**RSSB2711 - T1150 - A feasibility study into the use of High Voltage couplers on rolling stock**

Tender Question and Answer Document

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| **Supplier Question 1**  The enquiry makes reference to previous testing of a potential design and patenting of same; will the details of this design, the testing completed and results obtained be made available to the successful bidder as a basis for the study? |
| **RSSB Answer 1**  I understand that the design so far is a concept that has been developed and has been patented. I attach the document with all the information I have. The patent is <https://www.ipo.gov.uk/p-ipsum/Case/ApplicationNumber/GB1216913.2> The link to the patent is probably all we can provide. |
| **Supplier Question 2**  It is our assumption that, in this context, ‘HV’ refers to 25kV systems; can RSSB please confirm that this assumption is correct, or else clarify the voltages to be considered? |
| **RSSB Answer 2**  Correct |
| **Supplier Question 3**  Further to item 2 above, are we required to consider options for running a 25kV bus-line from cab to cab, including tapping into the existing HV cable, as part of the study? |
| **RSSB Answer 3**  **Yes** |
| **Supplier Question 4**  Is the aspiration to achieve automatic coupling of units (e.g. to allow re-forming of units during planned diagrams in line with current practice), or is a semi-permanent arrangement proposed, i.e. units formed at depot prior to service commencement, and remaining in formation until returned from traffic? |
| **RSSB Answer 4**  Both options should be considered in the business case and then eliminated if appropriate due to factors that affect the solution e.g. technology constraints. |
| **Supplier Question 5**  Is the expectation that such a system could be retro-fitted to existing EMU stock (implied), or is consideration only to be given to new vehicles? If retro-fit is the expectation, are there specific vehicle classes that are of specific interest at this stage? |
| **RSSB Answer 5**  Both retrofitting and new build should be considered. Costs should be considered separately for all. Example types of units to consider are four car mid-life units as these and those that could be speed enhanced as these is where the benefits could be realised. |
| **Supplier Question 6**  Noting items 2 and 5 above, and that this is intended to be a desk-based activity, it is assumed that detailed consideration of cable runs, which would require physical inspection of vehicles, would not form part of the initial feasibility study. Please clarify. |
| **RSSB Answer 6**  High level proposals should be provided but an indication of the work required for cabling and management of EMC should be considered to make the feasibility study realistic. |
| **Supplier Question 7**  The enquiry makes reference to economic considerations. Subject to clarification regarding the scope of the study, it may be possible to provide an estimate of likely equipment and installation costs (although the impact of variance between vehicle classes and types would require additional specific consideration to provide more accurate figures, and would not from part of this initial output); however, it is assumed that estimation of any cost benefit resulting from such an engineering change, if successful, would not be part of the supplier’s scope for this initial activity, and would be undertaken as a separate study. Please confirm that this assumption is correct. |
| **RSSB Answer 7**  An estimation of the costs would be useful and the sources of cost saving e.g. more units/more paths/less maintenance |