IPART Independent Pricing and Regulatory Tribunal | NSW

Recommended charges for Fire and Rescue NSW attendance at false fire alarms

Information Paper

March 2022

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The Independent Pricing and Regulatory Tribunal (IPART) has reviewed Fire and Rescue NSW (FRNSW)'s fees and charges. We have made recommendations on which of FRNSW's services should have user charges; and how FRNSW should recover the costs of providing those services. Our recommendations will inform a review of the *Fire Brigades Regulation 2014* (FB Regulation), and any new charges should apply from 1 September 2022.

In December 2021, we released a Draft Report and associated information papers, including an information paper with our draft recommendations on charges for attending false alarms. We received written submissions on the Draft Report and held a public hearing. We considered all the views expressed in submissions and at the public hearing. We also updated some cost inputs based on consultation and further analysis by our cost consultant.

This Information Paper sets out our final recommendations on charges for attendance at fire alarms that turn out to be false alarms. It is structured as follows:

- Section 1 summarises our final recommendations on FRNSW's false alarm charges
- Section 2 provides an overview of FRNSW's response to false alarms and current charges
- Section 3 explains our approach in making our final recommendations
- Sections 4 to 7 provide our assessment of the basis for charges for false alarm attendance, analysis of the efficient costs of responding to false alarms, assessment of various charging options we considered, and how we considered feedback from stakeholders on our Draft Report.
- Section 8 discusses the impact of our final recommendations.

This Information Paper supports our Final Report. Separate Information Papers contain our analysis and recommendations on charging for automatic fire alarm management, attendance at hazardous material incidents, fire safety activities in the built environment and FRNSW's other services.

Timeline for this review

1 Summary of our recommendations

We recommend that FRNSW continue its current practice of levying a charge for some false alarms arising from automatic fire alarms systems (AFAs), but not for those raised through 'triple zero' calls.

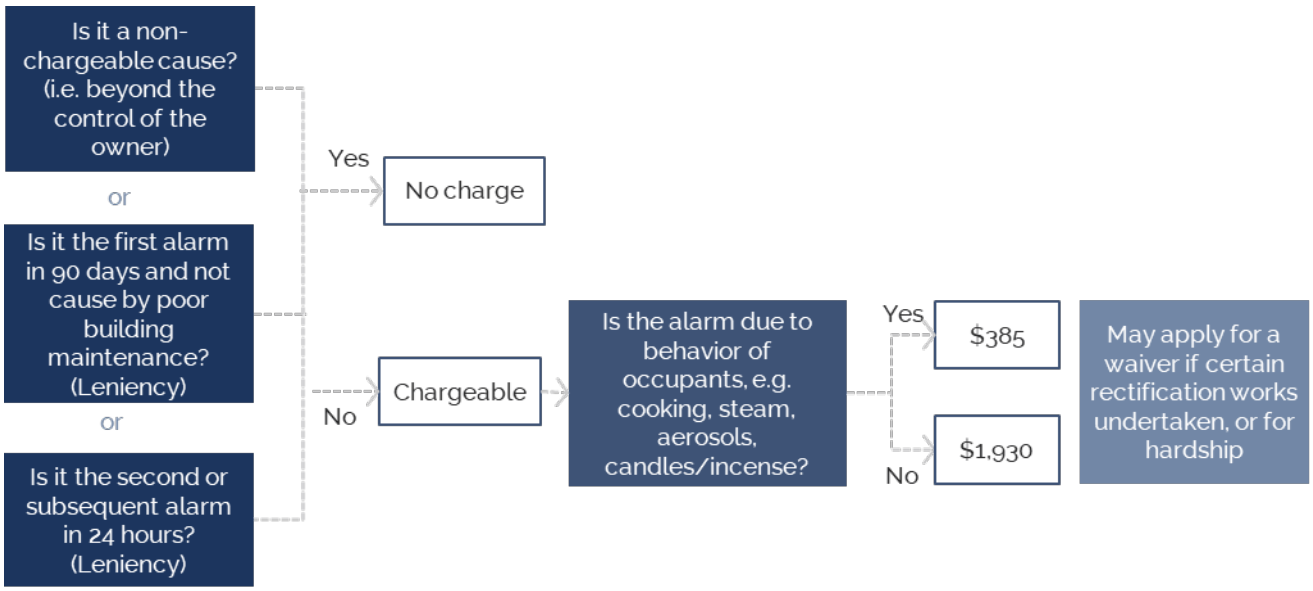
We recommend an increase to the false alarm charge to $1,930 (in $2022-23) and a discounted rate of $385 for some false alarms depending on the cause.

We also recommend changes to the way FRNSW applies leniencies for AFA false alarms, including that FRNSW:

- not charge the first false alarm in 90 days (existing policy is first false alarm in 60 days is not charged)
- exclude 'non-chargeable' alarm types from triggering leniencies, meaning more false alarms will be uncharged
- exclude alarms caused by poor building maintenance from the 90-day leniency.

We recommend FRNSW continue to apply its '24-hour' leniency (with the changes regarding non-chargeable alarms). We also recommend it continue its waiver policy but extend waivers to be more easily accessible to occupants in certain circumstances.

Figure 1.1 Summary of recommended pricing structure and prices ($2022-23)



Further, we encourage FRNSW to continue to:

- undertake compliance activities to reduce safety implications from alarm owners tampering with alarms
- proactively engage with building owners to help reduce false alarms and expand this to assist occupants if requested.

FRNSW should also work with NSW Fair Trading to develop a fact sheet for occupants and building owners to clarify responsibilities, rights and options for appeal when building owners pass charges on to occupants.

Our final recommendations on false alarm charges are broadly similar to our draft recommendations. We made the following changes between the Draft and Final Reports:

- reduced the level of the recommended charges to reflect our finalised cost analysis
- expanded and added recommendations that FRNSW take steps to reduce the incidence of false alarms, in particular by further assisting building owners to reduce false alarms and by seeking changes to improve new alarm systems.

2 FRNSW's response to false alarms and current charges

FRNSW must attend an alarm of fire[1] and it may recover charges specified in the FB Regulation if it is afterwards discovered that the alarm was false.[2]

While it may charge for all false alarms it attends, FRNSW only charges for false alarms that are generated by an automatic fire alarm system (AFA).

FRNSW also has a standard AFA system agreement with 3 automatic fire alarm service providers (AFASPs). The *Fire and Rescue NSW Act 1989* (the Act) provides for FRNSW to set charges in this agreement for attendance at false alarms generated by AFAs.[3] Charges for attendance at AFA false alarms are imposed under those AFA system agreements, rather than under the FB Regulation.

2.1 FRNSW's response to alarms generated by AFAs

AFA systems, sometimes known as 'back-to-base' systems, are fire detection and communications systems designed to alert occupants and initiate quick responses by FRNSW in the case of fires.

They are a crucial component in fire detection for buildings. They are required in certain types of buildings, as prescribed by the National Construction Code, and are administered by councils.[4]

FRNSW must attend an alarm of fire, at speed. The response mostly involves 2 trucks and 8 fire-fighters.

Around 97% of all alarms generated by AFAs are unwanted alarms (around 48,000 a year).

2.2 Current false alarm charges

Charges for attendance at false alarms are intended to be an incentive for building owners to reduce the likelihood of false alarm occurrence.[5]

Currently, FRNSW only charges for false alarms generated by AFAs. This charge is currently set at $1,600 and is levied under the AFA system agreement with automatic fire alarm service providers, subject to FRNSW's *Guideline No. 4: Application to Waive AFA False Alarm Charges*. Those Guidelines set out two 'leniencies':

- not charging for the first alarm during any period of 60 days
- not charging for subsequent alarms within a 24-hour period once one alarm has been charged.[6]

The Guidelines also set out further categories where charges may be waived, for example, a false alarm considered to have been beyond the building owner's control (e.g. due to environmental conditions like bushfire smoke). In practice, FRNSW charges for about 46% of automatic false alarms after applying leniencies. Around 2% of the charges levied are waived after the charge has been issued, usually resulting in a 75% refund.

These charges have generated around $36.8 million a year ($2020-21, 5-year average), providing about 69% of the FRNSW's self-generated revenue, or 4.6% of total revenue.

Separately, the FB Regulation sets a charge for attending false alarms other than those generated by automatic fire alarm systems. This charge is also currently set at $1,600, and it may be levied unless:

- the false alarm was generated in the course of a test of which prior notice was given to a fire brigade officer and that test was properly carried out, or
- it is the first alarm during any period of 60 days (with second and subsequent alarms to be charged).[7]

However, FRNSW does not currently charge for false alarms that are not generated by an AFA.

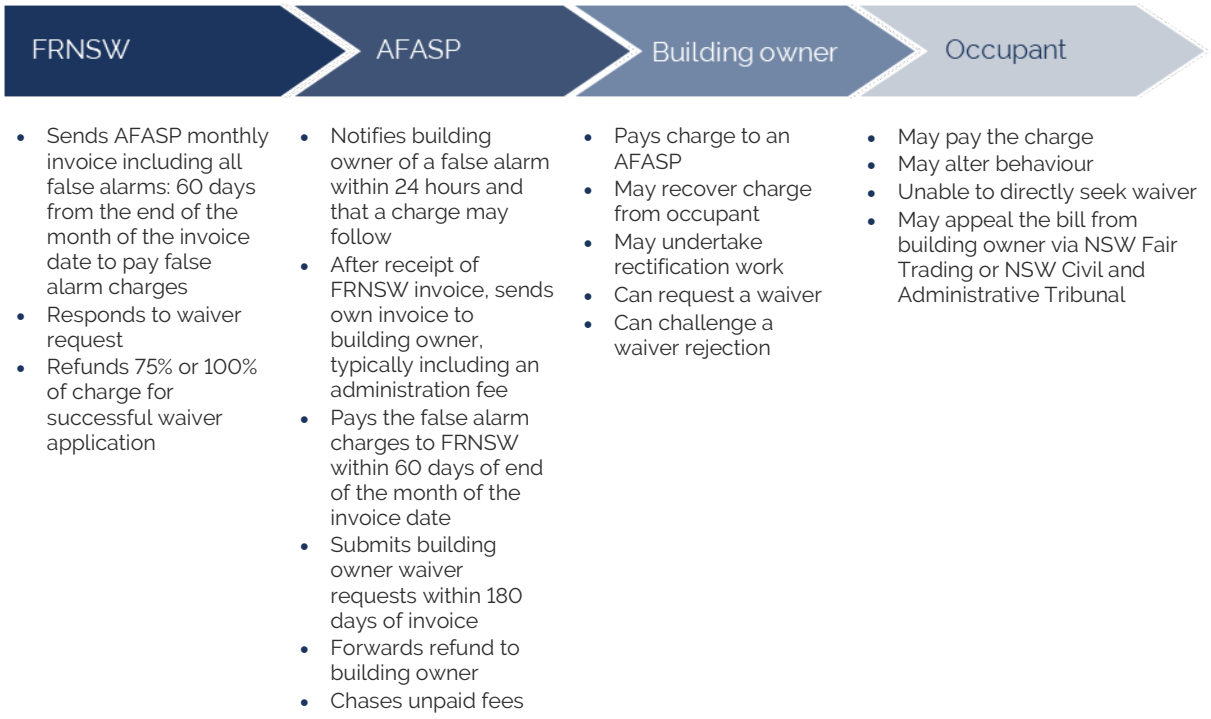
2.3 How the charges for AFA false alarms are levied

In the first instance, the charges are levied on the 3 AFASPs. FRNSW has a standard AFA system agreement with each of them, and AFASPs have individual contracts with building owners or managers.[8]

FRNSW bills an AFASP for false alarm charges and the AFASP passes the charges on to building owners. Building owners/managers may then pass the charges on to occupiers (such as hotel guests, aged care residents, tenants or students in student accommodation). FRNSW "does not support charges being passed on to individual occupants" noting that exceptions may apply,[9] but it cannot prevent this on-charging.[10]

Figure 2.1 sets out the roles and responsibilities of the various direct stakeholders.

Figure 2.1 Summary of false alarm charging roles and responsibilities



Source: FRNSW, Automatic Fire Alarm System Agreement, *Attachment B Schedule of AFASP Fees and Charges*, p 2 Guideline No. 4 - Application to Waive AFA False Alarm Charges, pp 2,4,8, 9; Information from FRNSW, September 2021.

2.4 Charging approaches in other jurisdictions

To inform our assessment, we also looked at charging approaches in other jurisdictions. We note that:

- Victoria has a variable charge which typically results in charges significantly higher than the current NSW charge
- Other states and territories have one or more set fees ranging from $285 to $1,374.

All states include some leniencies and waivers so not all alarms are charged for. Table 2.1 summarises the charges in other states and territories.

Table 2.1 Summary of false alarm charges in other jurisdictions

Jurisdiction	Approach
Victoria	**Variable charge**: $587 per 15 minutes (or part thereof) that a fire fighting response vehicle is absent from its station. Reflects about 23% of the full cost per appliance.
Queensland	**Set fee** of $1,373.95 in 2021-22. Recovers "less than 25%" of the cost of attending.
South Australia	**3 set fees.** Set for 3 classes of premises based on risk. • A - $886 • B - $633 • C - $452
Western Australia	**Set fee** of $1,337 in 2021-22.
ACT	**2 fees:** • Commercial/Other non-residential building: $1,421 • Residential: $285
Tasmania	**Set fee** of $368
Northern Territory	**Set fee** of $1,145

Sources: Fire and Rescue Victoria 'False Alarm Charges'; River Economic Consulting *Regulatory Impact Statement Proposed Fire Rescue Victoria (General) Regulations 2020; Fire Rescue Victoria (General) Regulations 2020 (Vic)*, Schedule 2; *Fire and Emergency Services Act 1990 (Qld)*, Part 11, Queensland Fire and Emergency Services, 'Unwanted Alarm Activation' accessed 17 December 2021; South Australian Government *Fire and Emergency Services (Fees) Notice 2020 (SA),* Schedule 1, cl 2, *4 June 2020,* p 3,154; Western Australia, *Fire and Emergency Services Regulations 1998 (WA)*, cl 12A; ACT Government, *Emergencies (Fees) Determination 2021 (ACT)*, Schedule 1, Items 289 and 291; Tasmania Fire Service, *Tasmania Fire Service Fees and Charges 2021/22,* p 1; Northern Territory: *Fire and Emergency Regulations 1996 (NT)*, Schedule 4, cl 3 and fee units are based on *Revenue Units Act 2009 (NT)*, Territory Revenue Office Revenue units.

3 How we made our recommendations

In conducting this review, we have undertaken detailed analysis and public consultation:

- In June 2021 we consulted on draft Terms of Reference for the review and received 2 submissions before finalising the Terms of Reference in July 2021. A copy of the full final Terms of Reference is in our Final Report.
- We held numerous stakeholder meetings, including meeting with FRNSW, fire and rescue organisations in other jurisdictions, councils, automatic fire alarm service providers, customers that have automatic fire alarms, relevant industry associations and building industry representatives. Details of our stakeholder engagement are provided in our Final Report.
- In August 2021 we released an Issues Paper which explained the terms of reference, outlined our proposed approach for the review and invited comments on key issues including our proposed approach. We received 8 submissions. A list of all submissions received is in our Final Report and submissions have been published on our website.
- We invited FRNSW to provide information for the review, including details of its costs and activities.
- We engaged consultants, the Centre for International Economics (the CIE) to review information provided by FRNSW and provide expert advice on efficient operating costs of those of FRNSW's services that we identified should have user charges. The CIE's draft and final reports have been published on our website.
- We released a Draft Report which set out our draft findings and recommendations. We received 6 submissions. A list of all submissions received is in our Final Report and submissions have been published on our website.
- In January 2022 we held a public hearing where stakeholders provided feedback on our draft findings and recommendations. The transcript of the public hearing is published on our website.

In making our final recommendations on false alarm charges, we took the following steps:

1. Assess whether FRNSW attendance at false alarms should be charged and have charges set out in the FB Regulation based on the principles outlined in Box 3.1.
2. Determine the most appropriate charging structure for FRNSW based on 7 pricing principles outlined in Box 3.2.
3. Estimate the efficient cost to FRNSW of attending false alarms using a cost build-up approach using the approach set out in Box 3.3.
4. Determine the most appropriate level of the charges.
5. Consider the impact of our recommendations on FRNSW and its stakeholders.

This approach is broadly in line with our overall approach for the review that ensures we take account of all matters required by our Terms of Reference. In Sections 4 to 8, we describe how we have implemented these steps and how we considered all the views expressed in submissions and at the public hearing to reach our final finding recommendations and findings.

Box 3.1 Principles for assessing user charges and having charges set out in regulation

Principles for assessing which of FRNSW's services should have user charges

We identified whether false alarm attendance should be subject to charges based on the following principles:

- Equity – Where identifiable individuals create specific demand for FRNSW's services, they should pay for them. This includes FRNSW's regulatory activities.
- Efficiency – Where charging for a service ensures scarce resources are better allocated, FRNSW should charge for it.
- Risk mitigation – Where charging for a service provides an incentive for individuals to mitigate risk, FRNSW should charge for it; and where FRNSW undertakes activities that better mitigate risk, FRNSW should charge for them.

Principle for assessing if those charges should be set out in regulation

Once we determined attending false alarms should have user charges, then we decided whether its charges should be set out in regulation based on whether it is a monopoly service.

Box 3.2 Principles for recommending charges

In recommending charges for attending false alarms, we assessed various options against the following pricing principles:

- Transparent – Key information about the charges should be readily available, such as the authority to charge, charging rates, and, where relevant, the basis of the charges
- Cost-reflective – Charges should reflect the efficient cost of providing the service
- Equitable – Charges should be equitable and affordable
- Create positive incentives – Where relevant, charges should incentivise risk mitigation
- Simple – Charges should be straightforward, practical, easy to understand and collect
- Flexible – Charges should be easily applicable to any new activities that FRNSW undertakes in future

Box 3.2 Principles for recommending charges

- Consistent – Charges should be consistent between similar activities conducted by FRNSW and consistent with charges for similar activities conducted by other NSW agencies, where relevant.

Box 3.3 Cost build-up approach and capital allowance

We used a 'cost build-up' approach to estimate total efficient costs. Under this approach, we assess efficient operating, maintenance and depreciation costs. We then add an appropriate capital allowance to compensate FRNSW for committing capital investment to arrive at the total efficient costs.

To estimate the efficient operating, maintenance and depreciation costs:

- We analysed information provided by FRNSW on its historical and projected operating costs and activities
- We engaged consultants, the Centre for International Economics (the CIE), to review information provided by FRNSW and provide expert advice on efficient operating costs of attending false alarms.

We then added a capital allowance of 10% to account for a share of the cost of purchasing capital items such as buildings and equipment.

Our estimated capital allowance is based on the average Earnings Before Interest and Taxes (EBIT) margin for selected proxy industries, which are comparable to FRNSW in terms of its chargeable activities. These industries included fire and security alarm installation services, investigation and security services, fire protection services and hazardous waste hauling services. The Final Report provides our analysis of capital allowance in more detail.

4 User charges for false alarm attendance

Recommendations

9. FRNSW continue to charge for attending an alarm from an automatic alarm system that is later found to be a false alarm.

10. FRNSW continue its policy to not charge for false alarms that are not generated from an automatic fire alarm system.

11. FRNSW consider the merits of trialling charging for false alarms from privately monitored premises to assess its effectiveness at reducing the number of false alarms.

The first step in our approach for recommending FRNSW's fees and charges is to identify which FRNSW services should have user charges and have charges set out in the FB Regulation. The key principles we have applied are:

- whether there is an identifiable impactor who creates the need for the service
- whether a charge improves efficiency or risk mitigation.

We have assessed that FRNSW's attendance at false alarms generated from an AFA system should have user charges, primarily because a charge:

- Provides an incentive for alarm owners to mitigate the risk of false alarms occurring. False alarms create apathy to real alarms, and therefore increase risk to life in the case of a fire. False alarms also create risk to the broader society through fire brigade attendance under lights and sirens.
- May improve efficiency through better resource allocation to the extent that it reduces the number of false alarms that FRNSW attends.

In many cases, a false alarm from an AFA has an identifiable impactor who has caused the alarm (either deliberate or through neglect of responsibilities). In some cases, the cause is beyond the control of the owner (e.g. bushfire smoke ingress). In these cases, there is a weaker argument for charging and these are typically not charged under FRNSW policies.

Overall, there is a case to continue to charge for some incidents of false alarm from AFAs. These charges should be set out in the FB Regulation because FRNSW is the monopoly responder. These charges are currently levied through separate contracts with AFASPs, and we have recommended that the Act be amended to allow for automatic fire alarm management service charges to be set out in the Regulation (See sections 3 and 4.5 of our Final Report). However, without relevant changes to the Act, we consider these should continue to be charged through the current framework. FRNSW may amend the fees and charges in the agreement by giving AFASPs at least 90 days prior written notice.[11]

We consider that FRNSW should continue its policy of not charging for responses to alarms of fire that are generated from triple zero calls, because of the perverse incentives that may result from charging for these responses.

In our Draft Report, we noted that there may be merit in charging for false alarms from privately monitored premises and recommended that FRNSW consider trialling a charge in this scenario to assess its effectiveness in reducing the number of false alarms. This can currently be achieved through the ability to charge that is set out in the FB Regulation.[12]

FRNSW responded in support of this but noted several issues to address before proceeding, including identifying the responsible party to charge, potential policy and regulation changes, waiver and debt recovery mechanics, staffing, systems, and funding requirements.[13]

There is limited information on these false alarm types, and we have maintained our draft recommendation. FRNSW has raised important matters to consider in balancing the decision on whether to charge for these alarms. We consider that if charges are levied, these should be done to create an effective incentive to reduce the occurrence of false alarms, and be targeted to buildings with recurrent false alarms where the charge can be levied to the correct party that is able to reduce future false alarms.

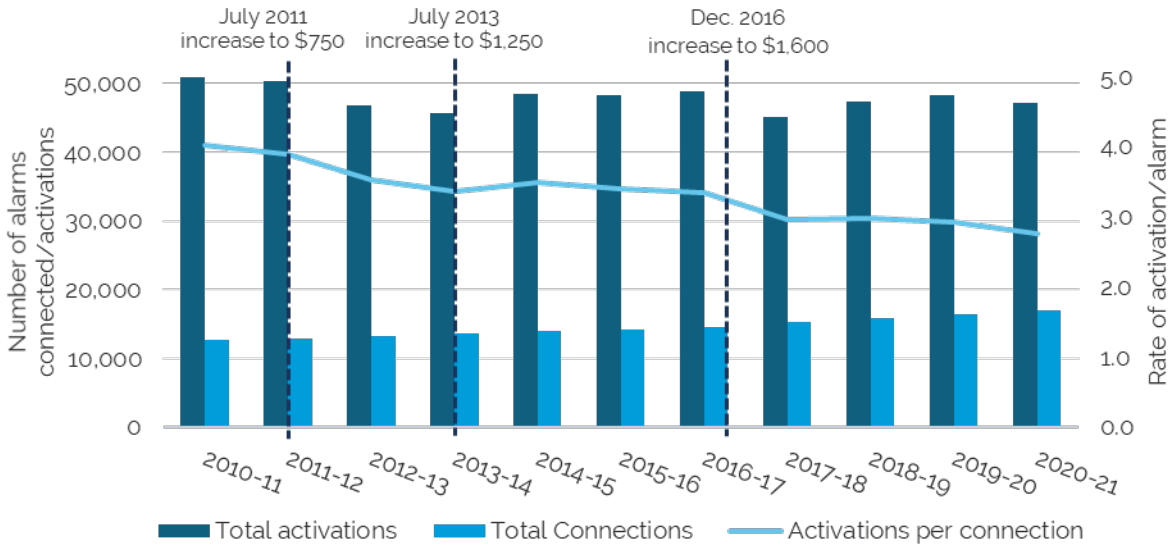
4.1 Levying a charge may reduce the risk of further false alarms from AFAs

The rate of false alarms from AFAs has reduced over the last 10 years. In 2010-11, there were 4.0 false alarms per connection, which fell to 2.7 alarms per connection in 2020-21. We attribute this reduction to:

- the impact of false alarm charges
- engagement work that FRNSW undertakes
- improvements in technology.

Figure 4.1 shows the trend in connected AFAs, false alarm activations from AFAs, and the ratio of activations per connected alarm. It also indicates when the false alarm charge was increased. This figure shows that a steeper fall in the proportion of false alarms followed an increase in the false alarm charge in 2011 and 2016.

Figure 4.1 Trend in number of false alarms and total connections



a. The charge was $500 in 2009-10 and 2010-11, and $250 prior to that back to 1995.

Source: FRNSW data, *Fire Brigades Regulation 2008*, cl 55; *Fire Brigades Amendment (False Alarm Charge) Regulation 2009*, cl. 3; *Fire Brigades Amendment (False Alarm Charge) Regulation 2011*, cl. 3, *Fire Brigades Amendment (False Alarm Charges) Regulation 2013*, cl. 3; *Fire Brigades Amendment (False Alarm Charge) Regulation 2016*, cl. 3; IPART analysis.

4.2 False alarms raised through triple zero calls

We recommend that FRNSW continue its policy of not charging for false alarms that are raised through 'triple zero' calls. This is primarily because imposing a charge could create a perverse incentive where people do not call in suspected fires. We also note the impactor in this scenario is less easy to identify.

5 Recommended charging structure and charging practices

The next step in our approach is to determine the most appropriate charging structure for false alarms from AFAs, based on our pricing principles.

Unlike other charges which are based on cost-recovery, the false alarm charge is intended foremost to incentivise the desirable behaviour in alarm owners to reduce false alarm occurrence.

This section provides:

- our recommendations on the structure of charges for false alarms from AFAs
- the charging options we considered
- our assessment against the pricing principles outlined in Box 3.2.

Recommendations

12. FRNSW continue its current practice of not charging for a false alarm from an automatic fire alarm where the cause is beyond the control of the owner. It should provide information on its website to clarify the causes that are typically deemed to be beyond the control of the building owner.

13. FRNSW proactively engage with alarm owners on a risk-based approach to find practical solutions to reduce false alarms from automatic fire alarm systems. Where no solution is identified, FRNSW should consider a permanent leniency for false alarm charges from that cause for those premises.

14. FRNSW implement a 2-tiered charging structure where there are different charges depending on the cause of the alarm.

15. FRNSW levy a discounted charge for false alarms where the cause is identified to be those in column 2 of Table 5.2.

16. FRNSW revise the stop-code descriptor for false alarms generated by an automatic fire alarm system 'Alarm activation due to workers'/occupiers' activities' to separate workers' and occupiers' activities.

17. FRNSW should take steps to ensure that, as far as reasonably practicable, attending firefighters at a false alarm call-out assess and record the cause of the alarm based on the information available to them.

18. FRNSW take steps to help identify where there are design issues in buildings with automatic alarm systems causing false alarms from normal activities such as showering. This could include:
    - publishing information for occupants to reach out if they think that there is a design issue and take steps to follow up
    - tracking the numbers of this type of alarm and engaging with the building owner where there is a significant number of alarms
    - working with the Building Commissioner to investigate options to reduce this happening in new buildings.

19. FRNSW work with NSW Fair Trading to develop a fact sheet for occupants and building owners to clarify responsibilities, rights and options for appeal when building owners pass charges on to occupants.

5.1 Charging options we considered

The current single set charge for false alarms from AFAs has a very different impact depending on who ultimately pays.

Building owners, including some of those with the most false alarms such as hospitals, correctional facilities, and retail centres, are more likely to be able to absorb the charge at its current level. For these stakeholders to be incentivised to act to reduce future false alarms, the charge needs to be set at a level that exceeds the cost of any action required to reduce false alarms.

However, where the charge at its current level is passed through to occupants, including more vulnerable residents such as renters, students and aged care residents, it can have an excessive impact, given their lower capacity to pay. This may incentivise dangerous behaviour such as blocking smoke detectors, and defensive behaviours such as avoiding or minimising showering and cooking to avoid triggering an alarm. These behaviours affect residents' quality of life and, in many cases such as incidents of poor system design, residents are not in a position to address the underlying cause of a false alarm. The Property Owners Association and the Tenants' Union NSW noted these in our consultation.[14]

We assessed 5 charging structure options before reaching our recommendation, which best balances the pricing principles.

In addition to the status quo, we assessed 4 alternative charging options before finding that scaled charges based on the cause of the alarm better balances the key principles of incentivising desirable behaviour and equity. We considered:

1. scaled charges based on the cause of alarm
2. scaled charges based on the type of premises
3. scaled charges based on whether the building is primarily residential or non-residential.
4. a variable charge based on attendance time.

Our recommendation is discussed in detail below. Options 2-4 are described further and tested against the pricing principles in Appendix A.

5.2 Recommended charging structure

After balancing several considerations, we recommend an amended charging structure, of 2 fees linked to the cause of the alarm, as well as some false alarms remaining non-chargeable. This option best meets our principles and provides an avenue to:

- identify responsibility for the false alarm and the ability to reduce future alarms, and
- set incentives while improving equity when the charges may be passed on to residential occupants.

We recommend a 2-tiered charging structure with the charges linked to whether the party responsible and best able to prevent further false alarms on the same cause is best classified as:

- the building (and alarm) owner, or
- a residential occupant.

We recommend a discounted charge be levied where a false alarm from an AFA is caused by residential occupants, to provide a more equitable incentive where the required action to reduce those alarms is for residential occupants to change their behaviour. This approach:

- acknowledges that sometimes the occupants are responsible for a false alarm
- reflects that some building owners pass on false alarm charges to occupants
- sets a charge more in line with an individual's capacity to pay
- may address the risk of people covering a detector to avoid the excessive higher charge, leading to better safety outcomes.

We also note there is no clear financial cost to alter behaviour where the cause of a false alarm is accidental such as burning food or spraying an aerosol too close to a detector. A charge should serve as a deterrent to this behaviour.

We do not support the passing on of charges where the building owner is best placed to rectify the issue to prevent future alarms.

Table 5.1 sets out our assessment of this structure against the pricing principles. For this charge, we consider that the key principles are to create the correct incentives and be equitable, which the recommended charging structure meets.

Table 5.1 Assessment of recommended pricing structure against pricing principles

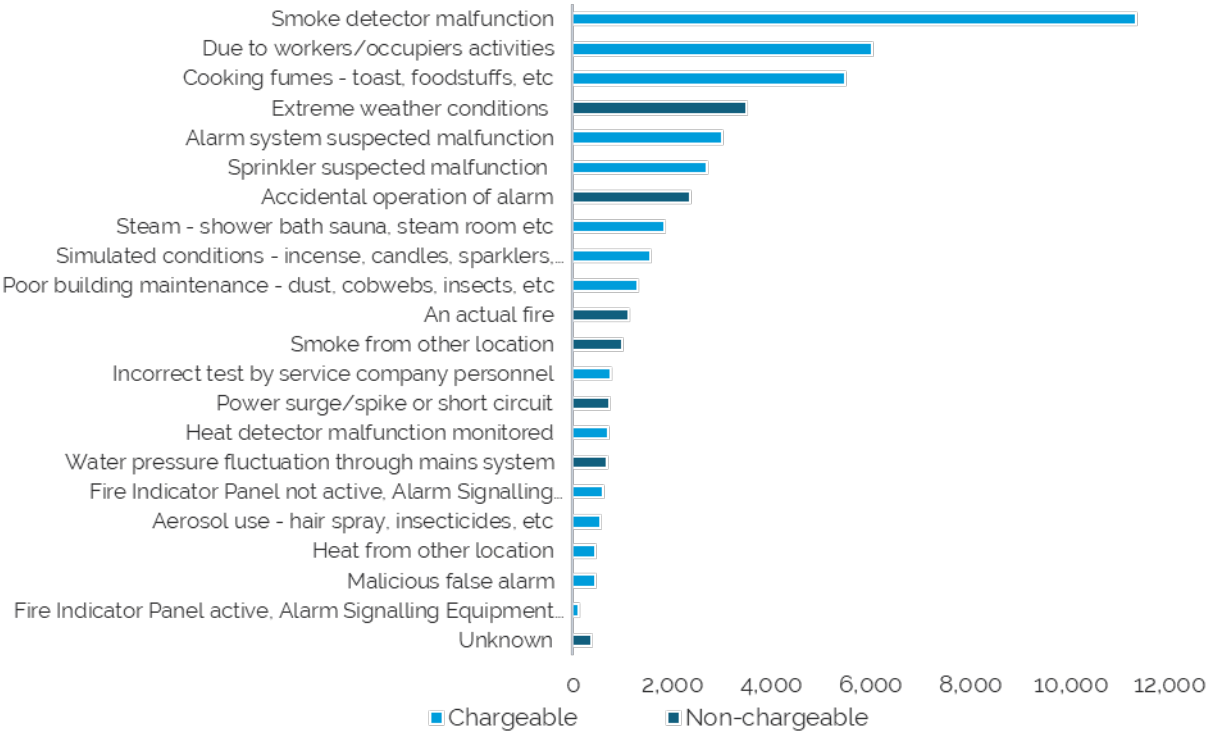
Principle	Does it meet the principle?	Comments
Equitable	✓	Targets responsible party's ability to pay.
Right incentives	✓	Aims to target the party responsible for the false alarm and able to prevent further false alarms with the same cause.
Cost reflective	✗	The structure is not linked to a cost driver.
Transparent	~	There is transparency as the charges will be clearly set out. The charge ultimately levied depends on fire-fighters' determination of the alarm cause.
Simple	~	The structure is simple to understand. However, it relies on identification of the alarm cause and FRNSW may need to amend some stop-codes for clearer implementation.
Flexible	✓	The structure allows FRNSW to develop alternative stop-codes to better clarify the responsible party. The waiver system provides additional flexibility to charging.
Consistent with other charges	✓	The 2-fees structure is consistent with many other charges in NSW. The basis of charging is not consistent with other FRNSW fees although we note that the South Australia Metropolitan Fire Service allocates leniencies differently based on alarm cause.

Our recommendation is different from the charging structures for responding to false alarms from AFAs in other jurisdictions. We received 2 stakeholder submissions that commented on this structure, both in support.[15] The 4 alternative structures we considered are set out and assessed in Appendix A.

5.2.1 This can be implemented using FRNSW's 'stop-codes'

Attending fire-fighters allocate one of 23 causes to an AFA attendance based on their investigation at the time of attending. These causes are known as 'stop codes'. Fifteen of the causes are currently 'chargeable', and these account for about 79% of false alarms. Figure 5.1 shows the annual average number of alarms by cause. The pale blue are chargeable causes, the dark blue are non-chargeable.

Figure 5.1 Number of alarms by identified cause, annual average



Source: FRNSW data; IPART calculations.

We agree with the current practice of not charging for false alarm attendance when the cause is beyond the control of the owner.

5.2.2 Some false alarms should not be charged

Currently, FRNSW levies a charge for false alarms that it considers are within the ability of the building owner to prevent. It does not charge when the cause is deemed beyond the ability of the owner, such as smoke from another location, a power surge or extreme weather conditions.[16] About 21% of false alarms are left uncharged under this policy. We consider this is appropriate and recommend FRNSW continue this practice. Charging for these alarms would not meet the principle of creating an appropriate incentive if the cause cannot be acted upon by the building owner.

The Shopping Centre Council of Australia submitted that if the alarm system is designed and operating in compliance with the National Construction Code no charge should be levied for a false alarm. It stated that the sensitive systems are often set off by environmental factors including dust blown in from outdoors, and this is the typical cause of false alarms at shopping centres. This received support from another stakeholder at the public hearing.[17] The Shopping Centre Council of Australia sought clarity around how FRNSW assesses that a false alarm was beyond the control of the owner.[18]

We expect this concern applies to other building types (beyond shopping centres). We reviewed data from FRNSW which showed that for the 'retail' sector, 20% of false alarms are for 'non-chargeable' causes[a], similar to other sectors where non-chargeable alarms range from 19% - 25%.

We understand that an alarm system can be compliant but not necessarily fit-for-purpose and causes of false alarms can be managed with adjustments to buildings and alarm systems. We note that this issue is not limited to NSW. Fire Rescue Victoria and the Northern Territory Fire and Rescue Service both note that building design is frequently found to be the cause of preventable false alarm activations[19], while Queensland Fire and Emergency Service recently implemented a 'Pragmatic Cooking and Shower test' that must be passed prior to building certification for residential buildings to prevent ongoing issues.[20]

We understand that not all issues would be foreseeable at a design stage, but also that builders lack an incentive to design a fit-for-purpose system to avoid false alarms, potentially leaving future owners with an inappropriate system. FRNSW can currently make recommendations on designs, however, the builder or developer is under no obligation to incorporate these recommendations where the design is compliant with the National Construction Code. The reforms being pursued by the Office of the Building Commissioner and FRNSW through its work in fire safety in the built environment should help to address this for future builds.

We accept that building owners can find themselves in a seemingly unfair position where their systems are compliant and they experience false alarms. However, we also consider it is important that steps are taken to reduce false alarms - whether this is in the design of new systems or upgrades to existing systems. We have taken this into account in setting the level of charges to create an incentive to owners. While not all causes of false alarms would be foreseeable at the design stage, those mentioned can be considered to fall within the scope of the building design.

For existing buildings, FRNSW offers advice to building owners to reduce false alarms, which may include system, structural and operational changes. These changes can come at a significant cost and may not be implemented. We expect that a building owner would weigh up the current and future cost of false alarm charges and the economic cost of disruptions to their residents or businesses to decide whether to implement changes.

[a] Non-chargeable causes are described as: Alarm operated due to extreme weather conditions - storm conditions, lightning, thunder, heat, etc; Council or water supply authority causes pressure fluctuation through mains system; Alarm operated due to power surge/spike or short circuit; Sprinkler suspected malfunction - includes water pressure loss and equipment fault; Smoke detector malfunction proprietary monitored; Heat detector malfunction; Smoke detector operated - no fire - smoke from other location; Accidental operation of alarm - includes activation of Break Glass Alarm or Manual Control Point; COVID Unable to Investigate; Default in FireCAD (if unable to investigate). We also note that attending fire fighters are known to apply non-chargeable cause even if they have identified a cause as chargeable.

FRNSW should continue to assist building owners to develop solutions to manage their false alarms and reduce the overall occurrence of false alarms. Ongoing false alarms come at a cost to NSW through the attendance of fire brigades and the increased risk as people become complacent to alarms. There may be merit in FRNSW increasing its resourcing in this area to aid the reduction in false alarms. We have not assessed resourcing needs but consider any changes should be subject to a business case. We note that FRNSW has an avenue to charge for advice on an hourly basis as a consulting service where it is requested to provide these services. The application and hourly charges recommended under 'fire safety in the built environment advisory services', if adopted, would apply to these services. Alternatively, it could be funded through the Emergency Services Levy as a reduction in false alarms has broader benefits.

If there are cases where FRNSW is unable to recommend a solution to a specific cause for a building, future alarms from that cause at the site should be deemed beyond the control of the owner and uncharged.

5.2.3 Recommended causes for levying a full or discounted charge

Table 5.2 set out the causes that we recommend be levied the full charge (Column 1) and those that should be offered a discount (Column 2).

Table 5.2 Which causes should be levied the full charge or discounted charge?

Column 1 – alarm causes where the full charge should be levied	**Column 2 – alarm causes where a discounted charge should be levied**
Malicious false alarm- includes malicious activation of Break Glass Alarm or Manual Control Point	Cooking fumes - toast, foodstuffs.
Incorrect operation or service by servicing company personnel	Simulated conditions - includes incense, candles, sparklers, smoke machines, smokers' materials
Alarm activation due to workers or occupiers' activities	Alarm activation due to aerosol use – includes hair spray, insecticides.
Alarm activation due to poor building maintenance – includes dust, cobwebs, damage, insects	Alarm activation due to steam - includes shower, bath, sauna, kettle, steam room
Fire Indicator Panel active/Alarm Signalling Equipment not activated	
Fire Indicator Panel not active - includes system reset before arrival, Alarm Signalling Equipment activated	
Sprinkler suspected malfunction – includes. loss of pressure and equipment faults	
Smoke detector suspected malfunction includes continuous or intermittent fault in detector or FIP (defective apparatus)	
Heat detector suspected malfunction - includes continuous or intermittent fault in detector or FIP (defective apparatus)	
Alarm system suspected malfunction (fault in system) - includes fault in wiring, alarm panel, poor maintenance	
Heat detector operated - no fire - includes heat from oven, dryer, heater, hair straightener	

Our recommendation would result in around 75% of chargeable false alarms being charged at the full rate, and around 25% at a discounted rate.

5.2.4 Systems being not fit-for-purpose mean that normal occupant activity can set off an alarm

We recommend a discounted false alarm charge for certain activity-based causes - such as showering, cooking and the use of aerosols – on the assumption that a residential occupant may be best placed to reduce the future alarms. However, we note that there are cases where activity-based causes may be best addressed with a change in design rather than occupant behaviour.

As mentioned above, we have heard from stakeholders that some alarms could arise from poorly placed or overly sensitive detectors which sound an alarm when normal activities occur, including in residential premises.[21] These may require solutions such as changing the type of detector, moving a detector or improving ventilation or extraction fans. These actions are typically the responsibility of a building owner.

We recommend that FRNSW provides information to occupants and building owners that identifies where structural change could help to reduce false alarms. This could include additional information on the website to inform occupants about these issues so they can address them with their landlord in the first instance. We also consider FRNSW could track the occurrence of this type of alarm and reach out to premises where there are repeat false alarms.

Further, FRNSW should work with the NSW Building Commissioner to improve the design of alarm systems in new buildings, for instance, developing a way to test AFAs prior to building certification such as the Queensland Fire and Emergency Service's 'Pragmatic Cooking and Shower test'.[22] We note that FRNSW currently does not have the power to do this.

5.2.5 FRNSW should revise the stop-codes to ensure they are clear

As outlined above, attending fire-fighters allocate one of 23 causes, known as 'stop-codes', to an AFA attendance based on their investigation at the time of attending. Most of the stop-code descriptions are easy to understand. However, some alarms that fall under the description 'Alarm activation due to workers or occupiers' activities could potentially be suitable for a discounted charge. FRNSW could consider whether this can be revised to provide more specificity.

Our decision is that false alarms under this cause should be charged at the full amount as a default, noting that there are other stop-codes that refer to residential occupant activities but no others that can be used for worker activities. We consider a building owner is responsible for the action of workers on a site, for instance to ensure they have protocols in place to prevent false alarms from AFAs.

5.2.6 FRNSW should ensure correct stop-codes as far as practical

The recommended charging structure is linked to the cause of the alarm. The Shopping Centre Council of Australia also submitted that the attending fire fighters may apply some discretion in applying stop-codes which should be prevented.

Attending firefighters assess and record the cause of an AFA (including if there is a fire). In some cases, firefighters may not be able to identify a cause, or the precise location of a false alarm trigger. FRNSW has advised that this is most likely to result in a false alarm being allocated a non-chargeable code. Being called away to another emergency may restrict firefighters from completing an investigation and, more recently, the COVID-19 pandemic may have prevented investigation. We note that only about 1% of false alarms are recorded as the cause unknown or unable to investigate (this is a non-chargeable code).

Recording accurate details of the causes of false alarms:

- would allow false alarm reduction programs to be better targeted
- may remove some area of dispute for building owners
- may reduce the burden of waiver applications for both the AFASPs and FRNSW.

FRNSW should work with its staff to ensure as far as possible that the cause is correctly identified and recorded at the scene. We note this should be prioritised appropriately with limitations such as other emergencies.

5.3 Leniencies and waivers

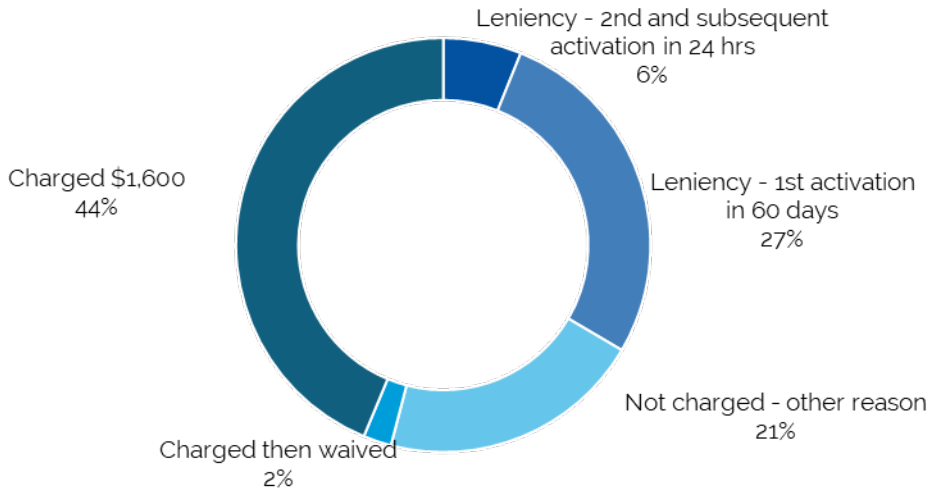
Leniencies are mechanisms to provide the AFASP and/or the customer with the opportunity to have an alarm problem rectified while reducing the risk of incurring false alarm charges.[23] Waivers are an additional tool to encourage people to rectify issues that cause false alarms.

An average of 46% of false alarms are levied a charge. Those not charged are either identified as arising from a cause beyond the control of the owner (21%) or had one of 2 'leniencies' applied (33%). The two leniencies are:

- No charge for the first false alarm in any 60-day period. This include chargeable and non-chargeable causes. Subsequent false alarms can be charged.
- No charge for the second and subsequent false alarm in a 24-hour period.

Only one leniency is applied per alarm. Further, around 2% of false alarms had the charges waived.[b]

Figure 5.2 False alarms that are charged and not charged



Source: FRNSW, IPART analysis

Recommendations

20. FRNSW continue to apply the '24-hour leniency', so that second and subsequent alarms in a 24-hour period are not charged; but amend its implementation to exclude non-chargeable causes of false alarms from triggering the 24-hour period.

21. FRNSW not charge for attending the first false alarm from an automatic fire alarm in 90 days (current policy is 60 days) and:
    - exempt non-chargeable causes of false alarms from being the first false alarm and triggering the 90-day period
    - exclude false alarms that are caused by poor building maintenance from receiving this leniency.

[b] FRNSW can grant waivers upon application if a charge has been levied. Waivers mostly require evidence of actions owners have taken to reduce future alarms but are also granted if a leniency should have been applied but was not. In most cases FRNSW refunds 75% of the charge, in a small number of cases, FRNSW refunds the full charge.

22. FRNSW continue to waive false alarm charges where adequate steps are taken to prevent future false alarms under its current waiver policy and make provision for occupants to apply for a waiver on hardship grounds limited to false alarms when the occupant is found to be at fault.

5.3.1 Most other jurisdictions also have some leniencies

Most other jurisdictions allow some 'free' alarms; only Tasmania allows more than NSW, others are the same or fewer. Table 5.3 sets out the leniencies in other states.

Table 5.3 Leniencies in other states

State	Charging practice
ACT	Charge for 2nd or subsequent in 60-days. No charge for second subsequent alarm in 24 hrs. Waiver for instances where could not have been prevented by reasonable maintenance of the alarm system or beyond reasonable control of owner.
Northern Territory	No comparable leniency. Charges can be waived upon application for alarms that could not reasonably have been avoided.
QLD	Charge for 2nd or subsequent in 60-days. No charge where beyond the reasonable control of the building owner.
South Australia	Charge for 2nd or subsequent in 60-days for some causes only. Alarm reactivations within 24 hrs (weekdays) or 48-54 hrs (weekends and public holidays) are not charged. Charge for 4th or subsequent if the cause is 'Incorrect testing by premise's staff or maintenance staff'. Also has a 3-month grace period for new alarms.
Tasmania	Charge for 3rd and subsequent false alarm in a 60-day period or where false alarm caused by failure to notify the brigade of testing, maintenance or work practices.
Western Australia	Charge for 4th and subsequent false alarms in a financial year. One charge per day (midnight to midnight)
Victoria	No comparable leniency

Source: South Australia Metropolitan Fire Service, '*MFS Codes - Alarm Charging MFS Monitored, Waiver Form - MFS Monitored* ' accessed 1 December 2021; Emergencies (Fees) Determination 2021, cl 6 and Schedule 1, Item 289 and 291. *Fire service Act 1979 (Tas)*, s 109A, and IPART correspondence with Tasmania Fire Service; Government of Western Australia Departments of Fire and Emergency Services, 'False Fire Alarms - FAQs', accessed 1 December 2021; Queensland Fire and Emergency services, 'Unwanted alarm activation FAQ 'accessed 1 December 2021; NT Police, Fire and Emergency services, 'Unwanted (Inadvertent) Alarms - Charges', Viewed 9 March 2022.

5.3.2 Distribution of false alarms

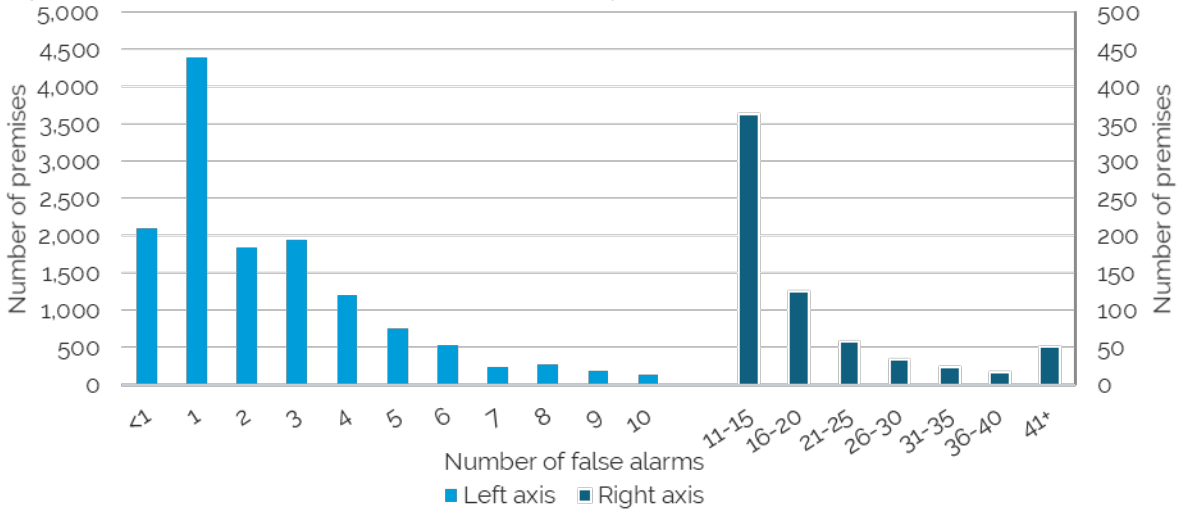
Many premises have a low occurrence of false alarms. Of the 14,281 systems that incurred a false alarm from January 2019- October 2021:

- 45% had one or fewer per year (on average)
- 89% incurred 6 or fewer per year.

We also note that 10% of the false alarms occur on 96 premises.

Figure 5.3 shows the distribution of false alarms for AFAs with a false alarm over the last 3 years. It shows the annual average of false alarms for these systems, and how many premises incurred that number.

Figure 5.3 Distribution of false alarms by number and premises



Source: FRNSW data

5.3.3 We support retaining the 24-hour leniency

The 24-hour leniency policy allows a building owner to address the cause of a false alarm within 24 hours without incurring a charge. It acknowledges that some time is needed to rectify many of the issues that cause false alarms. A faulty or dusty detector, for example, can set off repeated false alarms and be rectified relatively quickly. We consider the 24-hour leniency is a fair approach, noting that additional charges would not necessarily increase the speed of rectification.

The leniency applies regardless of whether the cause of the second or subsequent alarm is the same as the first. We found that 53% of the 'free' alarms under this policy were due to the same cause that triggered the 24-hour free period. The remainder - around 1,382 a year or 3% of all alarms – have a different cause, which may not be in line with intent of the policy. However, the additional complexity of linking the leniency to the cause of the alarm may outweigh the benefit.

5.3.4 We recommend excluding non-chargeable alarms from application of leniencies

Both the 24-hour and 60-day leniencies apply to 'non-chargeable' alarms. That is, a false alarm that is non-chargeable due to the cause of alarm, such as a power surge, could:

- trigger the beginning of a 24-hour period where no further alarms are charged, or
- be counted as the 'free' alarm at the start of a 60-day period.

Including non-chargeable alarm causes is counter to the purpose of the leniency, that is, to identify the cause of an alarm within the owner's control and provide time for them to rectify issues. It has the perverse outcomes of potentially allowing additional 'free' alarms under the 24-hour leniency, and of preventing the owner from accessing a 'free' alarm under the 60-day leniency.

All non-chargeable alarms should be excluded from the application of the leniencies. We estimate that this change, all else equal, would reduce the number of chargeable false alarms from AFAs by around 4%.[c]

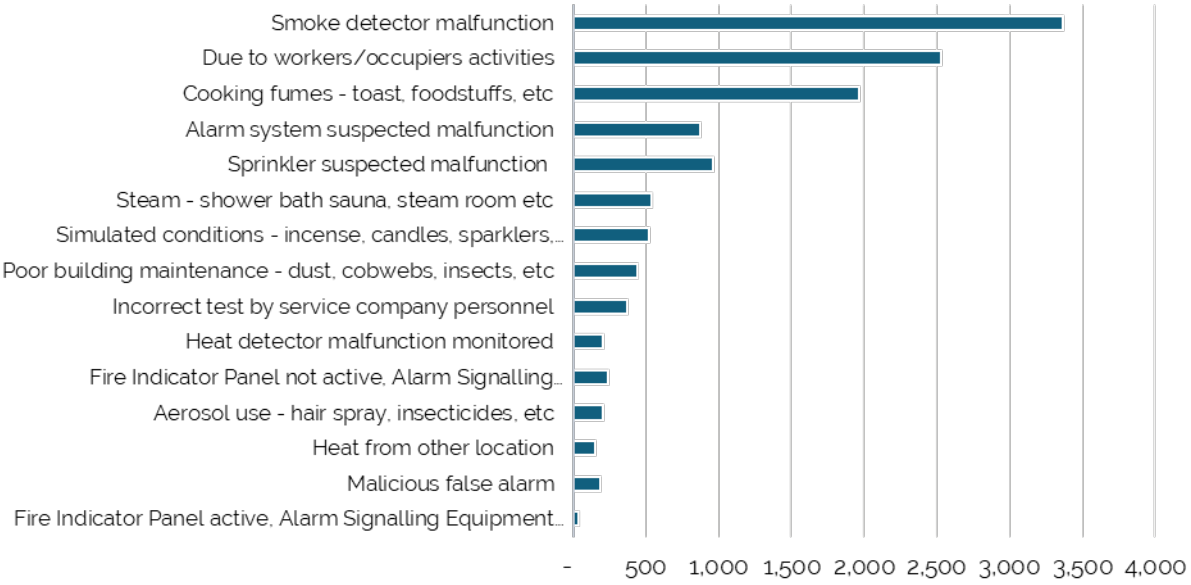
5.3.5 On balance, we recommend a 90-day leniency

FRNSW currently applies a '60-day leniency'. This allows 1 free false alarm per 60 days, or up to 6 per year for those systems with recurring false alarms. In principle, the first alarm should alert the owner if there is an issue so they can set about rectifying it before there is a repeat alarm for the same reason. This helps target the charges to the more systematic issues or where rectification action is not taken.

The main reason for levying a false alarm charge is to incentivise alarm owners to adequately manage their system to prevent false alarms. There is a stronger argument to charge (i.e. not be lenient) when false alarms are repeated and the cause is systemic, such as when there are repeated faults or behaviours that could otherwise be prevented. When the false alarms are one-off or infrequent in nature, or for less predictable causes, the argument for a charge is weaker. Figure 5.4 shows the number of false alarms that were given leniencies by 'chargeable' cause (annual average from January 2019- October 2021).

[c] This is approximate due to follow-on impacts with the application of leniencies. For instance, which alarms would have fallen under the 90-day or 24-hour leniencies.

Figure 5.4 False alarms that were given leniencies by 'chargeable' cause



Note: FIP means Fire indicator Panel, ASE means Alarm Signalling Equipment
Source: FRNSW data, IPART analysis

In our view, there should be a level of leniency for infrequent false alarms. This acknowledges that some causes of false alarm within the responsibility of the alarm owner are more difficult to prevent but should be rectified as soon as possible to prevent further alarms. We note that some causes of alarms are already exempt from charging, when the cause is deemed to be beyond the control of the owner.

Reducing the number of 'free' false alarm responses per year

We have maintained our draft recommendation that the 60-day leniency should be changed to a 90-day leniency, meaning fewer 'free' alarms per year.

Offering fewer leniencies would provide a stronger incentive for owners to avoid false alarms. These would typically apply to premises with recurring false alarms throughout the year, which is where the stronger incentive should be targeted.

In a submission to our Draft Report, The Property Owners' Association of NSW did not support the change, citing consistency with other jurisdictions as the main reason. It also submitted that a property should get one or two additional leniencies per year that can be carried over if unused, to reward building owners that have appropriate measures in place and a history of very low false alarm numbers.[24]

We consider there is no justification for further leniencies. Our recommendations allow up to 4 free alarms per year from the 90-day leniency, and more if the 24-hour leniency is triggered. We expect a significant proportion (31%) of false alarms would still be granted leniencies under our recommendations.

We developed our recommendations to find a balance between allowing building owners some time to identify and rectify a problem alarm and to increase the incentive power of the false alarm charge for those buildings that have recurring alarms. We do not consider that consistency with other jurisdictions is a strong enough reason to move away from the recommendation noting it is not clear why other leniencies were set at the level they were. Our recommendations have been developed by applying our pricing principles and analysis of NSW false alarm data, and we consider there is no justification for additional leniencies per property.

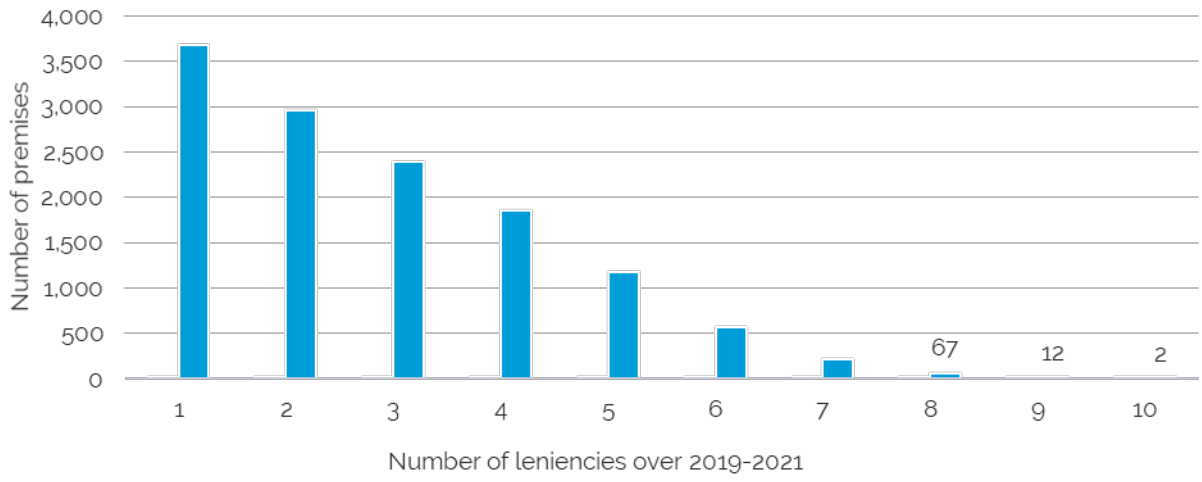
We estimate that moving to a '90-day leniency' could make around 6% more alarms subject to charges. However, taking into account our recommendation to remove non-chargeable false alarms from leniencies (explained above) there would be a more moderate overall increase in chargeable alarms, which we estimate at around 2%.[d]

Distribution of leniencies

We reviewed FRNSW data from January 2019-October 2021 to understand the distribution of the premises receiving the 60-day leniency. Over this period, 51% of premises that benefitted from the 60-day leniency did so once or twice over the period, although some of these had significantly more false alarms uncharged due to the 24-hour leniency. The most received was 10 over the period, by 2 different premises.

The distribution is shown in Figure 5.5.

Figure 5.5 Premises that received the 60-day leniency, and how many they received, Jan 2019-Oct 2021



Source: FRNSW data, IPART analysis

[d] This is approximate due to follow-on impacts with the application of leniencies. For instance, which alarms would have fallen under the 90-day or 24-hour leniencies.

5.3.6 We recommend excluding false alarms caused by 'poor building maintenance' from receiving the 90-day leniency

Poor building maintenance contributes to about 3% of all alarms. Poor building maintenance could relate to dust or cobwebs accumulating on the detector or pest infiltration in the alarm.

Building maintenance causes should be more easily preventable than some other causes of false alarms, such as malfunctions. To incentivise buildings owners to undertake adequate maintenance to avoid false alarms, the 'free' alarm responses should exclude those that are caused by poor building maintenance. We estimate this could result in a minor increase to the number of chargeable false alarms.

For clarity, we consider it is reasonable that the 24-hr leniency still apply to poor maintenance-caused false alarms – allowing owners 24 hours to rectify the issue without generating a significant bill.

5.3.7 We recommend FRNSW retains the waiver policy

The existence of a false alarm charge should incentivise AFA owners to take action to avoid those future charges. Incurring a charge should also incentivise AFA owners to reduce the chance of incurring future charges.

The waivers policy provides a second chance by refunding 75% of the charge in most cases if building owners undertake certain steps to avoid false alarms. It is refunded in full for certain reasons, such as the alarm being beyond the customer's control. Box 5.1 sets out the reasons waivers can be granted.

Having the option for FRNSW to waive a false alarm charge acknowledges that not all false alarms can be easily predicted. It also adds a financial incentive for AFA owners to undertake rectification work, particularly where significant work is required to rectify a large number of false alarms. Waivers are not granted where a false alarm is caused by poor maintenance.

Box 5.1 Reasons a charge can be waived

After a charge has been levied, a waiver can be granted if:

- A leniency should have been applied
- False alarm was caused by an event beyond the control of the customer
- Goodwill – where there is evidence that the AFA false alarm was unforeseeable and is unlikely to recur. Available once per AFA number, per customer, in a 5-year period.
- Evidence that, since the AFA false alarm the alarm installation equipment has been repaired or replaced, or the alarm detector has been replaced or moved, to reduce false alarms.
- Evidence that, since the AFA false alarm, practices at the premises that could cause AFA false alarms have been changed to reduce the likelihood of repeat false alarms of the same type (such as removal of food toasters from rooms, provision of occupier education or training),
- Evidence that other rectification work has been conducted to address the cause of the AFA false alarms.
- Evidence that an incorrect AFA false alarm code was transmitted by FRNSW
- There is a written agreement between FRNSW and the customer for waiver of the charges subject to an AFA false alarm reduction program to be successfully completed within a defined time period.

When a charge is waived, FRNSW mostly refunds 75% of the financial amount of the waiver, in some cases it refunds the full amount.

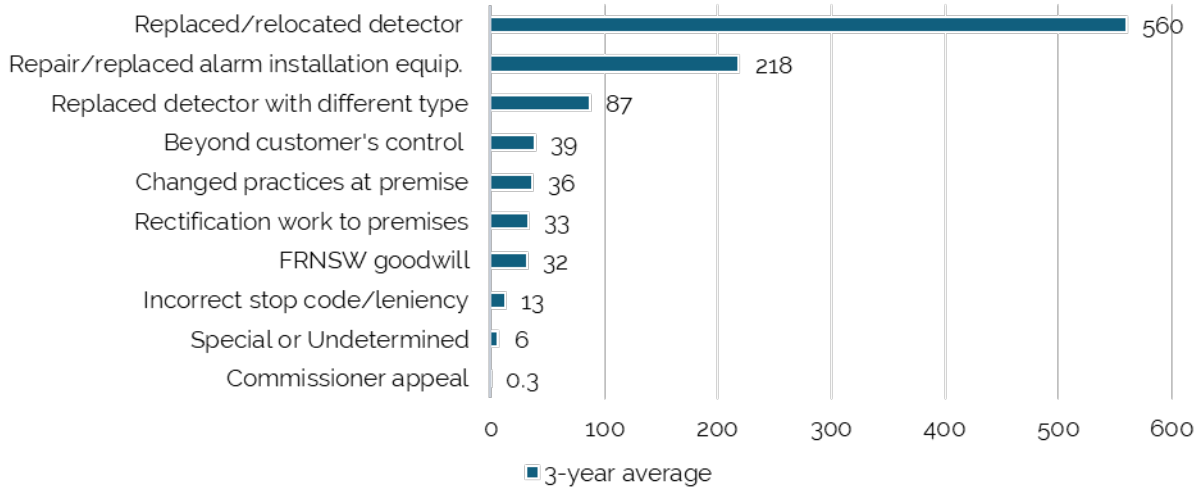
Source: FRNSW, *Automatic Fire Alarm System Agreement, Guideline No. 4 - Application to Waive AFA False Alarm Charges*, paragraph 9, 10..

Most waivers have been approved following the replacement or relocation of installation or detector equipment. In some cases, AFA owners may have taken this action regardless of whether a waiver was available. An alarm owner benefits from avoiding the burden of alarms occurring at their premises as well as avoiding future costs from charges.

In other cases, where there are major system faults with costly repairs, waivers may cover multiple false alarms and significant false alarms bills (for instance, up to $20,000).[25] The waiver provides a positive financial incentive to complete the work.

Figure 5.6 shows the reasons for which waivers have been approved.

Figure 5.6 Reasons for waiver approval – 3-year annual average



Source: FRNSW, IPART analysis

5.3.8 We recommend FRNSW makes a provision for occupants to apply for a waiver on hardship grounds

Contracting arrangements mean that an occupant cannot directly access the waivers. They must ask the building owner to apply for it via the AFASP. The Tenants Union indicated that occupants may not be aware of the option to apply for a waiver.[26]

The reasons a waiver is granted are usually for actions that would be taken by the building owner.[e] The 'goodwill' criterion could also apply to occupant hardship.

FRNSW should make provision for occupants to apply for a waiver on hardship grounds, as we know that charges are passed on to occupants and they can have a significant impact on parties with a reduced capacity to pay. Waivers for occupant hardship should be limited to cases where the occupant was at fault; including all causes that could have the perverse incentive of building owners passing on charges (including the higher ones) if they believe the occupant is likely to be granted a hardship waiver.

[e] We note the criterion "Evidence that, since the AFA false alarm, practices at the premises that could cause AFA false alarms have been changed..." refers mainly to the building owner informing the occupant of behavioural issues that set off false alarms, like not cooking in undesignated areas (for some types of accommodation), if there is excessive smoke generated in an apartment, opening a window rather than the door to the hallway, not smoking near smoke detectors. Therefore, it does not apply directly to the occupant.

In response to our Draft Report, Romteck submitted that waivers should only be available for the lower charge where there has been an error, because the administration costs for the AFASP and for FRNSW regarding waivers exceeds the value of the charge.[27] We accept that submitting and assessing the waiver application incur costs. However, we also note that not all owners will pass on the charge, and in some cases there may be a structural adjustment (including changing the detector type) that can be made to reduce future alarms. To accept Romteck's proposal means that the owners would no longer be able to apply for a waiver and removes the incentive for them to undertake required structural work or inform their tenants about preventing alarms. Therefore, we have not adopted this proposal.

We encourage FRNSW to ensure that reasons for which waiver applications may be accepted is clearly communicated to discourage invalid applications.

6 The efficient costs of false alarm attendance

To inform our recommendations, we engaged the CIE to estimate the efficient costs of attending false alarm incidents. CIE's analysis was updated between our Draft and Final Reports.

The CIE presented 3 approaches:

1. FRNSW's full costs distributed across the time spent attending false alarms, found to be $4,947 per incident.
2. FRNSW's incremental costs of attending each false alarm, plus a portion of overheads, found to be $409 per incident).
3. FRNSW's incremental costs of attending each false alarm with a portion of standby costs (a hybrid of 1 and 2) - found to be $638.[28]

Our view is that the third approach is the most appropriate measure of the cost to FRNSW of attending a false alarm from an AFA.

The incremental cost (approach 2) indicates how the cost to FRNSW changes as the number of false alarms changes (either higher or lower). Approach 3 adds a portion of FRNSW's standby cost based on the estimated change in standby capacity if there were no false alarms. The CIE did this by calculating the incremental cost assuming that all false alarms from AFAs are attended by retained fire fighters.[29]

Comparatively, the first approach includes all costs to FRNSW, including capacity to attend all emergencies and we consider this is unlikely to change significantly if there were no false alarms.

Under approach 3, the CIE found the average cost to attend a false alarm is $638 per incident. The main contributing factors are the incremental cost of fire-fighters and a portion of standby capacity that enables the response. To the CIE's finding, we have added a 10% margin to cover the capital expenses.[f] Extrapolating the per incident costs, attending false alarms costs FRNSW $34.8 million ($2021-22) per year.[g]

Table 6.1 sets out the cost components and below that we explain the average operational response and the cost components.

[f] Our Final Report - *Review of Fire and Rescue NSW's fees and charges* - explains why we recommend a 10% margin.

[g] Assuming the 10-year median number of false alarms of 48,204. Direct calculation may vary due to rounding.

Table 6.1 Cost-build-up of attending false alarms

Item	Cost ($2021-22)
Incremental cost per incident	
Staff (fire-fighters)	286
Truck variable	20
Truck fixed	5
Communications team	32
Portion of overheads including depreciation	66
Portion of standby costs	229
Sub-total	**638**
10% margin	71
Total	**709**

Source: The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, pp 29,42; IPART analysis.

This is lower than in the Draft Report, a net result of:

- Removal of a $31 administration cost, following receipt of further information and because some of these costs are allocated to AFA management service charges (described in a separate Information Paper).
- Addition of operational costs of the emergency service computer aided dispatch (ESCAD) system to overheads ($12 per incident). The capital costs are accounted for in depreciation and margin allowances.
- Follow-on impacts to the calculation of standby costs, meaning the estimate of standby costs increased by $6.

6.1 Calculation of the costs

We invited FRNSW to provide information on its costs and false alarm attendance. We commissioned the CIE to review this information and provide advice on efficient operating costs.

The CIE calculated the full cost of attending false alarms using a top-down approach using FRNSW costs and apportionment provided by FRNSW. It calculated the incremental costs using a bottom-up approach. We explain the cost inputs to the incremental approach below.

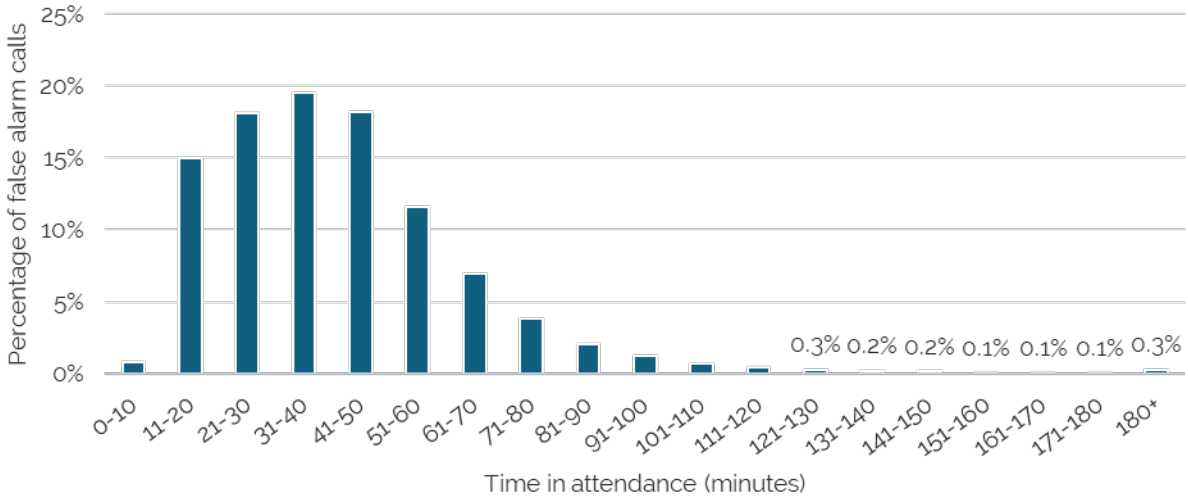
6.1.1 Average operational response and time taken

FRNSW's operational response to any alarm of fire whether it is later found to be false or not is 2 pumpers ('fire trucks') and 8 fire fighters. In exceptional circumstances, this might reduce to 1 pumper and 4 fire-fighters.[30] We have not assessed efficiency of the operational response – this is set out by FRNSW to meet the NSW Government's objectives in terms of availability and responsiveness and is beyond the scope of our review.

The average false alarm attendance takes 25 minutes. This has remained stable since at least 2012 and is comparable to average attendance times in Victoria of 25.7 minutes.[h,31] Broken down regionally, average attendance times per truck increase from 25 minutes in major cities, to 28 and 31 minutes respectively in inner and outer regional areas of NSW.[32]

The attendance times are relatively homogenous - 34% of false alarm attendances are completed within 30 minutes, and 83% within 60 minutes. The distribution is shown in Figure 6.1.

Figure 6.1 Time taken to attend false alarms



a. The average time refers to the average time of all fire pumpers in attendance (usually 2).

Source: The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, p 30.

6.1.2 Staff costs per incident

Either full-time fire-fighters or retained staff may attend a false alarm and, depending on the team, the staffing cost will vary. The cost of full-time staff is salary plus on-costs, while retained staff incur a 'call-out' charge with a minimum of 2 hours payment. As most false alarms attendances are less than this, retained staff results in a higher incremental staffing cost than full-time staff.

The standby time for the 2 different staff types is also very different. While the average standby time for full-time staff is approximately 65%, retained staff have zero standby time, as they are only called and paid as needed (plus their annual retainer).[33] Therefore, the use of retained staff may be more efficient for FRNSW's overall activities.

The CIE found that the average staffing cost per false alarm attendance is $286 which reflects both full-time and retained fire-fighters.[34]

h This refers to the time taken up for the incident – from when it is assigned to fire-fighters until they return to the station or begin another incident

6.1.3 Pumper costs per incident

FRNSW's standard operational response is for 2 pumpers to attend a false alarm. This would normally be a standard pumper, however they can use other vehicles such as specialised hazmat pumpers. FRNSW reduces the response in regional areas or when there are multiple alarms from one premises in a day or other operational constraints. On average, 1.97 pumpers attend a false automatic fire alarms.[35]

Pumper costs include:

- the variable costs of fuel and tyres for attending an incident.
- fixed depreciation costs based on the time used, assuming a life of 10 years. This means including a portion of the purchase cost of the pumper.

6.1.4 Communications costs per incident

After assigning a call to response crews, the communications team continue to track the crew until the response is completed. The CIE has estimated a cost for communications of $32 per incident.[36]

6.1.5 Overheads and depreciation

We have allocated a share of FRNSW's fixed costs to false alarm attendance, as set out in Table 6.2 . Based on the CIE's analysis, the average efficient overheads and deprecation is $66 per incident. This is higher than the estimate in the Draft Report due to the inclusion of recurrent costs of the ESCAD system.

Table 6.2 False alarm attendance overheads and depreciation

Item	Detail	Estimated cost
Corporate overheads	Labour and operating costs of FRNSW's Corporate Services Division and Governance and Legal Regulatory Services	11.6% of the average false alarm attendance cost
Depreciation	Asset depreciation for the building, computers and other equipment	4.5% of the average false alarm attendance cost
Maintenance costs	Maintenance costs building, computers, communications and other general maintenance costs	3.0% of the average false alarm attendance cost

Source: The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services, Final Report, March 2022*, p 32.

6.2 A portion of standby costs

A significant portion of the cost to FRNSW is to have the standby capacity to quickly respond to an emergency. The CIE estimated that standby capacity represents 81.3% of all FRNSW's costs if considering only 'active' time at incident from permanently staffed stations. This falls to 64.7% after the CIE allocated 4 hours per day to undertake necessary activities that are not otherwise recorded, e.g. maintenance and handover activities.[37]

We consider that a portion of standby costs should be attributed to the cost of false alarm attendance for our assessment. This is because attending false alarms is a significant proportion of FRNSW's workload and in the absence of false alarms, it may be possible to reduce standby capacity. However, we consider that the full amount that is included in the fully distributed costs is likely to overstate this impact.

We sought feedback on the method to calculate the standby cost through our Draft Report but received no responses.

How would operational capacity be affected by a reduction in false alarms?

If there were no false alarms we would expect that:

- In high density areas where there are many false alarms, there could be an overall reduction in staff and pumpers needed as they would be more available to attend other incidents.
- In lower-density areas and where fire-fighters are on a retainer, it is unlikely that a reduction in false alarms would lead to any significant change in standby costs,

About 36% of all FRNSW call-outs are to false alarms and in some areas, false alarms are a significant portion of call-outs (noting that call-outs are a subset of all activities and the percentage does not reflect time taken).[38] However, the CIE found that across all permanently staffed stations, 1.6% of active time is spent attending false alarms from AFAs (excluding time spent returning to station).[39]

The CIE also compared the total time a pumper is actively responding to false alarms from AFAs with the total standby time for each station. It found an inverse relationship – as the proportion of false alarm call-outs increased, the amount of standby time decreased, indicating that standby time is being drawn down for false alarms rather than maintained at a set level.[40]

Estimating the change in standby capacity

We asked the CIE to further investigate how FRNSW attendance at false alarms impacts on FRNSW's resourcing, especially the impact on standby capacity arrangements. We asked it to estimate the cost of additional standby capacity that might be related to the volume of false alarms.

The CIE estimated the incremental cost per incident if each false alarm were attended by retained staff, which would have the effect of leaving full-time staff on standby. It found the average cost per incident would be $638.[41]

Without further information, we consider the CIE's approach is a reasonable proxy. Compared to the incremental cost, this allocates $229 of standby time per incident which is 4.6% of the fully-distributed cost per incident calculated by the CIE ($4,947, $2020-21)[42].

6.3 Other costs associated with automatic fire alarms

FRNSW incurs additional costs related to managing the automatic fire alarms. This includes:

- the IT system that supports the automatic alarm system
- administrative tasks
- managing customer calls
- assessing waiver applications, and the cost of waivers
- pro-active work to help owners reduce the number of false alarms
- compliance work – mainly relating to premises that isolate alarms for significant periods.

Currently, these costs are covered by monthly monitoring charges levied for each alarm and collected through the AFASPs.[i] These are set out in the AFA system agreement between FRNSW and the AFASPs. We recommend the FRNSW continues to recover these costs separately through the AFA management service charges. We set out these recommendations in a separate Information Paper.

6.4 Broader economic costs of false alarms

We have not included broader economic costs in our assessment. We note that a recent study found the total economic cost of false automatic fire system activations in 2018-19 was $246 million per annum, or $4,952-$7,403 per incident (best-case and base-case scenario respectively).[j]

This included estimates of lost productivity and opportunity costs to businesses, residents, bystanders and the fire brigades as well as the incremental cost of FRNSW attendance and the cost to the public from collisions with attending vehicles.[43]

The burden on businesses and residents of reacting to false alarms should additionally incentivise them to take practical steps to reduce false alarms.

[i] AFASPs are charged an annual fee, plus additional fees based on the number of alarms that they are connected to. They pay the total costs to FRNSW and recover this through their fees levied on their customers.

[j] This is in a best-case scenario and $349 million per annum in a base case scenario.

7 Recommended level of charges

Unlike other charges which are primarily based on cost recovery, the charge for a particular AFA false alarm call-out is intended foremost to incentivise the right behaviour in alarm owners.

However, we have also considered the total cost to FRNSW of attending all false alarms, whether or not they are charged, on the basis that they should be able to recover these costs from relevant impactors.

Recommendation

23. The charges for attending false alarms in 2022-23 to be set at:
    - $1,930 for the full charge ($2022-23)
    - $385 for the discounted charge ($2022-23).

7.1 Setting incentives

To set the right incentives for safety and positive behavioural responses to false alarm charges, we consider an appropriate charge should:

- exceed the cost of making necessary repairs or otherwise reducing future false alarms
- not be so high as to cause undesirable outcomes of unsafe and illegal work-arounds
- take into account capacity to pay.

7.1.1 The current charge

The charge for attendance at a false AFA is set at $1,600 in the AFA system agreement with AFASPs. However, the charge to the building owner is likely to be $1,760. This is because FRNSW levies it to the AFASPs who pass charges on to their customers typically with a 10% administration fee.

The charge for false alarm attendance in the AFA system agreement with AFASPs aligns with the charge for false alarm attendance under the FB Regulation (which applies to other false alarms than are not generated through an AFA). The false alarm charge in the FB Regulation has remained the same since it was set in December 2016. With inflation added, it would have been $1,771 in 2020-21.

We assessed the trend in false alarms per alarm system in NSW. The most recent (December 2016) increase in charge to $1,600 corresponds to a decline in the number of false alarms (see Figure 4.1 in section 4.1). This suggests that the charge is set at a level that can incentivise change.

However, FRNSW has advised that it saw an increase in hours that alarms are isolated (i.e. disconnected from the system so unable to trigger an alarm call to FRNSW) following the increase in charge. This suggests that further increases may increase the level of isolations that are made to avoid false alarms (there are legitimate reasons for isolations, including planned building work and external conditions such as bushfire smoke). FRNSW investigates premises with high levels of isolation.[44] We consider that a regulatory response from FRNSW to ensure fire safety is appropriate to address the risk of AFA isolations rather than reducing the level of the false alarm charge.

7.1.2 The cost of repairs needed to avoid future alarms

The effectiveness of an incentive is related to the cost of taking required action. The recommended charge exceeds the cost of rectification work in many but not all cases.

Rectification work varies from simple to complex and costly

The cost to rectify the cause of false alarms ranges from:

- $100-$200 to replace a faulty detector – the most common rectification action, to
- a few thousand dollars for actions such as detector relocation, installation of bulk heads (e.g. to prevent steam moving directly to the detector) and changes to ventilation, to
- hundreds of thousands of dollars for a major systems upgrade. While less common, this happens a few times a year and prevents many false alarms per premises.[45]

When these actions are taken, the building owner can apply for FRNSW to waive the charge (or accumulated charges), receiving a 75% refund.

Our recommended charge provides a strong incentive to replace a detector, and when there have been multiple false alarms, to undertake some minor structural work. This charge is unlikely to outweigh the cost of major works until there are many accumulated false alarms.

There is no clear cost to reference when the causes are more behavioural

Some false alarms causes do not need a financial investment to avoid, such as when they are caused by a person's behaviour e.g. cooking fumes. In some cases, these could be accidental, in others they might involve some negligence such as not following procedures on a worksite or cooking in an area not designated for cooking. In the latter cases, a building owner may take steps taken to educate occupants or workers such as installing signage or updating work procedures.

7.1.3 Capacity to pay varies

There is a broad range of stakeholders – the alarm owners range from bodies corporate, shopping centre owners, retirement villages, to large establishments like hospitals. However, the alarm owners may have the ability to pass on charges to tenants (residential or retail) or occupiers which introduces stakeholders with lower capacity to pay.

The recommended charging structure provides a lower charge for those that may have the lowest capacity to pay – residential tenants. This is a simple approach to protect some of the more vulnerable customers, as well as providing less incentive for unsafe behavioural responses.

7.1.4 Some premises incur significant bills

As shown in Chapter 5, many premises have a low occurrence of false alarms and a small number incur a significant volume of false alarms and accumulated charges - 10% of all false alarms come from 96 premises.

Almost 700 premises have accumulated charges over $10,000 a year, 5 of which are over $100,000 per year. The premises with the most false alarms are hospitals, correctional facilities, universities, retail complexes and defence force facilities. Table 7.1 outlines the types of complexes that incur the highest bills.

Table 7.1 Summary of bill size and type of premises

Annual bill (avg 2018-2021)	Number of premises	Premises type
$10,000 - $50,000	647	Main contributors are: apartments (119), offices (74), hospitals (69), retail (59), education (58), nursing homes (55), hotels/motels (53), warehouses/factories (42).
$50,001 - $100,000	36	Hospitals (8), correctional facilities (8), retail (8), education (5), apartments (5), defence force complexes (3)
>$100,000	5	Correctional facilities (2), Defence force complexes (1), education (1), retail (1).
Total	**689**	

Intuitively, this level of accumulated charges on an annual basis should provide a substantial incentive to undertake the necessary work to reduce false alarms.

We considered whether a structure with escalating charges would better incentivise the repeat offenders. Higher level of charges would increase the incentive and make it more attractive to undertake relevant rectification work. We note that the cumulative impact results in significant bills to some premises, and our recommended changes to the leniencies would add to this.

However, there may be other barriers that reduce the effectiveness of a financial incentive including:

- ownership and funding sources
- barriers to undertaking major repairs in occupied or highly used buildings
- the ability for the owner to pass on the charges
- challenges in changing occupant behaviour, for instance where passing on a charge is not possible or does not have the desired impact.

For these stakeholders, it may be more effective for FRNSW to undertake proactive engagement work.

7.1.5 Illegal tampering with alarms to avoid false alarms

Tampering with alarms is an offence under the Act[46] and increases the risk from fire to the occupant, building and potentially neighbours.

At the occupant level, FRNSW and the Building Owners Association of NSW raised concerns about occupants covering detectors.[47] The extent to which this happens is unclear however, and we would expect this to increase if the charges paid by occupants increase.

In our view, the current charge is excessive when charged on to occupants. The recommended charging structure may work to reduce this by reducing the charges that are passed on and signalling which charges should be paid by the owner.

It is possible that the full charge will also be passed on to individuals in some cases, which could further encourage alarm tampering. We recommend that FRNSW work with NSW Fair Trading to develop information for occupants on their rights, responsibilities and courses of action if a charge has unfairly been passed on.

It is also important that the relevant actors are aware of the potential to be charged so that they prevent false alarms.

7.1.6 Keeping occupants informed of the alarm system

We have also heard that false alarms can be caused by visitors to premises, such as workers whose work can result in setting off the alarm (for instance if they create a lot of dust near the detector).

Building owners should continue to ensure occupants, workers and other visitors are aware of the alarm system, how it may be triggered, and the potential for a charge. This includes in private areas and in common areas where the detectors may be connected to the automatic system.

7.2 Options for charges

In recommending charges, we aim to set the right incentives but have also taken into account the cost to FRNSW.

Setting the charge close to the incremental cost per incident (even with some standby costs included) to FRNSW would be too low to be an effective incentive to most stakeholders. and setting it at the fully distributed cost would be excessive.

We consider our recommendation balances these by setting a reasonable incentive through both the full and discounted charges and recovers the cost to FRNSW of attending all false alarms from AFAs.

We considered 5 options. Three of these (options 3-5) recover the approximate total incremental cost (including a portion of standby costs) to FRNSW from the expected number of alarms that are charged. The five options were:

1. Adjust the current charge for inflation since 2016, at $1,805 (in $2022-23) with the discounted charge at 25% of this ($450).
2. Set the charges to recover the incremental cost (no standby cost) of attending all false alarms, with the discounted charge at 25% of the full charge.
3. Set the charges to recover incremental cost + standby cost of attending all false alarms, with the discounted charge at 20% of the full charge & 60-day leniency in place.
4. Same as option 3 but with the 90-day leniency in place.
5. Same as option 4 but the discounted charge is 25% of the full charge.

The resulting charges and revenue impacts are set out in Table 7.2. below. They are presented in $2022-23 and options 2-5 include the 10% margin in the cost build-up (option 1 does not include the margin as we based the charge only on incentive impact rather than trying to recover costs).The charges and revenue under each option are set out in Table 7.2.

Table 7.2 Charge under different options ($2022-23, ex-GST)

	Option 1 Current charge + CPI 90-day leniency Discounted charge is 25%	**Option 2** No standby cost 90-day leniency Discounted charge is 25%	**Option 3** With standby cost 60-day leniency Discounted charge is 20%	**Option 4** With standby cost 90-day leniency Discounted charge is 20%	**Option 5** With standby cost 90-day leniency Discounted charge is 25%
Full charge	$1,805	$1,215	$2,170	$1,930	$1,900
Discounted charge	$450	$305	$435	$385	$475
Expected revenue (m)	$33.2 m	$22.3 m	$34.8 m	$34.8 m	$34.8 m

Note: To assess revenue, we have assumed 48,204 false alarms per year which is the median number of alarms over the last 10 years. We have also assumed our recommended charges practices would be adopted.

Our recommendation is option 4. We consider this sets reasonable incentives through both the full and discounted charges. It also recovers the estimated incremental cost to FRNSW of attending each false alarm.

8 Impact of recommended charges

The discounted price for residential occupants should reduce the incidence of adverse outcomes.

8.1 The full charge

Our recommendation results in a 21% increase ($330) in the full charge for FRNSW attendance at a false AFA,

We consider this reasonable considering:

- many building owners have a high capacity to pay
- the charge has not increased since 2016. The recommendation is 7% higher than if inflation had been added (assuming to $2022-23)
- the discounted charge may lessen the overall impact on the building owner if they are absorbed by the building owner.

8.2 The discounted charge

The discounted charge presents a significant change from the status quo.

- Where a building owner absorbs the charge, this is more reflective of the costs needed to educate the occupant about avoiding future false alarms.
- Where it is passed on to residential occupants, it is a fairer charge that better reflects ability to pay. We consider it is high enough to incentivise occupants to avoid false alarms. It may minimise the detrimental impacts of avoiding normal activities in the home and illegal tampering with detectors.

The discounted charge is also comparable to common penalties in NSW. While it is difficult to compare the risk and effectiveness of the incentive, it is at a similar level to penalties for most traffic offences, which generally range from $194 to $464. These are comparable incidents applying to a broad range of individuals and requiring a simple behaviour change to avoid a penalty. There are higher charges for higher risk activities and vehicles that are trucks or buses.

It is also comparable to a charge that the NSW Police may levy for second and subsequent false security alarms that it attends in a 28-day period, set at $200.[48]

Table 8.1 Summary of penalties for traffic offences and other minor offences

Description	Penalty
Traffic offences	
Pedestrian traffic offences/bicycle offences	$78/$116
General driving offences (not speeding)	$194 to $464 mostly. Up to $1,472 and $1,819 for multiple unrestrained/unhelmeted passengers
Speeding (<10km/h over to >45km/hr over)	$124 - $2,547 for class A vehicles
Bus and truck offences.	$369 - $3,860
Licence/registration offences	$116 - $1,819
Littering from a vehicle	$250 for an individual
Criminal infringement notices	
Offensive language or behaviour	$500
Unauthorised entry of a vehicle or boat	$250
Obstruct traffic	$200
Stealing under $300	$300
Unlawful possession of property	$350
Continuation of intoxicated and disorderly behaviour after move-on direction	$1,100
Small quantity of prohibited drug	$400
Public transport	
Travelling without a ticket, feet on seat offensive behaviour, smoking etc	$200-$400, maximum penalty $550 - $5,500

Sources: *Road Rules 2014*; *Road Transport (Driver Licensing) Regulation 2017*; *Protection of the Environment Operations Act 1997*, s 145, *Protection of the Environment Operations (General) Regulation 2021*. Sch 6; *Criminal Procedure Regulation 2017*, Schedule 4;. *Passenger Transport (General) Regulation 2017*, Transport for NSW 'Speeding' and 'Travel offences' accessed 14 December 2021; documents: General demerits, Speeding offences;

8.3 The revenue impact

We estimate that the revenue impact to FRNSW from our recommendations would be minor, resulting in $0.2 million less revenue in 2022-23 compared with maintaining the current charge and charging practices.

Table 8.2 sets out the expected revenue in 2022-23 if the current charge was continued, and under our recommendations.

Table 8.2 Expected revenue impact in 2022-23 ($2022-23, millions, ex-GST)

Item	Result
Forecast revenue with current charges	$ 35.5 million
Forecast revenue under recommendations	$ 34.8 million
Difference ($)	-$ 0.6 million
Difference (%)	-1.8 %

Note: To calculate this, we assumed 48,204 alarms occur in 2022-23, which is the 10-year median number of alarms. Numbers may not add due to rounding.

Appendices

A Assessment of alternative charging options

Below, we outline our assessment of the remaining 4 charging structure options, with assessment against the principles set out in Table A.1.

A.1 A single charge (status quo)

This option would continue the status quo. This is not our preferred charging structure because of the different impact it has on different stakeholders as described in Section 5.2.

A.2 Scaled charges based on the type of premises

This would set different charges for different building classes or premises type if there are clearly different costs attributable to attending the different premises. FRNSW has data on 35 'premises type' and 17 'building classes'.

The CIE found the incremental attendance costs range from $349 to $544 by building class.[49] By premise type, this ranges from $314 to $549. The 5 specific premises types with highest cost account for 2.8% of false alarms while the premises types with the 5 lowest costs account for 42% of all alarms.[50]

This is not our preferred approach because it is focussed primarily on reflecting cost drivers rather than incentivising the right behaviour. We also note FRNSW's data on building class and premise types may be imprecise and the work to correct it may outweigh the benefits.

A.3 Scaled charges based on whether the building is primarily residential or non-residential

This approach would set 2 charges depending on the primary use of the premises. This breakdown could better link the incentives to capacity to pay. It would likely result in a lower charge for residential properties, and higher for non-residential properties working on the assumption that businesses typically have a higher capacity to pay than individuals. This may protect individuals from a higher charge when charges are passed on. We also note that charges are ultimately recovered from occupants through strata levies or tenancy costs (e.g. in aged care).

This is not our preferred approach because it may not set the right incentives for many false alarms caused at residential premises which may be the responsibility of an owner's corporation. For instance, sharing the cost via a 'general fund' reduces the impact on the individual contributors (i.e. unit owners) and may reduce the incentive to ensure the building management undertake proper preventative measures.

A.4 A variable charge based on attendance time.

This option would have each call-out charged per 10- or 15-minute block the fire brigade is in attendance. This is not our preferred approach because:

- It is focused on cost-reflectivity but does not improve incentives to reduce false alarms from AFAs, nor is it equitable.
- There is little variation in response times: 34% take 0-30 minutes (total resource time added) and another 49% take 31- 60 minutes (see Figure 6.1). The administrative complexity may outweigh any benefit from additional cost reflectivity.
- The attendance time and resources used are driven by the operational response, proximity to a station and traffic. These are factors an alarm owner cannot control.

Table A.1 Assessment of alternative charging options against the pricing principles

Principle	One set fee (status quo)	Different charge for residential or non-residential use	Set charges based on premises type	Cost per vehicle by time
Cost reflective	~	~	~	✓
Equitable	✗	~	~	✗
Right incentives	✗	~	✗	~
Transparent	✓	~	~	✗
Simple	✓	~	~	✗
Flexible	✗	✗	✗	✓
Consistent	✓	~	~	✓

1 *Fire and Rescue NSW Act 1989*, s 11(1).
2 *Fire and Rescue NSW Act 1989*, s 42(1)(e).
3 *Fire and Rescue NSW Act 1989*, ss 42(1) and 79A..
4 FRNSW, 'Automatic Fire Alarms' viewed 9 December 2021. See, for example, National Construction Code 2019 Building Code of Australia - Volume One, Specification E2.2a clause 8.
5 FRNSW, 'Charges for false alarms', viewed 12 November 2021.
6 FRNSW, *Guideline No. 4 - Application to Waive AFA False Alarm Charges*, October 2019, paragraph 7, pp 3-4.
7 *Fire Brigades Regulation 2014*, cl 47.
8 FRNSW, 'Billing of charges', accessed 1 December 2021.
9 FRNSW, 'Billing of charges', accessed 1 December 2021.
10 IPART meeting with FRNSW, 22 September 2021.
11 FRNSW, *Automatic Fire Alarm System Terms and Conditions*, version 05, October 2019, clause 11.2, p 16.
12 *Fire Brigades Regulation 2014*, cl 47.
13 FRNSW, submission to IPART Draft Report, February 2022, p 9.
14 The Property Owner's Association of New South Wales, submission to IPART Issues Paper, 5 October 2021, p 1; Email to IPART, Tenants Union of NSW, 12 October 2021.
15 Romteck Grid, submission to IPART Draft Report, February 2022, p 1, FRNSW, submission to IPART Draft Report, February 2022, p 9.

[16] FRNSW, *Automatic Fire Alarm System Agreement Guideline No. 4 - Application to Waive AFA False Alarm Charges*, paragraph 9.3, FRNSW, 'Charges for false alarms', viewed 11 March 2021.
[17] IPART, *Review of Fire and Rescue NSW's fees and charges Public Hearing Transcript*, 31 January 2022, p 17.
[18] The Shopping Centre Council of Australia, submission to IPART Draft Report, February 2022.
[19] Fire Rescue Victoria, 'Building Design', viewed 25 February 2022; Northern Territory Police, Fire and Emergency services, 'Building Design' viewed 9 March 2022.
[20] Queensland Fire and Emergency Service, 'Pragmatic cooking and shower test', viewed 9 December 2021.
[21] IPART meeting with FRNSW, 22 September 2021; Email to IPART, Tenants Union of NSW, 12 October 2021.
[22] Queensland Fire and Emergency Service, 'Pragmatic cooking and shower test', viewed 9 December 2021.
[23] FRNSW, *Automatic Fire Alarm System Agreement Guideline No. 4 - Application to Waive AFA False Alarm Charges*, paragraph 7.
[24] The Property Owner's Association of New South Wales, submission to IPART Draft Report, February 2022. pp 2, 7.
[25] FRNSW, meeting with IPART, 12 November 2021.
[26] Email to IPART, Tenants Union of NSW, 12 October 2021.
[27] Romteck Grid, submission to IPART Draft Report, February 2022, p 1.
[28] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, pp 29, 41, 42.
[29] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, p 42.
[30] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, p 32.
[31] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, Table 4.14, pp 38, 45.
[32] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, p 44.
[33] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, pp 32 42.
[34] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, pp 29, 31-32.
[35] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, pp 30, 32.
[36] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, p 32.
[37] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, p 39.
[38] FRNSW Annual Reports, 2016-17 to 2020-21, IPART analysis.
[39] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, p 40.
[40] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, p 40.
[41] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, p 42.
[42] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, p 41.
[43] W. Kathy Tannous, *The economic cost of unwanted automatic fire alarms,* September 2021, Fire Safety Journal 124 (2021) 103394.
[44] FRNSW, meeting with IPART, 12 November 2021.
[45] FRNSW, meeting with IPART, 12 November 2021.
[46] *Fire and Rescue Act NSW 1989*, s 34.
[47] FRNSW, meeting with IPART; Property Owner's Association, submission to IPART Issues Paper, 5 October 2021, p 1.
[48] *Police Act 1990*, section 209.
[49] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, Table 4.10, p 34.
[50] The CIE, *Efficient operating costs of providing Fire and Rescue NSW's services*, Final Report, March 2022, Tables 4.11 and 4.12, p 35.