F-JHG MS29: Working Near Overhead Electric Services

Scope of Works

Working Near overhead electric services:
Note: A Site-Specific POWRA shall be completed prior to commencement of works. The particular hazards associated with this task are documented in the library of Risk Assessments.

Sequence of Works

- If the safe distances from overhead lines detailed in the Code of Practice (3m from HV, 1m from LV) cannot be obeyed then this should be detailed in the job pack.
- If the job includes any work at height, or the use of any machinery and there are no survey details with the job pack a visual inspection for the present of Overhead services must be completed.
- Park vehicle safely.
- Ensure that a HSEQ Manual is on site, together with full job pack
- Check and ensure that all relevant site access permits, safety cards and paperwork is available on site and correct before commencement of works.
- Check and ensure that all plant and machinery are in good working order, have up to date certification and the operators have the compliant and in date licenses
- Check that client and relevant persons are informed and agree commencement date
- Check that all required materials are available and on site when required.
- Ensure that Briefing and Toolbox talk documents are available.
- Ensure that the site has been booked in to upon attendance (site provider requirement, check job pack)
- Check site for potential hazards and note on POWRA. Rectify if possible. Mark danger area & inform crew regarding potential hazard.
- Place emergency equipment (fire extinguisher & first aid kit) in designated area.
- Select an appropriate Traffic Management plan.
- Ensure that all task specific PPE is available, has been checked and is in good working order prior to carrying out any activities.
- Ensure that all relevant and appropriate Health and Safety Barriers & traffic management signage are in place before commencement of work
- The voltage of the cable is required to determine a safe distance. If the lines presence is low voltage, then an **exclusion zone of 1m** must be clearly marked in the direction of the work area (by use of a cone & signage). If the lines present are high voltage, then an **exclusion zone of 3m** must be clearly marked in the direction of the work area (by use of a cone & signage).
- If work is within these exclusion zones works must be supervised by a JHG Supervisor and a permit to work in close proximity to overhead lines must be filled in.
- If the client request that client apparatus (i.e. BT pole) is constructed within this area then a formal request must be submitted to the client for approval, before work commences.
- If excavation works are required directly under a OH service, the works most be supervised by the JHG supervisor and a permit to work in close proximity to Overhead services must be filled in.
- Once works are completed in the exclusion zone, works can continue as normal.

Plant & Equipment and Certification Required

All plant & Equipment must be serviced, and/or calibrated to the requirement of legislation and the manufacture. Any electrical tools required e.g. drills, sump pump, jigsaw, will all be 110v in line with the current regulations.

Staff Involved and Certification Required

Only trained, competent authorised personnel shall be permitted to carry out works. All Construction workers must have the required basic legislative health and safety training and Manual Handling Training. Each crew collectively should have a combined training of:

- Sign, lighting and guarding,
- 1st aid training
- Overhead training

Access and Egress Points

Only permitted access/egress points will be used. Vehicles will be parked in a suitable location, causing no obstruction to the site provider/ or adjoining users. Any directions / instructions issued by the site provider, as detailed in the site survey will be adhered to.

Interface with Public

Access is generally arranged by the office and arrangements conveyed to the PICW. All required third party notification / procedures will be addressed by the P.I.C.W. Work area will be cordoned off to prevent unauthorized access. Appropriate signage will be erected.

Signage:

A Traffic Management Plan will be completed prior to work commencement & a traffic management plan set up on site including Traffic Management Signage & Barriers. The traffic management plan is a way of planning and ensuring road users can move safely through/around the site while at the same time keeping construction workers safe.

Working hours

Normal Working Hours will be 08.00-17.00. Where an emergency Call out is required the working hours may be altered to suit the Client requirements to be agreed by JHG Supervisor.

PPE

Safety Boots, Helmet, Gloves, Hi Viz Clothing Safety Boots, Helmet, Gloves, Hi Viz Clothing, , Eye protection (as required), Ear protection (as required), Dust Mask (as required),

F-JHG MS 30: Identification of 110kv lines:

Introduction:

This task specific method statement is developed and used in accordance with the Contract Specific Health, Safety Plan/Risk register. The particular hazards associated with the task are documented in the library of Hazard Specific Risk Assessments. All site-specific safety information will be compiled at the Design Stage of this Project and will be documented on an SSI (Site Specific information). A safe system of work shall be in place prior to commencement of works.

Scope of Works

Identification of 110kv lines during Survey/& Pre-Works Commencement

Sequence of Works

- The client and JHG responsible person will jointly identify the line and structures to be worked on. They shall be in possession of:
- Line Identification Maps (1:50000 O.S. maps)
- Wayleave Access Maps (6'' maps)
- Line Patrol Document
- Cassette Plan

These Documents will be used to locate and identify the line and structures to be worked on (work sites) and are in addition to the normal methods of identifying work sites using the pole set / tower danger notices.
The timing of the above is crucial and sufficient resource and lead time will be made available to satisfactorily complete the task prior to commencement of work.
If Danger Notices are found to be legible then these shall be deemed sufficient to identify the work site.
However, if there is any doubt as to the identification of the line name or structure 'HIGH VISIBILITY 'site notices shall be securely attached to the pole / tower to identify the work site.
The placing of these notices shall be carried out by the client and JHG responsible perosn.
The site notice shall read:
Fibre Optic Wrap Work Site
Line Name
Pole no.
Activity - (spin point / splice point, structure to receive earths etc)
The coordinates of each work point will be noted and documented to be included in the construction job pack.
In addition to placing site notices at spin, splice and earthing points, the client/JHG (to be confirmed) responsible person shall also place site notices on any structure where the top of that structure is not visible from an identifiable structure.
Once identification has been completed the relevant responsible person will confirm that the work sites have been identified and labelled.
When work on a particular line is completed the responsible person (TBC) will remove all work site notices. If it is intended to return at a later stage for additional / remedial works, the work locations shall again be identified using this procedure.
The temporary location of equipment that is being swapped is highlighted in the site survey (for delivery and collection purposes). There should be no need to store other equipment on site. Consumable are delivered with the equipment. Whatever consumables are not used are removed from site along with

general rubbish. Packaging material is removed by the logistics company.

Plant & Equipment and Certification Required

Operatives shall be fully trained and be in possession of calibrated equipment and task specific PPE.
Work site Identification Labels

Staff Involved and Certification Required

Only authorised personnel shall be permitted to carry out works. A minimum of two work team member will be on site at all times, no lone working permitted. Where required technical training is provided to staff on specific equipment Certification of subcontractors e.g. MEWPs are checked

Access and Egress Points

Only permitted access/egress points will be used. Vehicles will be parked in a suitable location, causing no obstruction to the site provider/ or adjoining users. Any directions / instructions issued by the site provider, as detailed in the site survey will be adhered to.

Interface with Public

Access is generally arranged by the office and arrangements conveyed to the Supervisor/PDM. All required third party notification / procedures will be addressed by the Supervisor/PDM. Work area will be cordoned off to prevent unauthorized access. Appropriate signage will be erected.

Signage:

Signage will be erected at the site entrance (Where applicable) to identify construction activity

Working hours

Normal Working Hours will be 07.00-19.00. Where an emergency Call out is required the working hours may be altered to suit the customer requirements. This timing will be agreed between the project manager and the service provider.

PPE

Safety Boots, Helmet, Gloves, Hi Viz Clothing

F-JHG MS-31: Testing for the absence of Voltage

Scope of Works: Testing for the Absence of Voltage

Sequence of Works

Testing of the absence of voltage, using climbers.
Only An Approved Responsible Person (ARP) will test for absent of voltage – ARP to be confirmed by clint/JHG.
Check that the voltage detector log to confirm that the probe is working actually. (A log of this activity will be taking; a test on a live line should be carried out every two weeks).
The voltage detector would also be MANUALLY tested; this is done by pressing the test button on the base of the unit. If the device is operating correctly an alarm will sound and a green light will be illuminated for approximately 1 minute.
The voltage detector is securely attached to the end of the 5-metre insulated earthing pole.
An ARP will climb the pole to a safe height using his climb safe and climbers and not infringing safety distances, with the rope and block.
4 sections of earth pole (1.2 metres) with the voltage detector attached will be pulled up on the rope to the ARP.
The PICW will detach the earth pole and detector from the rope, and then apply the voltage detector to the outside conductor to prove dead. A designated crew member must confirm that the detector has made contact with the conductor.
Once the ARP and the crew member are satisfied that there is 'no voltage', the ARP will reposition himself and test the central conductor.
Once satisfied there is 'no voltage' on the central conductor, he will attach the earth pole and detector to the rope and lower to the ground.
The ARP will descend the 'first' pole in a safe manner and walk to the 'second' pole where he will repeat items 2, 3 & 4 above.
The ARP will take the earth pole off the rope and apply the voltage detector to the outside conductor. Once the ARP and the crew member are satisfied that there is **'no voltage'** at the conductor, he will attach the earth pole back on the rope and lower to the ground.

Note: When the conductor is being probed if the alarm is not sounded and no light is illuminated on the voltage detector the line is assumed dead.
IF THE ALARM SOUNDS AND THE RED LIGHT IS ILLUMINATED THE CREW SHALL CEASE OPERATIONS IMMEDIATELY AND REPORT TO THEIR IMMEDIATE SUPERVISOR.

Testing of the absence of voltage, using a teleporter:

- The pole set will be identified
- Only a ARP will test for absence of voltage
- Check that the voltage detector log to confirm that the probe is working actually. (A log of this activity will be taking; a test on a live line should be carried out every two weeks).
- The Teleporter shall be operated in a safe manner as outlined in F-JHGMS 15-Use of MEWP

- Prior to use the voltage detector will be MANUALLY tested this is done by pressing the test button on the base of the unit. If the device is operating correctly an alarm will sound and a green light will be illuminated for approximately 1 minute.
- The voltage detector is securely attached to the end of the 5-metre insulated earthing pole.
- The Teleporter will be suitably positioned to allow for a safe approach to the overhead line.
- The ARP and his assistant will then enter the work basket of the Teleporter and attach themselves to the handrail with their lanyards. The earth pole and detector will be securely positioned into the basket.
- The ARP will raise the basket using local controls, observing the limits of close proximity. Once at a safe distance the teleporter will be turned off.
- The ARP, using the 5-metre earthing pole will push the 'v' of the voltage detector firmly against the conductor.
- The crew member acting as a designated observer must confirm to the person carrying out the test that the voltage detector made sustained contact with the conductor.
- Once the ARP and crew member are satisfied that there is "no voltage" the PICW will repeat the above for each of the other 2 conductors.
- Upon the satisfactory completion of the above the teleporter boom is retracted and lowered to ground level.

Note:

- When the conductor is being probed if the alarm is not sounded and no light is illuminated on the voltage detector the line is assumed dead.
- **IF THE ALARM SOUNDS AND THE RED LIGHT IS ILLUMINATED THE CREW SHALL CEASE OPERATIONS IMMEDIATELY AND REPORT TO THEIR IMMEDIATE SUPERVISOR.**

Storage

The temporary location of equipment that is being swapped is highlighted in the site survey (for delivery and collection purposes). There should be no need to store other equipment on site. Consumable are delivered with the equipment. All general rubbish will be removed off site

Plant & Equipment and Certification Required

Operatives shall be fully trained and be in possession of calibrated equipment and task specific PPE. All plant will be fully certified fit for use before any works proceed.

Staff Involved and Certification Required

Only authorised personnel shall be permitted to carry out works. A minimum of two work team member will be on site at all times, no lone working permitted. Where required technical training is provided to staff on specific equipment, i.e. MEWPs training.

Access and Egress Points

Only permitted access/egress points will be used. Vehicles will be parked in a suitable location agreed with the site provider and Client Rep

Interface with Public

Access will be arranged pre-work and arrangements will be conveyed to the ARP through Contract

Management. All required third party notification / procedures will be addressed by the Supervisor/PDM. Work area will be cordoned off to prevent unauthorized access. Appropriate signage will be erected, and a drop zone will be in forced prior to any climbing.

Signage:

Signage will be erected at suitable locations at the work area.

Working hours

Normal Working Hours will be 07.00-19.00. Where an emergency Call out is required the working hours may be altered to suit the customer requirements. This timing will be agreed between the project manager and the service provider.

PPE

Safety Harness, Safety Boots, Helmet, Gloves, Hi Viz Clothing, Eye protection (if required), Harness, Lanyard, Pole rope

F-JHG MS 32: Earthing Procedures

Scope of Works:

Installation of Earths

Sequence of Works

The Following are the local earth requirements for 110kv single circuit wood pole Portal lines:

- 95mm2 flexible copper earths must be applied to all phases on all Angle Towers at the ends of the straight in which the work is being carried out (noting a straight is the section of the line between two consecutive Angle Towers).
- 25mm2 flexible copper earths must be applied to all phases at the point of work or within sight of the persons carrying out the work (operative must have sight of the earth rod itself) on either side of the work position subject to a maximum of two spans between the persons carrying out the work and the set of earths.
- In all cases, both sets of 95's earths must be applied before applying the 25's earths!
- The 25s earths must consist of a single long lead connected to three earth rods in a triangular formation- connected using two 3.0metre earth leads at ground level and using clusters to short circuit the overhead conductors!
- Three long leads connected to ground spikes cannot be used at wood poles or portal structures!
- All Plant in use will be earthed using a machinery earth, before work commences, this earth must be connected at all times (to be reconnected after relocation).

The following are the local earth requirements for 110kv single circuit all steel lines:

- 95mm2 flexible copper earths must be applied to all phases at the point of work or within sight of the persons carrying out the work on either side of the work position, subject to a maximum of one span between the person carrying out the work and this set of earths.
- 95mm2 flexible copper earths must be applied to all phases on Towers on every side of the work position from which the line can be made live with a maximum distance of 2km between these sets of earths
- 25mm2 flexible copper earths must be applied to all phases at the point of work or within sight of the persons carrying out the work (operative must have sight of the earth rod itself) on either side of the work position, subject to a maximum of one span between the persons carrying out the work and this set of earths
- In the case, both sets of 95's earth must be applied before applying the 25's earths!
- All Plant in use will be earthed using a machinery earth, before work commences, this earth must be connected at all times (to be reconnect after relocation).

The Following are the Local Earth Requirements for 110Kv Double Circuit Lines:

- 95mm2 flexible copper earths must be applied to all phases on the disconnected circuit at the point of work or alternatively at the adjacent towers on both sides of the work position, provided both sets of earths are within sight of the person carrying out the work (operative must have sight of the earth rod itself) and subject to a maximum of one span between the persons carrying out the work and each set of earths

- All Plant in use will be earthed using a machinery earth, before work commences, this earth must be connected at all times (to be reconnect after relocation).

Storage:

The temporary location of equipment that is being swapped is highlighted in the site survey (for delivery and collection purposes). There should be no need to store other equipment on site. Consumable are delivered with the equipment. All general rubbish will be removed off site.

Plant & Equipment and Certification Required

Operatives shall be fully trained and be in possession of calibrated equipment and task specific PPE. All plant will be fully certified fit for use before any works proceed.

Staff Involved and Certification Required

Only authorised personnel shall be permitted to carry out works. A minimum of two work team member will be on site at all times, no lone working permitted. Where required technical training is provided to staff on specific equipment, i.e. MEWPs training.

Access and Egress Points

Only permitted access/egress points will be used. Vehicles will be parked in a suitable location agreed with the site provider and Client Rep

Interface with Public

Access will be arranged pre-work and arrangements will be conveyed to the Supervisor/PDM through Contract Management. All required third party notification / procedures will be addressed by the Supervisor/PDM. Work area will be cordoned off to prevent unauthorized access. Appropriate signage will be erected, and a drop zone will be in forced prior to any climbing.

Signage:

Signage will be erected at suitable locations at the work area.

Working hours

Normal Working Hours will be 07.00-19.00. Where an emergency Call out is required the working hours may be altered to suit the customer requirements. This timing will be agreed between the project manager and the service provider.

PPE

Safety Harness, Safety Boots, Helmet, Gloves, Hi Viz Clothing, Eye protection (if required), Harness, Lanyard, Pole rope,