Building Compliance Uplift

CP BUS 8.01 - Building compliance - Jan2020 - Public

Regulatory proposal 2021–2026

CitiPower Powercor

January 2020

Contents

1 Overview

Business	CitiPower and Powercor
Title	Building Compliance Uplift
Project ID	CP BUS 8.02 - Building compliance - Jan2020 - Public
Category	Other non-network capital expenditure
Identified need	The compliance of buildings housing network equipment with the relevant Australian building codes needs to be audited and relevant rectification works undertaken to bring these facilities up to code.
Recommended option	Option 1: undertake audits and rectification works
Proposed start date	2021/22
Proposed commission date	2025/26
Supporting documents	1. CP MOD 8.01 - Other non-network capex - Jan2020 - Public

2 Background

The Building Code of Australia (**BCA**) and the National Construction Code (**NCC**) provide the minimum necessary requirements for safety, health, amenity and sustainability in the design and construction of new buildings and new building work in existing buildings. Buildings are required to be compliant with the prevailing codes at the time of construction and where new works are undertaken on an existing building, there is a requirement to bring the building up to current codes.

Across our network there are approximately 3,000 sites that have buildings which house network assets. These buildings may include indoor substation buildings, control rooms, switch rooms, maintenance sheds, etc. Given that many of these buildings were constructed a number of years ago by the State Electricity Commission of Victoria (**SECV**) or various councils, there is limited information available regarding the compliance of these sites with applicable building codes both at the time of construction and at present.

3 Identified need

A third party building surveyor, Visionstream Australia Pty. Ltd. (**Visionstream**), was engaged in April 2019 to conduct an audit of building compliance on a sample of sites. This audit identified a number of items requiring rectification in order bring the buildings into line with the applicable code. Many of the items identified are considered to be common issues that are likely to be prevalent across a wide range of our network sites. For example, issues relating to the height of balustrades and guard rails, as well as high priority issues, such as those relating to fire safety requirements. The findings from this audit are provided in Appendix A.

In order to address this matter, a full audit of network buildings by qualified building surveyors is required to determine the following:

- the compliance of each site with the applicable building code
- what works are required to bring the building up to code
- what impact any upgrade works on the site would have on the compliance of the building.

Following this review, appropriate rectification works would be scheduled and completed in order to comply with the relevant code and minimise risk to the health and safety of staff attending and working within these sites.

Note that those compliance items that we have already identified are being addressed through existing works not included in this business case.

4 Options analysis

The two options that have been explored are:

- Option 1 - undertake audits and rectification works
- Option 2 - undertake corrective measures as issues arise

Table 1 Cost analysis, $m June 2021

	Option	CitiPower	Powercor
1	Undertake audits and rectification works	6.0	4.5
2	Undertake corrective measures as issues arise[1]	4.3	3.2

Source: CitiPower and Powercor

To determine the required spend levels, the following process was used:

- a third party building surveyor was engaged to undertake building compliance audits on a sample of sites to determine estimated costs required to bring the site up to compliance
- the sample costing information was extrapolated over the total population of sites based on site type, size and location and internal knowledge of the network in order to determine an overall cost profile.

4.1 Option one

Undertake audits to determine the compliance of each site and undertake rectification works as required to bring the sites up to code.

Table 2 Options analysis - audits and rectification works

Advantages	Disadvantages
Mitigate health and safety risks that may be present on site	Higher upfront cost option (when possible fines are not taken into account), although will result in lower costs in the long term
Mitigate exposure to financial penalties that may arise due to non-compliance with codes	
Allows for proactive scheduling and completion of works minimising the need for unplanned outages and to realise cost efficiencies	

Source: CitiPower and Powercor

4.2 Option two

Undertake corrective measures as issues arise.

[1] This is a high level estimate as it is difficult to estimate the volume of issues that will arise in future.

Table 3 Options analysis - Corrective measures as issues arise

Advantages	Disadvantages
Lower cost option upfront	Does not proactively address health and safety issues that may be present
	Does not address potential non-compliances with codes
	Exposes us to potential financial penalties due to failure to comply with the applicable building codes

Source: CitiPower and Powercor

5 Recommendation

It is recommended that option 1, a full audit of network sites to ascertain compliance with building codes and required works to comply with these standards be undertaken.

The alternative of not proactively identifying and undertaking these works and relying on repairing issues as they arise is considered to pose an unacceptable risk to the business from a health and safety perspective, in addition to the potential financial penalties that would apply for non-compliance. This approach will also result in the long term in lower costs to customers through efficiencies realised through a planned program of works, rather than an ad hoc program as in option 2.

Table 4 Recommended option: expenditure profile, $m June 2021

Expenditure forecast	2021/22	2022/23	2023/24	2024/25	2025/26	Total
CitiPower	1.78	1.78	1.18	0.59	0.59	5.9
Powercor	1.35	1.35	0.90	0.45	0.45	4.5
Total	**3.13**	**3.13**	**2.08**	**1.0**	**2.02**	**10.1**

Source: CitiPower and Powercor

A Appendix A: summary of Visionstream site audit

A.1 CitiPower

Notes
1. The sites have been further classifed as being high medium or low based on the type and size of the site
2. The audit site used for deriving the costs is classified as "high" and therefore a discount to the costs have been applied for medium and low sites given there will be less work required at those sites

Costs

	Cost		
High - ZSS	$	217,100.00	Based on the audit site
Medium - ZSS	$	58,052.38	Dervied from audit site with Fire Services requirement removed
Low - ZSS	$	43,539.29	Discounted by 25% from medium site costs due to smaller
Distribution Substation - owned	$	5,000.00	footprint and less facilities assets on site

Projected Spend

	Volume	Spend $2019	
High - ZSS	8	$	1,736,800.00
Medium - ZSS	12	$	696,628.57
Low - ZSS	25	$	1,088,482.14
Distribution Substation - owned	438	$	2,190,000.00
Total		**$**	**5,711,910.71**

Audit Site (Priority 1 Items Only)

Item No.	Building Lev	Location	Description of Item	Recommended Action	Priority Rating	Budget Estimate
1	Throughout	Throughout	It is noted that the building did not contain any fire hydrants throughout the facility.	Install fire hydrant services achieving full coverage in accordance with BCA E1.3 and AS 2419.1:2005 or seek consent from Metropolitan Fire Brigade (MFB). It may be possible that past consent has been granted.	1	$159,047.62
2	Throughout	Throughout	Currently the building is serviced by: - - Deluge sprinkler system; or - Smoke/ thermal detection system. It has been noted that the detection system where provided, is not fully compliant with AS 1670.1 as spacings are in excess of maximum spacing permitted and they do not occur in areas where deluge systems occur. It is possible that dispensations or municipal council/fire brigade requirements may have been issued in the past, although no details in this regard were able to be established.	Undertake an audit of the building history and public records to establish the existence of any requirements in this regard. Maintain any conditions or requirements as management in use obligations for the building.	1	$3,976.19
3	Throughout	Throughout	Building Occupant Warning Speakers did not appear to be adequately provided throughout noting some warning bells located in some locations.	Undertake audit confirming that the bells provided are adequate achieving sound pressure levels of a maximum 105dB(A) and a minimum 85dB(A). If this is not achieved, to provide more Building Occupant Warning Speakers throughout.	1	$5,301.59
4	Basement	Basement Storm water Sump Room	Fire door showing signs of distress/ damage.	Replace damaged fire door.	1	$13,253.97
5	Basement	Fire Isolated Corridor	Noted that Telecommunications Panel located within fire isolated corridor.	Consider relocating telecommunications panel outside of fire isolated corridor.	1	$3,313.49
6	Ground Level	Adjacent Fire Indicator Panel	The portable fire extinguisher is located too close to the Fire Indicator Panel.	Relocate portable fire extinguisher a between 2m and 20m from the Fire Indicator Panel.	1	$662.70
7	Ground Level	Fire Isolated Stairs 5	Materials stored within Fire Isolated Stair 5 were identified.	Clear all storage located within Fire Isolated Stairs.	1	$1,325.40
8	Ground Level	Switchbay 1	Fire shutter/ damper with wedge restricting closure.	Remove wedge.	1	$397.62

9	Ground Level	Switchbay 1 & 2	Door closers to fire doors have been removed.	Reinstate door closers to fire doors.	1	$662.70
10	Ground Level	Fire Equipment Room	It was noted that a Substation Panel was located within the Fire Equipment Room entailing the Fire Pumps.	Obtain clarification if this arrangement is acceptable, via records of past approvals or clarification from MFB. If it is not acceptable to permit Substation Panel within the Pump Room, then seek approval or remove.	1	$10,603.17
11	Ground Level	Switchbay 1 & 2	Penetrations through fire compartments are not sealed	Seal penetrations through fire compartment walls in accordance with products tested in accordance with AS 4072.1 and AS 1530.4 achieving the minimum required FRL or resistance to incipient spread of fire.	1	$5,301.59
12	Ground Level to Level 2	Fire Isolated Stairs 5	All fire stair doors were chocked open at time of visit.	Remove door wedges.	1	$662.70
13	Mezzanine Level	C of M Mess Room	Fire door to C of M Mess Room chocked open.	Remove door wedges.	1	$662.70
14	Mezzanine Level	C of M Control Room	Fire pillows noted outside C of M Control Room and loose fire pillows to floor penetration within C of M Control Room.	Install fire pillows in accordance with manufacturers specifications.	1	$1,988.10
15	Mezzanine Level	Loading Bay	Guard rail to Mezzanine Loading Bay measured approximately 915mm high with no toe board (kick plate)	Noted that guard rail minimum height of 900mm is acceptable under AS 1657 but 1m minimum height is recommended. Toe board a minimum 100mm high shall be installed.	1	$3,313.49
16	Level 2	Fire Isolated Stair 1	The balustrade height at landing on Level 2 is below 1m (measured at 980mm)	Raise the balustrade to a minimum overall height of 1m from Finished Floor Level.	1	$5,301.59
17	Roof Level	Stair 1 & 5 - Fire Isolated Stair	The doors into the fire isolated stairs can be locked restricting access to exits. Due to the nature of the building and the level of security, it is anticipated that the exit doors on Roof Level need to remain locked.	Replace door locks with electric strike locks which unlock the exit doors in General Fire Alarm. Alternatively, seek dispensation subject to further understanding of work safety method statement.	1	$1,325.40
				Total Budget Estimate		**$217,100.00**

Source: Visionstream

A.2 Powercor

Notes
1. The sites have been further classifed as being high medium or low based on the type and size of the site
2. The audit site used for deriving the costs is classified as "high" and therefore a discount to the costs have been applied for medium and low sites given there will be less work required at those sites

Costs

	Costs $2019		
High - ZSS	$	37,383.67	Based on the audit site
Medium - ZSS	$	26,853.06	Derived from audit with stairs and Balustrade costs removed
Low - ZSS	$	20,139.80	Discounted by 25% from medium site costs due to smaller footprint
Distribution Substation - owned	$	5,000.00	and less facilities assets on site

Projected Spend

	Volume	Spend $2019	
High - ZSS	2	$	74,767.35
Medium - ZSS	33	$	886,151.02
Low - ZSS	50	$	1,006,989.80
Distribution Substation - owned	477	$	2,385,000.00
		$	4,352,908.16

Audit Site (All Items)						
Item No	Building Lev	Location	Description of Item	Recommended Action	Priority Ratin	Budget Estimate
1	Throughout	Throughout	No emergency lighting or exit signage provided throughout in accordance with BCA E4.2 and E4.5 and AS 2293.1	Install emergency lighting and exit signage throughout in accordance with BCA E4.2 and E4.5 and AS 2293.	1	$19,744.90
3	Ground Level	Main Entry Via Dodds Street	The main entry door is operated via snib door furniture.	Replace snib handle with a larger snib control or door handle that can be operated using single handed downward action rather than needing to use thumb and forefinger.	1	$5,265.31
4	Ground Level	Toilet	WC door currently swings within 1.2m of toilet pan not hung with lift-off hinges.	Replace door hinges with lift-off hinges and undercut top of door to allow doors to be lifted off hinges.	1	$658.16
7	Ground Level	Rear Store	The rear store door is operated via snib door furniture.	Replace snib handle with a larger snib control or door handle that can be operated using single handed downward action rather than needing to use thumb and forefinger.	1	$526.53
10	Level 1	Internal Stairs	The balustrade height at landing on Level 1 is below 1m (measured at 950mm)	Raise the balustrade to a minimum overall height of 1m from Finished Floor Level.	1	$3,948.98
12	External	Gate Entrance Via Miles and Dodds Street	The gate entries via Miles and Dodds Street operate via snib door furniture.	Replace snib handle with a larger snib control or door handle that can be operated using single handed downward action rather than needing to use thumb and forefinger.	1	$658.16
13	External	External Steel Stair	The external stair guard rail height at landings has been measured more than 900mm but less than 1m (measured approximately 930mm)	Noted that guard rail minimum height of 900mm is acceptable under AS 1657 but 1m minimum height is recommended.	1	$5,265.31
14	External	External Steel Stair	The gap between the balustrade and metal screen on the mid-landing has been measured approximately 190mm.	Extend and turndown the guard rail so that the gap is between 25mm and 50mm in accordance with AS 1657 Figure 6.2	1	$1,316.33
				Total Budget Estimate		**$167,700.00**

Source: Visionstream