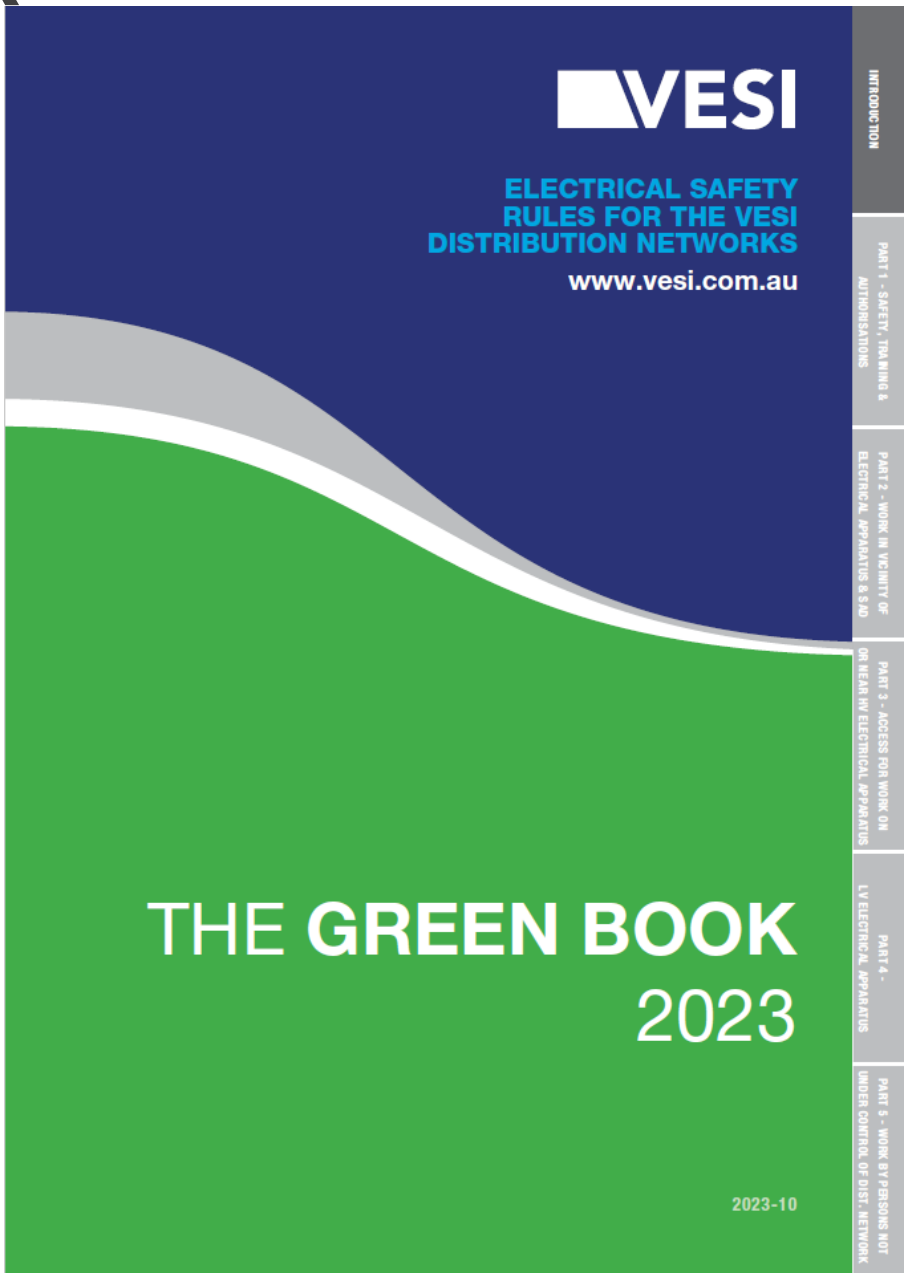
2023 VESI Green Book

An introduction to the changes in the new Electrical Safety Rules



Purpose, Duration and Pre-requisites

PURPOSE

- This session is designed to provide you with an understanding of the changes that have been made in creating the 2023 Green Book

DURATION

- 1.5 hours

PRE-REQUISITES

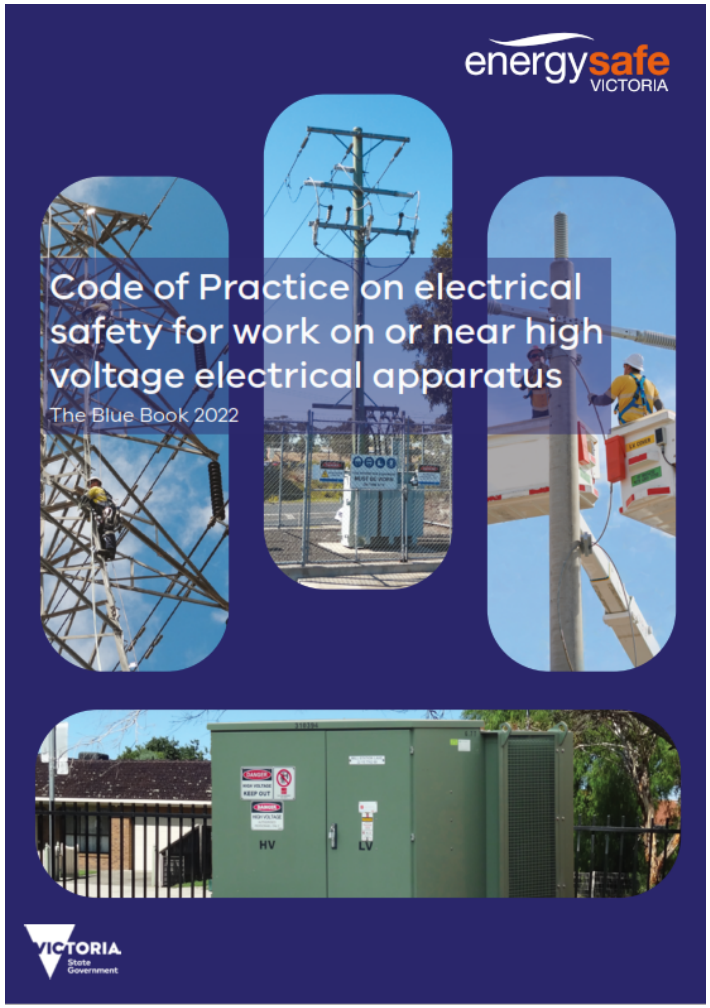
- Familiarity with the 2020 Green Book

Content

- Reasons for change
- Background
- Structure and Content
- Definitions & Abbreviations
- Major content changes
- Questions

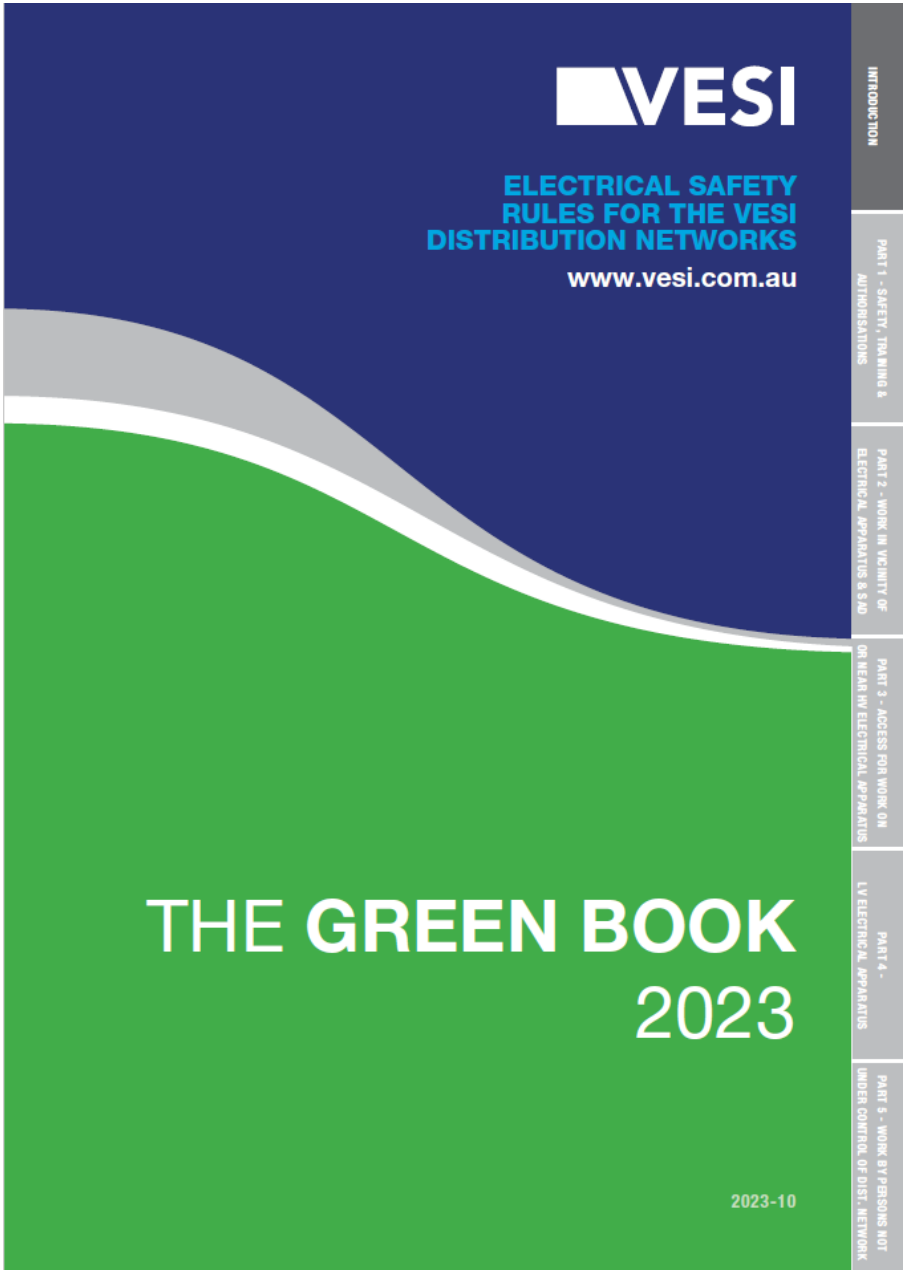
Reasons for Change

- In December 2022, the Electrical Safety Committee (ESC) published an updated Blue Book
- The Blue Book applies to all persons working on, near or in the vicinity of HV apparatus that is capable of being energised
- This includes Transmission and HV Customers
- The Distribution businesses have different and more comprehensive requirements than these other stakeholders so meet these using the Green Book



Background of GB

- The 2023 version of the GB represents the 5th major review.
- The GB is the cornerstone document of VESI safe systems of work.
- The GB provides the means by which the DB's comply with the Blue Book.

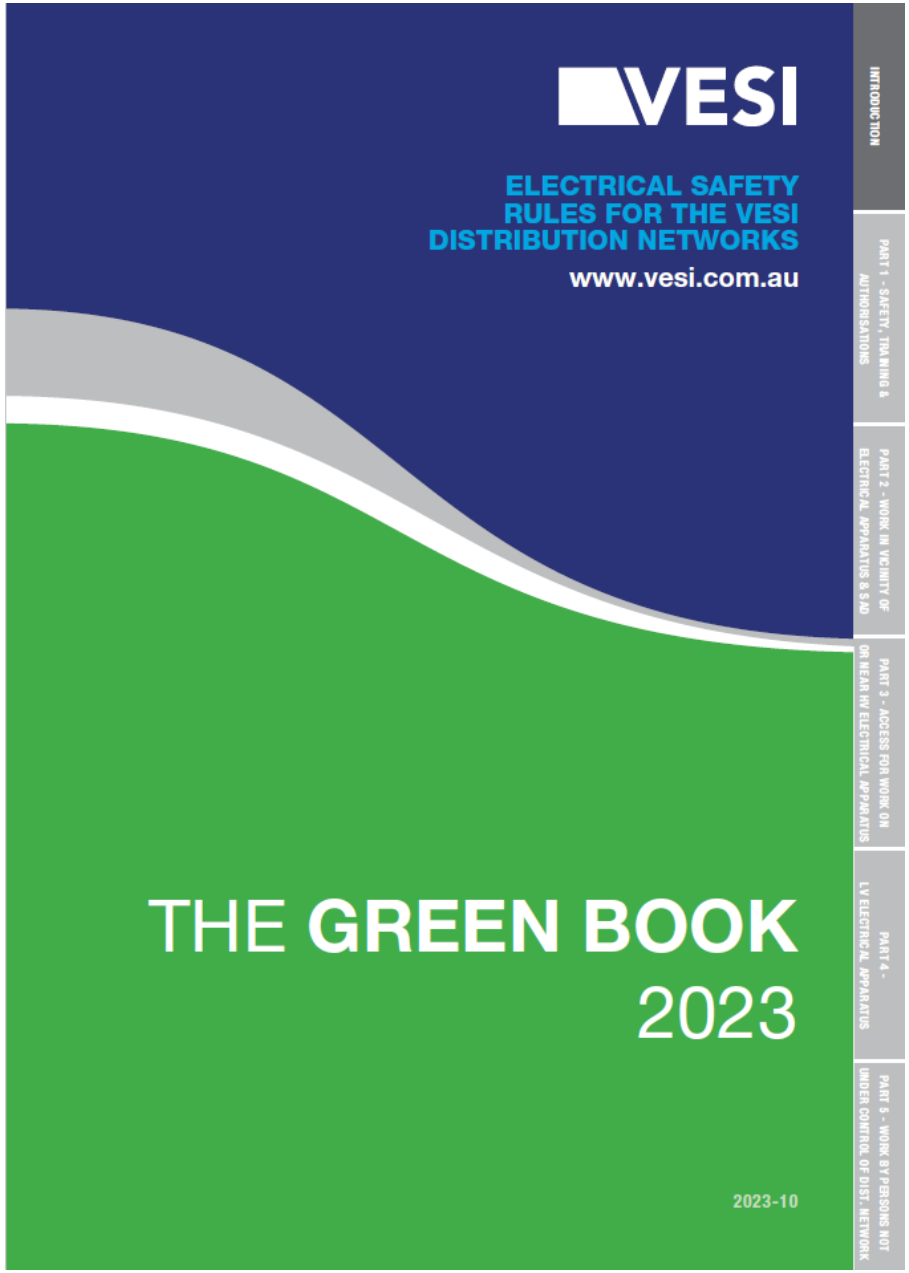


Cover Changes

The 2023 version of the GB includes version control. This is provided on bottom right of front page, in YEAR-MONTH format i.e., 2023-10 as shown alongside.

Printed or downloaded copies of the GB are uncontrolled, it is the responsibility of the user to check that their version of the Green Book is the most up to date version.

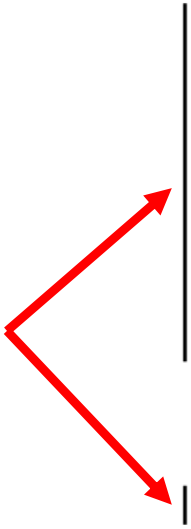
This can be checked by reviewing the uploaded version of the GB at www.vesi.com.au.



Change Marks

You will notice through the 2023 Green Book there are black lines in the left margin.

This is to identify to users where a change has been made between 2020 and 2023 Green Book.



2.2 Safe Approach to Electrical Apparatus

2.2.1 General

Part 6 of the Electricity Safety (General) Regulations 2019 sets out minimum distances that persons, vehicles, mobile plant, and machinery that shall be maintained from an aerial electric conductor. Some of the safe approach distances specified in these Rules are less than minimum distances specified in the Regulations. It is a regulatory requirement that workers who adopt these safe approach distances must be provided with written permission or an authorisation from the Distribution Network to allow them departing from the minimum distances specified in the Regulations.

Safe Approach Distance (SAD) is based on an Exclusion Zone principle and is measured out from the energised conductor.

This principle defines an area around an exposed conductor as shown in Figure 1, into which no part of the person, mobile plant or object (other than approved insulated objects) shall encroach unless in accordance with Parts 3 and 4.

Proper application of SAD requires consideration of the workspace necessary to perform the task or function and either working beyond reach or the use of controlled movements to stay outside the SAD.

Unnecessary approach to electrical apparatus or unnecessary contact with parts not regarded as live shall be avoided.

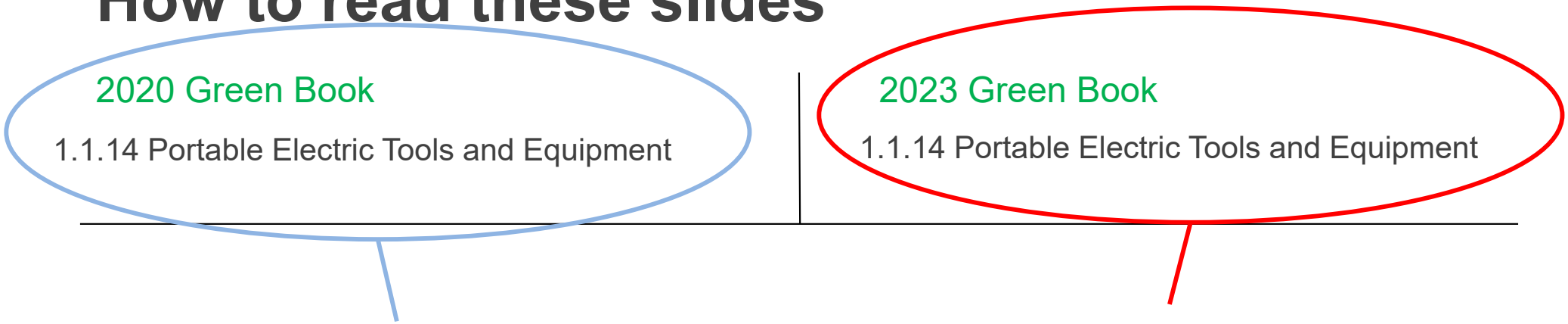
Necessary approach to electrical apparatus shall be kept to a minimum and shall be restricted to the period required to perform the work.

Work practices shall be established to ensure persons, mobile plant and unapproved objects do not encroach the SAD. These work practices shall include consideration of:

- Working Beyond Reach of the exclusion zone wherever practicable.
- Precautions to be applied when use of controlled movement is necessary.
- The work space required including the expected reach of persons performing the work; and
- The movement of mobile plant used for the work.

Expected reach shall include all intentional and expected movements such as adopting a work position, adjusting a hard hat, manoeuvring tools, and reaching for items being passed to the employee.

How to read these slides



- This font is explanatory or describes a reason for change
- *This font represents text from the 2020 GB*
- ~~*This font represents deleted text from the 2020 GB*~~
- *This font represents new or changed text in the 2023 GB*

Page № in 2023 GB

6

Structure and Content

Introduction	Notes, Membership, Preface, Purpose, Scope, Document Hierarchy, Definitions, Abbreviations
PART 1 – Safety, Training and Authorisations	Requirements that must be established before working on or near electrical apparatus
PART 2 – Work in the Vicinity of Electrical Apparatus and Safe Approach Distances	Describes the requirements for working near HV electrical apparatus (inc. Safe Approach Distances)
PART 3 – Access for Work on or Near HV Electrical Apparatus	Describes the access requirements for working on HV electrical apparatus (inc. planning, operating & earthing)
PART 4 – Low Voltage Electrical Apparatus	Describes the requirements for working on or near LV electrical apparatus
PART 5 – Work by Persons not under the Control of the Asset Owner	Describes the requirements for work by non-VESI persons *on* or *near* electrical apparatus

Definitions

CHANGED

Instructed Person

Revised to: *means a person ~~adequately advised or supervised~~ effectively supervised by an Authorised Person to enable them to avoid the dangers which electricity may create.*

Major Electricity Company (MEC)

From: *means a distribution company or a transmission company, but does not include a distribution company or a transmission company, or a class of distribution company or transmission company, declared under section 3A of the Electricity Safety Act not to be a major electricity company*

To: *means:*

A. a distribution company, or

B. a transmission company,

but does not include a distribution company or a transmission company, or a class of distribution company or transmission company, declared under section 3A of the Electricity Safety Act 1998 not to be a major electricity company.

Definitions

NEW

Effective Supervision in relation to work, means—

- *being present at the site of the work to the extent necessary to ensure that the work is being correctly performed and carried out in accordance with (as each worksite requires) these Safety Rules, the Regulations, and approved procedures; and*
- *being aware of the details of the work being performed and giving detailed instructions and directions with respect to the work.*

Milliteslas (mT)

means a unit of magnetic flux density 1,000 times smaller than the SI Unit; the Tesla.

Definitions

NEW

Network Controller (also Network Coordinator)

means a person who is suitably trained to direct or be responsible for directing switching of a MEC electricity Network, including co-ordination and direction of all switching and permit issue/cancel on and associated with the MEC Electricity Network, whilst also considering the integrity of the network.

No Go Zone Rules

means the documented guidelines prescribed and published by WorkSafe Victoria, which are available for non-electrical workers to perform activities near protected infrastructure.

No Go Zone Rules for MEC distribution infrastructure do not apply to VESI Distribution Network employees/contractors who work to Safe Approach Distance.

Abbreviations

NEW

kV/m – Kilovolt per metre (kV/m) = 1000 volts per metre

Figures and Tables Index

On page xiii the index for Figures and Tables is updated to include Figure 3 - Live Cutting Zone.

FIGURES AND TABLES

Content Changes – Part 1

2020 Green Book	2023 Green Book
1.1.2 First Aid	1.1.2 First Aid

Revised as follows:

Persons who are required to perform work ~~where there is a risk of inadvertent contact with live electrical conductors~~ as an Approved/Authorised Person shall be given appropriate first aid training ~~on commencement~~ prior to undertaking associated task ~~performing the work~~, and thereafter subject to annual competency assessment in accordance with relevant National Competency Standard Units.

Reason: Concise wording and emphasising that first aid training isn't only required where there is a risk of inadvertent contact with live conductors.

Content Changes – Part 1

2020 Green Book	2023 Green Book
1.1.11 Tapes and Other Measuring Devices	1.1.11 Tapes and Other Measuring Devices

Revised as follows:

Only ~~approved~~ non-conducting tapes, rulers and other measuring devices shall be used ~~in the vicinity~~ near live electrical apparatus.

Conductive tapes, rulers and other measuring devices shall not be used near exposed live electrical apparatus unless approved for use in accordance with organisational procedures.

Reason: Tools are not approved by VESI and the requirement for non-conducting measuring devices is only required when working 'Near' live electrical apparatus

Content Changes – Part 1

2020 Green Book	2023 Green Book
1.1.12 Use of Safety Observers	

Use of Safety Observers section re-written and split into two new sections, Live Work General and Mobile Plant

Content Changes – Part 1

2020 Green Book	2023 Green Book
	1.1.12.1 Live Work General

To: *Unless working in accordance with Section 4.2.1 or undertaking a HV operating task, a Safety Observer shall be appointed where it is prescribed by organisational procedures, or it is considered after a JSA that a person might inadvertently infringe the SAD.*

Under no circumstances shall the Safety Observer be diverted to another task while the possibility of infringing the SAD exists, however the Safety Observer may perform limited duties related to the work being performed e.g., tying a service to hand line or monitoring and managing the Drop Zone. Where this need may arise, effective communication shall be maintained between the Safety Observer and the worker/s being observed.

Before any person can act as a Safety Observer for workers in proximity of live electrical apparatus, they shall:

- *Be trained and competent in the task being observed and the relevant rescue techniques.*
- *Understand the work process and sequence of work.*
- *Have the authority to temporarily suspend the relevant work at any time e.g., when a safety Observer performs a duty related to the work being performed.*
- *Understand the workplace hazards applicable.*
- *Be positioned to effectively observe and immediately communicate with persons performing the work.*
- *Monitor the work and warn against potential infringement of SAD.*

For live HV work refer to the VESI Minimum Rules for Carrying out HV Live Work in Victoria.

Content Changes – Part 1

2020 Green Book	2023 Green Book
	1.1.12.2 Mobile Plant

To: *A Safety Observer shall be appointed where it is prescribed by organisational procedures, or it is considered after a JSA that mobile plant might inadvertently infringe the SAD.*

Under no circumstances shall the Safety Observer be diverted to another task while the possibility of infringing the SAD exists, however the Safety Observer may perform limited duties related to the work being performed e.g., monitoring and managing the Exclusion Zone. Where this need may arise, effective communication shall be maintained between the Safety Observer and the plant operator.

Before any person can act as a Safety Observer of mobile plant in proximity of electrical apparatus, they shall:

- *Be an ESI Worker trained and competent in Safe Approach Distances.*
- *Understand the task, work process and sequence of work.*
- *Have the authority to temporarily suspend the relevant work at any time.*
- *Understand the workplace hazards applicable.*
- *Be positioned to effectively observe and immediately communicate with persons operating Mobile Plant.*
- *Monitor the task and warn against potential infringement of SAD.*

For live HV work refer to the VESI Minimum Rules for Carrying out HV Live Work in Victoria.

Content Changes – Part 1

2020 Green Book	2023 Green Book
1.1.14. Portable Electric Tools and Equipment	1.1.14. Portable Electric Tools and Equipment

Second paragraph revised as follows:

Electric power tools with trailing leads, shall be treated as being at earth potential. Precautions shall be taken to ensure that the trailing lead is secured and does not ~~make contact with~~ contact exposed live conductors.

Reason: Grammatical change

Content Changes – Part 1

2020 Green Book	2023 Green Book
1.2 Work Within Electric and Magnetic Fields	1.2 Work Within Electric and Magnetic Fields

This whole section has been re-written to align with Blue Book changes, which now aligns with international standards.

Content Changes – Part 1

2020 Green Book	2023 Green Book
1.2.1 Work within Electric and Magnetic Fields - General	1.2.1 Work within Electric and Magnetic Fields - General

Electric and Magnetic Fields (EMFs) may be present in workplaces.
Where EMFs are of high intensity, actions need to be undertaken in order to protect persons from any adverse effects including:

- *the irritating micro-shocks, due to electric discharge effects of strong electric fields; and*
- *the possible biological effects associated with extremely strong electric and magnetic fields.*

Persons fitted with implant or body-worn medical devices, including cardiac pacemakers, metallic implants, insulin pumps or of their pregnancy, should consult their doctors and the relevant organisational officer for information on possible electromagnetic interference with the medical devices prior to entering areas of strong electric and magnetic fields.

Advisory occupational exposure limits provided in ICNIRP Guidelines and IEEE C95.1 Standard are listed in the following sections 1.2.2 and 1.2.3.
Organisations should establish appropriate exposure limits in accordance with industry guidelines e.g., Energy Network Australia (ENA) EMF Management Handbook.

Content Changes – Part 1

2020 Green Book

1.2.2 50Hz Electric Fields

2023 Green Book

1.2.2 50Hz Electric Fields

Advisory occupational exposure limits for electric fields based on abovementioned guidelines are as follows:

Unrestricted	**Less than 10kV/m**
Maximum permissible exposure	**20 kV/m**
Alternative controls	**Greater than 20kV/m**

For work situations with field strengths greater than 20kV/m, alternative controls shall be used. Such controls include:

- *restricted access,*
- *wearing appropriately earthed or bonded conducting suits,*
- *the screening and earthing of vehicles,*
- *the screening of work platforms and access ways, and*
- *de-energising adjacent electrical apparatus.*
- *The person responsible for planning the work shall include in the work instructions details of any appropriate measures to be taken.*

Content Changes – Part 1

2020 Green Book

1.2.3 Magnetic Fields

2023 Green Book

1.2.3 Magnetic Fields

Advisory occupational exposure to magnetic fields are as follows:

50 Hz Magnetic Fields	
General Exposure	1 milliTesla (10,000 milliGauss)
Exposure to head and torso	2.71 milliTesla (27,100 milliGauss)
Exposure to arms and legs	75.8 milliTesla (758,000 milliGauss)

Static or Direct Current (DC) Magnetic Fields	
The 2009 International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines for limits A, B & C (see notes below) of occupational exposure to static or DC magnetic fields are as follows:	
Head and Trunk	2000 milliTesla
Limbs	8000 milliTesla

Notes:

A. Caution: because of potential indirect adverse effects, ICNIRP recognises that practical policies need to be implemented to prevent inadvertent harmful exposure of persons with implanted electronic medical devices and implants containing ferromagnetic material. This requirement may lead to much lower restriction levels such as 0.5 milliTesla.

B. For specific work applications, exposure up to 8000 milliTesla can be justified if the environment is controlled and appropriate work practices are implemented to control movement-induced effects.

C. When magnetic flux densities exceed 5 milliTesla (static or DC magnetic fields) precautions Should be taken to prevent hazards from flying metallic objects.

Content Changes – Part 1

2020 Green Book	2023 Green Book
1.3.1 Training - General	1.3.1 Training - General

Paragraph 6 revised as follows:

A person who is not authorised may perform a task that normally requires authorisation or approval, (e.g., HV live work, HV operating) when that task is performed under a training program, and the person is ~~suitably~~ effectively supervised by a person with the relevant authorisation.

Reason – further clarification and consistency of defined supervision requirements.

Paragraph 7 included as follows:

Due to the proprietary and specialist nature of each MEC's network access system compared to the standard legacy paper-based systems, an MEC may choose to waive three-yearly competency assessments for Authority to Make Application. Such waiver shall be made in accordance with the rules to vary the safety requirements as specified in the scope of the Green Book.

Reason – to reiterate requirements for MEC's to make change to refresher training requirements documented in Green Book.

Content Changes – Part 1

2020 Green Book	2023 Green Book
1.4.2 Withdrawal or Suspension of a Network Authority	1.4.2 Withdrawal or Suspension of a Network Authority

Last dot point revised as follows:

- *Is subject to, or as the outcome of an investigation.*

Reason – To include that Network Authority withdrawal or suspension can be an outcome of an investigation

Content Changes – Part 1

2020 Green Book	2023 Green Book
1.4.4 Work on Live Low Voltage Electrical Apparatus	1.4.4 Work on Live Low Voltage Electrical Apparatus

Formatting changed and content below split into dot points and reference to VESI Skills and Training Guidelines added as follows:

Work on live LV electrical apparatus shall be performed only by workers:

- *Who have been assessed as competent ~~to~~ as per the ~~National Competency Standard~~ VESI Skills and Training Guidelines for task performed, or*
- *An electrical apprentice/trainee working under a training program and ~~suitably~~ effectively supervised. Refer to relevant Apprentice Supervision Guidelines available on www.vesi.com.au.*

Reason – to refine content outlining the minimum training requirement to carry out Live Low Voltage tasks.

Content Changes – Part 2

2020 Green Book	2023 Green Book
2.1.1 Work in the Vicinity of Electrical Apparatus - General	2.1.1 Work in the Vicinity of Electrical Apparatus - General

Paragraph 1 revised as follows:

For all works ~~by VESI workers~~ being carried out in the vicinity of electrical apparatus by VESI workers, ~~either specific written~~ training and/or written work instructions shall be ~~used~~ available and followed or alternatively, organisational procedures and/or established work practices shall apply. ~~in conjunction with the use of Instructed or Authorised Persons~~.

Reason – Grammatical changes and further clarity

Content Changes – Part 2

2020 Green Book	2023 Green Book
	2.1.2 Entry to Enclosures

New section added to clarify requirements and provide greater guidance to improve industry understanding and promote safer outcomes.

Content Changes – Part 2

2020 Green Book	2023 Green Book
	2.1.2 Entry to Enclosures *Continued*

Authorised

Where Authorised Persons are required to enter enclosures containing electrical apparatus, the Authorised Person shall ensure that the entry is performed safely and that appropriate precautions are taken.

These precautions may include but are not limited to:

- *Job safety analysis*
- *Site work permit system*
- *Site safe work system*

Instructed

Where Instructed Persons are required to enter enclosures containing electrical apparatus, the Instructed Person, the Authorised Person, the person in charge of the site and the person in charge of the electrical apparatus shall ensure entry is performed safely and specific precautions are taken.

These precautions may include but are not limited to:

- *Job safety analysis*
- *HV awareness training*
- *Site work permit system*
- *Site safe work system*
- *The provision of specific instructions as to the location of the enclosed or exposed conductors or terminations or apparatus.*

An instructed person shall be identified as such to those responsible for their supervision.

Content Changes – Part 2

2020 Green Book	2023 Green Book
	2.1.2 Entry to Enclosures *Continued*

Ordinary persons

Where Ordinary Persons are required to enter enclosures containing electrical apparatus, entry shall be performed in accordance with approved precautions and they shall be effectively supervised by an Authorised Person.

These precautions may include but not limited to:

- *Job safety analysis*
- *Site work permit system*
- *Site safe work system*
- *The provision of specific instructions as to the location of the enclosed or exposed conductors or terminations or apparatus.*

Please refer to section 2.3.4 for Safe Approach Distances – Authorised Entry to Enclosures

Content Changes – Part 2

2020 Green Book	2023 Green Book
2.1.3 Erection or Dismantling of Overhead Conductors	2.1.4. Installing, Replacing or Retiring of Overhead Conductors

First and Second paragraph revised as follows:

When overhead lines (other than insulated or covered conductors), are being installed, replaced or retired ~~erected, dismantled or replaced~~, and there is possibility of contact with, or induction from, adjacent live conductors of any description, such conductors being moved shall be earthed by an approved device before work is commenced and shall remain earthed until the work is completed. A conductor ~~being so~~ that is erected shall be earthed before it is lifted from the ground.

When earthing is considered to be impracticable, or a safer control measure may be appropriate, alternative safety precautions shall be applied and may include the use of appropriate restraining devices to control such conductors when they are being moved.

Reason – Addition of safer control measures, considerations, or precautions to take which can promote a safer working environment

Content Changes – Part 2

2020 Green Book	2023 Green Book
2.2.1 Safe Approach to Electrical Apparatus - General	2.2.1 Safe Approach to Electrical Apparatus - General

The first 3 paragraphs have been revised to:

Part 6 of the Electricity Safety (General) Regulations 2019 sets out minimum distances that persons, vehicles, mobile plant, and machinery that shall be maintained from an aerial electric conductor. Some of the safe approach distances specified in these Rules are less than minimum distances specified in the Regulations. It is a regulatory requirement that workers who adopt these safe approach distances must be provided with written permission or an authorisation from the Distribution Network to allow them departing from the minimum distances specified in the Regulations.

Safe Approach Distance (SAD) is based on an Exclusion Zone principle and is measured out from the energised conductor.

This principle defines an area around an exposed conductor as shown in Figure 1, into which no part of the person, mobile plant or object (other than approved insulated objects) shall encroach unless in accordance with Parts 3 and 4.

Proper application of SAD requires consideration of the workspace necessary to perform the task or function and either working beyond reach or the use of controlled movements to stay outside the SAD.

Reason: Alignment with Blue Book content.

Content Changes – Part 2

2020 Green Book	2023 Green Book
2.3.1 Safe Approach Distance - Persons - General	2.3.1 Safe Approach Distance - Persons - General

The second paragraph has been added:

When working to SAD, appropriate allowance shall be made for conductor sag and sway and uncontrolled ground or footing movement.

Reason: To maintain consistency in documented information

Content Changes – Part 2

2020 Green Book	2023 Green Book
2.3.3 Safe Approach Distance – Instructed and Authorised Persons	2.3.3 Safe Approach Distance – Instructed and Authorised Persons

The first 2 paragraphs have been revised to:

An Instructed Person is a person ~~adequately advised or~~ effectively supervised by an Authorised Person to enable them to avoid the dangers which electricity may create.

Instructed Person's SAD apply whilst undertaking duties under supervision or as instructed by an Authorised Person.

Where effective ~~continuous~~ supervision is not provided to Instructed Persons, ~~consideration shall be given to applying greater SAD than those given in Table 1, column 3.~~see Ordinary Persons.

Reason: To align defined supervision requirements and further clarity

Content Changes – Part 2

2020 Green Book	2023 Green Book
2.3.5 Safe Approach Distance – Special	2.3.5 Safe Approach Distance – Special

Second paragraph revised to:

SAD-Special shall only be considered where either SAD normal, EAP or live work techniques are deemed impracticable and shall be used only by Authorised Persons performing approved tasks. The VESI has published a list of approved tasks in the Guideline 'Approved Tasks for the Application of Safe Approach Distance – Special' at www.vesi.com.au

Second dot-point revised to:

- *Safety Observers shall be appointed and competent in the task being performed. ~~and used to monitor the work activities~~.*

Reason: To provide reference to approved task list and emphasise the competency and requirement of Safety Observer

Content Changes – Part 2

2020 Green Book	2023 Green Book
2.4 Safe Approach Distance – Vegetation Works	

The changes to section 2.4 have been removed, content relevant to Vegetation Workers.

Content Changes – Part 2

2020 Green Book

Table 4 – Vehicle Clearance & Table 5 – Working Mobile Plant Clearance

2023 Green Book

Table 4 – Vehicle Clearance & Table 5 – Working Mobile Plant Clearance

Content change in tables as follows:

Low Voltage insulated or earthed metallic screened HV insulated conductor up to and including 66

Table 4 – *Vehicle Clearance*

Safe Approach Distances for Vehicles excepting mobile plant when in the working mode		
All Safe Approach Distances apply to Exposed Conductors unless otherwise indicated Nominal Phase to Phase Voltage (AC) kV	Safe Approach Distances for Vehicles under the control of Ordinary Persons mm	Safe Approach Distances for Vehicles under the control of Instructed or Authorised Persons mm
LV exposed conductor and catenary connected to LV neutrals	600	600
LV insulated or earthed metallic screened HV insulated conductor up to and including 66	600	No Contact

Table 5 – *Working Mobile Plant Clearance*

Safe Approach Distance for Mobile Plant when in the Working Mode			
All Safe Approach Distances apply to exposed conductors unless otherwise indicated Nominal Phase to Phase Voltage (AC) kV	Safe Approach Distances for mobile plant operated by Ordinary Persons (including insulated mobile plant) mm	Safe Approach Distances for any UNINSULATED section of mobile plant operated by Instructed or Authorised Persons mm	Safe Approach Distances for any appropriately INSULATED section of mobile plant operated by Instructed or Authorised Persons mm
Low Voltage exposed conductor and catenary connected to LV neutrals	2000	1000	Contact allowable
Low Voltage insulated or earthed metallic screened HV insulated conductor up to and including 66	2000	No Contact	Contact allowable

24 & 26

Content Changes – Part 2

2020 Green Book	2023 Green Book
2.10.2 Earthed Metallic Sheathed or Screened High Voltage Cables	2.10.2 Earthed Metallic Sheathed or Screened High Voltage Cables

Revised as follows:

Contact by persons may be made to external non-conductive surfaces of HV live cables with earthed metallic sheaths or screens only after consideration of transferred earth potentials and induced voltages. ~~Contact with exposed metallic sheath or screen shall only be undertaken after consideration of hazards including transferred earth potentials .~~

Reason: Alignment with Blue Book content

Content Changes – Part 3

2020 Green Book	2023 Green Book
	Part 3 - Minor changes for further clarity or alignment with Definitions

- 3.1.3 Note added
- 3.1.4 *'Network Control'* replaced with *'Operating Authority'*
- 3.2.2 Clause references updated
- 3.2.6.1 *HV* added to note 2
- 3.3.1 sixth paragraph *'training and/or'* added
- 3.3.3.7 *In Distribution Networks the following applies:* heading moved to the correct position
- 3.3.4.1 *'Access Authority'* replaced with *'EAP'*
- 3.3.4.2 Paragraph 1 *'Effective'* added and last dot-point *'be Effectively Supervised'* replaces the '*continuous and close supervision*'
- 3.3.4.3 fifth dot-point expanded in new sixth dot-point with questions to confirm recipients understanding and satisfaction of EAP conditions, two last dot-points *'Access Authority'* changed to *'EAP'*
- 3.3.4.4 sixth dot-point added with questions to confirm additional recipients understanding and satisfaction of EAP conditions.
- *3.3.4.6* First dot point *'Effective'* replaces *'Direct'*
- *3.3.4.11* last paragraph *'Erection and Dismantling'* replaced with *'Installing, Replacing or Retiring'*
- 3.3.5.2 Last paragraph *'be located'* replaced with *'sign off in person*'

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.1.2 High Voltage Operator Protection	3.1.2. High Voltage Operator Protection

Revised as follows:

When HV electrical apparatus is operated, the person undertaking the task shall be protected from electric shock, flash and other hazards using approved methods and mandatory PPE, ~~also~~ refer Clause 1.1.10.2 and Table 6.

~~*Safety glasses with side protection or full-face shields shall be in accordance with relevant Australian Standards. Shaded/tinted is preferred, but protection with clear lenses or shield is appropriate for use in poor light situations.*~~

Reason: Inclusion of mandatory PPE and removal of duplicate information that is available in Table 6.

Content Changes – Part 3

2020 Green Book

Table 6 – Operator Protection

2023 Green Book

Table 6 – Operator Protection

Table 6 revised as follows:

- Requirements split to ‘Inside a Station’ and ‘Outside a Station’
- ‘Dry Base’ removed as a control for operator protection
- PPE requirements updated to maintain safe work practices and keep consistency
- Information documented in a simpler way delivering further clarity

Operator Protection		
INSIDE A STATION		
Apparatus	**Action**	**Operator Protection**
Circuit Breaker or other metal clad switchgear inside a Station operated manually by grasping a metal handle	Opening & Closing Racking a circuit breaker or voltage transformer	1. Insulated gloves AND 2. Insulated medium 3. Safety glasses OR full face shield 4. Sleeve – where practicable
Fully enclosed, fault rated earth switch or truck for metal clad switchgear inside a Station	Opening & Closing	1. Insulated gloves OR insulated medium AND 2. Safety glasses or full face shield
Metal clad switchgear inside a Station	Earthing via earth trucks or earth probes	1. Insulated medium AND 2. Safety glasses with side protection OR full face shield AND 3. Hand protection to protect against flash
Switches and isolators inside a Station operated manually by grasping a metal handle	Opening & Closing and Earthing	1. Insulated gloves OR sleeve AND 2. Safety glasses with side protection OR full face shield
Insulating stick operation of testing equipment, HV fuses, switches, isolators or portable earths	Opening & Closing or Applying	1. Operating stick AND 2. Safety glasses with side protection OR full face shield AND 3. Hand protection to protect against flash
OUTSIDE A STATION		
Switches operated manually by grasping a metal handle	Opening & Closing and Earthing	1. Insulated gloves AND 2. Insulated medium AND 3. Safety glasses with side protection OR full face shield 4. Sleeve – where practicable
Insulating stick operation of HV fuses, switches, isolators or portable earths	Opening & Closing or Applying	1. Operating stick AND 2. Safety glasses with side protection OR full face shield AND 3. Hand protection to protect against flash

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.2.1 Earthing of HV Electrical Apparatus – General	3.2.1 Earthing of HV Electrical Apparatus – General

New Note added:

Note: **Proximity testers e.g., Modiewark tester, shall not be used for safe to earth test on the screened section of underground cable, or any bundled cables**

Reason: Lesson learned from industry incidents

First three paragraphs revised as follows:

Earthing device types shall be suitably rated ~~and~~, approved and inspected prior to use.

Earthing devices shall be applied by an Authorised Person only after confirming it is safe to earth.
~~Only Authorised Persons shall apply them after the circuit or electrical apparatus is isolated and after confirmation by tests, visual inspection or enquiry that the conductors are de-energised.~~

Confirmation of ~~isolation~~ safe to earth shall be by:

- *Visual inspection of isolation(s) and testing of the conductors.*
- *Where visual inspection of isolation(s) is not practicable, inquiry and testing shall be used.*
- *Where testing is not practicable, earthing may take place only in accordance with approved procedures.*

Continued

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.2.1 Earthing of HV Electrical Apparatus – General	3.2.1 Earthing of HV Electrical Apparatus – General (Continued)

Fifth paragraph revised as follows:

Wherever practicable, an earth shall be applied and removed with ~~by~~ an approved device. When hand application or removal is unavoidable:

- *All phases shall be discharged, and*
- *Another earth shall be held in contact with the conductor using an approved device while the hand applied earth is being attached or removed.*

Eighth paragraph revised as follows:

When applying a portable earthing device ~~that is not connected to a permanently installed station earthing system~~, it shall be regarded as being liable to become live until the circuit earthing is complete.

Reason: Alignment with Blue Book and further clarity

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.2.7 Earthing of Mobile Plant	3.2.7 Earthing of Mobile Plant

Revised as follows:

Mobile Plant shall be earthed in accordance with table 7 using the following earthing hierarchy and notes:

1. *Permanently installed HV earthing system.*
2. *Earthing ferrule in a concrete pole.*
3. *The ground rod of an installed pole stays or permanently driven pole stakes.*
4. *A temporarily driven earth electrode.*

Plant shall be earthed via a conductor from the chassis to earth system.

Reason: To provide further guidance and prescribe the safe work practice of earthing of Mobile Plant

Continued

Content Changes – Part 3

2020 Green Book

3.2.7 Earthing of Mobile Plant

2023 Green Book

3.2.7 Earthing of Mobile Plant (Continued

Table 7 simplified and re-formatted updated as below:

Work Environment	De-energised LV	Live LV	De-energised HV	Live HV	All HV Enclosures
Insulated – Transit	Nil	Nil	Nil	Nil	Trailing Earth
Insulated – Operation	Nil unless required to eliminate induction issues	Nil unless required to eliminate induction issues	Nil unless required to eliminate induction issues or as part of an equipotential bonding system	~~Permanently installed Earth system or other approved temporary earth~~ Earthing required	Permanently installed earthing system
Un-insulated – Transit	Nil	Nil	Nil	Nil	Trailing Earth
Un-insulated – Operation	Nil	~~Permanently installed Earth system or other approved temporary earth~~ Earthing required	Nil unless required to eliminate induction issues or as part of an equipotential bonding system	~~Permanently installed Earth system or other approved temporary earth~~ Earthing required	Permanently installed earthing system

Reason: For simplification of table and remove earthing practices.

Continued

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.2.7 Earthing of Mobile Plant	3.2.7 Earthing of Mobile Plant (Continued)

Table 7 notes revised to as follows:

1. *Earthing of insulated mobile plant is not required when performing short term LV work (e.g., public lighting maintenance or servicing connection work) on poles carrying live HV and the SAD for mobile plant is maintained if:*
   a. *Work does not exceed 30 minutes*
   b. *Conductors are not displaced (not including service cables)*
   c. *There is minimal movement of the insulated mobile plant.*
2. *Where a structure has multiple voltages the standard for the highest voltage shall apply, e.g., when performing work on de-energised LV on a pole that has live HV, the live HV standard shall apply*
3. *Where two or more items of mobile plant are in working mode ~~on or near live HV~~ at the same structure over ~~they shall be set up at least~~ 2 metres apart, they shall be ~~and~~ separately earthed.*
4. *Where separate items of mobile plant are ~~set up~~ in working mode closer together than 2 meters apart, they shall be bonded together or connected to the same earthing point.*
5. *Where separate items of mobile plant are in working mode on the same structure with energised HV and they are separately earthed, if one item of plant is uninsulated that plant shall be connected to the most effective earth.*
6. *In service HV SWER earths are not suitable for earthing plant*
7. *Plant earthing electrode shall be installed minimum of 6 meters from live HV SWER earth installation*
8. *LV Neutral conductor connected to established Common Multiple Earth Neutral (CMEN) earthing systems or Multiple Earthed Neutral (MEN) low voltage earths are not suitable for earthing plant.*
9. *For HV Live Work, refer to the VESI Minimum Rules for Carrying out High Voltage (HV) works In Victoria or organisational procedures where equivalent or higher-level safety measures apply.*

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.2.8.3 High Voltage Capacitors	3.2.8.3 High Voltage Capacitors

New paragraph 1 added:

A safe method of discharging high voltage capacitors prior to access shall be included in approved procedures.

Reason: Alignment with Blue Book

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.3.3.1 Preparing High Voltage Electrical Apparatus for Access - General	3.3.3.1 Preparing High Voltage Electrical Apparatus for Access - General

Last 2 paragraphs revised to as follows:

If earthing is impracticable on other asset types (e.g., HV ABC), appropriate precautions shall be taken to ensure the electrical condition of the apparatus and the remote ends of the cable shall be confirmed as isolated and ~~earthed~~ de-energised. The Authorised Electrical Operator shall advise the Recipient in Charge and record the absence of an earth on the EAP.

Where access is required to both HV and LV electrical apparatus, ~~the Operating Authority and Authorised Applicants shall arrange for either combined access to the HV and LV electrical apparatus under an EAP or separate access arrangements for the HV and LV electrical apparatus.~~ refer to Clause 4.3.3 Co-ordination of LV and HV Access Switching Activities.

Reason: Alignment with Blue Book

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.3.3.5 Use of a Statement of Condition of Apparatus (SCAP)	3.3.3.5 Use of a Statement of Condition of Apparatus (SCAP)

Re-written as follows:

A SCAP is a documented statement issued by one Operating Authority to another, stating the condition of the specified electrical apparatus or plant controlled by the issuing authority. It is used in circumstances where the stated conditions are required as precautions for the issue of an Access Authority issued by the receiving Operating Authority.

The SCAP specifies the state of the electrical apparatus or plant covered and does not by itself authorise work on the electrical apparatus or plant.

The stated conditions shall be maintained unless changed in accordance with the provisions referred to in this Clause, or until the SCAP is relinquished by the receiving authority.

Any earths listed on the SCAP may be removed as requested by the Recipient in accordance with Clause 3.2.5.

The SCAP shall where practicable detail all relevant precautions taken for the safety of the work party/ies.

Where it is not practicable to detail all such precautions, a general written statement of the condition of the electrical apparatus/plant (e.g., isolated and earthed) is acceptable provided that:

- *It is acceptable to the Operating Authorities, and*
- *It is acceptable to all Recipients on the associated EAP or SFT.*

Continued

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.3.3.5 Use of a Statement of Condition of Apparatus (SCAP)	3.3.3.5 Use of a Statement of Condition of Apparatus (SCAP) (Continued)

At the time of issue, the issuing Operating Authority shall describe and show the electrical apparatus covered by the SCAP and the precautions taken to the satisfaction of the receiving Operating Authority Recipient.

Note: Where it is not practicable to show each SCAP isolation physically, other forms of communication, photographic, video evidence of the isolations can be provided.
Where a general statement is used and any isolation point is to be changed (whilst still maintaining general condition of isolation), prior agreement shall be obtained from all affected Operating Authorities.

The receiving Operating Authority shall consult with Recipients of affected Access Authorities before agreeing to any change.

SCAP details shall be cross referenced and included in precautions taken in section B of any associated EAP or SFT.

The receiving authority shall keep records of the issue and cancellation of SCAPS or VSCAPS.

Reason: Alignment with Blue Book

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.3.3.6 Use of a Verbal Statement of Condition of Apparatus – Plant (VSCAP)	3.3.3.6 Use of a Verbal Statement of Condition of Apparatus – Plant (VSCAP)

Revised as follows:

VSCAPs shall only be used between electricity supply Operating Authorities when:

- *There is mutual agreement to their use, and*
- *They have established procedures and systems for the centralised logging of information both given and received, regarding the condition of electrical apparatus, and*
- *The procedures and systems guard against the inadvertent operation or restoration of electrical apparatus.*

The network representative receiving the VSCAP shall be responsible for the issue of relevant Access Authorities.

Any earths installed for the issue of VSCAP may be removed as requested by the Recipient in accordance with Clause 3.2.5.

Recipients of those Access Authorities need not be specifically authorised to work on the assets of the network operator who issued the VSCAP.

41

Reason: Alignment with Blue Book

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.3.3.9 Working on Insulated Power or Supervisory Cables (including Out of Commission or Abandoned Cables)	3.3.3.9 Working on Insulated Power or Supervisory Cables (including Out of Commission or Abandoned Cables)

Revised as follows:

Where it is necessary for a cable to be de-energised to enable access to the cable, the de-energised state should be confirmed on site by positive identification or visually tracing it from one end or by the use of a spiking device.

Spiking of Cables

A spiking or remote cable cutting device may be used to confirm that a cable is de-energised.
When a cable is to be spiked by a power operated spiking device, or cut with a remote cable cutting device the following measures shall be taken:

- *where practicable the electrical condition of the remote ends of the cable shall be confirmed as isolated and earthed, and*
- *the person in charge of the work shall personally select the cable to be spiked or cut after reference to the appropriate records and use of cable tracers where necessary, and*
- *an approved cable spiking device or remote cable cutting device shall be used by a person trained in its use and in accordance with approved procedures.*

Prior to spiking the Operating Authority shall be advised. The Operating Authority shall prevent the energising or re-energising of any cable in the vicinity of the proposed works until advised that spiking has been completed.

Content Changes – Part 3

2020 Green Book	2023 Green Book
	3.3.4.12. RIC Replacement During Permit On Issue

New section:

In the event of a person ceasing to act as Recipient in Charge, another Authorised Recipient shall become the Recipient in Charge and where practicable, the EAP shall be initialled by both. Further:

- *The work party shall be advised of the change in Recipient in Charge, and*
- *This change of Recipient in Charge shall be communicated to the Operating Authority and recorded on the EAP*

Reason: Alignment with Blue Book

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.5.2 Application for Sanction for Testing	3.5.2. Application for Sanction for Testing

Section re-written as follows:

Only an Authorised Applicant shall make application for a Sanction for Testing, which application shall take into account the following mandatory considerations:

- *Before making an application for Sanction for Testing the Authorised Applicant shall establish that the proposed work has been properly planned and can be carried out safely.*
- *The electrical apparatus to be tested and its location shall be accurately defined and the task to be undertaken adequately described in the application.*
- *Testing shall be undertaken in accordance with approved procedures and adequate precautions shall be taken to avoid exposure to hazardous voltages and currents.*
- *Only one Sanction for Testing shall be on issue on the same electrical apparatus at any time.*
- *Where the test is to be undertaken on electrical apparatus having involvement of more than one Operating Authority then protocols shall be established for processing the application and test requirements.*

Reason: Alignment with Blue Book

Content Changes – Part 3

2020 Green Book	2023 Green Book
3.5.3 Persons Permitted to Sign on to Sanction for Testing	3.5.3 Persons Permitted to Sign on to Sanction for Testing

Last 8 dot-points revised as follows:

- *Understands instructions given by the Authorised Tester in Charge on what approach is permitted to the electrical apparatus; and*
- *Understands instructions given by the Authorised Tester in Charge regarding the work activity permitted to be undertaken ~~on what activity is permitted to be taken~~ in relation to the electrical apparatus; and*
- *Aware of the nearest adjacent live electrical apparatus; and*
- *Agrees to ~~the general supervision~~ be Effectively Supervised by a nominated Authorised Tester.*

The conditions under which an Instructed Person shall sign-on to a Sanction for Testing are that the person:

- *Understands instructions given by the Authorised Tester regarding the limit of approach to the electrical apparatus on what approach is permitted to the electrical apparatus; and*
- *Understands instructions given by the Authorised Tester regarding the work activity permitted to be undertaken ~~on what activity is permitted to be taken~~ in relation to the electrical apparatus; and*
- *Is made aware of the nearest adjacent live electrical apparatus; and*
- *Agrees to ~~continuous and close supervision~~ be effectively supervised by a nominated Authorised Tester.*

Reason: Further clarity

Content Changes – Part 4

2020 Green Book	2023 Green Book
4.3.4.1 Persons Permitted to Sign onto Low Voltage Electrical Access Authorities	4.3.4.1 Persons Permitted to Sign onto Low Voltage Electrical Access Authorities

Revised to:

Recipients of a LV Electrical Access Authority shall be Authorised Persons, or Instructed Persons approved to work under that specific Electrical Access Authority. In the latter case it shall be the responsibility of the Recipient in Charge to ensure that such persons are placed under the effective supervision of an Authorised Person.

Reason: Alignment of definition

Content Changes – Part 4

2020 Green Book	2023 Green Book
4.3.5.3 Absence of a Recipient at Relinquishment	4.3.5.3 Absence of a Recipient at Relinquishment

Revised to:

~~The practice of~~ Signing off an EAP ~~Access Authority~~ on behalf of another person is undesirable and should be avoided.

Appropriate organisational procedures should ~~shall~~ be implemented with instruction for signing off Recipients where the Recipients ~~could not~~ unable to sign off in person ~~be located~~.

Reason: Alignment with section 3.3.5.2

Content Changes – Part 5

2020 Green Book	2023 Green Book
5.1.1 Electrical Safety Procedures - General	5.1.1 Electrical Safety Procedures - General

Third paragraph revised as follows:

For the purposes of this section, persons not under the control of the Distribution Network are persons, companies or organisations that have no contractual obligation to the Distribution Network and are not performing work for the Distribution Network. These persons shall comply with the Electricity Safety Act 1998 and associated Regulations.

Reason: Reiterating that workers not working for Distribution Networks are required to comply with Act and Regulations.

Questions?