

The Network Rail (Leeds to Micklefield Enhancements) Order

Summary of overhead line equipment electrical clearances

The purpose of this note is to provide a summary of information relating to existing and proposed electrical clearance dimensions for overhead line equipment (OLE) for the four listed bridges (Austhorpe Lane, Crawshaw Woods, Brady Farm and Ridge Road).

Indicative existing dimensions from the track level to bridge soffits are provided in the listed building consent application Alternative Options Evaluation Summery (AOES) reports (CD 1.18.12; 1.18.19; 1.18.28; 1.18.37 – refer to Table 1 for AOES figure reference numbers).

An illustration of the increase in the track level to replacement bridge soffit measurement can be seen in the planning direction drawings (e.g. CD1.14.46 – Ridge Road Bridge – Proposed Elevations East). In these drawings, measurements are taken from the Down Hull track, close to the centre point of the new bridge soffit and give an indication of the soffit height increase in a similar location when compared to the equivalent AOES figure.

As set out in Paul Harrison's aural evidence, the OLE clearance design standard applied to the Order Scheme is 270mm, but the bridge designs build in some additional design tolerance to allow for local detailed design and operational factors. From inspection of the AOES figures and planning direction drawings, it can be seen that the OLE clearances / increase in OLE clearance varies depending on which point you are measuring from on existing and proposed structures.

Figures 8 and 14 in the Proof of Evidence of Paul Harrison illustrate the particular constraint imposed by the existing curve of the arch (shown in green) over the Up Hull line is addressed by both the higher and wider arch of the proposed replacement (shown in red). The dimensions in figures 8 and 14 cannot be directly compared with the dimensions in the AOES and draft planning direction drawings referred to above because the latter are based on more recent design information.

Table 1 provides a summary of the existing OLE clearance dimensions for the Up Hull and Down Hull lines and whether the existing situation would, on the introduction of OLE, be foul or clear.

Table 1. Summary of existing OLE electrical clearance dimensions

	Existing clearance	Reference
Austhorpe Lane		
Up Hull	400 mm FOUL (i.e. –400mm)	AOES Figure 3
Down Hull	200mm CLEAR (50mm TMLA, 150mm passing EC)	AOES Figure 3
Crawshaw Woods		
Up Hull	215mm FOUL (i.e. -215mm)	AOES Figure 3
Down Hull	175mm CLEAR (VCC) (50mm TMLA, 125mm passing EC)	AOES Figure 3

Brady Farm		
Up Hull	180mm FOUL (i.e. – 180mm)	AOES Figure 4
Down Hull	300mm CLEAR Basic EC (100 mm TMLA 200mm passing EC)	AOES Figure 4
Ridge Road		
Up Hull	270mm FOUL	AEOS Figure 4
Down Hull	250mm CLEAR (No VCC) (50mm TMLA, 200mm passing EC)	AEOS Figure 4