**New Cross Traction Paralleling Hut**

Power + Line was retained to provide the platform for a new Traction Paralleling Hut (TP Hut) module for UK Power Network Services as part of their Kent PSE Phase 2 project to upgrade the electrical infrastructure of the railway in Kent and South-east London. This involved piling works and the construction of a reinforced concrete ring beam on which the new TP module was placed.

This was done on a raised embankment close to residential properties, so accurate knowledge of ground conditions and the precise location of the piling rig was essential.

Once the new module was up and running it was decided to dismantle the old brick-built TP hut down to floor level. This demolition would have been straightforward were it not that one of the main feeder cables for the region was in a C1/9 trough route that was supported on cantilever brackets fitted to the old TP hut brick wall, along a length of some 46 metres. This particular cable was of 66,000 volt capacity and had been in service since the early 1960s. This meant that the cable was very delicate and had to be handled carefully during its protection. This also meant that its original position would have to be maintained and that the cable could not be moved.

As an added complication, directly underneath the supported route C1/9 feeder route was a ground level C1/43 trough route containing LV / Signal and telecoms cables.

It was decided first to remove the defective C1/9 concrete troughing from around the feeder and install a temporary wooden structure that would surround the route and provide adequate protection during the building dismantling process. This was carried out during two 12 hour High Voltage switch-outs.

This work was carried out by carefully de-lidding the route and then, due to the brittle and delicate nature of the feeder cable, using portable tripod frames with block and tackles and nylon support slings to gently raise the cable from it original position. By doing this, only a minimal length of cable at a time was exposed which reduced the risk of anything happening to unprotected cable. The old concrete trough route and bracketry was then dismantled and removed. The area was CAT scanned for services and new post holes were dug to accept scaffold putlocks which were fixed in position using fast-setting concrete.

These putlocks were braced by a short section of scaffold tube. A timber trough was screwed together and checked for any sharp edges and secured to the scaffold tube braces. The section of cable was then carefully lowered into the new timber route and the process repeated until complete.

Dismantling of the remaining TP hut wall then took place by hand during additional HV switch-outs.

When the remaining TP hut wall had been the removed it became necessary to replace the temporary route with a permanent type.

This was done with the same methodology used for the temporary route, but with the scaffold putlocks being replaced with galvanised unequal angle. Suitable concrete troughs were placed under the suspended cable and in to the steel support frames.

The work of removing the temporary route and replacing it with new permanent protection was continued until the route was completed. The trough lids were then secured to the troughs by means of stainless steel bands.