

Scottish Construction Safety Group

Minutes of the meeting of the 24th of October 2019

There were 22 members and guests present at the meeting. Ricky Guy introduced Peter Ashcroft of Sygma Solutions who was giving a presentation service detection. Much of the presentation was based on drawings and videos.

Peter began his presentation by advising that Sygma are a training provider focussing on one topic the detection of underground services. During the training they also cover the interpretation of service drawings. Peter started his career with Radiodetection and has only worked in the service detection industry. Sygma was formed in 2005 and provides courses to the NVQ level 2.

It is important to recognise that the CAT and Genny are used for service location not service avoidance and that users are not confident when using the Genny. For this reason Sygma start the training with the Genny so that the users fully understand the importance of the Genny. The Power and Radio modes are passive detection modes whilst the Genny is an active mode.

The CAT alone in Power mode is not necessarily totally accurate as it can be difficult to identify individual cables (this is partly due to the design of modern cables where each current leakage is minimised and each phase sends its own signal which interferes with the other phases all of which can cause confusion with other cables signals and can give the strongest signal to the side of the actual line of the cable). The detection also depends on the

- current draw, at the extreme if there is no current you cannot detect an example given was when a survey is carried out at breakfast time you will find more services than at mid-morning and
- background magnetic field

A problem in Power mode is that there are two sensors for picking up the magnetic field the first at ground level and the second near the top and when a service is being traced during a trial dig when the CAT is used in the hole if there is a cable at a higher level the signal may be cancelled out.

In Radio mode the signal being traced is a MOD signal and this is switched off every Thursday morning making service detection in Radio mode more difficult at this time (may also switch off at other times, times listed on a website – didn't get the web address). Services being traced in Radio mode require to be continuously earthed, however modern cables to homes are only earthed only at one end. Radio mode is more accurate as you dig.

The Genny mode is therefore the most accurate as a signal is induced either by direct clamping, wrapping the clamp cable around a service when clamping isn't possible, setting the Genny above the service or through the use of a sonde in a pipe. Peter then went on to give a demonstration in the room in the various modes and gave advice such as

- when connecting to a lamp post keep the earth spike as close to the post as possible to allow the cable to be identified closer to the post.
- Placing the earth spike at a distance when a pipe is being followed (there is an extension earth cable available)
- Moving the location of the earth spike to get a better idea of some services
- Laying the earth spike on the ground and pouring water on it if there are concerns about services (or on hard standing where the spike wont penetrate the ground e.g. concrete)
- Pulling the earth spike partly out of the ground if the signal is too strong and an accurate position can't be found
- The Genny should be at least 10 metres from the area of concern to minimise interference

Please reply to Roy Jackson c/o BAM Nuttall, Glasgow Road Kilsyth G65 9BL
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<http://www.scottishconstructionsafetygroup.org.uk>

- Careful use of the drawings can help you to trace individual services
- High voltage cables have a low magnetic field and due to this can be difficult to locate
- As the Cat reaches the Genny or clamp it can be swung on its side to cause a blank spot when they are too close. It should be noted that this will show up as misuse on the record of use.
- If a CAT with data logging is used the split of the functions would ideally read 80% genny, 10% power and 10% radio and although these will vary with the specific location the genny mode should always be the dominant function.

Dates of future meetings in the Hilcroft Hotel Whitburn at 13:30 are:

November the 21st Jon Christie BAM Ritchies Drill rigs - Quality matters

December the 12th Christmas lunch

January the 23rd Katherine Brydon Pinsent Masons

February the 20th Dave Forrester Select electrical installations 18th edition

March the 19th Susan Donnelly HSE vibration

April the 23rd

May the 21st.

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