noise mitigation proposed for viaducts. CRAG enquired about specific tranquillity numbers for the AONB; HS2 will respond separately with an answer.

Construction issues

The A413 road is vital to the local area and concerns were raised by CRAG that during construction its use for construction traffic will cause considerable disruption to the community. CRAG also noted the importance of the Chiltern line to the community.

CRAG queried the size and location of the suggested construction compound to the north of Wendover added by HS2 for construction of the longer tunnel. HS2 noted that they had shown two potential locations, either of which was assumed suitable as a construction compound. It was confirmed that only 1 of these would be required.

Cost benefit analysis

It was noted that the draft HS2 report focusses only on engineering and construction cost assessments. It does not address any wider economic appraisals of the route. HS2 Ltd acknowledged recent receipt of the Chiltern Conservation Board's paper of Dec 12 entitled 'Valuing the impact of HS2 on the Chilterns'. CRAG believed that including these benefits would make the tunnel option very competitive but recognised that this meeting was not the appropriate forum to discuss those issues.

Outcome

The HS2 engineering review of the CRAG longer tunnel proposals had indicated an approx. £400m

difference between either of the T1 or T2 tunnel options compared to the currently developed PCR. This compared to the CRAG assessed difference of some £35-£65m, though as HS2 stated, this was based on early cost estimates and did not reflect current project assumptions.

HS2 stated that on this basis, the assessment had reconfirmed the previous decision taken by the Secretary of State in determining the PCR. This had terminated the Chiltern bored tunnel at Mantles Wood and this will remain the proposed option to be presented in the draft ES. The longer tunnel options as assessed will be noted and briefly reviewed in the ES as alternative options considered.

CRAG asked if the draft assessment report prepared by HS2 can be distributed wider and HS2 confirmed that it can be. HS2 reiterated that it will stay in draft format pending an update on journey time differences and to allow for revisiting of the cost comparison if project assumptions change on tunnel requirements.

HS2 are happy for CRAG to report back directly to the community on the details of this meeting.

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