



## Tool Box Talk – Underground Services July 2006

### Aim

This Tool Box Talk is aimed at everyone involved with excavating or penetrating the ground. As working in the ground is Barhale's 'bread and butter' this toolbox talk is relevant to all.

An underground service could mean any underground equipment associated with electricity, gas, water (including sewage) and telecommunications industries. This also includes High Pressure Pipe-lines that supply petroleum and gases throughout the United Kingdom.

The intention is to give an overview of the problems with digging and what is required to make the work safe.

### Why Bother?

Working in the ground has its hazards, one of them being striking of underground services. Barhale has still got a high incident rate for service strikes. In the past Barhale has made the news due to service strikes and also we have had some very serious near misses involving high voltage cables.

Service strikes need to be considered as near misses, as they are unplanned, unwanted and could cause serious injury or even death. Hitting a cable can have consequences to more than one person, these could include:

1. **Injury**, or fatality to the people in the immediate area
2. **Cost** of repair work following an underground service strike
3. **Delay** in work programme
4. **Disruption** to other people, such as the customers

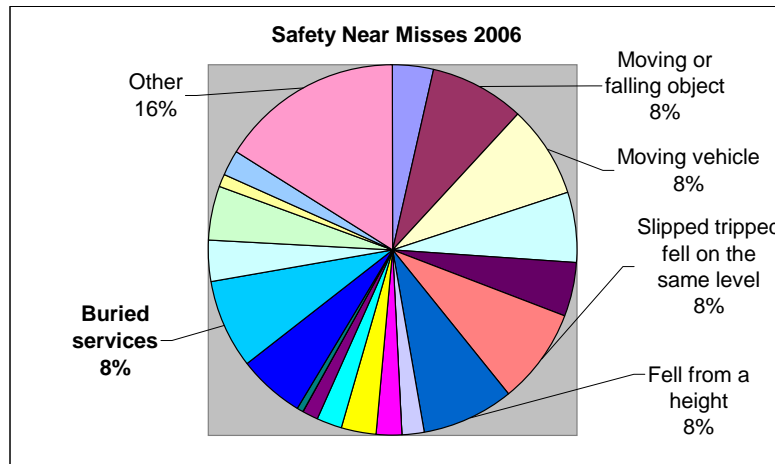
The scale of the issue to Barhale can be seen by the following statistics

#### 1. **Financial:**

During the year 2004 and 2005, Service Strikes cost Barhale £126,401, with a further potential £245,500 still expected to be paid. This brings potential costs to **£371,901 for a year**. These are known costs, with many having the potential to cause injuries. The costs for the delay in work and administration are not included.

#### 2. **Near Misses:**

As can be seen from the graph below on Barhale near misses in 2006, cable strikes represented 8% of all near misses reported making it one of the single biggest type of near miss



### Causes of underground service strikes:

Underground services are damaged due to a number of different reasons, these may include:

1. **Poor Planning**
2. **Rushing** to complete a section of work
3. **Poor digging techniques**
4. **Lack of information**
5. **Inaccurate plans**
6. **Lack of care** around the services
7. Not using or improper use of the **Cable Avoidance Tool (CAT)**

In most cases of service strikes it is a combination of all or some of the above and increasingly we are finding that we are damaging cables we have already exposed. To avoid the strike happening there should be a Safe System of Work in place.

### Safe System of Work

A Safe System of Work is needed all the time. The Health and Safety Executive have provided a guidance document, Avoiding Danger from Underground Services (HSG 47). A Safe System of work should be followed when underground services may be found and where work involves penetrating the ground at or below surface level. Services should always be assumed as present, unless it has been shown otherwise.

There are five basic elements to a Safe System of Work when digging.

- **Planning the work** – Timescales, protection of exposed services and diversions of services
- **Service Plans** – accurate , readable and available to all
- **Cable Avoidance Tools (CAT)** – Trained individuals , Calibrated and serviceable tools
- **Safe digging Practices** – Trail Holes , Hand digging when appropriate
- **Permit to Work** - issued by the supervisor prior to excavation starting

In all cases, the person managing the work needs to ensure that **Company Procedures** and **HSG 47** are used as a reference to develop the safe system of work.

### Conclusion

As a company Barhale damage too many buried services causing delays, inconvenience and additional costs to the jobs but most worryingly exposing people to harm. There are as



discussed many reasons for service strikes but all can be avoided by good planning and following a Safe System of Work.

In the UK every month a person digging up the road dies from a service strikes with 60 others being seriously injured, these are people like us who have a job to do. Don't be a statistic!

### Questions

1. When undertaking an excavation what should be in place?
2. What is the percentage of near misses reported by Barhale which relate to buried service strikes?
3. If you are undertaking excavation work now do you know
  - a. Who is the NRSWA Supervisor?
  - b. Who has the permit to dig and is it in date?
  - c. Where to find the service drawings?
  - d. What the Safe System of Work says about protection of services?