PROPERTY, FLEET AND OTHER NON-NETWORK

TRAINING FACILITY DEVELOPMENT

CP BUS 7.02 – PUBLIC

2026–31 REGULATORY PROPOSAL

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1. Overview

Training our field workers is critical in operating a safe, efficient and reliable electricity network. It is crucial that apprentices are comprehensively trained to reinforce safe working practices, which are essential in the high-risk electricity supply industry.

Powercor and CitiPower are currently the only insource delivery model distribution network service providers (DNSPs) in the state of Victoria. We take great pride in the delivery of our services, and the ability of our field workers to respond safely and efficiently to our customers' needs.

Today, there is one training facility providing electrical supply industry (ESI) apprenticeship training programs across Victoria. The current facility is no longer fit for purpose because:

- it does not have sufficient capacity to meet current industry workforce needs now, or the ability to deliver sustainable training programs for Victorian in the long term.
- the training yard and key education equipment do not meet industry standards, nor offer the real-world simulations and experience that is required for best-practice ESI training.

Given the material risk to the deliverability and quality of our apprentice training, three options were explored to ensure a fit-for-purpose facility is available to meet our training needs. To assess the options, a multi criteria analysis (MCA) was undertaken, considering cost and impacts to customers including network reliability and resilience, safety, workforce culture and engagement, and workforce sustainability.

The preferred option is to build a new training facility, aligning with the approaches taken by distributors in other jurisdictions. A summary of the costs associated with this option are set out in table 1.

TABLE 1 SUMMARY OF PREFERRED OPTION ($M, 2026)

OPTION TWO	FY27	FY28	FY29	FY30	FY31	TOTAL
Build a new fit-for-purpose training facility	6.1	3.4	-	-	-	9.5

2. Background

This section sets out background on training requirements for our apprentices, and the existing training facility.

2.1 Our apprentice training requirements

Working with live electricity presents material health and safety risks, and the safety of our people and communities remains our top priority. Accordingly, apprenticeships are critical to qualify workers in core distribution network fieldwork skillsets of overhead linework and underground cable jointing.

Apprentices must undertake a four-year training program to achieve a Certificate III qualification in ESI Distribution Overhead or ESI Distribution Underground.

We currently employ 821 field workers, and 96 ESI apprentices. We are contractually obligated to employ 30 first-year apprentices each year until 2026 under our employee enterprise agreement (EA), as negotiated with the Electrical Trades Union (ETU)

2.2 Existing training facility

There is currently one provider of comprehensive ESI apprenticeship training programs in Victoria.

The existing facility – Holmesglen Institute – is located in Chadstone and was established in 1975 by the State Electricity Commission. The ESI program initially occupied a footprint of 25,500m², but a redevelopment undertaken in 2008 (when Holmesglen assumed responsibility for the ESI program) reduced the program's footprint to 11,000m².

The training facility consists of a training yard and five classrooms. Over the past 16 years, minimal upgrades have been made to the training yard and classrooms.

The facilities are used for the training of all ESI apprentices across Victoria, as well as many other infrastructure-based apprenticeships. Most recently, the facilities have needed to increase their training capability to accommodate the spike in training required to support the Victorian Government's significant investment in rail projects, including the Melbourne Metro Tunnel and Suburban Rail Loop (with the $16 million Victorian Tunnelling Centre constructed at Holmesglen in 2020).[1] This important and necessary investment has inadvertently compounded the de-prioritisation of ESI apprenticeship programs.

1 Holmesglen Institute of TAFE, 2024

3. Identified need

Training of highly skilled field workers is critical to operating a safe, efficient, and reliable electricity network. It is imperative that apprentices are comprehensively trained to reinforce safe working practices which are essential in the high-risk electricity industry.

As part of the energy transition, the demand for a qualified labour force will also continue to grow.

Consistent with the above, the identified need is to ensure training facilities have sufficient capacity to meet the growing and evolving needs of our workforce, and that the facilities themselves are fit for purpose.

Stakeholder engagement

Central themes of our stakeholder engagement program were reliability, safety, and resilience. Broadly, our customers want to stay connected with a safe and uninterrupted supply that can withstand both normal and extreme weather.

Our customers consistently highlighted the importance of safety, and that is a 'non-negotiable' both for field workers and the communities being served.

3.1 Current facilities have insufficient capacity to meet industry demand

We currently employ 96 electrical (ESI) apprentices and are obligated to employ 30 first-year apprentices each year until 2026 under the ETU's EA. These apprentices are in addition to those employed (and required to be trained) by other third-parties.

On average, each apprentice requires 422 hours of training per year.[2]

The current training provider does not have a sufficient volume of trainers to deliver on our current contractual obligations. For example, in the electrical lineworker apprentice committee (ELAC) meeting minutes, Holmesglen informed us of the following:[3]

[redacted]

Specifically, Holmesglen employs only two full-time qualified trainers. These trainers are subject to workload restrictions stipulated in their EA, including a maximum trainer-to-student ratio of one-to-six and a maximum number of hours per FTE per year of 1,200 (with this further restricted to 800 hours of face-to-face delivery and 400 hours for assessments).

As shown overleaf, our apprentice training needs alone outstrip the available training capacity.

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2 The four-year apprentice course requires 222 days of training. Assuming a 7.6-hour day means 1,687 hours or 422 hours per year

3 CP ATT 7.02 – VESI - ELAC meeting minutes – Aug2024 – Public

Holmesglen training program feasibility

Holmesglen has two trainers, both of which have face-to-face training capped at 800 hours (as per its EA). In line with the mandated trainer-to-student ratio of one-to-six, the total training hours available at the Holmesglen facility is 9,600 hours (i.e. 800 hours x 2 FTEs x 6 students).

Given this, Holmesglen can only deliver the required face-to-face training hours to less than 23 apprentices (i.e. 9,600 hours divided by 422 hours per student per annum). Our apprentice intake is a minimum of 30 apprentices per annum.

Therefore, with the current limitations, the incumbent provider does not employ a sufficient workforce of trainers required to complete a full apprentice program from first to fourth year.

The current training provider has had no success in recruiting additional trainers. The two Holmesglen trainers are also reaching average intended retirement age,[4] and there is a material risk that the current provider is not equipped to replace these trainers upon their retirement, given their demonstrated lack of ability to recruit additional trainers to meet current capacity requirements.

Notably, the current providers' EA represents a disincentive to recruit trainers. The maximum salary of a trainer under the current provider EA is materially below the industry average field worker salary; demonstrating it is not a competitive market rate and is below the rate offered by Powercor and CitiPower to attract high quality trainers.

As a temporary measure, Powercor and CitiPower have been providing four additional trainers to support the current provider and enable the required training programs to proceed. However, this represents a sub-optimal operating model, wherein ad hoc arrangements prevent the required structure to enable planning for a sustainable training program.

3.2 A sustainable training program for Victoria is crucial to enable the energy transition

The existing training provider is unable to deliver on our current requirements. This issue is only going to become more pronounced, due to the current workforce shortage (see table 2 below) compounding with our forecast for an increase in apprentice field worker requirements over the next decade.

Case study: independent reports on skill shortages

In 2024, RACE for 2030 identified a major risk of skill shortages which will impact on the timing and cost of the Australian Energy Market Operator's (AEMO) Integration System Plan (ISP). Rapid scale up of the energy workforce is needed to implement the optimal development path in the ISP for all three of its scenarios.[5]

Moreover, the Powering Skills Organisation (PSO) estimated a critical shortage of 17,400 electricians nationally by 2030 (under AEMO's ISP Central Scenario), including 20,500 apprentices required to commence each year from 2024 to close the gap between projected labour demand and current supply levels. PSO identifies the following key issues facing the energy workforce:

skills shortages in electrical trades, relative to the significant demand increases forecast

a shortfall in VET trainers, that needs to be scaled up rapidly

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4 Retirement and Retirement Intentions 2022–23, Australia, Australian Bureau of Statistics (2024)

5 Race for 2030, The Australian Electricity Workforce for the 2024 Integrated System Plan (2024), p. 3

inefficiencies in energy training packages, hindering the speed of training development and delivery

lack of diversity in the workforce, with particularly low participation amongst women and First Nations people, limiting the energy industry's capacity to grow the workforce at the pace required

students failing to complete apprenticeships, demonstrating a need to improve training programs to increase student engagement and graduation rates.[6]

These enduring regional workforce challenges are compounded by increased competition with labour demand in major capital cities due to numerous large infrastructure projects afoot, which generally attract higher pay than in regional areas.

The RACE for 2030 report further contends that 'governments are still struggling to understand workforce requirements across the energy sector, and the detailed occupations and skills needed'.[7] A range of structural challenges are also identified, which hinder the existing training system's ability to increase capacity and scale up the workforce.

Victoria's Clean Energy Workforce Development Strategy separately identifies a continued and increasing demand for electricians, driven by the clean energy transition and electrification.[8] The strategy also identifies existing shortages of labourers impacting the construction sector, noting that demand is expected to further increase with additional investment initiatives planned for the clean economy.

The enduring and widespread skills shortage demonstrates a chronic lack of supply in this labour market. The occupation shortage list provides a point-in-time assessment of the shortage status of occupations in the Australian labour market. Table 2 presents the Victorian data from 2021 to 2024, noting all states and territories are also experiencing similar challenges.

TABLE 2 VICTORIAN LABOUR SHORTAGE DATA

LABOUR	2021	2022	2023	2024
Cable jointer	Shortage	Shortage	No shortage	**Shortage**
Electrical linesworker	Shortage	Shortage	Shortage	**Shortage**

Source: Jobs and Skill Australia, Occuption shortage Listlist for technical cable jointers and electrical line workers

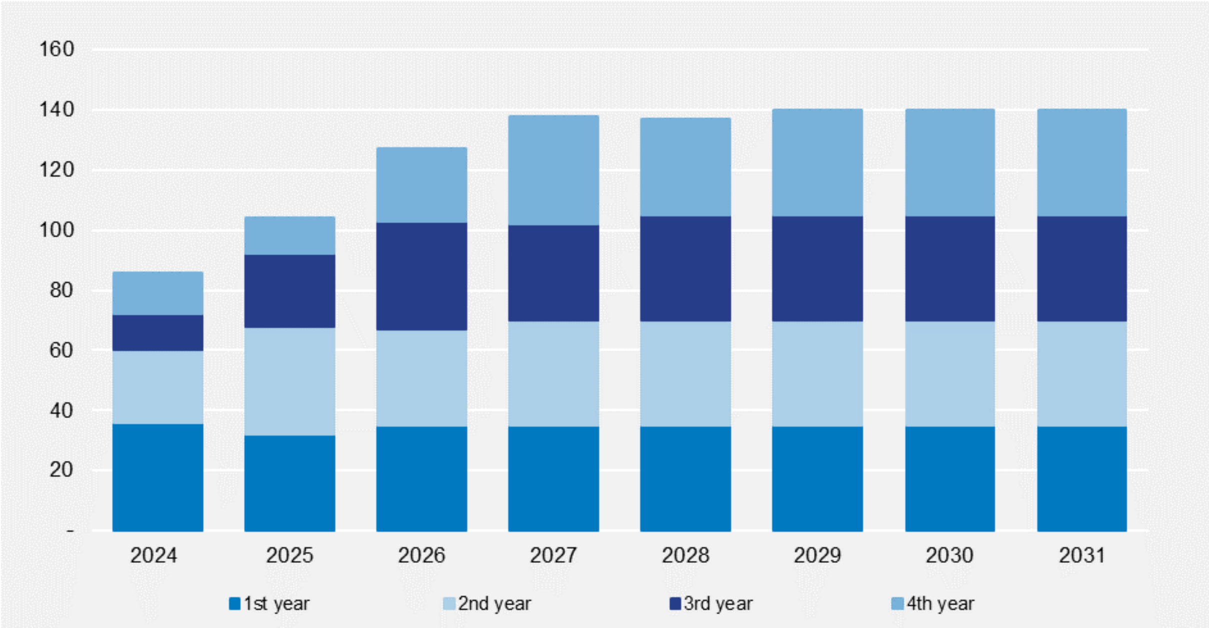
We are also forecasting an increase in apprentices as illustrated in figure 1. The energy transition is building pressure on increased skilled labour and training programs in the energy sector, with the Victorian Clean Economy Workforce Strategy and RACE for 2030 reports both citing these as a barrier that needs to be addressed with urgency. With electrification, decentralisation of the network (due to increased uptake of renewable energy generation), and an increasing focus on network resilience, there is an industry-wide need to ensure we have the right people and skillsets to build, maintain, and operate a safe, reliable, and resilient network.

6 Workforce Plan 2024: Summary Report, Powering Skills Organisation (2024), p. 4

7 Race for 2030, The Australian Electricity Workforce for the 2024 Integrated System Plan (2024), p. 14

8 Victorian Department of Jobs, Skills, Industry and Regions, Clean Economy Workforce Development Strategy 2023-2033 (2023), p. 12

FIGURE 1 FORECAST ESI APPRENTICE INTAKE



We forecast that a total of 130 apprentices will graduate within the 2026–31 regulatory period, or an average of 26 per year. This represents an 85 per cent increase on our 2025 baseline. Given existing trainer and facility capacity shortages, resulting in sub-optimal ad hoc arrangements, this nearly doubles our risk that the current provider does not have the ability to deliver the required training resources to meet the demand of our forecast works program.

Further, the Victorian Electricity Supply Industry (VESI) actively supports the development of a Powercor and CitiPower training facility. The VESI committee has written a letter of support, citing: [9]

> *'On behalf of the VESI Committee, I am writing to express our support for Powercor's iniatives to establish a dedicated training yard. This facility represents a significant step forward in advancing the training, safety, and operational excellence within the electricity supply industry in Victoria.*
>
> *As a key contributor to the state's energy infrastructure, Powercor has consistently demonstrated its commitment to maintaining high industry standards and fostering workforce development. The proposed training yard aligns closely with VESI's core objectives to enhances technical experience, promote compliance with industry regulations, and ensure the safety and reliability of Victoria's electricity network.'.*

3.3 Current facilities are not fit for purpose

[redacted]

[redacted]

9 CP ATT 7.02 – VESI - ELAC meeting minutes – Aug2024 – Public

[redacted]

Lastly, the current sites' facilities and amenities are not in line with best practice. For example, the existing training centre kitchen is in the same undercover area where training occurs. A proper kitchen area for students and trainers to store and warm food supports a modern learning environment and enhances student engagement and retention. The current facilities also lack all-gender bathrooms and amenities, thereby hindering the capacity for diversity and inclusion enhancement. In RACE for 2030, Powering Skills Organisation has identified lack of diversity in the workforce as a key issue facing the energy sector, 'which limits its capacity to grow rapidly' to meet forecast demand requirements.[11]

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10 More information can be found at: training.gov.au/Training/Details/UET30621/qualdetails and here.

11 Race for 2030, The Australian Electricity Workforce for the 2024 Integrated System Plan (2024)

4. Options analysis

Three options were explored to meet the identified need, which are outlined in table 3. To assess the options, an MCA was undertaken. This analysis considers costs, risks, and customer impacts, including network reliability, safety, workforce culture and engagement, and workforce sustainability.

Option two is the preferred option, balancing cost (affordability) with outcomes to customers.

TABLE 3 SUMMARY OF COSTS ($M, 2026)

OPTION		COST
1	Maintain status quo: do not develop a training facility	**-**
2	Build a new fit-for-purpose training facility	**9.5**
3	Build an enhanced training facility	**11.6**

Other options were also considered but assessed as non-viable, including:

- alternative third-party apprentice training—there are no viable alternative training institutes that have the required infrastructure and expertise needed to train our apprentices
- continue to provide Powercor and CitiPower secondees to supplement Holmesglen training facilities—this is not considered a long-term solution as it prevents predictability to enable confidence in a long-term sustainable training program.

4.1 Multi criteria analysis framework

We have assessed the viable options using an MCA, which is grounded in our enterprise risk management framework. As shown in figure 1, this methodology utilises industry standard assessment of risk, likelihood, and consequence; rating each dimension on a scale of one to five, where higher numerical ratings reflect a greater level of likelihood or consequence. We have assessed this ranking on a 15-to-20-year time horizon, noting that field workforce training is subject to lagged effects, with prolonged impacts of inaction.

The risk, likelihood, and consequence assessments are further explained overleaf, with these ratings multiplied together to form an overall risk rating.

FIGURE 2 MCA RISK ASSESSMENT OVERVIEW

LIKELIHOOD CONSEQUENCE

	1: Minimal	2: Minor	3: Moderate	4: Major	5: Catastrophic
1: Rare	Negligible	Negligible	Low	Medium	High
2: Unlikely	Negligible	Low	Low	Medium	High
3: Possible	Low	Low	Medium	High	High
4: Likely	Low	Medium	High	High	Extreme
5: Almost certain	Medium	High	High	Extreme	Extreme

4.1.1 Likelihood of risk

The likelihood of risk assessment is consistent across all risk outcome categories. As demonstrated in table 4 below, the rating is based on projected probability and frequency of occurrence.

TABLE 4 LIKELIHOOD OF RISK ASSESSMENT

RATING	LIKELIHOOD	FREQUENCY	EXPLANATION
Rare (1)	0-5%	Once every 20 to 40 years / projects	Threat rarely occurs
Unlikely (2)	6-20%	Occurs every 5 to 20 years / projects	Threat unlikely to occur
Possible (3)	21-60%	Once every 2 to 5 years / projects	Threat may possibly occur in time
Likely (4)	61-90%	Once every 2 years / projects	Risk will probably occur under current work conditions
Almost certain (5)	91-100%	Once every year / project	Risk will occur under current work conditions

4.1.2 Consequence of risk

The consequence of risk assessment has five key components as shown in table 5.

TABLE 5 RISK CONSEQUENCE ASSESSMENT

RISK	MINIMAL (1)	MINOR (2)	MODERATE (3)	MAJOR (4)	CATASTROPHIC (5)
Reliability and resilience	No material changes to average customer reliability	Minor delays to customer outage restoration due to field worker skill or FTE shortage	Moderate delays to customer outage restoration due to field worker skill or FTE shortage, or moderate delay of asset works schedule	Major delays to customer outage restoration due to field worker skill or FTE shortage, or major delay of asset works schedule	Catastrophic delays to customer outage restoration due to field worker skill or FTE shortage, or widespread delay of asset works schedule
Safety	Slight injury, does not affect work performance or daily life activities	Minor injury that affects work performance in the short term (e.g. restricted work activities or affecting daily life activities for up to five days)	Major injury that affects work performance in the longer term (e.g. absence from work and daily life activities affected for >5 days)	Single fatality or permanent disability	Multiple fatalities or permanent disabilities
Workforce culture and engagement	Minimal impact on employee satisfaction. Can be resolved independently of management	One or more employees express a level of workplace dissatisfaction that can be resolved with informal management input	Formal complaint made by one or more employees requiring formal management action to be taken	Breakdown in workplace relations between employee/s and the business resulting in an industrial action e.g. strike	Severe breakdown in workplace relations between employee/s and the business resulting in litigation including class action
Workforce sustainability	Minimal impact on workforce sustainability, can be resolved independently of executive management	Minor workforce shortage, resulting in increased but manageable strain in existing workforce and minor fieldwork delays	Moderate workforce shortage, resulting in increased strain in existing workforce and moderate fieldwork delays	Major workforce shortage, resulting in material fieldwork delays and compromising existing workforce retention	Severe workforce shortage, resulting in chronic fieldwork delays and critically compromising existing workforce retention
Labour cost overruns[12]	Labour costs increase by less than $500k in the medium term	Labour costs increase by $500k to $5m in the medium term	Labour costs increase by $5m to $25m in the medium term	Labour costs increase by $25m to $100m in the medium term	Labour costs increase by $100m or more, in the medium term

4.2 Option one: maintain status quo

The base case involves no capital investment. This means we will continue to use Holmesglen Institute as our sole training facility for ESI apprenticeship training programs.

Under this option, we will continue to experience challenges ensuring timely and quality workforce training. As shown in table 6 below, this is likely to translate into high reliability and resilience risk, given lowered worker competency, and the expected delayed proficiency of apprentice graduates entering the workforce.

This option also carries a risk of reduced apprentice intake and graduation rates, resulting in labour supply shortages and associated labour cost increases in the medium and long term, ultimately compromising customer affordability and price predictability.

Option one will also result in high workforce sustainability risk. Our current provider has already confirmed its inability to deliver on the 2025 apprentice numbers and this issue will be further exacerbated given our increasing graduate volumes paired with the current national shortage of both electric lineworkers and cable jointers.

Option one presents an overall untenable risk level for our network—with severe risk of compromised customer outcomes in the long term if these risks are not addressed.

TABLE 6 OPTION ONE: MCA ASSESSMENT

OUTCOME	LIKELIHOOD	CONSEQUENCE	RISK RATING	RISK CATEGORY
Reliability and resilience	4/5	3/5	12/25	**High**
Safety	3/5	3/5	9/25	**Medium**
Workplace culture and engagement	3/5	3/5	9/25	**Medium**
Workforce sustainability	5/5	4/5	20/25	**Extreme**
Labour cost overruns	4/5	3/5	12/25	**High**
AVERAGE	**4**	**3**	**12/25**	**High**

4.3 Option two: build a new fit-for-purpose training facility

Option two is to acquire land and construct a purpose-built training facility. As shown in table 7, option two demonstrates a low level of residual risk across all categories. This results in an optimal outcome to address the existing high level of risk under the 'do nothing' base case of option one.

[12] Insufficient training facilities and capacity may cause labour shortages, resulting in increased labour costs in the medium to long term.

TABLE 7 OPTION TWO: MCA ASSESSMENT

OUTCOME	LIKELIHOOD	CONSEQUENCE	RISK RATING	RISK CATEGORY
Reliability and resilience	1/5	1/5	1/25	**Negligible**
Safety	1/5	1/5	1/25	**Negligible**
Workplace culture and engagement	2/5	2/5	4/25	**Low**
Workforce sustainability	1/5	2/5	2/25	**Low**
Labour cost overruns	2/5	1/5	2/25	**Low**
AVERAGE	**1**	**1**	**1/25**	**Negligible**

The development of a new training facility will address the above risk by improving the following:

- training capability: by replicating real-world scenarios for both overhead and underground training, apprentices will gain hands-on experience that is critical to their development, and to ensuring outcomes for customers
- industry relevance: the upgrades ensure the facility keeps pace with technology advancements and industry standards, equipping trainees with the relevant skills needed for current and future works program delivery
- improved safety: the addition of live-line training setups, fault simulations, and safety equipment will reinforce safe working practices, which are essential in the high-risk electricity industry
- increased capacity: the redevelopment will provide space for more trainees and trainers, reducing bottlenecks in training schedules and increasing throughput of apprentices in Victoria
- realistic training environments: the creation of underground and overhead configurations that mimic actual work sites will allow for more practical and applicable training, improving job readiness
- compliance with regulations: the upgrade will ensure that the training yard meets the Australian Government's national training package requirements for ESI apprenticeships

The establishment of our own, purpose-built training facility will also align with other training facility ownership models across Australia, as shown overleaf in table 8.

Victoria is the second most populous state in Australia, representing 20 per cent of the electricity demand and 22 per cent of national electrical distribution trades workers. Despite this, Victoria is the only state to have a sole provider of comprehensive Certificate III ESI apprenticeship programs.

TABLE 8 INTERSTATE COMPARISON OF APPRENTICE TRAINING FACILITIES

STATE	DNSP	DNSP-OWNED FACILITY
QLD	Ergon Energy	Yes
QLD	Energex	Yes
NSW	Essential Energy	Yes
NSW	Ausgrid	No
NSW	Endeavour Energy	Yes
SA	SA Power Networks	Yes
TAS	TasNetwoks	Yes
WA	Western Power	Yes
NT	Power and Water Corporation	No
ACT	Evoenergy	No

4.4 Option three: build an enhanced training facility

Option three includes building an enhanced training facility. The key differences between option two and option three include the following:

- additional 3,000m² undercover external training areas to facilitate training in adverse weather conditions
- improved amenities for trainees including additional classrooms, best-practise technology and office fittings, and improved landscaping
- additional site footprint with increased vehicle parking.

Option three also demonstrates a low level of residual risk across all categories. Option three results in an immaterially lower risk rating compared to option two, with the only change being a lower risk of workplace culture and engagement challenges given the industry leading training equipment, space, and trainee amenities.

Given this, the additional benefit associated with option three is not commensurate with the additional cost.

TABLE 9 OPTION THREE: MCA ASSESSMENT

OUTCOME	LIKELIHOOD	CONSEQUENCE	RISK RATING	RISK CATEGORY
Reliability and resilience	1/5	1/5	1/25	**Negligible**
Safety	1/5	1/5	1/25	**Negligible**
Workplace culture and engagement	1/5	1/5	1/25	**Negligible**
Workforce sustainability	1/5	2/5	2/25	**Low**
Labour cost overruns	2/5	1/5	2/25	**Low**
AVERAGE	**1**	**1**	1/25	**Negligible**

5. Recommended option

Option two is the preferred option, balancing risk reduction with project cost. While option three has a lower risk rating, it is negligible and therefore does not justify the additional capital cost.

There has never been a more pertinent time to invest in training infrastructure. We take great pride in our field workers' delivery of our services, and as the largest field worker employer in the state of Victoria and the only insourced labour delivery model, we are best placed to deliver a comprehensive in-house training program.

Our recommended option includes the development of a new purpose-built training facility. The construction is planned for FY27 and FY28, with the facility being ready for use by December 2028.

Market scans for land acquisition are already underway, with a preference for a location in Western Victoria, given this is where a majority of our field workers are based, and due to being one of the fastest growing areas in the country.

The training facility would require setting up industry standard training infrastructure and equipment. This will focus on overhead training yard requirements, underground cable jointing requirements, and other essential equipment and infrastructure. These are further explained in appendix A.

A Training infrastructure and equipment

A.1 Overhead training requirements

The overhead training yard needs to simulate real-world scenarios for both low voltage (LV) and high voltage (HV) training. This will require a variety of pole configurations, systems for fault simulation, and space for specialised training such as live linework. Table 10 provides a summary of the key infrastructure investment we will invest in.

TABLE 10 OVERHEAD TRAINING FACILITY

CATEGORY	SUMMARY
Fault system design	• a system capable of operating at 240/415V with a 10:1 ratio for live LV training • simulation of LV faults from the grid and HV faults affecting LV systems
Overhead linework	• multiple LV termination poles, customer services (single and three-phase), streetlights, and switching points • multiple HV and LV termination, strain, intermediate, and angle poles, including LV open wire and aerial bunded cable lines • several 66kV termination poles, strain, and intermediate poles • single wire earth return (SWER) line with galvanized steel wire
Yard configuration	• a ring main 22kV system with multiple spurs • pole change area for cross-arm and conductor-changing exercises • air brake switches and regulators (pole-mounted) • glove and barrier and live line stick training (66kV & 22kV)

A.2 Underground training yard requirements

The underground training area must replicate real-world streetscapes and provide all necessary infrastructure for hands-on training in underground cabling, connection testing, and fault detection. Table 11 provides a summary of the key infrastructure investment we will invest in.

TABLE 11 UNDERGROUND CABLE JOINTING FACILITY

CATEGORY	SUMMARY
Real world street scapes	• streetscapes with standard public lighting for training on installation and maintenance.
Undercover testing area	• areas for connection testing, including power line and meters
Equipment and infrastructure	• dedicated gator for moving equipment • kiosk substations (including one ring-main unit and one triple-switch type) • double conduit runs for cable-laying units and concrete slabs for A-frames and winch areas • open point pillars for phase-out testing and fault detection • permanent concrete joint bays and faulted cable lengths for direct burial practice • pit-to-pole setup for training on cable installation and maintenance

A.3 Other essential equipment and infrastructure

To ensure the success of this redevelopment, key equipment and infrastructure upgrades are needed. Table 12 provides a summary of the key equipment we will invest in.

TABLE 12 OTHER ESSENTIAL EQUIPMENT

CATEGORY	SUMMARY
Cable jointing stands	• powder-coated cable jointing stands with modifications, clamps, and bolt-on casters
Poles	• 76 poles, including 66kV, 22kV, and 415V poles for termination, angle, and intermediate setups • designated areas for de-energisation, SWER, and open aerial blocks training
Switchgear	• gas switches x 4 • air brake switches x 4 • HV isolators x 4 • Expulsion drop out (EDO) HV fuses x 4 • boric acids HV fuses x 4 • capacitors x 1 • 4 x 315KVA substations for power supply
Yard protection and control systems	• upgrade the existing protection and control system that controls the HV and LV energised network. Any changes to the current system will require settings to be tested and recalibrated.

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