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The technical content of this document has been approved by the relevant ARTC engineering authority and has also been endorsed by the ARTC Safety Committee.

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About This Standard

An electrical Permit is the primary safety document used in relation to work on or near the ARTC Electricity Distribution System where the work requires the equipment to be isolated to allow the work to proceed.

This document specifies the requirements for a Permit System as part of a contractors Electrical Safety System.

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1 General

Contractors shall have an Electrical Permit System for use in conjunction with all work on or near the ARTC Electricity Distribution System where the work requires the equipment to be isolated to allow the work to proceed.

1.1 Principles

An electrical Permit is the primary safety document used in relation to work on or near the ARTC Electricity Distribution System where the work requires the equipment to be isolated to allow the work to proceed.

The person to whom the Permit is issued will normally be the person in charge of a work party. The contractor's Electrical Permit System may provide that if only one person in the work party is required to work on or near the equipment the Permit may be issued to that person.

The Permit shall address both the timing and spatial aspects of ensuring that the work can be carried out in a safe manner through the application of three fundamental principles.

1.1.1 Timing Aspects

The Permit shall act as a "token" to control the timing aspects on the basis of two fundamental principles:-

- Persons must not commence the work for which the Permit is required until the Permit is received (the Permit will not be issued until it is electrically safe to commence the work).
- The safe condition must remain until the Permit is returned (the persons doing the work must stay clear of the equipment after they return the Permit) unless the permit is issued for testing purposes in accordance with 1.5 and procedures which provide an equivalent level of safety are in place to control the work process.

1.1.2 Spatial Aspects

The third fundamental principle relates to the spatial aspects:-

- Persons must work only in the areas which they have been shown are electrically safe.

1.2 Electrical Safe Work Area

The Permit shall document that area which the Permit Holder has been shown as being electrically safe to work in.

1.3 Records of Work Party

The Permit shall record the names of the persons in the work party, who shall be required to acknowledge by signature:

- that the Permit Holder has instructed them in relation to the Permit; and
- at the end of the work, that they have been instructed that the equipment is no longer safe to approach.

In this way the Permit Holder can check that all persons who were told that the equipment was safe to approach have been told that this is no longer the case prior to supply being restored.

1.4 Types of Permits

The contractor's Electrical Permit System may include Permits that are:

- issued to a single person for a single shift only, and/or
- issued for work spanning several shifts provided that adequate procedures for transfer of the Permit are prescribed.

The contractor's Electrical Permit System may include a range of types of Permit for differing types of work.

1.5 Permits for Testing, Inspection or Adjustment Purposes

Permits that are issued for the purpose of carrying out tests that involve the equipment under test being energised from the test equipment at a voltage greater than 50 volts alternating current or 120 volts direct current shall be distinguished from Permits issued for other work.

Permits that are used for equipment that is re-energised at system voltage a number of times for testing, inspection or adjustment shall also be distinguished from Permits issued for other work

Such permits shall:

- not be issued while any other Permit is current for the equipment concerned (this must be checked with the ESO);
- be managed by persons with an appropriate level of experience and training; and
- only be issued if procedures which provide a level of safety equivalent to normal permits are in place to control the work process.

1.6 Other Measures

The contractor's Electrical Permit System may also include other safety and administrative measures.

2 Linkage to Switching Documents

All Permits issued for work on 1500 volt equipment outside substations must be linked to the Authority, or Authorities, on which the equipment was isolated.

All Permits issued for work on high voltage overhead lines or cables outside substations must be linked to the WHVI, or WHVI's, on which the equipment was isolated. Note that a Permit may be used to work on or near a pole mounted transformer, surge arrestor, switchgear or associated high voltage equipment mounted on the same pole without a WHVI being issued.

3 Permit Numbers

Each Permit or Operating Agreement issued under a WHVI or Authority must be numbered as a sub-number of the WHVI or Authority. For example, the first Permit and/or Operating Agreement issued under WHVI (or Authority) number 1234 must be numbered 1234/1, the second 1234/2 etc.

For all other Permits an identifier unique to the contractor must be used.

Immediately after the issue of one or more Permits and/or Operating Agreements, the Electrical System Operator is to be advised the identifying numbers of the Permits and/or Operating Agreements issued. This requirement also applies to Operating Agreements if received.

4 Permit Forms

The Permit forms used in the contractor's Electrical Permit System shall include the information specified in 4.1 and 4.2.

4.1 Warnings

Permit forms shall include warnings, in bold print, to the following effect:

- a) "This Permit must only be held by an Accredited Permit Holder who has been instructed as to the electrically safe work area and the conditions of this Permit;" and
- b) "If under any doubt or if any assistance is required, immediately contact the person who issued the Permit or the Electrical System Operator on 94911 or (02) 9379 4911."

4.2 Other information to be shown

Permits shall show:

- the planned dates and times for the work,
- the location, extent and type of the work for which the Permit is required,
- the details of electrically safe work areas including relevant special instructions specified on the WHVI or Authority and any other relevant warnings,
- the name and signature of the approved Permit Holders who have been appropriately instructed and who may hold the Permit, together with the name and signature of the Person who instructed each Permit Holder,
- the details of the electrical equipment that has been isolated, proved dead, and, if appropriate, earthed or rail connected for the Permit,
- the name and signature of the person who issued the Permit along with the time and date of issue,
- the name and signature of the person who cancelled the Permit along with the time and date of cancellation, and
- the name, signature, “sign on” time and date, and “sign off” time and date of the persons (work party) to whom warnings have been given by the Permit Holder for the work specified.

It is recommended that important conditions also be printed on the Permit for ready reference by the Permit Holder.

5 Permit conditions

A contractor's Electrical Permit System shall require compliance with the following conditions:

- A separate Permit must be issued for each work location, or group of work locations, where a single person in charge can adequately control the work. This person is to be the Permit Holder. In assessing if it is practicable for a single person to adequately control the work, the Permit Holder must consider the proximity of the electrical hazards and the mobility of the work process;
- Only one Permit Holder may be in charge of a Permit at one time;
- No work is to be carried out on or near the isolated equipment other than that specified on the Permit. No deletions or alterations may be made to the work or operating details on the Permit once it has been issued. Should it be necessary to vary the work specified after the Permit has been issued, the Permit must be cancelled and a new Permit issued for the revised work; and
- The persons in the work party must sign onto the Permit prior to commencing work and must sign off the Permit prior to cancellation of the Permit.
- On worksites where plant is coming onto the site for a short term for specific work eg tip trucks, then the requirement for the plant operator to be signed onto the Permit may be waived provided that each plant operator while on the worksite is supervised one on one by a person who has signed onto the Permit. This person will be responsible for the electrical safety of the plant operator.

It is permissible that a contractor's Electrical Permit System allows a single person to undertake all, or any combination of, the roles of Permit Holder, Person Instructing the Permit Holder, Permit Issuer, and Permit Retriever. The contractor's Electrical Permit System shall require that **all** actions that would be carried out if separate persons undertook these roles, are carried out in this case.

6 Permit Holders

6.1 Authorisation of Permit Holders

The contractor's Electrical Permit System shall require that holders of Permits for high voltage or 1500 volt equipment are suitably authorised and shall include controls to ensure that such Permits are not held by non- authorised persons.

It is permissible that an exception to this requirement be made in the case of work carried out in substations where there is a suitably authorised person on site at all times and available to advise the Permit Holder.

6.2 Responsibilities of Permit Holders

The contractor's Electrical Permit System shall set out the responsibilities of a Permit Holder and the accountability for ensuring that this person understands these responsibilities and has the information necessary to properly carry them out.

In the case of a person holding a Permit for a high voltage overhead line or 1500 volt overhead wiring, the system shall require that the Permit Holder has been formally instructed in these responsibilities in a course of training.

The responsibilities of Permit Holders shall include, but need not be limited to, the following:

- a) Responsibilities to be fulfilled prior to the commencement of work for which the Permit is required, including:
 - ensuring that the Permit matches the work to be carried out and that conditions of the Permit will be complied with,
 - the setting up of adequate controls on the work process, and
 - ensuring that all persons carrying out the work for which the Permit is required are adequately instructed.
- b) Responsibilities to be fulfilled whilst the work for which the Permit is required is being carried out, including:
 - ensuring the continuance of the measures put in place prior to the commencement of work for which the Permit is required,
 - ensuring that the Permit is retained at all times, and
 - ensuring that the Permit is returned no later than the time shown on the Permit.
- c) Responsibilities to be fulfilled when the Permit is to be returned, including:
 - ensuring that all persons and material are clear of all electrical equipment for which the Permit was issued prior to signing off the Permit,
 - ensuring that all persons signed onto the Permit sign off the Permit,

- signing off the Permit, and
- ensuring that the Permit Holder and all persons signed onto the Permit understand that permission to carry out the work for which the Permit was issued has been withdrawn once they have signed off the Permit and that they must treat the equipment for which the Permit was issued as live.

The contractor's Electrical Permit System shall set out:

- the accountability and action to be taken by the Permit Holder in the event that a person fails to sign off the Permit;
- the accountability and action to be taken by the Permit Holder for the sign off and return of the Permit; and
- the accountability and action to be taken by the Permit Holder in the case of the Permit being lost.

Where the contractor's Electrical Permit System provides for the relief of the Permit Holder it shall set out accountability and action to be taken by each of the Relieved Permit Holder and the Relieving Permit Holder.

Where the contractor's Electrical Permit System provides for non-continuous shift working it shall set out accountability and action to be taken by the Permit Holder(s) and, in particular, the requirements for the safekeeping of the Permit.

7 Requirements for the Instruction of Permit Holders.

A contractor's Electrical Permit System shall require that all Permit Holders are instructed by suitably authorised persons.

Permit Holders may be instructed either:

- at the worksite immediately prior to a Permit being issued, or
- at the worksite at a pre-possession meeting (eg. for weekend possessions or closedown which involves various work groups).

If required, additional relieving Permit Holders may be instructed at the worksite after work has commenced.

A contractor's Electrical Permit System may prescribe circumstances in which a suitably authorised person may give a written waiver to the requirement for instruction to be carried out at the worksite. In the case of 1500 volt overhead wiring, a waiver shall not be available unless, for the duration of the Permit concerned, the electrically safe work area is more than 300m from any exposed 1500 volt equipment which is not isolated and rail connected on the Authority under which this Permit is to be issued.

8 Responsibilities of Persons Instructing Permit Holders

8.1 General

A contractor's Electrical Permit System shall clearly define the responsibilities of the person instructing a prospective Permit Holder.

These responsibilities shall include, but need not be limited to the following.

The person instructing a prospective Permit Holder shall ensure that:

- a) instruction is given on site unless in possession of an appropriate written waiver;
- b) if required, the prospective Permit Holder is authorised to hold a Permit; and
- c) the prospective Permit Holder understands:
 - which electrical equipment is covered by the Permit and is safe to work on or near,
 - which electrical equipment must be treated as live, and
 - any relevant special instructions.
- d) in the event that the Permit is issued in circumstances that do not require the Permit Holder to be authorised, these responsibilities shall also include ensuring that the prospective Permit Holder understands and acknowledges:
 - that the Permit only applies to electrical equipment specified on the Permit and that all other electrical equipment must be treated as live unless a separate Permit is received,
 - that no work is to be carried out on or near the isolated electrical equipment other than that specified on the Permit,
 - that the Permit must be retained by the Permit Holder at all times whilst the work for which the Permit is required is being carried out,
 - that the Permit Holder must control the work process 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 requirements of the Permit,
 - the responsibilities of a Permit Holder,
 - the obligation of the Permit Holder for the electrical safety of staff working under their control, and
 - the obligation of the Permit Holder to ensure that persons carrying out the work for which the Permit was issued are warned not to allow any part of their body, clothes, tools or material they may be using or carrying to come within the safe working distances of exposed

equipment other than the isolated equipment in the electrically safe work area.

- e) the prospective Permit Holder acknowledges that the work can be carried out safely within the Electrically Safe Work Area to be shown on the Permit and in accordance with the special instructions to be shown on the Permit;
- f) the Permit Holder is aware of the time restrictions of the Permit;
- g) where the Permit specifies that another Permit is also required for a part of the work, the Permit Holder understands that the other Permit must be received and the conditions of that Permit complied with;
- h) the necessary record of the instruction having been given and received is completed, in accordance with the requirements of the contractor's Permit system, by both the prospective Permit Holder and the person who has instructed the prospective Permit Holder.

The person instructing the prospective Permit Holder must have an approved copy of the relevant WHVI and/or 1500 volt Authority.

8.2 Instruction in Advance of the Permit Being Issued

If the contractor's Electrical Permit System has provision for instruction in advance, it shall define the following additional responsibilities of the person instructing a prospective Permit Holder in advance of the Permit being issued:

- a) Ensure that only those parts of the Permit prescribed in the contractor's Electrical Permit System are completed, in particular, that those parts of the Permit associated with its validation or issue are not completed.
- b) Ensure that the Permit is retained by the instructing person and forwarded to the person who will issue the Permit.

It is not necessary that the person who instructed the Permit Holder be the same person who will issue the Permit.

9 Responsibilities of Persons Issuing Permits

A contractor's Electrical Permit System shall clearly define the responsibilities of the person issuing a Permit.

These responsibilities shall include, but need not be limited to the following.

The person issuing a Permit shall ensure that:

- a) The Permit is correctly completed in accordance with the contractor's Permit system and includes all relevant information including any relevant special instructions on the WHVI and/or Authority.
- b) In situations where the Permit is linked to a WHVI and/or Authority, the Person in Charge of the WHVI and/or Authority:
 - has confirmed that the specified high and low voltage overhead lines or cables have been isolated and safety earths applied as required,
 - has confirmed that the specified sections/subsections of the 1500 volt overhead wiring system have been isolated and has advised the locations of the associated rail connections,
 - has confirmed that other Network Operator's services have been isolated and earthed as required and an Operating Agreement has been received,
 - has advised the Permit number.
- c) The prospective Permit Holder has been appropriately instructed by a suitably authorised person and a record of this is available.
- d) The Permit Holder signs the Permit in acknowledgment and acceptance of the associated responsibilities.
- e) The details of the Permit are confirmed with the person in charge of the WHVI or Authority.

It is not necessary that the person issuing the Permit be the same person who instructed the Permit Holder.

The contractor's Electrical Safety System shall include a mechanism for ensuring that equipment that must be earthed or rail connected for the Permit, is earthed or rail connected prior to the Permit being issued.

10 Responsibilities of Persons Retrieving Permits

A contractor's Electrical Permit System shall clearly define the responsibilities of the person retrieving a Permit.

These responsibilities shall include, but need not be limited to the following.

The person retrieving a Permit shall ensure that:

- a) The Permit Holder has certified that the Permit may be cancelled.
- b) The electrical equipment for which the Permit was issued has been inspected, tested if required and is safe to be energised.
- c) The Permit is cancelled in the prescribed manner.
- d) In situations where the Permit is linked to a WHVI and/or Authority, the Person in Charge of the WHVI and/or Authority is advised that the Permit has been cancelled.
- e) The cancelled Permit is processed in accordance with the requirements of the contractor's Permit system.

The contractor's Electrical Safety System shall include a mechanism to ensure that working earths and/or portable rail connections are not removed unless all Permits and/or Operating Agreements for which they were required have first been cancelled.

11 Operating Agreements

A contractor's Electrical Permit System shall include provisions for issuing of ARTC Operating Agreements to another Network Operator in accordance with the requirements of document PYP 01 - "Operating Agreement".