

Working in Accordance with an Electrical Permit

Document no.	Work description	
D2013/80544	Working in accordance with a Sydney Trains Electrical Permit (Permit) and Personnel Register, particularly the responsibilities of the Permit Holder and those signed onto the Permit.	
	<p>Scope</p> <p>This instruction:</p> <p>applies to Permit Holders and all persons signed on to a Permit</p> <p>does not apply to the holders of Operating Agreements issued by Sydney Trains to another Network Operator</p> <p>does not apply to work under a permit issued by another Network Operator for work on their asset, as the conditions of that Network Operator's permit shall be complied with</p> <p>does not include requirements for the issue and retrieval of Electrical Permits by Authorised Persons (Mains / Substations), which is covered by the Electrical Network Safety Rules (ENSR).</p> <p>This instruction does not indicate under what circumstances Electrical Permits are needed. This aspect is addressed in SMS-06-GD-0268 Working around Electrical Equipment, clause 8.1.</p>	
Review date	References	
26/02/2022	<ul style="list-style-type: none"> • Electrical Network Safety Rules (ENSR) (PR D 78000), in particular, the following instructions: <ul style="list-style-type: none"> - PR D 78500 Electrical Permits - PR D 78501 Electrical Permit to Work - PR D 78502 Substation Access Permit - PR D 78503 Low Voltage Access Permit • PR D 78501 FM 01 Request for Electrical Permit to Work • PR D 78501 FM 05 Electrical Permit to Work (Do not remove from Booklet) • PR D 78501 FM 06 Electrical Permit to Work (To be removed by Permit Issuer) • PR D 78501 FM 03 6-Personnel Registers Cover • PR D 78501 FM 04 26-Personnel Registers Cover • PR D 78501 FM 07 6-Personnel Registers • PR D 78501 FM 08 26-Personnel Registers • PR D 78502 FM 01 Substation Access Permit • PR D 78503 FM 01 Low Voltage Access Permit • PR D 78502 FM 02 Substation / Low Voltage Personnel Register • PR D 78703 Printing and Supply of Electrical Permit to Work Booklets • PR D 78702 Procedure for the Stringing of 1500V OHW Conductors in the Vicinity of Existing Electrical equipment • SMS-06-GD-0268 Working around Electrical Equipment • PR D 78701 Personnel Certifications - Electrical 	
PPE and precautions	Competencies or qualifications	Licences or permits required
Persons signed onto a Permit shall wear clothing, footwear and other PPE as per PR D 78101 General Requirements for Electrical Work and D2013/80874 PPE for Electrical Work.	Refer over the page to the section titled, "Permit Holder requirements".	As applicable for the particular task.
Tools and equipment required		
As applicable for the particular task.		




Warning

Severe injury or death will result if a conducting path is formed allowing electric current to pass through the body. Refer to **SMS-06-GD-0268** Working around Electrical Equipment, clause 4.2 for more details.

Purpose	<p>To identify the responsibilities of a person holding a Sydney Trains Electrical Permit (Permit Holder) to make sure that all members of the work party, including the Permit Holder, are protected when working on or near electrical equipment.</p> <p>Where Sydney Trains personnel work under a Permit issued by another Electrical Network Operator for work on or near their electrical asset, Sydney Trains personnel shall comply with the conditions of that Electrical Network Operator's permit. In such a circumstance, the remainder of this instruction does not apply.</p>
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Permit types	<p>An 'Electrical Permit' or 'Permit' means an Electrical Permit to Work, a Substation Access Permit or a Low Voltage Access Permit.</p> <p>The type of Permit depends on the location and type of work to be carried out, as described in PR D 78500 Electrical Permits.</p> <p>The Authorised Person (Mains / Substations) or Authorised Person (Low Voltage) as appropriate determines the appropriate type of Permit to be issued in accordance with the ENSR.</p> <p>When it is also necessary to isolate a service belonging to another Electrical Network Operator for the work, an Operating Agreement shall be received from that Electrical Network Operator and the conditions of the Operating Agreement shall be included on the Permit and complied with.</p>
Request for an Electrical Permit	<p>The person in charge of the work party must determine if Electrical Permits are required, seeking advice from the electrical discipline if required.</p> <p>The person in charge of the work party must complete and submit a PR D 78501 FM 01 Request for Electrical Permit to Work form if supply is to be removed, the equipment made safe and for an Electrical Permit to Work to be issued, for work to be carried out on or near any of the following:</p> <ul style="list-style-type: none"> • 1500V DC overhead wiring or cables, • High Voltage (HV) aerial lines or cables, or • Low Voltage (LV) aerial lines. <p>In relation to other 1500V DC, HV or LV equipment, such as equipment in or associated with a Sydney Trains substation the person in charge of the work party should seek advice from the electrical discipline representative who will organise the appropriate Electrical Permit.</p>
Permit Holder requirements	<p>In the case of:</p> <ul style="list-style-type: none"> • an Electrical Permit to Work, the <u>Permit Holder</u> shall be an Accredited Electrical Permit Holder and instructed by an Authorised Traction Operator or Authorised Officer (Mains) in accordance with PR D 78501 Electrical Permit to Work. • a Substation Access Permit issued for work on 1500V negative equipment outside a substation ONLY, the <u>Permit Holder</u> shall be an Accredited Electrical Permit Holder and instructed by an Authorised Person (Substations) in accordance with PR D 78502 Substation Access Permit. • a Low Voltage Access Permit, the <u>Permit Holder</u> shall be a person who has been instructed by an Authorised Traction Operator, Authorised Officer (Mains) or Authorised Person (Low Voltage) in accordance with PR D 78503 Low Voltage Access Permit. <hr/> <p> Note <i>All Accredited Electrical Permit Holders shall be re-certified to ensure their continued competency at 2-yearly intervals.</i> <i>Permit Holders shall make sure that the instruction received is understood prior to accepting the Permit.</i></p>
Electrical System Operator (ESO)	<p>If advice is required or to contact Authorised electrical staff, contact the Electrical System Operator at the Electrical Operating Centre (EOC) on phone no. 9379 4911 or 9 4911 (internal).</p>
Personnel Registers	<p>Each Personnel Register forms a part of, and is attached to, the Permit. Persons signing on to a Personnel Register are subject to the same conditions as if they had signed on to the Permit form itself.</p> <p>When a Personnel Register is in use, any requirement in this instruction relating to the work party signing on or off the Permit is to be read as a requirement to sign on or off the Personnel Register.</p> <p>Personnel registers are used for Substation Access Permits and Low Voltage Access Permits, when there is insufficient space on the Permit form for all members of the working party to sign on and off.</p> <p>In the case of the Electrical Permit to Work, the Personnel Registers are bound to the Permit, forming an Electrical Permit to Work booklet. If the work is to extend over several shifts, then the Permit Holder shall use a separate Personnel Register for each shift.</p> <p>The Personnel Register is to be completed by the Permit Holder, and all members of the work party shall sign on and off accordingly.</p>

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Signing on and off a Personnel Register

- By signing on and off a Personnel Register, members of the work party acknowledge that:
- They have been instructed and understand the extent of the electrically safe work area and that all other electrical equipment shall be treated as live, and
 - They have been instructed by the Permit Holder that, in order to avoid any danger, they shall confine themselves, their clothing, tools, materials and machinery within the electrically safe work area, and
 - When the work is finished, or prior to leaving the worksite at the end of their shift, they shall sign off the Permit, and
 - Permission has been withdrawn to carry out work for which the Permit was issued, once they have signed off the Permit.

Pre-work requirements

- Before starting work, the Permit Holder shall make sure that:
- The requirements of the Permit (both sides) are understood, and
 - The Permit fully describes the work to be carried out, and
 - The obligations of the Permit Holder for the electrical safety of staff working under their control are understood, and
 - Where the Permit specifies that an additional Permit is also required for a part of the work, that the necessary additional Permit is received and understood, and
 - The work process is adequately controlled so that persons carrying out the work for which the Permit was issued do not work beyond the limits of the electrically safe work area (the Permit Holder may use appropriate markers to assist in the control of the work process), and
 - All persons (including the Permit Holder) carrying out the work for which the Permit was issued are instructed, warned and understand:
 - Which equipment is covered by the Permit and is safe to work on or near, and
 - That all other exposed electrical equipment shall be treated as live for the purposes of this Permit, and
 - That no work is to be carried out on or near the isolated equipment in the electrically safe work area, other than that specified on the Permit, and
 - Not to allow any part of their body, clothes, tools, material or machinery they may be using or carrying, to come within the minimum Safe Approach Distances of exposed electrical equipment, other than the isolated equipment in the electrically safe work area, and
 - That work process controls have been put in place and that they shall not pass over or under any work area access markers, safety fences, demarcation tape or special barriers placed in connection with the Permit, and
 - To comply with the instructed process for exiting and re-entering the Electrically Safe Work Area, and
 - To print their names and sign on to the Permit or Personnel Register prior to commencing the work for which the Permit is required.
- The Permit Holder shall sign on and off on the Permit and/or the Personnel Registers. Other work party members shall sign on and off accordingly. (See "Personnel Registers" of this SWI.)
- For special arrangements regarding work using cranes, vehicles and mobile plant, refer to **SMS-06-GD-0268** Working around Electrical Equipment, clause 5.2, 6.1.7 and Appendix A.

Requirements during work

- While work is being carried out, the Permit Holder shall make sure that:
- The arrangements set out in "Permit Holder requirements" and "Pre-work requirements" of this SWI are in place, and
 - The Permit is retained at all times, and
 - Persons signed on to the Personnel Register of the Electrical Permit shall sign off prior to leaving the worksite at the end of their shift, and
 - Anyone who has signed off the Personnel Register understands that permission for them to carry out work for which the Permit was issued has been withdrawn, and
 - The Permit is returned no later than the time shown on the Permit, and
 - If it is probable that the work will extend beyond the expiry time shown on the Permit, the Permit Holder shall inform the Authorised Person who issued or is retrieving the Permit or the Electrical System Operator as soon as it is known that the Permit may be returned late.

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Note

If, for any reason the Permit Holder can no longer adequately control the work process for the work for which the Permit was issued, all persons signed on Permit shall cease the work for which the Permit was issued until the Permit Holder is again able to control the work process, after which that work may recommence.

Relief of the Permit Holder

The relief of a Permit Holder may only be used for an exceptional and unforeseen circumstance. It is not intended to cater for a planned change of shift, for which a new Personnel Register shall be used.

Relief of the Permit Holder during work in progress is permitted only in the case of an Electrical Permit To Work or a Low Voltage Access Permit. In the case of a Low Voltage Access Permit, relief is only permitted when Personnel Registers are in use. In the case of a Substation Access Permit, relief of a Permit Holder is not permitted.

The Permit Holder shall not transfer the Electrical Permit to Work to a person who is not listed on the Permit as an "Approved Prospective Permit Holder". This person's name and signature shall appear on the Permit together with the name and signature of the Authorised Person (Mains) who instructed that person.

The Permit Holder to be relieved shall sign off on the shaded part the Personnel Register. The relieving Permit Holder shall then sign on the Personnel Register in the shaded space provided and comply with the requirements of the Permit and this SWI, such as:

- "Permit Holder requirements",
- "Personnel Registers",
- "Requirements during work", and
- "Requirements when the Permit is to be returned".

If the person who is to relieve the Permit Holder has not been instructed accordingly, the current Permit Holder shall continue to hold the Permit until the new Permit Holder is appropriately instructed, takes over the Permit and takes charge of the work party. This can be arranged with the Authorised Person (Mains) who issued the Permit or with the Electrical System Operator. When the new Permit Holder is appropriately instructed, takes over the Permit and takes charge of the work party, this is to be treated as a continuation of the shift. Alternatively, the current Permit Holder shall ensure that all persons signed on the Personnel Register cease the work for which the Permit was issued and sign off the Personnel Register.

Safekeeping of the Permit when no work party or Permit Holder is on site

When a Permit is received for work to be carried out over several shifts, and there are periods between the shifts during which no work party or Permit Holder is on site, the Permit Holder shall make suitable arrangements for the safekeeping of the Permit at the worksite or at a location convenient to the worksite. In this situation, the following requirements apply:

- (a) The Permit Holder for the following shift shall be advised of these arrangements.
- (b) Permits should not be taken to a person's private residence.
- (c) The Permit may be kept in a place, such as a site office, or entrusted to a suitable person. In the latter case, the person to whom the Permit is given for safekeeping does not become a Permit Holder and is not required to receive any instruction in the requirements of the Permit and shall not make any entries on it. No work, for which the Permit is required, may be carried out whilst the Permit is in "safekeeping".
- (d) In some circumstances, such as major closedowns, the Project Engineer may choose to nominate a particular location for the safekeeping of Permits for working with a break between shifts.

Handling a lost Permit or Personnel Register

If the Permit is lost, the Permit Holder shall immediately report the loss to the Authorised Person (Mains / Substations) or Authorised Person (Low Voltage), as appropriate, who issued or is retrieving the Permit, or to the Electrical System Operator. The Permit Holder shall also advise other shift Permit Holders that no work can be carried out unless a replacement Permit has been issued.

If the Permit or Personnel Register has been lost and the work is still in progress, the Permit Holder shall obtain a duplicate Permit or Personnel Register with the same number. This shall be endorsed "Replacement for Lost Permit" or "Replacement for Lost Personnel Register" and all persons still engaged in the work shall sign on.

If the Permit has been lost, the work has been completed, and a replacement Permit has not been received, the Permit Holder shall give written notification to the Authorised Person (Mains / Substations) or Authorised Person (Low Voltage), as appropriate, who would have retrieved the Permit that all persons, material, tools and machinery are clear of all electrical equipment for which the Permit was issued, and all persons who signed on the original Personnel Register have been instructed to treat the equipment as live.

If a copy of the Permit is available, this may be achieved by making a notation on the copy that "the Permit has been lost" and "signing off" on the copy.

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Requirements when the Permit is to be returned

The Permit Holder shall make sure that:

- (a) Prior to signing off the Personnel Register attached to the Permit, all persons, material, tools and machinery are clear of all electrical equipment for which the Permit was issued, and
- (b) The Permit Holder and all persons who have signed on to the Permit:
 - (i) Sign off the Permit – in the case of an Electrical Permit to Work, the final shift Permit Holder is required to sign off both the final shift Personnel Register and item 11 of the original pink Permit; and
 - (ii) Understand the permission to carry out work for which the Permit was issued has been withdrawn once they have signed off the Permit and that they shall treat the equipment for which the Permit was issued as live, and
- (c) When certifying that all persons who have signed on are clear of the electrical equipment for which the Permit was issued, the Permit Holder accepts responsibility for any person who fails to sign off the Permit, and
- (d) The Permit is signed off by the Permit Holder and is returned to the Authorised Person (Mains / Substations) or the Authorised Person (Low Voltage) retrieving the Permit as appropriate. In the case of 1500 volt construction work where an Authority has not been issued, the Permit may be returned to the Sydney Trains Electrical Project Engineer. The Sydney Trains Electrical Project Engineer shall check and ensure that the Permit Holder and all members of the work party have signed off before allowing the Permit Holder to leave the work site.



Note

The Permit Holder shall NOT sign off on behalf of any member of the work party, except:

- *if it has been verified that the work party member has left the worksite and it is not reasonably practicable for them to return to sign off the Permit; **and***
- *the Permit Holder has undertaken a joint site inspection with the Authorised Person (Mains / Substations) or the Authorised Person (Low Voltage) retrieving the Permit as appropriate, to ensure that all persons, tools and machinery are clear for safe energisation of supply.*

*If the Permit Holder signs off on behalf of any work party member, or fails to sign off the Permit, then the Permit Holder's authorisation or eligibility to hold Permits will be suspended by an Authorised Officer (Mains, Substations, or LV as appropriate), as described in Clause 9 'Suspension and Withdrawal of Authorisation' of **PR D 78701 Personnel Certifications – Electrical**.*

In addition, the Sydney Trains Authorised Person (Mains, Substations, or LV as appropriate) retrieving the Permit shall report all cases of a Permit Holder not signing off, or signing off on behalf of work party members, to the Sydney Trains Safety Incident and Injury Hotline (1800 772 779) the Electrical Operating Centre (9379 4911 or 9 4911 (internal)) and the Sydney Trains Authorised Person in charge of the WHVI and/or Authority, as appropriate.

Additional controls

In addition to the need for an Electrical Permit to Work to be issued for working on OHW that has been isolated, proven dead and rail-connected, a job-specific Safe Work Method Statement (SWMS) shall be in place for either of the following situations:

- With the adjacent track carrying live OHW, or
- Work involving rigging the line tension of a wire that may become live anywhere along its length, regardless of there being one or more intervening tracks with dead OHW, or
- Work involved in the stringing of 1500V OHW conductors in the vicinity of existing electrical equipment.

The above SWMS shall be in place regardless of the level of authorisation of persons going to undertake the OHW work and all such work shall be planned and undertaken in accordance with **PR D 78702 Procedure for the Stringing of 1500V OHW Conductors in the Vicinity of Existing Electrical Equipment**.