PERMIT TO BREAK GROUND

Aim and purpose

The aim of this guidance is to identify what should be included in a permit to break ground and additional items which are best practice to further improve controls in avoiding underground services.

The purpose of any permit to excavate/dig is to make sure that:

a) people are protected from harm
b) underground services are protected
c) people methodically follow the correct steps
d) roles and responsibilities are correctly defined and understood
e) Contents and restrictions defined in the permit are properly discussed and communicated to all people involved in the excavation activity.

1 People who should be involved in the permit process

The following people should be either involved in the issue, acceptance, monitoring or working under the control of the permit to excavate:

a) The Issuer (a competent service coordinator)
b) The Acceptor (a competent team leader or ganger)
c) The Machine Driver and Banksman (need to be aware of service locations to prevent damage)
d) The other Working Gang/Team members (need to be briefed on the hazards associated with the excavation works and the proximity of services and protection requirements and exclusion zones)
e) The Supervisor and Manager (need to ensure compliance with the permitting regime and challenge non-conformances)
f) Client representatives / third party owners (where they are involved in supervision or isolations)
g) Other Contractors who may be working in the same excavation

2 Management and Issuing of Permits

Suggested behaviours around permit issue and working

The following active and positive behaviours by Management (including supervisory levels) and Personnel involved in excavation activities and working in close proximity to underground and overhead services should be encouraged:

- Permits must be completed and issued in the location in which they apply and not in a remote site office
- Only competent personnel should issue and accept a permit to excavate
- The issuer should actively engage with the Acceptor, Machine Driver, Banksman and other site personnel and involve them in identifying services, marking out and identifying trial holes during the permit issue stage
- The Issuer should walk the full excavation route with the Acceptor, Machine Driver and Banksman before permit issue to identify services covered by the permit

- Permits must not be allowed to overrun
- Where the activity or the scope changes significantly work must stop and a permit to excavate/dig should be re-issued
- All permits should be cancelled and handed over by the Issuer and Acceptor
- All gang/team members should sign the permit to confirm understanding and receive an appropriate briefing by the Issuer even when they join the team after the first day of the activity, i.e. not part of the work gang at the initial briefing
- All hold points stated on the permit must be followed and completed where actions or information are not evident or available at time of issue
- Management should regularly monitor compliance with the permit issue and acceptance system and challenge where non-compliance is evident

3 Permit requirements to manage isolations

The permit should identify any isolated services and whether these have been arranged and completed. Where services are to be isolated the permit should either:

- Confirm that these isolations have either been completed
  OR
- Give clear instructions as to the arrangements for isolation and any limitations on working practices prior to isolation

Following works communicate with asset owner who undertook isolation to advise that restoration can be undertaken.

4 Permit content

A Permit should normally contain the following, and organisations should identify the appropriate place for ‘Hold Points’ which will require positive confirmation prior to any work continuing.

Permits should:

- Be in duplicate or triplicate formats to ensure that those who need copies have them
- Include the geographical area (Site/Section of works) to which the permit relates
- Clearly state date and time of issue, review / expiry date
- Confirm who the Issuer and Acceptor are and their designations
- Be issued by a competent person e.g. Appointed Services Coordinator
- Be accepted by a competent person who is responsible for the day to day supervision of the excavation work (e.g. a Team Leader/Ganger)
- Clearly state what methodology is being authorised e.g. breaking of surface, excavation, driving of steel sheets for excavation support, driving of piles, auger bore, horizontal directional drilling, etc.
- Cross reference whether they are to be used in conjunction with other permits, e.g. Confined space, Electrical, Drilling and tapping, Cutting, Temporary Works, Hot Works, etc., and are to be reviewed to ensure that they do not conflict with those permits.
- Specify the requirements for trial holes to be dug where appropriate
- Confirm that a full cable and pipe avoidance tool and frequency generator scan has been completed and services identified including visual surveys
- Confirm the requirements for re-scanning using the full range of modes of the cable and pipe avoidance tool and frequency generator, e.g. at least every 300mm during excavation works

- Confirm that located services are correctly marked and exclusion zones indicated (refer to section 5)
- Confirm that all utility and 3rd party (e.g. oil pipelines) drawings are, available in colour (where applicable), within 3 months of date of issue from Owner, clear to read, have any associated cross sections provided and copies are provided to all relevant site personnel to ensure that where shared works are undertaken each team has a copy.
- The permit should be discussed by all people involved in the work activity. Briefings to plant operators and operatives to include control measures to be applied to exposed underground services. The briefing should provide the opportunity to discuss these controls and arrangements. (Refer to section 6 for the suggested checklist) diversions where applicable and that the necessary arrangements have been made
- Identify critical high risk services, i.e. Medium, Intermediate and High Pressure gas pipelines, HV & LV cables, Oil Pipelines, Overhead Cables and the associated safe systems of work either referenced or detailed. Where Utility and 3rd Party Owners are required to be present during works this should be detailed on the permit
- Specify the control measures associated with the protection of any known cables or services in poor condition or which require support.
- Cross-reference Risk Assessments and safety Method Statements (RAMS) applicable to work around high risk services (and be attached to the permit

5 The additional items are best practice and could be included in permit formats:

- Permits should not last longer than necessary, e.g. 1 week (shorter where there is likelihood of change of conditions)
- Stipulate that service prints are 1:500 for green field sites and 1:250 for congested sites
- Attach relevant work area sketches
- The use of a hazard diagram showing all underground service and 3rd party apparatus locations and other associated hazards, i.e. substations, overhead cables, etc.
- The permit should identify the diameter of exclusion zones and the excluded plant and equipment.
- A zone plan should be attached to the permit to confirm which type of tools can be used to what proximity of each service to be encountered
- Whether under pressure drilling is required to identify the service and confirm whether the service is de-pressurised to allow work on the pipeline to proceed. This could result in the introduction of a permit to cut
- Record the calibration dates of the cable and pipe avoidance tool and frequency generator equipment (or other location equipment) to be used
- Machine Drivers/Banksman to sign and confirm acceptance of the permit controls
- Include compliance monitoring within the permit, i.e. the Issuer signs the permit to confirm that its requirements are continuing to be met.

6 Application of safety margins (proximity zones)

Where congestion of underground services renders the 0.5m safety margin impracticable or where surface obstructions limit the space available the safety margin may be reduced but only if;

a) A safe method of work has been agreed with the asset owner and is documented in a site specific risk assessment, e.g. use of air lance and suction excavator, and

b) The cable has been exposed by hand digging under the surface to be broken out and is at a safe depth (at least 300mm) and
c) Physical precautions have been taken to prevent the tool striking the cable

Refer to HS(G) 47 (page 25) for further details and guidance regarding protection zones.

7 Suggested 6 point checklist for Operatives and Machine Drivers/Banksman to sign:

a) Have you been briefed on the method statement and permit to excavate for this work?
b) Do you have accurate up to date drawing(s) of the site showing the location of all the services in the area, a key or legend, and the boundaries of your working area defined as well as a copy of the permit and RAMS?
c) Have you been shown the location of the existing services and have you been told of the safety zone for each service?
d) Can you see the service markings and are the critical high risk services adequately protected?
e) Do you know what equipment you can use and how close you can get to each service with it?
f) Have you had an opportunity to ask any questions and are you confident that you can carry out your work safely?