

Protocols for Mitigating Cladding Risk Implementation

G.01 – Standard Operating Procedures (SOP)

To adequately lower the risk that combustible external cladding poses to life safety, Cladding Safety Victoria has developed a set of Protocols for Mitigating Cladding Risk.

This document is part of a document set consisting of **20** documents that detail the PMCR. In particular, this document is grouped together with **two** other documents that detail the implementation of the PMCR. The document set includes:

1. G.01 - Implementation Procedures (SOP)
2. G.02 - IF-SCAN Procedure/Method
3. G.03 - Cladding Remediation Standards

This document provides information about the **Implementation Procedures (SOP)**.

It is designed to comprehensively describe the approach taken to pass a building through the cladding remediation process, from the initial marking up of combustible cladding clusters, through to issuing a Remediation Work Proposal to an owners corporation.

Aboriginal acknowledgement

Cladding Safety Victoria respectfully acknowledges the Traditional Owners and custodians of the land and water upon which we rely. We pay our respects to their Elders past, present and emerging. We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life. We embrace the spirit of reconciliation, working towards equality of outcomes and an equal voice.

Application of Minister's Guideline 15

These documents contain information, advice and support issued by CSV pursuant to Minister's Guideline 15 - Remediation Work Proposals for Mitigating Cladding Risk for Buildings Containing Combustible External Cladding. Municipal building surveyors and private building surveyors must have regard to the information, advice and support contained in these documents when fulfilling their functions under the Act and the Regulations in connection with Combustible External Cladding on buildings:

- a) which are classified as Class 2 or Class 3 by the National Construction Code or contain any component which is classified as Class 2 or Class 3;
- b) for which the work for the construction of the building was completed or an occupancy permit or certificate of final inspection was issued before 1 February 2021; and
- c) which have Combustible External Cladding.

For the purposes of MG-15, Combustible External Cladding means:

- a) aluminium composite panels (ACP) with a polymer core which is installed as external cladding, lining or attachments as part of an external wall system; and
- b) expanded polystyrene (EPS) products used in an external insulation and finish (rendered) wall system.

Disclaimer

These documents have been prepared by experts across fire engineering, fire safety, building surveying and architectural fields. These documents demonstrate CSV's methodology for developing Remediation Work Proposals which are intended to address risks associated with Combustible External Cladding on Class 2 and Class 3 buildings in Victoria. These technical documents are complex and should only be applied by persons who understand how the entire series might apply to any particular building. Apartment owners may wish to contact CSV or their Municipal Building Surveyor to discuss how these principles have been or will be applied to their building.

CSV reserves the right to modify the content of these documents as may be reasonably necessary. Please ensure that you are using the most up to date version of these documents.

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1 Introduction

1.1 PMCR context

The use of high-risk combustible cladding on all new Type A and Type B buildings constructed from March 2018 was first restricted by Minister's Guideline 14 and was subsequently prohibited under section 192B(1) of the *Building Act 1993* (the Act), with the prohibition coming into effect on 1 February 2021.

Where the risk posed by the combustible cladding is assessed as 'Elevated', however, lower cost solutions may be implemented that reduce the risk to an acceptable level without the removal and replacement of all combustible cladding.

The Protocols for Mitigating Cladding Risk (PMCR) is a set of guidelines developed by Cladding Safety Victoria (CSV) to establish how the risk posed by combustible cladding can be mitigated without the need for full removal and replacement. A Remediation Work Proposal (RWP) is a document prepared by CSV that uses the PMCR to address the combustible cladding on a building.

1.2 SOP design philosophy

For a building to receive an 'Elevated' cladding risk designation, combustible cladding must provide a pathway for fire spread between two Sole Occupancy Units (SOUs) for a non-sprinklered building, or three SOUs for a sprinklered building. There are two principal pathways (or a combination of both) to reduce the fire spread on building facades to achieve an 'Acceptable Cladding Risk' which are outlined below:

- i. **Targeted removal** of cladding whereby the fire spread pathway between SOUs is no longer present, such that the relevant building achieves a 'Low Cladding Risk' classification, and*/or
- ii. **Application of PMCR interventions** - application of other PMCR interventions (fitment of sprinklers, installation of fire detection and alarm systems, etc.) which, without the removal of the combustible cladding, reduce the overall level of risk to life and safety of the building occupants which is reasonably similar or less than the risk of the same building without combustible cladding

For buildings with an 'Elevated' cladding risk, typically only one pathway should be considered. Additional interventions may however need to be implemented to ensure protection of egress pathways from combustible cladding (*Combinations of (i) & (ii)*), where removal aims to reduce inherent risk, and residual cladding risk is remediated via active/passive fire safety system intervention.

This document prescribes the Standard Operating Procedures (SOP) for the buildings with 'Elevated' cladding risk only, although many of the core principles are also applied to 'Unacceptable' and 'Low' risk buildings.

2 Purpose

This Standard Operating Procedures (SOP) document has been developed to provide a set of step-by-step instructions to assist CSV to carry out a structured and methodological approach for the development of Remediation Work Proposals (RWP) for 'Elevated' cladding risk buildings under the PMCR.

The fourth step in the 10-Step Delivery Process involves the development of an RWP document which is depicted in the Figure 1 below.

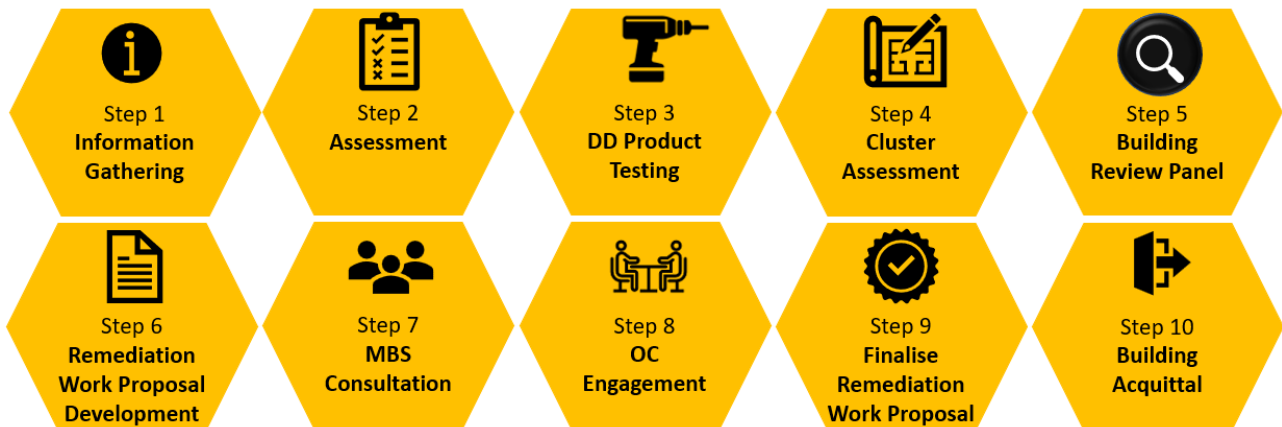


Figure 1: The 10 (ten) step delivery process

- ✓ This document supports the role of Remediation Work Proposals by prescribing Standard Operating Procedures for the development of 'Elevated' risk RWPs with respect to PMCR protocols.

3 Functional roles and responsibilities

Table 1: Functional roles and responsibilities

Role	Responsibilities
Due Diligence Team member	Ensures all documents relating to the building and cladding (facade reports, fire engineering reports, architectural plans, test results, inspection pictures) are available.
Due Diligence Facade Officer	Ensures that building cladding materials have been correctly identified, taking samples where necessary, detailed photographs of combustible cladding materials and specific locations, photographic evidence of active systems in common areas and SOUs ¹ (e.g., smoke alarms, sprinkler systems, thermal detection, FDCIEs) ² , identification of exit routes and any significant issues with essential safety measures.
Project Delivery Team member	Applies the SOP to produce timely and accurate Cluster Assessment and RWP documentation, ensuring all available information has been considered and the interventions proposed are in accordance with the CSV Standard Typology solutions.
Building Review Panel (BRP)	Serves as the governing body which <ul style="list-style-type: none"> <li data-bbox="683 958 1423 1025">i. Endorses the Cluster Assessment for the building, prior to the drafting of the RWP and reviews, and <li data-bbox="683 1025 1423 1144">ii. Ensures the RWP has the correct information/has applied the correct standards correctly prior to release

¹ SOUs – ‘Sole-Occupancy Units’

² FDCIE - ‘Fire Detection Control and Indicating Equipment’

4 Methodology

4.1 Preparatory

Purpose: To ensure the author of the RWP gains a comprehensive understanding of the building and its context, and to verify the accuracy of existing information before initiating the development of intervention strategies as part of the RWP document.



Context
of the
building

Step 1. Discuss context of the building with the relevant Program Delivery Team member. Some things to note:

- ✓ The history of the building;
- ✓ Key information on the building;
- ✓ Any relevant information from the owners; and
- ✓ Building view in digital mapping and navigation services such as:
 - A) Google Maps,
 - B) Google Earth,
 - C) Google Streetview and
 - D) Near maps



Accuracy
Assessment

Step 2. Confirm the accuracy of the architectural drawings, such as:

- ✓ Floor plans; and
- ✓ Elevations drawings for each each side/elevation of the building.

Note: If the information provided is incomplete, request additional details from the due diligence team.



Review
Documents

Step 3. Complete review of reports such as:

- ✓ Due Diligence reports;
- ✓ iAuditor reports;
- ✓ Material test analysis reports (if such is not available, sampling and testing must be conducted) – more information below; and
- ✓ Fire engineering reports and associated building performance solutions.



Review
ESM

Step 4. Review existing Essential Safety Measures such as:

- ✓ Exit routes;
- ✓ Active and Passive Fire Protective Measures; and
- ✓ Location and status of: Smoke Alarms, Sounders, Fire Detection Control and Indicating Equipment, Thermal Detection systems and smoke seals to SOU doors.

4.2 Building information

The instructions below relate to Section 3 of "Remediation Works Proposal Template – Elevated Risk".

Using the information gathered from **Section 4.1**, complete the following tasks:

Step 1



Building details

1. Complete the "Building Information Section" with the necessary details.

3 Building Information

Item of information	Building details
CSV ID	
Address	
Address (also known as)	
Building Name	
Rise in Storeys	

Figure 2: RWP Section 3 excerpt

Step 2



Aerial view

2. Obtain an aerial view of the building and its surrounding area, clearly delineating the building's boundaries and label adjacent streets and roads (See Figure 3).

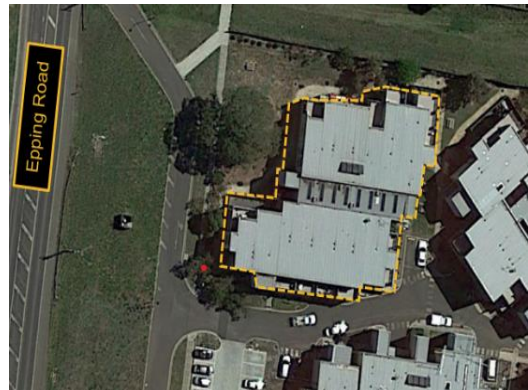


Figure 3: Example of an aerial view

Step 3



Elevation view

3. Obtain images of the building from each compass direction (North, South, East, West), and internal elevations where required³.



Figure 4: Example of an elevation view

³ Photographs should be as recent as possible, to ensure the images used depict the current status of the building, surrounding properties or street features

4.3 Cladding risk identification



1. Cluster identification on elevation for each cardinal direction.

For step-by-step instructions on how to mark and name the clusters refer to: "G.02 IF-SCAN Procedure/Method".

A. "Cluster Type": Ensure to mark the position of the cluster on each elevation view of the building and include both architectural drawings and street views. Clearly indicate the ID of the cluster, for example, 'N1-4S', as shown in Figure 5.

B. "Cluster Location": For each floor, mark every cluster on the plan view, noting its cluster ID (Figure 5).

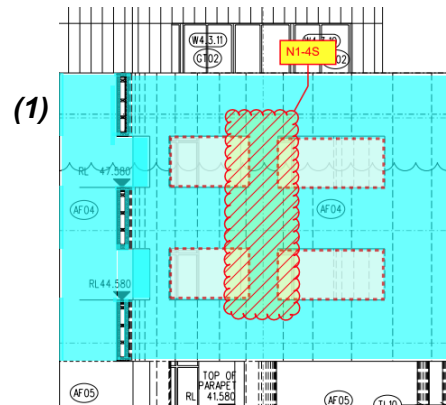


Figure 5: Elevation (1) Cluster mark-up, and (2) photo images above

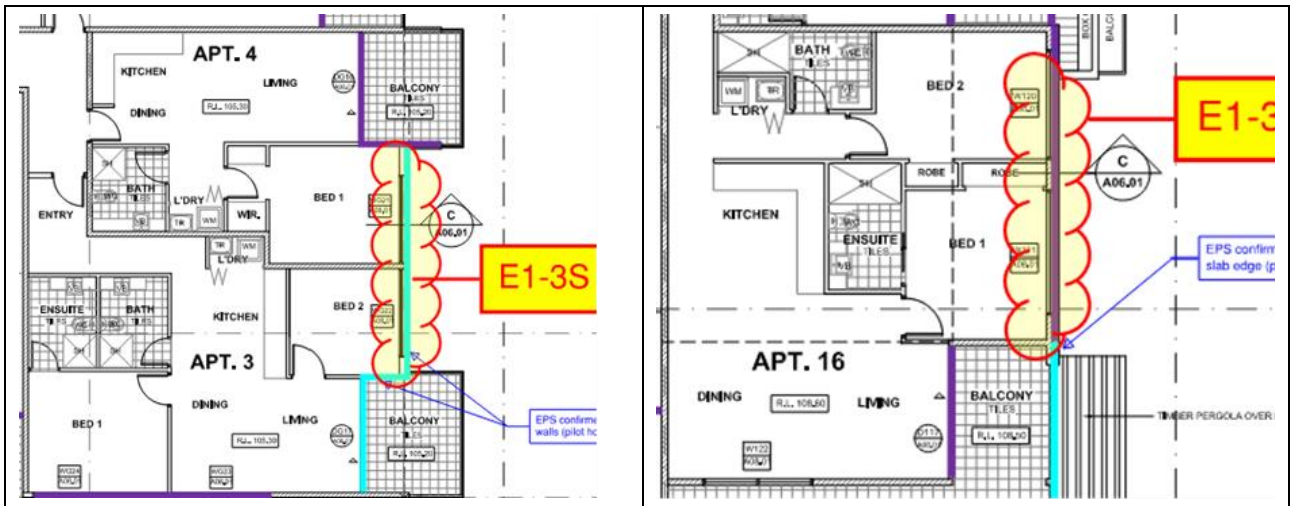


Figure 6: Cluster marking examples: **Left** lower part of the E1-3S cluster (horizontal connection) and **Right** - highlighted and cluster marking example 2 – upper part of the E1-3S cluster (left)

Step 2



Ignition
Plausibility

2. Identify the fire source hazard.

Fire source hazards are identified based on the prescriptive approach of the PMCR, for example:

- A balcony;
- A building opening;
- Ground level/basement car park;
- Laneways and street-side traffic; or
- Adjacent buildings.

Step 3



Cluster
Grouping

3. Grouping clusters based on the Cluster Fire Spread Risk (CFSR) number and determine the Design Philosophy for RWP.

The purpose is to enable a holistic design philosophy and scalability to similar clusters within the same building when feasible. However, it is essential that the chosen design philosophy, at the very least, offers a risk reduction equivalent to, or less than, what the respective typology solution would have provided.

Step 4



Cluster
Information

4. For each elevation, list clusters in the provided table with relevant information (Cluster type, Impacted SOUs, Impacted rooms, Hazards, Cluster location) as per example below (Figure 7):

Note: "Interventions/Comments" will be considered in the following section – "Solution Development Process"

Cluster	Cluster location
E1-2H	Level 1
Typology type: F	
Impacted SOUs- U14 & U15	
Impacted rooms: 2A Living area	
Hazards: Balcony	

Figure 7: Cluster type Hazards and Clusters Locations

4.4 Solution development process

When initiating the solution development phase, it is essential to consider the following key aspects:

Step 1



Apply
Standards

1. Primary and Secondary Standards:

- ✓ Primary Standards are based on scientific research and provide fundamental design guidelines.
- ✓ Secondary Standards get applied after the Primary Standards and address building-specific variations and exceptions, such as:
 - Large volumes of cladding
 - Where cladding is located at height
 - Non-cluster SOU openings located beneath vertical (V) or special (S) type clusters requiring thermal detection and BOWS activation

When developing the solution, BRP members and RWP authors should have regard to any unique aspects of a building before applying the standards.

Step 2



Risk
Type

2. Risk Type Assessment:

- ✓ Determine if the risk is a cluster risk⁴, building risk⁵ (e.g. egress route, exit, common areas, ground level), or a combination (alcoves and internal light - courts),
- ✓ Focus on cluster risk, as it poses a significant threat due to fire spread potential on cladding facades near SOUs.
- ✓ Begin remediation planning by evaluating each cladding cluster. Use the Cluster Fire Spread Risk (CFSR) metric for this assessment.
- ✓ Based on CFSR results, select appropriate response Types.

⁴ Cluster Risk is the most accurate representation of the inherent risk posed from fire spreading on cladding facades that adjoin SOUs.

⁵ Building Risk refers to the risk incurred via elements of cladding that affect the greater building, rather than any individual SOUs.

Step 3



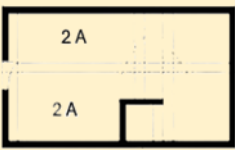
Apply
Intervention

3. Apply risk-based and hierarchical interventions

(See Section 2.3.1 and 2.3.2, G.03 - Cladding Remediation Standards):

- ✓ Design interventions to achieve LOW cladding risk, maximising benefits such as cost and time effectiveness with minimum disruptions for the occupants.
- ✓ Balance primary intervention solutions with cost, time, and disruption considerations
- ✓ **Cladding removal is always an intervention option if deemed necessary and /or cost effective.**

Step 4



SOU
codification

4. SOU areas codification:

FDAS (Fire Detection and Alarm System) interventions depend on relative proximity of SOU areas to combustible cladding, codify the floor plan as per the table below.

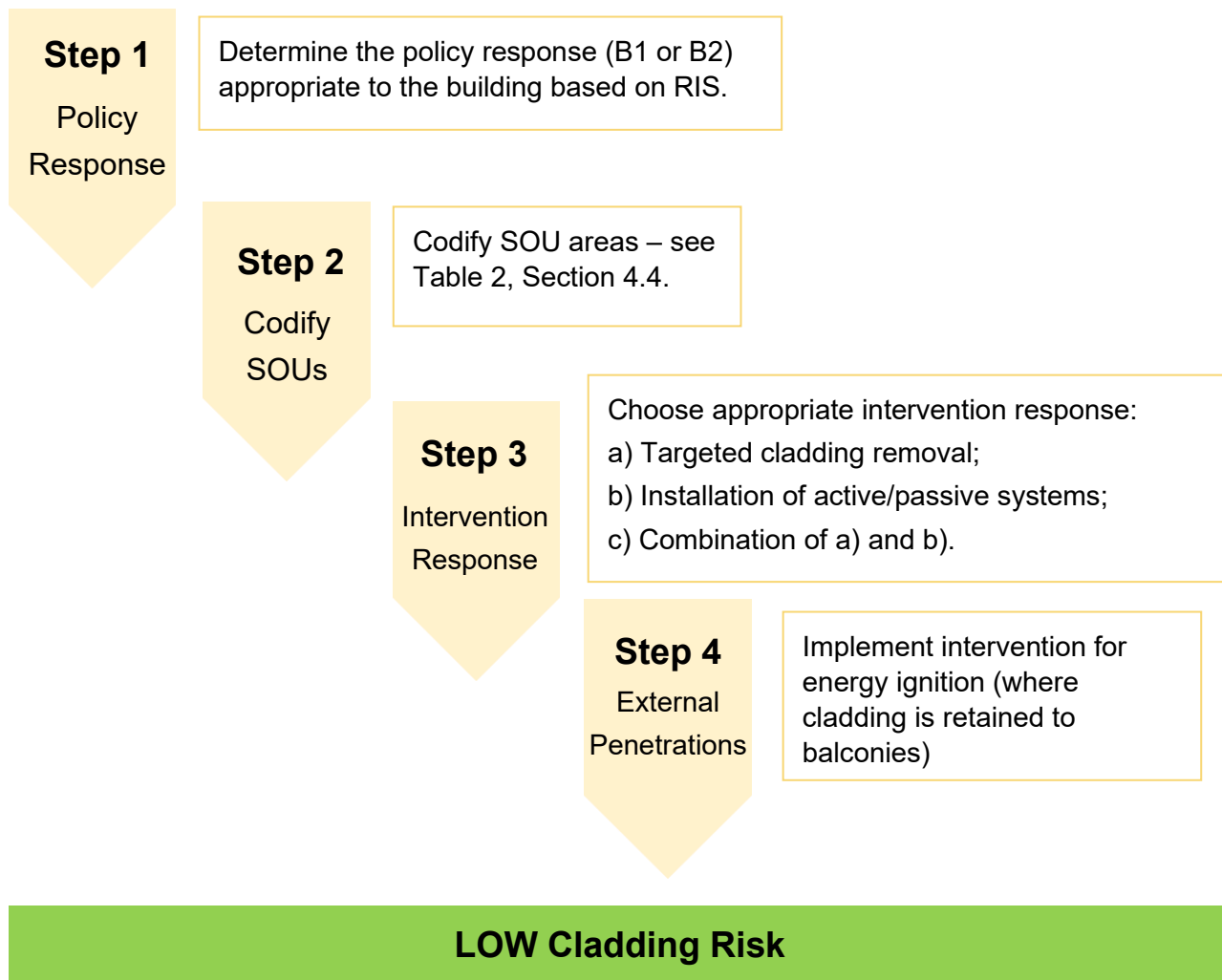
Table 2: SOU codification system

SOU area:	1 - Bedroom	2 - Non-sleeping areas (except bathroom, laundry, toilet)	3 - Bathroom, laundry, toilet
Classification	A: Combustible cladding exists around the external wall opening of the room AND is also a part of a cluster.		
	B: The room does not have openings within the cluster; however, it is in an SOU that contains the cluster.		
	C: The SOU area is not a part of a cladding cluster; however, it is within 1 floor from the top of the cluster in a position likely to see it impacted by smoke in the event of fire.		

For illustrations of floor markings, see "Appendix B: SOU Codification" found in document G.03, titled "Cladding Remediation Standards."

4.4.1 Sprinklered buildings – Primary Standards

Policy Response Type	Cluster Fire Spread Risk (CFSR)	RIS	Cladding Type	Sprinkler Installation		Detection & Alerting		Penetrations
				in SOUs	on balconies	Smoke Detection (bedrooms)	Smoke & heat detection	Remediation of lights, walls, and cladding
B1	3	Up to 4	Both	Existing		✓	✓	✓
B2	3	5+	Both	Existing	✓	✓	✓	



“Type B” Sprinkler extensions to balconies:

In accordance with *F.01 – Interventions to Suppress Fires*, sprinklers will only need to be extended to the balconies of SOUs within a cluster which reaches a rise in storeys (RIS) at or above the 5th storey (see cluster area B2 in Figure 8).

The rationale behind this aligns with the critical concept of the "golden window" which refers to the time within which fire-fighting activity is expected to be delivered, to increase the probability that a fire will be suppressed and building occupants safely evacuated.

At higher elevations, such as the 5th storey or above (*Response Type B2*), the complexity of firefighting increases significantly. Extending sprinklers to all levels within the RIS 5 cluster ensures early fire suppression, effectively utilising the “golden window” to control the fire before it escalates and becomes more challenging for firefighters to manage.

In contrast, it is not necessary to prescribe sprinkler extensions to any balconies (*Response Type B1*) to SOUs which are part of a cluster below the 5th storey (see cluster area B1 in the Figure 8).



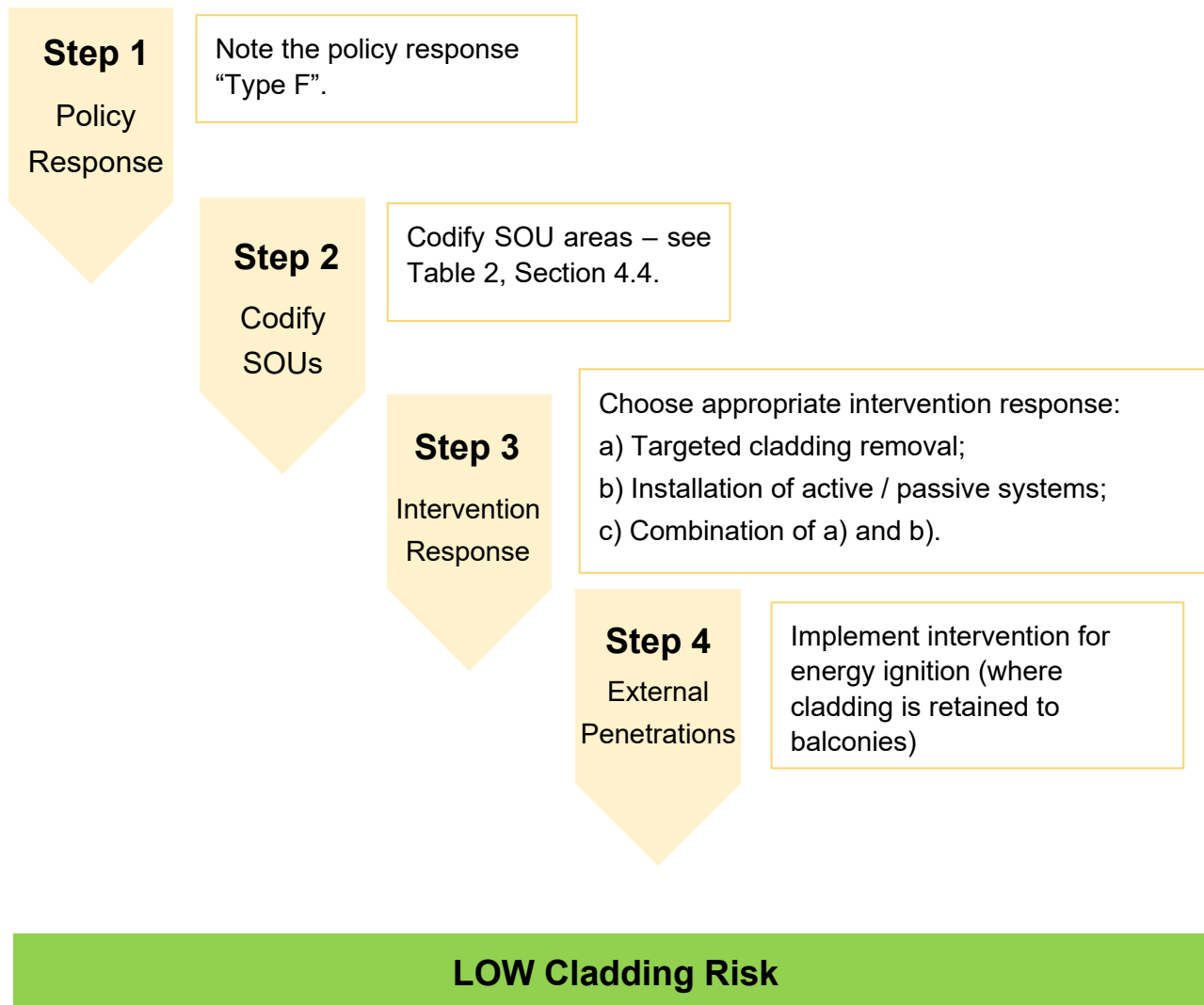
Figure 8: An illustration of the “RIS 5” Balcony Sprinkler Rule

4.4.2 Non-sprinklered buildings

Policy Response Type	Cluster Fire Spread Risk (CFSR)	RIS	Cladding Type	Sprinkler Installation		Detection & Alerting		Penetrations
				in SOUs	on balconies	Smoke Detection (bedrooms)	Smoke & heat detection (living areas)	Remediation of lights, walls, and cladding
F	2	ALL	Both			✓	✓*	✓

* For **Type F** clusters configured vertically:

- i. Thermal detection is required in the SOU on the lower level of the cluster, and
- ii. In instances where there is a non-cluster SOU located directly below the cluster, it is recommended that this non-cluster SOU also receive thermal detection and BOWS connectivity.
 - a. It is considered that this non-cluster SOU would be a significant fire source hazard were a flash over fire to breach the openings and impinge directly upon the combustible cladding installed to the cluster above (considered an exception and requiring secondary standard application).



4.4.3 Performance solutions and CSV interventions

Once interventions have been allocated for each cluster and the proposed holistic building remediation philosophy has been established, the author of the RWP shall focus on the existing performance solutions which have been identified during analysis of the Occupancy Permit, Building Inspection Data and Fire Engineering Reports.

The impact of any specific intervention(s) on the existing performance solutions should be considered in the overall remediation strategy to ensure there is no detriment caused to the systems in-situ. It is noted however that in some instances, key building documentation and information may not be available. In such instances, professional discretion is required, and expert opinion (by building surveyors, and fire safety engineers) should be sought to consider that the potential impact of intervention(s) upon the buildings fire safety strategy. This will need to be checked/verified by a registered fire safety engineer.

Some examples of items to consider are provided below:

- **False alarms:** Additional smoke alarms may be prone to false alarms triggered by cooking smoke or steam, leading to unnecessary building evacuations and disruption. This can erode confidence in the fire alarm system and increase response fatigue. The RWP should consider the location of additional smoke alarms and how these may impact on any existing system or bespoke solutions.
- **Detection System compatibility:** New smoke or thermal detection should be compatible with the existing fire system's communication protocols, FDCIE and power supply. Incompatible systems can lead to communication failures and may hinder early fire detection. Any impact on existing systems or performance solutions should therefore be considered.
- **Sprinkler System compatibility:** Any new sprinkler addition must be compatible with the existing sprinkler system's pressure, flow rate, and pipe diameter. Incompatible components can lead to malfunctions which may hinder effective fire suppression. If the system was installed as part of an existing performance solution, then the intention of the solution shall not be hindered by the additional sprinkler capacity.

Consideration of the existing systems is not limited to the provided examples above, and in some instances certain elements cannot be established until a detailed scope of works has been created following further physical investigation.

4.4.4 Risk Coefficient Model

The establishment of the Risk Coefficient Model provides a comparison between the following:

- (a) Risk Premium (*building status prior to intervention*); and
- (b) Risk Reducing Benefit (*building status following intervention*).

The Risk Coefficient Model is a computational method which estimates building baseline fire risk and the risk benefits as a result of various intervention scenarios. The model will be used to provide CSV and external stakeholders surety that the combustible cladding Risk Premium has been sufficiently managed by introducing a Risk Reducing Benefit (interventions) which results in a building risk which is less than or equal to the same building with no combustible cladding present.

In practice, CSV team members will use the Risk Coefficient Model through an integrated interface to select the presence of existing essential safety and building features (e.g. Smoke Alarms, Thermal Detection, BOWS etc.) and, if required, also select the relevant Cluster Typologies configurations (e.g. fire spread via 2 SOUs vertically, with or without balconies) to calculate the Risk Premium. Interventions will then be applied to each cluster typology to calculate the Risk Reducing Benefit.

4.4.5 Exit and egress

To ensure safe building exit during a fire, refer to *F.05 – Interventions to assist egress*, which details multiple available interventions. To select the most appropriate interventions, use the logic flow chart found below (Figure 9 and Figure 10).

In case of any uncertainty, the various exit and egress scenarios, along with their corresponding interventions, are extensively exemplified in Appendix C of document *F.05 – Interventions to assist egress*.

Critical Considerations for Choosing the Right Intervention for a Designated Exit

- ✓ Assess the number of available exits.
- ✓ Identify if combustible cladding is present around the exit.
- ✓ Consider whether the amount of combustible cladding near the exit is trivial⁶.
- ✓ Identify any combustible material fire spread pathways between the exit and SOUs.
- ✓ Check for any overhanging canopy above the exit.
- ✓ Evaluate the exit's geometry to ensure it provides a safe path for occupants.
- ✓ Determine if the exit is protected by a sprinkler system.

⁶ To determine what constitutes a trivial amount of cladding, the individual assessing the exit or the author of the RWP should thoroughly review all the assessed exit examples in Appendix C of F.05. Special attention should be paid to the rationale behind categorising certain amounts of cladding as trivial.

4.5 RWP endorsement and approval

Step 1

- a) Before the RWP is developed, the cluster assessment is submitted to CSV's internal Building Review Panel (BRP). If approved, the building proceeds to RWP development and application of the PMCR, as outlined above. If the BRP require further changes or investigation, the assessment is reviewed further by internal Subject Matter Experts (SMEs) and the Program Delivery (PD) team, then resubmitted at the next available BRP meeting.
- b) Once the RWP has been drafted, the document is submitted for review and Quality Assurance check. The document is reviewed by internal SME, including a building surveyor, and PD team manager, to ensure high quality and accuracy, before being distributed to the Council Municipal Building Surveyor for their review.

Step 2

Following BRP endorsement and QA steps, the RWP is distributed to the MBS for the relevant Council. The RWP and any relevant supporting information is sent to the MBS via email by the relevant Stakeholder Engagement lead, with the offer of a discussion if the MBS has any questions or clarifications in relation to the RWP. The MBS is given the opportunity to provide any feedback on the RWP and is also requested to provide formal response, and ideally endorsement, to the RWP in writing following their review. MBS feedback is collated and included within the consultation section of the RWP prior to proceeding to the next step.

Step 3

After consultation and endorsement by the MBS, a meeting is convened with the owners/owners corporation management (OC/OCM). During the meeting, the RWP is presented and explained as an option which the owners can adopt to reduce the cladding risk to an Acceptable level. It is explained that if the owners are to implement the scope outlined in the RWP, the MBS would withdraw, or refrain from issuing, any enforcement action in relation to combustible cladding. The consultation and any history with the MBS is also explained. A record is made of the meeting with the owners, and their initial response to the RWP.

Step 4

Once the meeting with the OC has occurred, the RWP is sent to the CSV CEO for final approval and acquittal. A RWP approval and building acquittal brief is prepared, along with RWP cover letter for the OC, finalised RWP and any other supporting documentation and appendices. Upon signature and approval of the brief, letter and RWP, the final version of the document is sent to the MBS by the Stakeholder Engagement lead, and to the OC by the Customer Liaison Officer (CLO). This process ensures that all parties are informed and the required actions to mitigate risk are clearly understood.

It is then the responsibility of the OC to implement the risk-based solution and liaise with the MBS to ensure cancellation of all cladding-related enforcement action, where appropriate.

Actions to mitigate cladding risk are understood and implemented.

5 Appendices

Appendix A – Cladding Risk Mitigation Pathways

