Licensed Electrical Inspection Assessment Manual

Procedure

Contents

1. Purpose

The purpose of this document is to provide the scope and means of implementation for the assessments that may lead to a licensed outcome for Licensed Electrical Inspectors (LEIs). This document aims to achieve a consistent and robust assessment process as required by Energy Safe Victoria (Energy Safe) and industry stakeholders for candidates who undertake Licensed Electrical Inspector assessments in Victoria as a prerequisite to making an application for an Electrical Inspectors Licence.

This document provides information for Energy Safe and approved assessment bodies. It shall be read in conjunction with applicable portions of the Energy Safe Victoria Licensing Assessment Rules. Some portions of the Energy Safe Victoria Licensing Assessment Rules are replicated in this document for ease of reference.

This document contains assessment specific information that must be kept securely, and not be released to candidates. Therefore, any version of this document made publicly available shall have secure information redacted.

2. Background

Energy Safe is the agency responsible for licensing electrical workers in the state of Victoria and is bound by the *Electricity Safety Act 1998* (the Act) and the Electricity Safety (Registration and Licensing) Regulations 2020.

2.1 Division 2 of Part 3 of the Electricity Safety Act 1998

The following parts of the Electricity Safety Act 1998 apply to Electrical Inspectors.

Section 38 - Electrical workers

A person must not carry out or offer to carry out or hold out that the person carries out or is willing to carry out any class of electrical work that under the regulations is a prescribed class of electrical work for the purposes of this Division unless the person is:

(b) licensed under this Division as an electrical inspector in respect of electrical inspection work of that class.

Section 40 - Licensing of electrical workers

1. Energy Safe Victoria may, in accordance with the regulations, license, or renew the licence of, a natural person as an electrical worker in respect of a specified class of electrical work.
2. A licence may be issued or renewed subject to any conditions that Energy Safe Victoria thinks fit, including a condition that it applies to only one class of electrical work.
3. Energy Safe Victoria may, in accordance with the regulations, vary a licence given under this section.
4. A licence under this section continues, unless sooner suspended, cancelled or surrendered, for a period of up to 5 years specified in the licence commencing on the date of the issue of the licence or the renewal of the licence.

2.2 Regulations from the Electricity Safety (Registration and Licensing) Regulations 2020

The following parts of the Electricity Safety (Registration and Licensing) Regulations 2020 apply to Electrical Inspectors.

Regulation 19 - Classes of electrical inspection work that require a licence

For the purposes of Division 2 of Part 3 of the Act, the classes of electrical inspection work specified in Part A of Schedule 2 are prescribed classes of electrical work.

Regulation 29 - Electrical inspector's licence

(1) For the purposes of section 40 of the Act, Energy Safe Victoria may issue a licence to a person under which the person may carry out electrical inspection work of any or all of the classes specified in Part A of Schedule 3 (except class "L") if:

(a) the person:

(i) has demonstrated to the satisfaction of Energy Safe Victoria the qualifications, experience, competence and proficiency in the matters specified in Part B of Schedule 2 for the relevant class of electrical inspection work; and

(ii) if required by Energy Safe Victoria to do so, has satisfactorily completed a course of instruction required by Energy Safe Victoria; and

(iii) has satisfactorily completed any practical or theory examinations in electrical inspection required by Energy Safe Victoria to be completed; or

(b) the person's standard of qualifications, proficiency and experience in electrical installation work is at least of an equivalent standard to that required under paragraph

(2) If the applicant is applying for an electrical inspector's licence for the first time or applying to renew a licence that has been expired for more than 5 years, the practical or theory examinations required by subregulation (1)(a)(iii) must have been satisfactorily completed within 5 years of the date of the application.

Regulation 30 - Class "L" inspector's licence

(1) This regulation applies to a person who, on the commencement of these Regulations, holds a licence that was issued under section 40 of the Act and in accordance with regulation 28 of the Electricity Safety (Registration and Licensing) Regulations 2010 under which the person may carry out electrical inspection work prescribed as class "L" in Part A of Schedule 2 to those Regulations.

(2) Subject to complying with the requirements of regulation 35, the person is eligible, at any time before the expiry of that licence, to have issued to that person a licence under which the person may carry out electrical inspection work specified as class "L" in Part A of Schedule 2.

Schedule 2 Part A - Specified classes of electrical inspection work

Class	Description
L	Electrical installations comprising a low voltage single phase, 2 wire supply comprising consumers mains, main earthing systems, consumer terminals connection devices or those parts of main switchboards that are related to the control of installations and the protection against the spread of fire but does not include electrical equipment installed as part of an alternative design solution.
G	Any low voltage installations except: (i) class H; and (ii) class M; and (iii) electric fences intended primarily for the control or containment of animals.
RE	Electrical installations that are— (i) electricity generation systems including any wiring systems, switchgear, controlgear or accessories installed to provide control or protection to those generation systems (excluding stand-alone power systems with a power rating that is less than 500 voltamperes); or (ii) a battery system including any associated wiring systems, switchgear, controlgear and accessories.

H	Electrical equipment installed in a hazardous area and electrical equipment associated with the protection of the hazardous area but not installed within the hazardous area.
V	High voltage installations except high voltage electrical equipment that is: (i) associated with an electric discharge lighting system; or (ii) associated with X-ray equipment; or (iii) associated with high frequency equipment; or (iv) within self-contained equipment supplied at low voltage; or (v) associated with electric fences intended primarily for the control or containment of animals.
M	Electrical installations located in a patient area (other than electrical installations associated with communication equipment operating at extra-low voltage)

Schedule 2 Part B - Required qualifications, proficiency and experience in electrical inspection work

Class	Description
L	1. A detailed understanding of safety in electrical installations.
	2. Testing methods for electrical installations.
	3. The requirements of the Regulations relating to consumer's mains, main earthing systems, main switchboards and consumer terminals connection devices.
G	1. A detailed understanding of safety in electrical installations that are covered by this class.
	2. Testing methods for electrical installations that are covered by this class.
	3. The requirements of the Regulations relating to low voltage electrical installations.
RE	1. Has the qualifications, proficiency and experience for the person to be issued a licence to carry out class G electrical inspection work under regulation 29.
	2. A detailed understanding of safety in electricity generation systems and battery systems.
	3. Testing methods for electricity generation systems and battery systems.
	4. The requirements of the Regulations relating to electricity generation systems and battery systems.
H	1. A detailed understanding of safety in electrical installations in hazardous areas.
	2. Testing methods in hazardous areas and for electrical equipment associated with the protection of hazardous areas.
	3. The requirements of the Regulations relating to electrical installations in hazardous areas and electrical equipment associated with the protection of hazardous areas.
V	1. A detailed understanding of safety in high voltage electrical installations.
	2. Testing methods for high voltage installations.
	3. The requirements of the Regulations relating to high voltage electrical installations.
M	1. A detailed understanding of safety in fixed electrical equipment installed in a patient area.
	2. Testing methods for electrical installations in those areas.
	3. The requirements of the Regulations relating to those areas.

3. LEI Assessments

3.1 Licence Classes

LEI Assessments referred to in this document shall apply to G Class LEI , and RE Class LEI licence assessments only.

Applicants for an LEI G Class licence must successfully complete three assessments:

- The Licensed Electrical Inspection Theory (LEIT)
- The Safe Approach Assessment
- The G Class Practical Assessment.

Applicants for an LEI RE Class licence must hold, or be eligible to be issued, an LEI G Class licence and successfully complete one assessment:

If applying for the full RE licence:

- The LEI RE Class Theory Assessment

or

If applying for the conditional licence restricted to Internal Combustion Engine generators only:

- The LEI RE Class (Internal Combustion Engines only) Theory Assessment.

Applicants for other classes of inspection licence (H, M and V) should refer to Energy Safe's website for the requirements for licence application. These requirements include:

- Evidence of on-the-job training with a current inspector in the class being applied for, including at least 10 examples of electrical inspections of this class.
- A supporting reference from the inspector who provided the training and is willing to attest to the applicants' competence.
- Any other training or qualifications relevant to the class of licence being applied for.

3.2 Assessment Rationale

3.2.1 G Class Assessments

As per Schedule 2 Part B above, the G Class LEI must have the required qualifications, proficiency and experience in electrical inspection work including:

1. A detailed understanding of safety in electrical installations that are covered by this class.
2. Testing methods for electrical installations that are covered by this class.
3. The requirements of the Regulations relating to low voltage electrical installations.

Therefore, the G Class LEI assessments are intended to assess candidates to ensure these three points are met. Candidates are required to demonstrate sufficient breadth and depth of knowledge and skills relating to electrical safety, testing, and the requirements of the Regulations and Standards applicable to installations covered by the G Class licence.

The assessments are based on the knowledge and skills listed in the following core units of competence from the 23324VIC Certificate IV Electrical inspection qualification:

- VU21940 Inspect, test and administer electrical installations
- VU21941 Inspect and test electricity generation systems
- or their subsequent equivalents.

It is noted that the G Class licensing assessments are not a formal assessment of the units of competency, and should not be considered as such. While some safety aspects will be applied to all candidates during their assessments (e.g. the safe to approach process), some aspects of the units of competence will differ for individual candidates.

As it is neither possible nor practical for the licensing assessments to address every aspect, Energy Safe strongly recommends candidates seek well rounded training to ensure a comprehensive knowledge and skills base prior and in addition to their licensing assessments.

The LEI assessments shall include both prescribed and non-prescribed components, as defined in the Electricity Safety (General) Regulations 2019. While it is recognised the predominant work of a LEI relates to prescribed electrical work, the function of an LEI may include non-prescribed work in their audit, reporting and general advice functions. Knowledge of both prescribed and non-prescribed electrical work also demonstrates the broad and well-rounded knowledge expected of a LEI. Therefore, both prescribed and non-prescribed electrical work shall be assessed.

3.2.2 RE Class Assessments

As per Schedule 2 Part B above, the RE Class LEI must have the required qualifications, proficiency and experience in electrical inspection work including:

1. Has the qualifications, proficiency and experience for the person to be issued a licence to carry out class G electrical inspection work under regulation 29.
2. A detailed understanding of safety in electricity generation systems and battery systems.
3. Testing methods for electricity generation systems and battery systems.
4. The requirements of the Regulations relating to electricity generation systems and battery systems.

The RE Class LEI assessments are intended to assess candidates to ensure points 2-4 are met. Point 1 is covered as only persons eligible for the G Class licence are eligible to apply for the RE licence. As part of the G Class assessments, candidates will have previously demonstrated sufficient breadth and depth of knowledge and skills relating to electrical safety, testing, and the requirements of the Regulations and Standards applicable to installations covered by the G Class licence.

The RE assessments are based on the knowledge and skills required to competently inspect RE Class installations, as determined by Energy Safe in conjunction with industry stakeholders.

The LEI RE licence may be issued by Energy Safe in full, or as a conditional licence restricted to internal combustion engines. The RE assessments reflect these two versions of the licence.

An additional conditional licence, excluding internal combustion engines, may be issued by Energy Safe. There is no assessment for this conditional licence, and it may only be applied for by demonstrating existing competence in inspecting renewable energy systems.

3.3 Responsibilities

All LEI assessments shall be written and formulated by Energy Safe and administered by the approved assessment body, Future Energy Skills.

The Licensing Assessment Steering Committee (LASC) is responsible for overseeing and advising Energy Safe on the assessment content and process. The LASC may request a LEI sub-committee be formed on an as-needs basis to inform the technical content and other information as required. The LASC and LEI sub-committee should endeavour to ensure the assessment reflects current industry practice wherever possible, recognising that some concessions may need to be made given the simulated environment.

4. G Class and RE Class LEI assessments – General Assessment Information

The following general information applies to all G Class and RE Class LEI assessments.

4.1 Eligibility to Sit

Candidates eligible to apply for a G Class LEI licence under regulation 29 of the Electricity Safety (Registration and Licensing) Regulations 2020 are permitted to sit the G Class assessments for the licence.

Candidates who hold the G Class licence, or have successfully completed all the G Class assessments and are eligible to apply for the G Class licence, are permitted to sit the RE Class assessment for the licence.

Candidates are encouraged to enquire to Energy Safe prior to attending any training course and/or the licence assessments to ascertain their eligibility for the licences, as successful completion of the training and/or assessment does not automatically lead to a licensed outcome.

4.2 Making a Booking

Candidates for the LEI assessments must book with the approved assessment body, Future Energy Skills (FES). Energy Safe is not responsible for any LEI assessment bookings. All payments for the assessment service shall be made directly to FES. Candidates are responsible for ensuring they are familiar with their booked time and date, and the location of the assessment venue.

Candidates who require specific prayer times or similar, must advise FES at the time of booking if the required time will clash with their assessment time. They may then negotiate with FES to adjust start and finish times accordingly, to avoid the need to leave the assessment room during the assessment.

4.3 Special Consideration

Candidates may be eligible to apply to Energy Safe for special consideration on extenuating circumstances or medical grounds. Please refer to the Special Consideration Policy available on Energy Safe's website for further information and how to apply.

4.4 Repeated Attempts

A minimum of 60 days shall elapse between each assessment attempt per assessment type, with the following exception: if a candidate is required to re-attempt the Safe to Approach section of the Safe Approach assessment only, in the circumstances as detailed in Section 6 below, a minimum of 14 days shall elapse between each Safe to Approach assessment attempt.

The above shall be applied to each of the three assessments individually.

4.5 Documentation to be provided by the assessment venue

FES shall provide each candidate with a printed copy of all Standards, Regulations and defect listings required in the assessments, for use during the assessments. The Standards, Regulations and defect listings shall not contain any highlighting, tabs or handwritten notes, or printed notes not in the original published versions, and shall be checked prior to being supplied to the candidate. The candidate shall not write in or otherwise mark the FES supplied Standards, Regulations and defect listing, and shall return all copies to the assessor at the completion of their assessment. Candidates shall not be permitted to supply their own Standards, Regulations or defect listings for use during the assessment.

No printed or handwritten materials, other than those permitted as printed on the assessment paper and supplied by FES, are to be in the possession of a candidate during an assessment. Any handwritten notes made by the candidate during the assessment must be made on the assessment paper, or on spare paper supplied by FES if requested, and these must be retained by FES and cannot be removed from the room by the candidate at the completion of the assessment. Completed assessment papers together with any notes

made by the candidate during the assessment must be given to the assessor by the candidate at the completion of the assessment. Failure to comply may be regarded as a breach of the assessment conditions and may result in suspension from future assessments.

4.6 Test Equipment

4.6.1 Equipment to be provided by the assessment venue

With the exception of the equipment listed in section 4.6.2 Equipment to be provided by the candidates, FES shall provide all other required testing instruments and tools that are required for the practical assessments. This does not preclude candidates bring their own tools and equipment to use if they so choose.

4.6.2 Equipment to be provided by the candidates

Candidates are permitted to use a silent, battery operated, non-programmable scientific calculator, which may be provided by the candidate or by FES. The assessor may check any calculator taken into the assessment room. Foreign dictionaries are permitted, however they must be bound copies, not downloaded versions, and with no notes added. Electronic dictionaries are not permitted.

If the assessment requires the use of an insulation resistance and continuity tester, candidates must supply their own insulation resistance and continuity tester, which shall be:

- Analogue
- No indication for PASS/FAIL
- Minimum of 250V/500V scale
- Minimum 2 x continuity scales
- True moving coil meter

The tester must be checked that it is within tolerance, with a sufficient battery supply, and both the assessor and candidate must initial that this has been checked and the requirements have been met.

If the assessment requires the use of insulating gloves, candidates must supply insulating gloves rated to 650V, and flame resistant outers that also provide mechanical protection. Inners are preferred for hygiene, but are optional if the candidate is supplying their own gloves. Insulating gloves shall be marked with the relevant Australian Standard AS2225, or IEC equivalent, EN60903 or IEC60903.

If the candidate provides the insulation resistance and continuity tester, and/or gloves in good faith, and the equipment fails to meet the above requirements, FES may provide replacement equipment for the candidates' use during the assessment. This includes the provision of a digital meter by the candidate.

4.7 Prohibited Equipment

Candidates shall not be permitted to supply electronic equipment for use during their assessment. This includes, but is not limited to, mobile phones, iPads, tablets, laptops, eBook readers, smart watches or other smart devices. Candidates shall not be permitted to have or use any recording device (picture, video or sound) in the assessment room. This includes, but is not limited to, sound or picture recording pens, glasses, watches or other personal devices. No internet enabled/connected devices shall be permitted.

Mobile phones shall be switched off and stored away from the candidate's desk. Candidate's bags and other personal items must be stored in a designated area away from the candidate's desk.

4.8 Dress Code

In accordance with the Australian Standard AS/NZS 4836, candidates attending any practical assessment are required to dress appropriately. Long sleeve shirts, long pants and covered in shoes are required. Candidates shall also provide their own Personal Protective Equipment (PPE) as required.

Candidates who are unable to meet these requirements are not permitted to commence their assessment.

Assessors invigilating any practical assessment are required to wear long sleeve shirts, long pants and covered in shoes.

Candidates attending the theory assessment should be suitably attired; no thongs or singlets are permitted.

4.9 Assessment Venue Preparation – General

The assessment room shall be prepared and configured to reduce distractions and ensure privacy. Any relevant charts, diagrams etc. shall be removed from walls and whiteboards cleaned. Tables/desks/work stations shall be arranged to provide maximum privacy and adequate space. Practical equipment shall be in working order and easily accessible to the candidate.

No other activities shall occur in the assessment room during the assessment. A working clock shall be provided in clear sight of all candidates and this clock shall be used for start and finish times.

4.10 Photo ID

The assessment supervisor, approved assessor or authorised representative of the assessment body shall check the candidate's photo identification (ID) and record the candidate's attendance.

Suitable photo ID includes:

- current drivers licence
- boat licence
- passport
- student ID card
- employment ID card
- proof of age card
- any Australian government issued ID that includes a photo of the candidate
- any other formal ID with the candidate's photo and full name.

Candidates presenting without suitable photo ID shall be dealt with at the supervising assessors' discretion. The supervisor has the right to refuse the candidate access to the assessment. If the supervisor deems extenuating circumstances and allows the candidate to sit the assessment, the candidate's paper shall not be marked, or the result released, until such time as suitable photo ID is presented to the assessment body by the candidate.

4.11 Video and Audio Recording

All assessments carried out at FES are video and audio recorded for security and review/appeal purposes. Footage is retained for 30 days, unless the assessment result is appealed, in which case the footage is held for two years.

Energy Safe reserves the right to view assessment recordings prior to destruction of footage. Energy Safe reserves the right to monitor any assessment live, either onsite or via remote means.

4.12 Candidate Behaviour

Candidates shall follow the directions of the supervising assessor at all times. Candidates shall be considerate to other candidates. Inappropriate behaviour towards the assessor, assessment body staff or other candidates will not be tolerated. Inappropriate behaviour (including, but not limited to yelling, swearing, threatening or intimidating behaviour or physical violence) may result in the candidate being removed from the assessment.

Once the assessment has commenced, candidates are not permitted to communicate with other candidates or copy work from any other candidate.

If the supervisor suspects a candidate of breaching any rule or instruction during the assessment session, the candidate will be informed immediately by the supervisor but will be permitted to finish the assessment. If the supervisor needs to interview the candidate to gather information about the alleged breach, this must be conducted when the assessment session has been completed.

Candidates caught breaching assessment conditions shall be reported to Energy Safe. Energy Safe shall determine if there was a deliberate intent to do so. If proven, Energy Safe shall have the authority to enforce a one month ban on the candidate resitting the assessment, in addition to the standing sixty-day waiting period for all LEI assessments. When the candidate does resit, they shall be required to have a one-on-one assessment at a cost of $1,040 (applicable only to the particular LEI assessment in which the breach occurred). If a second or subsequent breach occurs the candidate shall incur a three-month ban, in addition to the standing sixty day waiting period for all assessments, and shall require another one-on-one assessment.

4.13 Assessors

4.13.1 General

LEI assessments must be facilitated, marked and reviewed by assessors approved by Energy Safe to carry out the LEI assessments.

Approved LEI assessors must hold an Electrical Inspectors G Class, or RE Class Licence, and also hold, as a minimum, the assessment credentials as specified by the Energy Safe Victoria Licensing Assessment Rules document.

In certain circumstances Energy Safe may approve an assessor without a LEI licence to facilitate the assessments, however all assessment decisions must be reviewed and endorsed by an approved LEI assessor or Energy Safe.

4.13.2 Independence of Assessors

Assessors shall be independent from the delivery and training of the candidates. Independence is defined as having never taught, or formally or informally tutored the candidate in the LEI course, including formal qualifications or informal ‘coaching’ courses. This need not include having taught the candidate as a fill-in teacher on an ad-hoc basis.

Assessment bodies may be required to provide evidence of assessor independence during Energy Safe audits. Assessors who have a personal relationship with the candidate outside the training organisation must declare this relationship and are not permitted to assess in these cases. Examples of personal relationships may include but are not limited to relatives, friends, sports coaches and the like.

Assessors are not permitted to assess colleagues from within their own organisation.

If an assessment is required to be held, and the above conditions of independence cannot be met by the assessor, in the first instance another independent assessor should be sought. If this is not reasonably practicable, the assessor may still be permitted to carry out the assessment on the condition that a second person who is independent of the candidate shall be in attendance at the assessment at all times throughout the assessment. The person providing the independence must hold, as a minimum, the training and assessment units of competence required to be an approved Energy Safe assessor (refer to the Energy Safe Victoria Licensing Assessment Rules). A Conflict of Interest declaration and management plan must also be documented and implemented.

4.13.3 Assessor Behaviour

Assessors should adopt a manner of common courtesy when dealing with candidates. Assessors shall remain focussed on the assessment task for the duration of the assessment and shall not be unduly distracted. No other activities are to be undertaken by the assessor during assessments, including making or

taking phone calls. The assessor may assist candidates with questions relating to the assessment processes and procedures only. Providing information to candidates that may assist the candidate to successfully complete the assessment is strictly forbidden.

If a candidate has a question after entering the assessment room, the candidate should raise their hand and wait for the assessor to attend to the candidate. The question should be dealt with as follows:

- If the question concerns details of procedure, e.g. “Where do I enter the answers?”, or “Where can I find particular test equipment”; the question should be answered directly.
- If the question is about the assessment paper, assessors must tell the candidate to ‘do what you think is required’ or ‘answer as best you can’, or similar.

Assessors are not permitted to redefine words or concepts for candidates.

The assessor shall collect the assessment papers and is responsible for ensuring all papers are collected and secured.

4.14 Security

The assessor will maintain strict confidentiality regarding all aspects of the assessment process.

The assessment body, including all assessment body staff and all assessors, will maintain strict confidentiality regarding all aspects of the assessment process.

Assessors shall not participate in tutorials, or provide information on the assessments to tutorial or other teaching staff in any format.

All electronic and paper copies of assessments, including but not limited to completed papers which have been scanned, and video and audio recordings of the assessments, will be maintained in a secure environment protected by layers of security including file permission accessibility restrictions and password protection. All paper versions will be maintained in a highly secure environment. Marked papers shall be kept secure by the assessment body for at least two years and may be securely destroyed after this time. This does not exclude assessment bodies scanning the marked papers and retaining only the electronic versions for at least two years. Video and audio footage shall be kept for no less than one month after the date of any assessment, unless there is an appeal, in which case it must be kept for two years.

4.15 Gifts, Benefits and Hospitality

Assessors shall not accept any offer of a gift, benefit or hospitality from a candidate or any person associated with a candidate, including work colleagues, family members or tutors. This shall include both token offers and items or offers of more significant value.

4.15.1 Token Offers

A token offer is an offer of a gift, benefit or hospitality that is of inconsequential or trivial value to both the person making the offer and the prospective recipient. It may include a modest box of chocolates, a small bunch of flowers, promotional items such as pens and note pads, and modest hospitality that would be considered a basic courtesy, such as light refreshments. Token offers cannot be worth more than $50.

Token offers shall be respectfully declined by the assessor. Token offers shall be noted on the assessment documentation, and notified to the assessor’s immediate manager. The offer shall be documented, but no further action is required unless the same person or organisation makes multiple offers.

Token offers made when the assessor has no opportunity to decline (e.g. flowers delivered by courier) shall be handled in accordance with the Energy Safe Victoria Gifts Benefits and Hospitality Policy.

4.15.2 Items of Significant Value

Items of significant value may include, but are not limited to, offers of:

- money, or items used in a similar way to money, or something easily converted to money
- benefits include preferential treatment, privileged access, favours or other advantage offered to an individual. They may include invitations to sporting, cultural or social events, access to discounts and loyalty programs or promises of a new job.
- gifts of free or discounted items or services which are valued at over $50 (e.g. artwork, jewellery, or expensive pens), services (e.g. painting and repair)
- hospitality such as expensive restaurant meals and sponsored travel and accommodation.

Offers of significant value are made with the intention, or may be perceived as being made with the intention, of influencing the assessor in the course of their duties. These offers could raise an actual, potential or perceived conflict of interest which could bring the assessor, FES, Energy Safe Victoria or the public sector into disrepute.

Offers of significant value may be considered to be a bribe or inducement when the offer is made by, or on behalf of, a person about whom the assessor will likely make or influence a decision. The bribe or inducement may be for the assessor to make a decision or to act in a particular way. The bribe or inducement may be made in secret or in public.

If the assessor considers they have been offered a bribe or inducement, the offer shall be declined, and must be reported to their relevant manager, and to Energy Safe (who should report any criminal or corrupt conduct to Victoria Police or the Independent Broad-based Anticorruption Commission).

4.16 Leaving the assessment room after the commencement of the assessment

Candidates may only leave the assessment room temporarily after the commencement of the assessment due to illness or for a toilet break. Any candidate who leaves the assessment room for any other reason will not be readmitted. Candidates shall be advised of toilet locations.

Candidates who complete their assessment ahead of the scheduled finish time may request permission to leave the assessment room. Candidates must leave quietly so as to not disturb others, and they shall not be permitted to return to the assessment room.

4.17 Pass Mark

The pass mark on all the G Class and RE Class Assessments is 75%.

4.18 Release of Results

The assessment body will provide the candidate with proof of satisfactory completion for licence application purposes. Candidates shall not be verbally advised of their assessment result by their assessor on the day of the assessment.

4.19 Reviews and Appeals

Refer to section 9. Reviews and Appeals.

4.20 Complaints

Complaints shall be managed by FES following the FES Grievance policy.

If the matter is unable to be resolved via the above process, the candidate has the right to raise a complaint to Energy Safe. The candidate must provide the complaint in writing via the complaints form on the Energy Safe website, and provide all relevant details including the details of the assessment (date, time, location and assessor), the FES complaints process followed and the outcome.

All complaints must be made by the candidate. If the complaint is made by a third party, it must include written authorisation from the candidate for the complaint to be made on their behalf.

Energy Safe will commence a review of complaints within 10 business days of receiving the complaint in writing. Assessment bodies shall cooperate with Energy Safe in providing all relevant information as requested.

4.21 Implementation of Assessment Updates

The Licensing Assessment Steering Committee and Energy Safe shall determine the date of introduction for any assessment alterations or updates. The date of introduction for the implementation of any licensing assessment alteration or update shall be definitive. As at that date any previous or older versions of the assessments shall no longer be available for candidates to be assessed against.

5. G Class Licensed Electrical Inspection Theory

The Licensed Electrical Inspection Theory (LEIT) Assessment is a written assessment which requires the candidate to demonstrate a broad range of electrical knowledge, including electrical regulations, electrical safety, knowledge of various Standards, and various electrical calculations. The questions shall be drawn from a database of questions written by Energy Safe and held by FES.

[redacted]

Energy Safe shall produce a sample paper and shall publish this on Energy Safe's website.

5.1 Duration

The LEIT assessment shall be 3.5 hours, inclusive of reading time. Note that there is no specific or separate reading time requirement. Candidates may commence reading, writing, or consulting their Standards immediately the assessment time begins.

Candidates who arrive late to the assessment may be permitted to enter the assessment, however no candidate shall be admitted if they arrive more than 30 minutes past the start of the assessment time. Candidates shall only be permitted the remaining scheduled assessment time, and no extra time shall be allocated at the end of the assessment to compensate for the missed assessment time.

5.2 Instructions to the candidate

The following instructions to the candidate shall be listed on the front of the assessment paper:

- Personal notepads and paper are not permitted.
- Pens only must be used. Answers in pencil may not be marked.
- Do not remove any sheets from this assessment paper or the room.
- Papers with no name or signature will not be marked.
- Units and table numbers (where required) must be shown to obtain full marks.

Candidates are required to sign and date their assessment paper.

5.3 Reference Materials

Candidates are not permitted to use their own reference material and all reference material will be supplied by FES. Candidates must not mark, fold or write on the reference material.

Current versions must be used, together with any amendments. The date of implementation of any new standard or amendment into the assessments will be advised by the Licensing Assessment Steering Committee, and will take into account the publication date, date of implementation in industry as determined by Energy Safe, and any other relevant factors.

The following reference materials are required for the LEIT Assessments:

- AS/NZS 3000:2018 Wiring Rules
- AS/NZS 3001.1:2022 Electrical Installations - Connectable electrical installations and supply arrangements Part 1: Site supplies for connectable electrical installations
- AS/NZS 3002:2021 Electrical Installations – Shows, carnivals and events
- AS/NZS 3004.1:2014 Electrical Installations – Marinas and boats Part 1: Marinas
- AS/NZS 3008.1.1:2017 Electrical installations – Selection of cables
-
- AS/NZS 3012:2019 Electrical installations – Demolition and Construction sites
- AS/NZS 4836:2011 Safe working on or near low voltage electrical installations and equipment
- Electricity Safety (General) Regulations 2019
- Electricity Safety Act 1998

5.4 Question Types

There shall be a minimum of one question on each Standard, Regulation or Act listed above, (with the exception of AS/NZS 3008.1.1 which shall be addressed in the calculation questions). There shall be multiple questions on AS/NZS 3000. The following table details each document/calculation and indicates the number of questions on each.

The Standard, Regulation or Act shall not be identified in the question: the candidate is required to identify the reference document in addition to the answer to the question and the relevant clause or regulation number. For AS/NZS standards only, the candidate may omit the 'AS/NZS', the year of publication and the title; they are only required to supply the number of the standard.

The correct Section and Subsection, Regulation and Subregulation, or Clause and Subclause must be given in full (e.g. 3.5.2(b)(i)).

Standard or Topic Area	No. of questions
Electricity Safety Act 1998	1
Electricity Safety (General) Regulations 2019 *One question to specifically include an awareness on the application of r.211.	2*
AS/NZS 3000 Wiring Rules **One question to specifically include awareness of standards applicable to specialist areas.	5**
AS/NZS 3001.1 Connectable electrical installations and supply arrangements - Site Supplies for connectable electrical installations.	1
AS/NZS 3002 – Shows, carnivals and events	1
AS/NZS 3004.1 – Electrical installations – Marinas and boats - Marinas	1
AS/NZS 3012 Electrical Installations – Construction and demolition sites	1
AS/NZS 3013 – Classification of the fire and mechanical performance of wiring systems	1
AS/NZS 4836:2023 Safe Working on or near low-voltage and extra-low voltage electrical installations and equipment	1
Voltage Drop Calculation	1
Fault current	1
Circuit breaker using Lmax	1
Clearing time	1
Earth size based on calculation method	1
Discrimination	1
CB and HRC size based on 2.5.3.1	1
Cable selection	1

A dedicated space for the final answer shall be included for each question.

In addition to the Standard, Regulation and Act questions detailed above, a series of electrical calculation questions shall be included. Refer to the published sample paper for typical examples.

5.5 Reviews and Appeals

Refer to section 9. Reviews and Appeals.

6. G Class Safe Approach Assessment

The G Class Safe Approach is a practical assessment that comprises two parts. The first part is the demonstration of the Safe to Approach process, and the second part is a detailed electrical inspection and testing of a construction site switchboard and installation.

To pass the G Class Safe Approach Assessment the candidate must demonstrate:

- competence in using safe work practices by passing the Safe Approach part of this assessment
- their ability to carry out mandatory electrical testing on an electrical installation
- their ability to conduct a detailed inspection of an electrical installation and identify defects including all testing defects
- their ability to list correct Regulation/Standards Clauses and ESV Energy Safe Victoria Defect Code Numbers relevant to the defects in the electrical installation
- their ability to correctly complete a Prescribed Certificate of Inspection, and
- their ability to obtain a pass mark of no less than 75%.

The candidate must demonstrate competence in using Safe Work Practices or they will receive an instant fail.

From 1 January 2023, if a candidate passes the detailed electrical inspection and testing section of the assessment, but fails the Safe to Approach section, they will only be required to re-attempt the Safe to Approach section of the assessment. However, if the candidate passes the Safe to Approach section but fails the detailed electrical inspection and testing section of the assessment, or fails both sections, they will be required to re-attempt both sections together.

This ability to re-attempt the Safe to Approach section only shall apply only to candidates who attempt the Safe Approach assessment in full after 1 January 2023. It shall not be applied to candidates who have passed the detailed electrical inspection and testing section of the assessment, but failed the Safe to Approach section prior to this date. Time between resit attempts is as noted in section 4.4 Repeated Attempts above.

6.1 Duration

The Safe Approach assessment time is 10 minutes reading time and 1 hour and 20 minutes working time, for a total assessment time of 1 hour and 30 minutes.

If a candidate is required to sit the Safe to Approach section only, the assessment time is 30 minutes working time, with 5 minutes reading time.

6.2 Instructions to the candidate

The following instructions to the candidate shall be listed on the front of the assessment paper:

- Personal notepads and paper are not permitted.
- Mobile phones or other electronic devices (smart watches, etc) are not permitted
- Pens only must be used. Answers in pencil may not be marked.
- Do not remove any sheets from this assessment paper or the room.
- Papers with no name or signature will not be marked.

Candidates are required to sign and date their assessment paper. This will also include an attestation that the candidate understands the instructions provided, that they do not have any unauthorised materials in their possession, and they consent to the video and audio recording of the assessment.

6.3 Reference Materials

All reference material will be supplied by FES. Candidates must not mark, fold or write on the reference material.

Current versions must be used, together with any amendments. The date of implementation of any new standard or amendment into the assessments will be advised by the Licensing Assessment Steering Committee, and will take into account the publication date, date of implementation in industry as determined by Energy Safe, and any other relevant factors.

The following reference materials are required for the Safe Approach Assessments:

- AS/NZS 3000:2018 Wiring Rules
- AS/NZS 3008.1.1:2017 Electrical Installations – Selection of Cables
- AS/NZS 3012:2019 Electrical installations – Demolition and Construction sites
- Electricity Safety (General) Regulations 2019
- Energy Safe Victoria Defect Code Listing

6.3.1 Defect Code Listing

A printed defect code listing shall be provided to the candidates.

The defect code listing provided to the candidates shall include Part 1 of AS/NZS 3000. The defect code listing provided to candidates shall contain only the standards and regulations relevant to the Safe Approach assessment, i.e. the Electricity Safety (General) Regulations, AS/NZS3000, and AS/NZS3012. This shall apply from 1 July 2021. Note that prior to this date, candidates were supplied with a full defect listing containing all Standards. The defects listed in the defect code list are the same as is available from the live defect code list (exception: Part 1 of AS/NZS 3000) on the Energy Safe website.

6.4 Tools and Test Equipment

Refer to sections 4.5 Documentation to be provided by the assessment venue and 4.6 Test Equipment.

Candidates are responsible for the calibration of equipment they provide. Out of calibration instruments may cause the candidate to read incorrect results to tests required during the assessment.

Each safe approach candidate shall be supplied with a box of equipment for use in the assessment, with the contents to include installation under test signage, basic tools, an earth reel and spike, a voltage indicator, an insulation resistance and continuity tester, socket outlet testers, and various spare leads.

Note: Candidates must supply their own insulation resistance and continuity tester, however the equipment supplied includes a spare meter if required.

See photo below as an indication of the equipment provided.

The assessment venue shall maintain the equipment and provide the equipment to the candidate in good faith. It is recognised that wear and tear of the equipment does occur, and if the candidate notes that any equipment is missing, worn or faulty, they should report this to their assessor for repair or replacement. If any extra equipment is required, the candidate should ask the assessor.

6.5 Assessment Equipment

Future Energy Skills shall provide four installations to be used in the Safe Approach assessment. These shall include underground and overhead supplies, single and three phase supplies, and including a multiple occupancy. Candidates requiring multiple attempts shall be cycled through the four installations in order that a candidate shall be assessed on a different installation at each attempt. Candidates requiring more than four attempts shall then cycle back to the start, ensuring that a minimum of 12 months elapses between an attempt on an individual installation, as per section 4.4 Repeated Attempts.

Each installation shall include a minimum of one and a maximum of five testing defects. Testing defects are defined as defects that can be located using the tests from Section 8.3 of AS/NZS3000, and that cannot be identified by visual observation. This may include defects that are not visually observable due to restrictions on accessing equipment (e.g. parts marked ‘do not open’). Overall, each installation shall have a minimum of twenty and a maximum of twenty five defects, inclusive of both testing and visual defects.

Defects may be taken from any relevant and applicable section of the Regulations and Standards, and the visual defects shall be defects as identified in the Top 100 prescribed or in the Top 100 audit defects, as provided to FES (quarterly) and LEI trainers (6 monthly) by Energy Safe. Energy Safe shall also provide a listing of clauses from AS/NZS 3012 that cannot or will not be simulated in the Safe Approach assessment.

A full listing of current defects on each installation to be used as a marking guide shall be retained by the assessment body, and provided to authorised Energy Safe staff on request. Alterations to defects shall be completed in consultation with Energy Safe and recorded on the assessment body documentation, include the date the alteration was made. The defect listing shall be kept securely at the assessment body with access restricted to authorised staff only.

The defects provided on these lists should not be taken as the only defects. If a candidate provides a defect that is not listed, then the assessor must inspect the installation and determine if the candidate is correct. If the candidates defect is correct then the Regulation Number, Standards clause and Energy Safe Victoria Defect Code Number must also be verified by the assessor.

A newly identified defect must be added to the lists so that other assessors are aware of the defect and the lists accurately record the defects on the electrical installation. If the addition of the defect raises the total number of defects above the required number, the assessor should seek to either remove this new defect or another defect on the installation, to ensure the total number of defects remains within the required tolerance. The date and details of these changes must be recorded.

The list of defects/marking guide may contain explanatory notes for the assessors. These notes may include some defects commonly listed by candidates that are not correct for this installation.

Inadvertent defects, for example, defects which are not on the formal list, but have occurred inadvertently (e.g. a previous candidates incorrectly reconnects a cable in the wrong position and it is not discovered prior to the next assessment), shall be marked as correct if identified by the candidate. The assessor shall note on the paper that the defect did exist at the time of the assessment. The assessor shall repair the defect so this defect shall not apply to future assessments.

Each installation shall be a construction site supply (either a builders supply pole or temporary in a permanent position), and shall be regarded as the only switchboard on site at the time of the inspection. All wiring and equipment is construction wiring. There may be cables or equipment connected away from the switchboard or meter enclosure. Some equipment may be marked ‘do not open’, and there is no requirement for candidates to open items or test or visually inspect inside the equipment that is marked as such. Any

conductors that are disconnected by the candidate during their inspection must be correctly reconnected by the candidate within the time allocated for the inspection.

An independent earth point is located at the base of each installation for the use of the candidate when testing for live. Due to the simulated environment in the assessment room, the independent earth point provided is not located at least 2m from the installation as required by the Victorian Electricity Supply Industry (VESI) Installation Supply and Connection Test Procedures. There is no penalty to the candidate for using this independent earth point within 2 m of the installation, and nor is it a defect on the installation.

The installation used in the assessment is a simulated environment. As such, some construction features may differ from what is generally installed 'in the field'. For example, the builders pole does not include stays, (as these may create a trip hazard in the assessment room) and the FOLCB is not at the required height (but is labelled that it is out of reach). These are not intentional defects. If the candidate is unsure about any construction features in the simulated environment, they should ask their assessor for clarification.

All circuits and equipment shall have identifying markings to enable the candidate to correctly refer to the circuit or equipment on their results sheet.

There shall be no intentional Service and Installation Rules (SIR) defects on the installations, and candidates are not required to identify any SIR defects.

The date of certification shall be represented like this "XX/XX/XXXX" and this shall be deemed to indicate the current date.

6.6 The Safe to Approach Process

The Safe to Approach component of this assessment requires the candidate to demonstrate the use of safe electrical practices when approaching an electrical installation on a construction site that requires electrical inspection, prior to connection of electricity supply.

The candidate may commence the safe to approach process when the assessor indicates the reading time is complete and the working time of the assessment has commenced. The candidate is not permitted to set up any of their test equipment prior to the commencement of the working time (noting that checking of the insulation resistance and continuity tester as per section 4.6 Test Equipment should be completed prior to the commencement of the reading time).

When the candidate is advised by the assessor to commence their Safe Approach, the assessor also notifies the candidate of the commencement time and indicates the wall clock that is being used, and that the candidate has one hour and 20 minutes to complete all of the Safe Approach assessment. The commencement time is recorded on the checklist by the assessor and may be recorded on the assessment paper by the candidate.

The candidate must test and inspect the electrical insulating gloves and outers prior to wearing the gloves. This is to ensure the gloves are free of any wear, damage or holes. The candidate is not required to wear their gloves while setting up the test circuit or verifying the test equipment. The candidate must wear the insulating gloves and outers from the commencement of testing for live until they have completed the Safe Approach component of the assessment and have verified the electrical installation is safe. The outers are required to be worn on the outside of the insulating gloves.

The candidate must check, and where necessary adjust the electrical test equipment to be used, including a voltage indicator, insulation resistance and continuity tester and earth reel. The candidate may use the insulation resistance and continuity tester as a voltage supply to verify their voltage indicator is working. Alternatively, the candidate may supply a commercially available voltage tester (voltage supply) which can be used to check their voltage indicator is working.

Note: Candidates are not permitted to use proximity testers, such as 'modiewarks' in the safe approach assessment.

The candidate is required to place a danger ”Installation under test” sign, set up the test instruments, earth reel and portable earth spike to enable them to test from the independent earth position to all parts of the electrical installation to ensure there is no voltage present anywhere in the installation. All components used in the testing shall be checked for correct operation and/or continuity as applicable.

The candidate must check for live at the following points: any relevant exposed conductive parts on the outside of the box or enclosure, including the box, metallic supports, the earth electrode, consumers mains at the pit and any other conductive parts as applicable. Check inside the box or enclosure, including any exposed conductive parts, the escutcheon plate, and items mounted on the meter panel, such as inside the fuse bases, and the neutral bar. Open the meter panel and check any exposed conductive parts and unterminated and exposed cables. Remove the escutcheon plate and check any exposed conductive parts, all bars, and all terminals of the din rail mounted equipment. Check for and test any unterminated cables. Check if there are any cables entering the side panel cableway (from either top or bottom), and if yes, remove the cover and check for any unterminated cables in this cableway. It is not necessary to test the socket outlet slots as these cannot be touched and the supplies to the socket outlets are tested at the terminals of the socket outlets, the circuit breakers and/or RCBOs.

Note that as the slots of the socket outlets are not required to be tested for live, any test equipment specifically used to access the socket outlet slots, such as a double adaptor or ‘socket and see’ are not required to be tested for continuity prior to the safe approach process. However these should be tested by the candidate as part of their normal testing process within the detailed inspection and testing, as any issues with the continuity of the equipment may affect their test results.

Note that the safe to approach process requires the candidate to test all exposed conductive parts for live. It is acknowledged that some exposed conductive parts may be covered by paint or other coatings applied by the manufacturer which may provide some form of insulating barrier, but are not intended as an insulating material. The candidate should endeavour not to purposely damage the customers’ equipment when carrying out such testing. As such, wherever possible the candidate should test to points where the surface coating has already been breached, such as places where screws or bolts penetrate the surface, existing holes, or in places where the coating has naturally worn off, such as hinges. If the candidate has no other option than to remove existing coatings, they should endeavour to do this in an unobtrusive or unexposed place such as at the back or underneath the enclosure, and only penetrate as much of the coating as is necessary to effectively carry out this test. Gouging or heavy scraping is not required.

The candidate is required to test the voltage testing circuit at the completion of testing for live. Verifying the voltage tester for correct operation must be done last. It is good practice to also carry out this check at multiple points throughout the process, but this is not compulsory.

The candidate is required to notify the assessor when they have completed the Safe Approach component of the assessment and have verified the electrical installation is safe for them to proceed with the detailed inspection of the electrical installation.

The assessor shall observe the candidate for the entire Safe to Approach component of this assessment and use the ‘Safe to approach assessors checklist’ to record all the items listed have been satisfactorily completed by the candidate and carried out correctly.

When notified by the candidate that they are satisfied the installation is safe for them to proceed with a detailed inspection of the electrical installation, the assessor must note whether the candidate had tested the voltage testing circuit at the completion of testing for live. The assessor must ensure the candidate has been testing the full voltage testing circuit and not only the voltage testing instrument, and that correct functioning of the testing circuit which includes the earth reel has been verified at completion of testing for live.

The checklist is for assessor use only, and is not to be provided to the candidate. When the candidate has completed the Safe to Approach component, the assessor can finalise the Assessors Checklist and record a Pass or Fail result. This result is not to be conveyed to the candidate during the assessment process. The assessor must provide further detail on the checklist of any areas where the candidate failed. The assessor should also include a diagram of the candidates test circuit if relevant.

6.7 Detailed Inspection and Testing

The detailed inspection and testing component requires the candidate to inspect and test the electrical installation provided to verify whether the installation complies with the Electricity Safety (General) Regulations, the AS/NZS 3000 Wiring Rules, and AS/NZS 3012 Electrical Installations – Construction and Demolition Sites. Note that live testing for the operation of RCDs and RCBOs shall not be included in this assessment. The assessor need not observe the candidate for the detailed inspection component of the assessment.

During the inspection and testing of the electrical installation the candidate is required to compile a list of defects they have identified, then list the source document (Regulations, AS/NZS 3000 or AS/NZS 3012), an appropriate Regulation Number or Standards Clause Number and the associated Energy Safe Victoria Defect Code Number for each of the defects.

It is acceptable to group a number of defects from one specific source document together under the heading of that source document e.g. the following defect clauses are from AS/NZS 3000.

Candidates must record the type of test carried out, the nature of the defect, and the location of the test (i.e. identify the circuit, accessory or equipment). All circuits and equipment shall have identifying markings, and candidates are encouraged to use these markings to identify circuits or equipment in their answers. If candidates choose not to use the identifying markings, and choose other methods of communicating the identification, they need to be clearly understandable (e.g. if using pole numbers, identify if counting from left or right, the first pole position, and if including blank spaces in the count).

It is not a requirement for candidates to record the actual values measured in the tests.

Candidates are required to record all visual and testing defects identified with the appropriate Regulation Number/Standard and Standard Clause Number and Energy Safe Victoria Defect Code Number. If the Regulation or Clause has a number of parts and not all the parts are relevant to the defect, then identify the relevant part e.g. 4.1.4(d). The defect must be recorded in sufficient detail so that the defect is understood without referring to the nominated Regulation or Clause Number, and it must clearly identify the relevant circuit, accessory or equipment. The defects must be technically correct to obtain full marks. Candidates may utilise applicable parts of the text of the relevant clause/regulation to assist in providing the detailed description of a defect.

All testing defects taken from AS/NZS 3000 shall be taken from Section 8.3 of AS/NZS 3000. Note that the Certificate of Electrical Safety supplied to the candidate for the Safe Approach will have noted on it that the Responsible Person will return to site within 30 days of connection of the electricity supply to perform the testing of the RCDs and RCBOs as required. Therefore the live testing of RCDs as per AS/NZS 3000 Clause 8.3.10 is not required to be carried out by the candidate as part of the assessment.

For testing defects from Section 8.3 of AS/NZS 3000 only, providing the correct testing defect and the location of the fault is identified, clause numbers may be taken from either the relevant general or results sections of Section 8.3, and these clause numbers shall be accepted without the sub-clause.

It is only a requirement to carry out the Earth Fault Loop Impedance (EFLI) test on socket outlet circuits when the circuit meets the requirements as listed in AS/NZS 3000 Clause 8.3.9.1. If a circuit does not meet the requirements of Clause 8.3.9.1 for EFLI testing, then no EFLI test is required. Furthermore, if a circuit supplying socket outlets is required to be protected by RCD as per AS/NZS 3000, but is not so protected (i.e. this is a defect), there is no requirement to carry out the EFLI test on this circuit as once the RCD defect is rectified the EFLI test is not required. Regardless of the above, candidates must still carry out the earth continuity testing as per Clause 8.3.5. If a candidate tests for earth continuity and locates an earth continuity defect (high impedance), they may note the defect as an earth continuity defect. If a candidate then chooses to voluntarily carry out an EFLI test, and consequently identifies an earth continuity defect as an EFLI defect, this will also be accepted as a correct answer, however it will only be accepted as a correct answer once, and not as two separate defects for earth continuity and EFLI. Results for both Re and/or EFLI may be taken from Table 8.2 of AS/NZS 3000.

Hierarchy of documentation: If the same clause appears in both AS/NZS 3000 and AS/NZS 3012, then either can be accepted. However, if the clauses are different, or an AS/NZS 3000 clause is varied by AS/NZS 3012, then the hierarchy of the documentation must be applied. Hierarchy of documentation shall also apply to the Electrical Installation (General) Regulations.

During the assessment the candidate may dismantle any part of the electrical installation they consider necessary so they can visually inspect and test all parts of the electrical installation, with the exception of any IP rated equipment or equipment labelled “Do Not Open”.

At the completion of the assessment time the assessor shall request the candidate to stop working and shall collect the assessment paper from the candidate.

From 1 March 2023, the candidate shall reassemble the electrical installation, including reinstating any conductors or equipment disconnected or dismantled by the candidate.

This may be done after the completion of the assessment and shall not impinge on the assessment time of the candidate. If the candidate refuses to reinstate the equipment, or does not reinstate equipment and/or conductors correctly to the condition it was in at the commencement of the assessment (as proven by video observation if required), then five marks shall be deducted.

The candidate shall not be permitted to use power or battery operated tools to dismantle, disconnect, reassemble or reconnect any connections or equipment in the assessment room.

6.8 Documentation

To assist the candidate to document their results the following pre-printed tables are provided as part of the assessment paper. If during the assessment the candidate requests additional pages they are to be provided.

6.8.1 Table 1: Installation Testing

This form enables the candidate to list all tests conducted and to indicate the result of each test (i.e. Pass or Fail). Failed tests must be recorded and include the clause number and defect code to obtain full marks. Only failed tests will be marked. Tests that pass are not required to be recorded, however candidates may choose to do so for their own records or to help them keep track of their testing procedures. Tests that pass or are left blank in the pass/fail column will not be marked. Tests that fail will be marked as a defect: candidates are not required to duplicate failed tests onto Table 2.

Table 1 Example

TEST CONDUCTED AND LOCATION OF TEST	RESULT (PASS/FAIL)	Clause No.	Defect Code

(Note: Two full pages of this table shall be supplied.)

6.8.2 Table 2: Visual Inspection Defects

This table enables the candidate to list details of all visual defects identified, the appropriate source document, Regulation Number, Standards Clause Number and Energy Safe Victoria Defect Code Number.

To assist the candidate two Table 2 forms are provided so that a source document such as AS/NZS 3000 can be labelled at the top of one of the forms and all Clauses listed on the form are then from that Standard. The second form can then be used for AS/NZS 3012 defect clauses and Electricity Safety (Installations) Regulations. However if the candidate chooses not to contain each source document to a separate page, they shall not be penalised.

Table 2 Example

DEFECT	Reg/Clause No.	Defect Code

(Note: Two full pages of this table shall be supplied).

The description of the defect provided by the candidate must be in sufficient detail so the assessor understands what the defect is without having to refer to the Standard or Regulation Clause Number.

6.8.3 Certificate of Electrical Safety

A sample Certificate of Electrical Safety for Prescribed Electrical Installation Work shall be provided so that the candidate can complete the relevant part of this certificate as the licensed electrical inspector following their inspection of the electrical installation.

The certificate of inspection portion of the COES shall be prefilled with some information, including a sample licence number, supplier code and company. The COES shall note that the Responsible Person will return to site within 30 days of the connection of the electricity supply to perform testing of the RCDs and RCBOs as required. The candidate shall be required to complete all other parts, including the defect codes, complies/does not comply box, safety statement, signature and date. The candidate must include the applicable Energy Safe Victoria Defect Code Number on the COES to be credited with the mark allocation for each defect code listed on their assessment paper (on Tables 1 and 2 above). If a defect code appears more than once on Tables 1 and 2, it must also be replicated on the COES more than once, for the equivalent number of defects. If the number of defect codes exceeds the number of allocated spaces on the COES, the candidate may list the remainder under the defect code table on the COES, or on the back of the COES page. If a particular clause number has two codes on the defect code listing (e.g. a technical defect and a testing defect), then either code shall be acceptable for that clause number.

Failure to complete all the other required fields on the COES (complies/does not comply box, safety statement, signature and date) shall result in a deduction of 3 marks. This deduction shall apply regardless if the candidate fails to complete any or all of these components.

6.9 Marking

The candidate must fully complete the ‘safe to approach’ process, as detailed in section 6.6 The Safe to Approach Process. If any step is omitted or carried out incorrectly, the candidate shall fail the assessment, and shall result in a final mark of 0%.

The marking system for testing and visual inspection portion of the assessment is based on the candidate recording 12 correct defects, 12 correct Regulations/Clause Numbers and 12 correct Defect Code Numbers and that the candidate has satisfactorily completed the Certificate of Inspection on the Certificate of Electrical Safety for Prescribed Electrical Installation Work.

The candidate is required to locate all testing defects. Failure to locate all testing defects shall result in a final mark of 0%. If a candidate correctly locates all testing defects, but does not indicate the correct clause number or defect code for these testing defects, these sections shall be marked accordingly, but this shall not cause a 0% result.

[redacted]

[redacted]

Each correct testing and visual defect is valued at 9 marks. This is broken down into 6 marks for naming the actual defect, 1.5 marks for the correct Clause or Regulation Number, and 1.5 marks the correct Defect Code (noting that the defect code must also be replicated on the COES to obtain the marks).

Subject Area	Marking Structure	Total
Visual and testing defects	12 x 6 marks	72
Wiring Rules / Wiring Regulations Clause and Regulation Numbers	12 x 1 ½ marks	18
Defect Code listed on the Certificate of Electrical Safety	12 x 1 ½ marks	18

A minimum benchmark of 12 defects, 12 Regulation/Clause Numbers and 12 Defect Code Numbers are used during the marking process to calculate the base mark. If the candidate provides more than 12 defects then the actual number listed by the candidate is used.

The base mark is calculated on a basis of 12 defects being required to be located. Therefore, the total base mark is 108 marks (12 x 6 + 12 x 1.5 + 12 x 1.5 = 108).

Candidates who locate 12 defects, or less than 12 defects, have their base total set at 108 marks as above. Candidates who locate more than 12 defects shall have their base mark adjusted accordingly, with 9 marks added to the base mark for each defect over and above 12. Some examples are listed below:

Example 1

John lists 10 defects on his paper, and 7 of these are fully correct. John's mark is calculated as follows:
Correct defects = 7 x 6 marks each = 42 marks
Correct clause numbers = 7 x 1.5 = 10.5 marks
Correct defect codes = 7 x 1.5 = 10.5 marks
Total mark = 42 + 10.5 + 10.5 = 63 marks
John listed less than 12 defects, so the base mark is 108.
John's percentage score is (63/108) x 100 = 58% Fail

Example 2

Mary lists 12 defects on her paper, and 9 of these are fully correct. Mary's mark is calculated as follows:
Correct defects = 9 x 6 marks each = 54 marks
Correct clause numbers = 9 x 1.5 = 13.5 marks
Correct defect codes = 9 x 1.5 = 13.5 marks
Total mark = 54 + 13.5 + 13.5 = 81 marks
Mary listed 12 defects, so the base mark is 108.
Mary's percentage score is (81/108) x 100 = 75% Pass

Example 3

Anne lists 14 defects on her paper, and 10 of these are fully correct. Anne's mark is calculated as follows:
Correct defects = 10 x 6 marks each = 60 marks
Correct clause numbers = 10 x 1.5 = 15 marks
Correct defect codes = 10 x 1.5 = 15 marks

Total mark = 60 + 15 + 15 = 90 marks
Anne listed 14 defects, so the base mark is (14 x 9) = 126.
Anne's percentage score is (90/126) x 100 = 71% Fail

Example 4

David lists 15 defects on his paper, 11 of these are fully correct, and one defect is correct but with an incorrect clause number and defect code. David's mark is calculated as follows:
Correct defects = 12 x 6 marks each = 72 marks
Correct clause numbers = 11 x 1.5 = 16.5 marks
Correct defect codes = 11 x 1.5 = 16.5 marks
Total mark = 72 + 16.5 + 16.5 = 105 marks
David listed 15 defects, so the base mark is (15 x 9) = 135.
David's percentage score is (105/135) x 100 = 78% Pass

If all testing defects were not correctly identified, this is an automatic fail, and the candidate shall be allocated a mark of 0%. If the safe approach was not fully completed, this is an automatic fail, and the candidate shall be allocated a mark of 0%.

If the safe approach is fully completed, and all testing defects have been correctly identified and listed then a final pass/fail percentage result will be calculated, based on the number of correct defects, regulation or clause numbers and defect codes listed by the candidate. A percentage of 75% or more must be achieved to obtain a pass result.

6.10 Reviews and Appeals

Refer to section 9. Reviews and Appeals.

7. G Class Practical Inspection and Testing

The G Class Practical is a practical assessment that comprises two parts. The first part is an electrical installation testing component and the second part is a detailed electrical inspection. Both parts are carried out on the same equipment.

[redacted]

To pass the G Class Safe Approach Assessment the candidate must demonstrate:

- Competence in electrical inspection by correctly conducting mandatory tests on an electrical installation and determining if the tests conducted proves the installation complies.
- Competence in carrying out a visual inspection of an electrical installation for compliance and listing any non-compliances (defects) identified with the appropriate Regulation Number or Standard Clause that applies to that non-compliance.
- Their ability to obtain a pass mark of no less than 75%.

A candidate cannot be assessed on only one part of a G Class Assessment. The candidate must be assessed on the package which includes the electrical installation testing component and the detailed electrical inspection component.

7.1 Duration

The G Practical assessment time is 15 minutes reading time and 2.5 hours working time, for a total assessment time of 2 hours and 45 minutes.

7.2 Instructions to the candidate

The following instructions to the candidate shall be listed on the front of the assessment paper:

- Personal notepads or paper are not permitted.
- Mobile phones or other electronic devices (smart watches, etc) are not permitted.
- Pens only must be used. Answers in pencil may not be marked.
- Do not remove any sheets from this assessment paper or the room.
- Papers with no name or no signature will not be marked.
- Speak to the assessor if you require assistance or have a query.

Candidates are required to sign and date their assessment paper. This will also include an attestation that the candidate understands the instructions provided, that they do not have any unauthorised materials in their possession, and they consent to the video and audio recording of the assessment.

7.3 Reference Materials

All reference material will be supplied by FES. Candidates must not mark, fold or write on the reference material.

Current versions must be used, together with any amendments. The date of implementation of any new standard or amendment into the assessments will be advised by the Licensing Assessment Steering Committee, and will take into account the publication date, date of implementation in industry as determined by Energy Safe, and any other relevant factors.

The following reference materials are required for the G Practical Assessments:

- Electricity Safety (General) Regulations 2019
- AS/NZS 3000:2018 Wiring Rules
- AS/NZS 3008.1.1:2017 Electrical installations – Selection of cables

7.4 Tools and Test Equipment

Refer to sections 4.5 Documentation to be provided by the assessment venue and 4.6 Test Equipment.

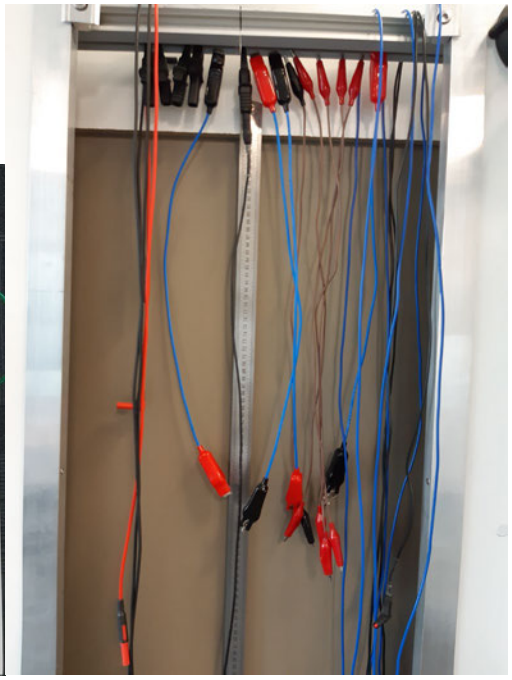
Note: Candidates are responsible for the calibration of equipment they provide. Out of calibration instruments may cause the candidate to read incorrect results to tests required during the assessment.

Each G Practical candidate shall be supplied with a box of equipment for use in the assessment, with the contents to include installation under test signage, basic tools, an insulation resistance and continuity tester, socket outlet testers, and various spare leads.

Note: Candidates must supply their own insulation resistance and continuity tester, however the equipment supplied includes a spare meter if required.

The G Practical equipment shall also include a ruler for taking measurements if required.

See photos below as an indication of the equipment provided.



The assessment venue shall maintain the equipment and provide the equipment to the candidate in good faith. It is recognised that wear and tear of the equipment does occur, and if the candidate notes that any equipment is missing, worn or faulty, they should report this to their assessor for repair or replacement. If any extra equipment is required, the candidate should ask the assessor.

7.5 Assessment Equipment

Future Energy Skills shall provide 12 individual panels to be used in the G Practical assessment. These individual panels shall be grouped together in sets of three, with the three panels making up the installation for the candidate to inspect and test in their assessment. The panels shall be interchangeable. Every set of three making up an installation for an assessment shall include a main switchboard panel and two other panels at random. Installations may be domestic, multiple domestic or non-domestic.

Individual panels may include:

- a grid connected photovoltaic (PV) solar array and associated equipment
- a battery system
- a generating set
- safety services.

Records must be maintained by FES to ensure that if a candidate is repeating the assessment, a different electrical installation is provided for any subsequent assessment.

The installation shall be regarded as a new installation not connected to supply. Supply is three phase, may be underground reticulated distribution (URD), or overhead, and the installation may be direct metered or CT metered fed from a distribution company kiosk substation. It shall be regarded that the distribution company has installed an upstream service protective device which will provide short circuit protection of the consumer mains. The supply type shall be noted on the assessment paper and/or noted on the installation panel.

The three panels making up an installation for the assessment shall be regarded as being in a continuous building or connected by continuous building materials.

Cables installed out of sight or unable to be accessed shall be regarded as having been selected and installed so as to minimize the risk of mechanical damage.

In some instances, appliances may be represented by a picture. If a picture is used to represent an appliance, there will be a metallic earth point mounted on the picture, representing the earth connection to the appliance frame.

Measurements are ‘as installed’ unless otherwise indicated. Ground level is deemed to be at the assessment room floor level, unless otherwise indicated.

Each installation shall include ten testing defects. Testing defects are defined as defects that can be located using the tests from Section 8.3 of AS/NZS 3000, and that cannot be identified by visual observation. This may include defects that are not visually observable due to restrictions on accessing equipment (e.g. equipment marked ‘do not open’). Note that the installation is not safe to connect to supply and therefore the live testing of RCDs and RCBOs as per AS/NZS 3000 Clause 8.3.10 is not required to be carried out by the candidate as part of the assessment.

It is only a requirement to carry out the Earth Fault Loop Impedance (EFLI) test on socket outlet circuits when the circuit meets the requirements as listed in AS/NZS 3000 Clause 8.3.9.1. If a circuit does not meet the requirements of Clause 8.3.9.1 for EFLI testing, then no EFLI test is required. Furthermore, if a circuit supplying socket outlets is required to be protected by RCD as per AS/NZS 3000, but is not so protected (i.e. this is a defect), there is no requirement to carry out the EFLI test on this circuit as once the RCD defect is rectified the EFLI test is not required. Regardless of the above, candidates must still carry out the earth continuity testing as per Clause 8.3.5. If a candidate tests for earth continuity and locates an earth continuity defect (high impedance), they may note the defect as an earth continuity defect. If a candidate then chooses to voluntarily carry out an EFLI test, and consequently identifies an earth continuity defect as an EFLI defect, this will also be accepted as a correct answer, however it will only be accepted as a correct answer once, and not as two separate defects for earth continuity and EFLI. Results for both Re and/or EFLI may be taken from Table 8.2 of AS/NZS 3000.

The assessment body shall maintain a ‘plug and play’ card system which shall be used to provide a variety of testing defects that will allow for easy alteration of the testing defects on the installations. There shall be at least one testing defect for each of the mandatory tests.

Each installation shall include a minimum of 25 and a maximum of 30 visual defects.

Defects may be taken from any relevant and applicable section of the Regulations and Standards, and the visual defects shall be defects as identified in the Top 100 prescribed or in the Top 100 audit defects, as provided to FES (quarterly) and LEI trainers (6 monthly) by Energy Safe. A full listing of current defects on each installation to be used as a marking guide shall be retained by the assessment body, and provided to authorised Energy Safe staff on request. Alterations to defects shall be completed in consultation with Energy Safe and recorded on the assessment body documentation, include the date the alteration was

made. The defect listing shall be kept securely at the assessment body with access restricted to authorised staff only.

The defects provided on these lists should not be taken as the only defects. If a candidate provides a defect that is not listed then the assessor must inspect the installation and determine if the candidate is correct. If the candidate's defect is correct then the Regulation Number or Standards Clause Number must also be verified by the assessor.

A newly identified defect must be added to the lists so that other assessors are aware of the defect and the lists accurately record the defects on the electrical installation. If the addition of the defect raises the total number of defects above the permitted number, the assessor should seek to remove either this new defect, or another defect on the installation, to ensure the total number of defects remains within the required tolerance. The date and details of these changes must be recorded.

The list of defects/marking guide may contain explanatory notes for the assessors. These notes may include some common defects listed by candidates that are not correct for this installation.

Inadvertent defects, for example, defects which are not on the formal list, but have occurred inadvertently (e.g. a previous candidates incorrectly reconnects a cable in the wrong position and it is not discovered prior to the next assessment), shall be marked as correct if identified by the candidate. The assessor shall note on the paper that the defect did exist at the time of the assessment. The assessor shall repair the defect so this defect shall not apply to future assessments.

There shall be no intentional Service and Installation Rules (SIR) defects on the installations, and candidates are not required to identify any SIR defects.

The date of certification shall be represented like this "XX/XX/XXXX" and this shall be deemed to indicate the current date.

7.6 Electrical Installation Testing Component

The candidate must demonstrate competence in electrical inspection and testing by correctly conducting mandatory tests on an electrical installation and determining if the tests conducted proves the installation complies.

Candidates are required to carry out the mandatory tests as prescribed in the AS/NZS 3000 Wiring Rules Section 8.3 on the electrical installation indicated by the assessor. Candidates are required to test both the prescribed and non-prescribed parts of the installation.

Failed tests must be recorded in Table 1 and must include the clause number to obtain full marks.

Candidates must record the type of test carried out, the nature of the defect, and the location of the test (i.e. identify the circuit, accessory or equipment). All circuits and equipment shall have identifying markings, and candidates are encouraged to use these markings to identify circuits or equipment in their answers. If candidates choose not to use the identifying markings, and choose other methods of communicating the identification, they need to be clearly understandable (e.g. if using pole numbers, identify if counting from left or right, the first pole position, and if including blank spaces in the count). Candidates are not required to record the actual values measured.

Tests that pass are not required to be recorded, however candidates may choose to do so for their own records, and sufficient space has been provided for this.

Only failed tests will be marked. Tests that pass will not be marked.

Only an insulation resistance and continuity tester is required for this testing component.

The candidate must demonstrate competence in electrical installation testing by:

- correctly checking and if necessary adjusting the insulation resistance and continuity tester prior to commencement of testing
- completing all the tests as required by AS/NZS 3000

- record the failed tests and identify the applicable clause number.

A base total of 60 marks are allocated to this component of the assessment.

For testing defects from Section 8.3 of AS/NZS 3000 only, providing the correct testing defect and the location of the fault is identified, clause numbers may be taken from either the relevant general or results sections of Section 8.3, and these clause numbers shall be accepted without the sub-clause.

7.7 Detailed Electrical Inspection Component

The candidate must demonstrate competence in electrical inspection and testing by visually inspecting the electrical installation for compliance and listing any non-compliances (defects) identified with the appropriate Regulation Number or Wiring Rules Clause that applies to that non-compliance.

Candidates shall record all defects identified with the appropriate source document (regulation/standards), and the relevant Regulation Number/ Standards Clause Number in Table 2. If there are several parts to the Regulation or Clause Number the relevant part must be specified i.e. Clause 6.2.4.2(b)(ii).

The defect description must be recorded clearly and in sufficient detail, so that the defect is understood by the assessor without referring to the nominated regulation or clause number. The defect description must clearly identify the relevant circuit or equipment. The defects identified by the candidate must be technically correct to obtain full marks. Candidates may utilise applicable parts of the text of the relevant clause/regulation to assist in providing the detailed description of a defect.

A Defect Code List is NOT required during this assessment.

During the assessment the candidate may dismantle any part of the electrical installation they consider necessary so they can visually inspect and test all parts of the electrical installation, with the exception of any IP rated equipment or equipment labelled “Do Not Open”.

At the completion of the assessment time the assessor shall request the candidate to stop working and shall collect the assessment paper from the candidate.

From 1 March 2023, the candidate shall reassemble the electrical installation, including reinstating any conductors or equipment disconnected or dismantled by the candidate.

This may be done after the completion of the assessment and shall not impinge on the assessment time of the candidate. If the candidate refuses to reinstate the equipment, or does not reinstate equipment and/or conductors correctly to the condition it was in at the commencement of the assessment (as proven by video observation if required), then five marks shall be deducted.

The candidate shall not be permitted to use power or battery operated tools to dismantle, disconnect, reassemble or reconnect any connections or equipment in the assessment room.

7.8 Documentation

The assessment paper shall have separate parts for the candidates to record their testing and visual defects.

Part 1: Electrical installation testing defects shall be recorded on Table 1

INSTALLATION AREA:

Table 1		
TEST CONDUCTED Include detail of the type of test and switchboard/circuit/equipment tested	**RESULT (PASS/FAIL)**	**Clause No.**

(Note: Three full pages of this table shall be supplied.)

Part 2: Visual Defects shall be recorded on Table 2

INSTALLATION AREA:

Table 2	
DEFECTS	**Reg/Clauses No.**

(Note: Three full pages of this table shall be supplied.)

Candidates are encouraged to use a separate page for each panel of the installation.

Candidates are encouraged to use the correct tables to record their testing and visual defects, however candidates shall not be penalised if they do record an accurate defect on the wrong table.

Candidates shall be provided with a Certificate of Electrical Safety (COES) for the installation they are required to inspect. This COES is provided to assist the candidate with their understanding of the installation. The COES will not contain any deliberate defects: if the candidate lists COES errors as visual defects (for example: inaccurate or insufficient information on the COES) these will not attract any marks.

7.9 Marking

The testing portion of the G Practical assessment shall be valued at a base of 60 marks, based on 10 testing defects which shall be marked at 4 marks for the defect and 2 marks for the Clause or Regulation Number. If the candidate identifies more than 10 testing defects, the base mark shall be increased by 6 marks for each defect the candidate lists above 10.

The detailed inspection portion of the G Practical shall be marked at 2 marks for the defect and 1 mark for the Clause or Regulation Number. The base mark for this section shall be calculated on 15 visual defects, for a total of 45 marks.

Overall, the base mark, based on 10 testing defects, and 15 visual defects, shall be 105 marks.
The candidate must obtain 75% or more to pass this assessment.

Some examples are listed below:

Example 1

John lists 10 testing defects of which 7 are fully correct, both defect and clause number. John also lists 12 visual defects, and 8 of these are fully correct, both defect and clause number. John's mark is calculated as follows:
Correct testing defects = 7 x 6 = 42 marks
Correct visual defects = 8 x 3 = 24 marks
Total mark = 42 + 24 = 66 marks
John listed less than 10 testing defects, and less than 15 visual defects, so the base mark is 105.
John's percentage score is (66/105) x 100 = 63% Fail

Example 2

Mary lists 10 testing defects on her paper, 9 of these defects are correct, and 7 of the clause numbers are correct. Mary also lists 17 visual defects, of which 14 defects are correct and 12 clause numbers are correct. Mary's mark is calculated as follows:
Correct testing defects = 9 x 4 + 7 x 2 = 50 marks
Correct visual defects = 14 x 2 + 12 x 1 = 40 marks

Total mark = 50 + 40 = 90 marks
Mary listed 10 testing defects, and 17 visual defects, so the base mark is 10 x 6 + 17 x 3 = 111.
Mary's percentage score is (90/111) x 100 = 81% Pass

Example 3

Anne lists 14 testing defects on her paper and 10 of these are fully correct, both defect and clause number. Anne also lists 15 visual defects, of which 11 defects are correct and 9 clause numbers are correct. Anne's mark is calculated as follows:
Correct testing defects = 10 x 6 = 60 marks
Correct visual defects = 11 x 2 + 9 x 1 = 31 marks
Total mark = 60 + 31 = 91 marks
Anne listed 14 testing defects, and 15 visual defects, so the base mark is 14 x 6 + 15 x 3 = 129
Anne's percentage score is (91/129) x 100 = 71% Fail

Example 4

David lists 8 testing defects on his paper, 8 of these testing defects are correct with 7 clause numbers correct. David also lists 15 visual defects, of which 13 defects are correct and 10 clause numbers are correct. David's mark is calculated as follows:
Correct testing defects = 8 x 4 + 7 x 2 = 46 marks
Correct visual defects = 13 x 2 + 10 x 1 = 36 marks
Total mark = 46 + 36 = 82 marks
David listed 8 testing defects and 15 visual defects, so the base mark is 10 x 6 + 15 x 3 = 105.
David's percentage score is (82/105) x 100 = 78% Pass

7.10 Reviews and Appeals

Refer to section 9. Reviews and Appeals

8. Licensed Electrical Inspection RE Class Theory

The Licensed Electrical Inspection Renewable Class Theory Assessment is a written assessment that requires the candidate to demonstrate a broad range of electrical knowledge applicable to renewable energy and battery systems, and internal combustion engine generators, including electrical regulations, electrical safety, knowledge of various Standards, and various electrical calculations. The questions shall be drawn from a database of questions written by Energy Safe and held by FES.

The Licensed Electrical Inspection Renewable Class (restricted to internal combustion engines) Theory Assessment is a written assessment that requires the candidate to demonstrate a broad range of electrical knowledge applicable to internal combustion engine generators, including electrical regulations, electrical safety, knowledge of applicable Standards, and various electrical calculations. The questions shall be drawn from a database of questions written by Energy Safe and held by FES.

[redacted]

Energy Safe shall produce a sample paper and shall publish this on Energy Safe's website.

8.1 Duration

The LEI RE Class theory assessment shall be 3 hours, inclusive of reading time.

The LEI RE Class (Internal Combustion Engines only) Theory assessment shall be 1 hour and 15 minutes, inclusive of reading time.

Note that there is no specific or separate reading time requirement. Candidates may commence reading, writing, or consulting their Standards immediately as the assessment time begins.

Candidates who arrive late to the assessment may be permitted to enter the assessment, however no candidate shall be admitted if they arrive more than 30 minutes past the start of the assessment time. Candidates shall only be permitted the remaining scheduled assessment time, and no extra time shall be allocated at the end of the assessment to compensate for the missed assessment time.

8.2 Instructions to the candidate

The following instructions to the candidate shall be listed on the front of the assessment paper:

- Personal notepads and paper are not permitted.
- Pens only must be used. Answers in pencil may not be marked.
- Do not remove any sheets from this assessment paper or the room.
- Papers with no name or signature will not be marked.
- Units and table numbers (where required) must be shown to obtain full marks.

Candidates are required to sign and date their assessment paper.

8.3 Reference Materials

Candidates are not permitted to use their own reference material and all reference material will be supplied by FES. Candidates must not mark, fold or write on the reference material.

Current versions must be used, together with any amendments. The date of implementation of any new standard or amendment into the assessments will be advised by the Licensing Assessment Steering Committee, and will take into account the publication date, date of implementation in industry as determined by Energy Safe, and any other relevant factors.

The following reference materials are required for the RE Class Assessment:

- Electricity Safety (General) Regulations 2019
- AS/NZS 3000:2018 Wiring Rules

- AS/NZS 3008.1.1:2017 Electrical installations – Selection of cables
- AS/NZS 3010:2017 Electrical Installations – Generating Sets
- AS/NZS 4777.1:2016 Electrical installations – Grid connection of energy systems via inverters Part 1: Installation requirements
- AS/NZS 5033:2021 Installation and safety requirements for photovoltaic (PV) arrays
- AS/NZS 5139:2019 Electrical installations – Safety of battery systems for use with power conversion equipment
- AS/NZS 4509.1:2009 Stand-alone power systems, Part 1: Safety and installation
- AS/NZS 1170.2:2021 Structural design actions, Part 2: Wind actions
- AS/NZS 4836:2011 Safe working on or near low voltage electrical installations and equipment

The following reference materials are required for the RE Class (internal combustion engines only) Assessment:

- Electricity Safety (General) Regulations 2019
- AS/NZS 3008.1.1:2017 Electrical installations – Selection of cables
- AS/NZS 3010:2017 Electrical Installations – Generating Sets

8.4 Question Types

There shall be a minimum of one question on each Standard, Regulation or Act listed above, (with the exception of AS/NZS 3008.1.1 which shall be addressed in the calculation questions). There shall be multiple questions on some Standards as listed below. The following table details each document/calculation and indicates the number of questions on each.

LEI RE Licence Theory Assessment Content

Standard or Topic Area	Number of questions / Notes
Electricity Safety (General) Regulations 2019	1
AS/NZS 3000:2018 Wiring Rules	2
AS/NZS 3010:2017 Electrical Installations - Generating Sets	4
AS/NZS 4777.1:2016 Electrical installations – Grid connection of energy systems via inverters Part 1: Installation requirements	2
AS/NZS 5033:2021 Installation and safety requirements for photovoltaic (PV) arrays	2
AS/NZS 5139:2019 Electrical installations – Safety of battery systems for use with power conversion equipment	2
AS/NZS 4509.1:2009 Stand-alone power systems, Part 1: Safety and installation	1
AS/NZS 1170.2:2021 Structural design actions, Part 2: Wind actions	1
AS/NZS 4836:2023 Safe Working on or near low-voltage and extra-low voltage electrical installations and equipment	1
Voltage Rise Calculation incorporating AS/NZS3008.1.1:2017 Electrical installations – Selection of cables	1
PV Module maximum voltage calculation	2 (different methods)
String Current calculation	1

Generator fault current path incorporating AS/NZS3008.1.1:2017 Electrical installations – Selection of cables	1 (2 parts, including a calculation)

LEI RE Licence (restricted to internal combustion engines) Theory Assessment Content

Standard or Topic Area	Number of questions / Notes
Electricity Safety (General) Regulations 2019	1
AS/NZS 3010:2017 Electrical Installations - Generating Sets	7
Generator fault current path incorporating AS/NZS3008.1.1:2017 Electrical installations – Selection of cables	1 (2 parts, including a calculation)

The Standard, Regulation or Act shall not be identified in the question: the candidate is required to identify the reference document in addition to the answer to the question and the relevant clause or regulation number. For AS/NZS standards only, the candidate may omit the 'AS/NZS', the year of publication and the title; they are only required to supply the number of the standard.

The correct Section and Subsection, Regulation and Subregulation, or Clause and Subclause must be given in full (e.g. 3.5.2(b)(i)).

A dedicated space for the final answer shall be included for each question.

In addition to the Standard, Regulation and Act questions detailed above, a series of electrical calculation questions shall be included. Refer to the published sample paper for typical examples.

If the same answer is available from two or more reference documents, either will be acceptable unless otherwise stated. If the reference documents state different answers, hierarchy of documents shall be applied in establishing the correct answer.

8.5 Reviews and Appeals

Refer to section 9. Reviews and Appeals

9. Reviews and Appeals

Future Energy Skills, as the approved assessment body, shall facilitate the marking of the assessments. Candidates who are unsuccessful may apply to the assessment body for a review.

9.1 G Class and RE Class Theory

9.1.1 Paper based reviews

Candidates who are unsuccessful in the G Class or RE Class Theory assessments may apply to Future Energy Skills for a paper based review. The cost of the review shall be at the discretion of Future Energy Skills.

9.1.2 Face to face reviews

Candidates may request a face-to-face review of their assessment with an assessor only after having received a paper review. The cost of the face-to-face review shall be at the discretion of the assessment body. The face-to-face review shall not include any coaching for the candidate.

Face to face reviews shall not be permitted to occur on the same day as the next attempt at the assessment.

9.2 G Class Practical or Safe Approach Assessments

Candidates who are unsuccessful in the G Class Practical or G Class Safe Approach Assessments may apply to Future Energy Skills for a review. This review will be via phone. The review shall not include any coaching of the candidate. The cost of the review shall be at the discretion of FES.

9.3 Right to appeal

Candidates have the right to submit an appeal of their assessment result.

The candidate must first obtain the relevant review as listed above. They must then submit an appeal to FES, via the process and forms as detailed on the FES website.

If the matter is unable to be resolved via the review and appeal process of FES, the candidate has the right to raise an appeal to Energy Safe.

An appeal of an assessment result to Energy Safe must be made via the Assessment Appeal Form. The appeal must contain all relevant details including the details of the assessment (date, time, location and assessor), details of the review, and details of the reason for the appeal. The appeal must be submitted by the candidate. Any appeal submitted by a third party on behalf of the candidate must include the written permission of the candidate. Energy Safe will commence a follow up of the appeal within 10 business days of receiving the appeal in writing. If deemed necessary, Energy Safe may arrange for a separate assessor to review and remark the paper. The appeal may include a review of the video and audio recording of the assessment. The review/appeal assessor may be an Energy Safe employee. Energy Safe's decision on the appeal shall be final.

9.4 Assessment papers

All assessment papers shall remain the property of Energy Safe. To maintain the security of the assessment, no completed assessment paper shall be provided to a candidate to take away under any circumstances. Candidates may view their completed paper in the company of an assessor at a face-to-face review, but shall not be permitted to take photos or images of their completed paper.

10. References and Related Documents

10.1 Legislative References

Electricity Safety (Registration and Licensing) Regulations 2020

10.2 Related Documents

Energy Safe Victoria Licensing Assessment Rules

11. Document Control

This document replaces the Energy Safe Victoria LEI Assessment Process & Procedures Manual dated 2016.