BS 9518:2021

BSI Standards Publication

Processing of alarm signals by an alarm receiving centre — Code of practice

bsi.

Contents

		Page
	Foreword	**iii**
1	Scope	1
2	Normative references	1
3	Terms, definitions and abbreviated terms	1
4	General	6
4.1	Primary function	6
4.2	Working environment	6
4.3	Operational resources processes	6
4.4	Response agreement	6
4.5	Critical data omissions	7
4.6	Confidentiality	7
4.7	Transmission system faults	8
4.8	Testing of monitored alarm systems	8
4.9	Monitoring of setting and unsetting	9
5	Intruder and hold-up alarm monitoring	9
5.1	Intruder and hold-up alarm systems not utilizing confirmation technology	9
5.2	Designation of alarm signals from I&HASs capable of providing sequential confirmation	10
5.3	Designation of alarm signals from I&HASs capable of providing audio confirmation	10
5.4	Designation of alarm signals from I&HASs capable of providing visual confirmation	10
5.5	Telephone confirmation of hold-up alarm (HUA)	11
5.6	Transmission path conditions to be regarded as confirmation	11
5.7	Alarm filtering	11
5.8	Detection device inhibit signal following reinstatement of the I&HAS	13
6	Fire alarm systems	13
6.1	General	13
6.2	Filtering	14
6.3	Fire signals transmitted automatically via social alarm systems	14
7	Social alarm systems	16
8	VSS monitoring	16
8.1	Detection-activated remotely monitored VSS	16
8.2	ARC procedures and documentation	17
8.3	Activation management	17
9	Signals from lone worker systems	17
9.1	Service	18
	Table 1 — Target ARC response times from receipt of activation message/call	18
9.2	Operational functions	18
9.3	Oral communication	19
9.4	Performance criteria	19
9.5	Lone worker information	19
9.6	Establishing the nature of an incident	19
9.7	Verification	20
9.8	False alerts	20
9.9	Procedures and documentation	20
9.10	Access to information	20
9.11	Management of activation messages/calls and alarm calls	21
	Table 2 — Monthly lone worker alarm statistics (example)	21
	Table 3 — Monthly summary of verified alarms (example)	21

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Annex A (informative) **Representation of the typical relationship and lines of communication between stakeholders in alarm monitoring and response** **22**
Figure A.1 — Typical relationship and lines of communication between stakeholders in alarm monitoring and response 22

Annex B (informative) **Filtering actions for fire alarm signals** **23**
Figure B.1 — Response from ARC to site following receipt of a fire alarm signal (where filtering is required) 23

Bibliography **24**

Summary of pages
This document comprises a front cover, an inside front cover, pages I to IV, pages 1 to 24, an inside back cover and a back cover.

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Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 July 2021. It was prepared by Subcommittee GW/1/11, *Remote centres*, under the authority of Technical Committee GW/1, *Electronic security systems*. A list of organizations represented on these committees can be obtained on request to the committee manager.

Supersession

This British Standard supersedes BS 8591:2014, which will be withdrawn on 31 July 2022.

Relationship with other publications

This British Standard has been produced following the publication of BS EN 50518:2019 and is intended to complement that standard by providing UK-specific recommendations for the processing of alarm signals.

The UK has produced standards for the planning, construction, facilities and operation of manned and unmanned remote centres since the 1990s.

The first of these was BS 5979 (*Remote centres receiving signals from fire and security systems – Code of practice*), which gave recommendations for the planning, construction and facilities of manned and unmanned remote centres, and for the operation of alarm receiving centres (ARCs) receiving signals from security systems including intruder and hold-up alarm systems (I&HAS). Following the publication of BS EN 50518, parts 1–3 in 2013, which provided requirements for planning, construction, facilities and for the operation of ARCs receiving signals from I&HAS, BS 5979:2007 was withdrawn.

BS 8591 (*Remote centres receiving signals from alarm systems – Code of practice*) was produced in 2014 following the publication of BS EN 50518 in 2013 to provide recommendations for the planning, construction and facilities of manned and unmanned remote centres, and for the operation of ARCs receiving signals from security systems other than I&HAS. The publication of BS EN 50518:2019 has prompted the development of BS 9518 and the withdrawal in due course of BS 8591.

ARCs certificated to BS 5979 or BS 8591 at the date when that British Standard was withdrawn are presently able to maintain certification to BS 5979 or BS 8591 as appropriate, subject to the terms of the certification scheme.

BS 5979:2007 and BS 8591:2014 both contained UK procedural and performance recommendations for the processing of signals from alarm systems. These recommendations have been reviewed and updated during the development of BS 9518, with specific changes to procedures to reflect changes in the expectations of UK Emergency Services organizations. As a result of this review and update, there might be conflicts between the procedural and performance recommendations given in BS 9518 and the withdrawn standards (BS 5979 and BS 8591); where such conflict exists, the recommendations in BS 9518 supersede those in BS 5979 or BS 8591.

Certification schemes for ARCs to BS EN 50518 may be extended to include certification to BS 9518.

Information about this document

This British Standard covers the alarm handling procedures for ARCs receiving signals from I&HAS, fire alarm systems, social alarm systems, VSS and lone worker devices.

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This standard was written to retain those sections of BS 8591 not in conflict with BS EN 50518 and in addition to include alarm handling procedures for alarm types covered in other British Standards, i.e. BS 8243, BS 8418 and BS 8484.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Use of this document

As a code of practice, this British Standard takes the form of recommendations and guidance. It is not to be quoted as if it were a specification. Users are expected to ensure that claims of compliance are not misleading.

Users may substitute any of the recommendations in this British Standard with practices of equivalent or better outcome. Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. "organization" rather than "organisation").

The word "should" is used to express recommendations of this standard. The word "may" is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the Clause. The word "can" is used to express possibility, e.g. a consequence of an action or an event.

Notes and commentaries are provided throughout the text of this standard. Notes give references and additional information that are important but do not form part of the recommendations. Commentaries give background information.

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1 Scope

This British Standard gives recommendations for the processing of signals by an alarm receiving centre (ARC) from alarm systems, such as but not limited to fire detection and fire alarm systems, fixed firefighting systems, intrusion and holdup alarm systems, video surveillance systems, social alarms systems, lone worker, and combinations of such systems.

NOTE *BS EN 50518:2019 provides guidance on planning, construction, systems, management processes, leadership, governance, management and staffing of an alarm receiving centre. BS 5979 and BS 8591 also provide guidance.*

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document.[1)] For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 7858, *Screening of individuals working in a secure environment – Code of practice*

BS EN 50131-1, *Alarm systems – Intrusion and hold-up systems – Part 1: System requirements*

BS EN 50134-7:2017, *Alarm systems – Social alarm systems – Part 7: Application guidelines*

BS EN 50518:2019, *Monitoring and Alarm Receiving Centre*

BS EN 62676-4:2015, *Video surveillance systems for use in security applications – Part 4: Application guidelines*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this British Standard, the terms and definitions given in BS EN 50131-1 and the following apply.

3.1.1 alarm company

organization that provides installation and/or maintenance services for alarm systems

3.1.2 alarm condition

condition of an alarm system, or part thereof, that results from the response of the system to the presence of a hazard

[SOURCE: BS EN 50518:2019, **3.1.2**]

3.1.3 alarm filtering

procedure whereby signalled alarm conditions are intentionally delayed and their status reviewed for the purpose of preventing unnecessary calls to the relevant emergency service or nominated contact by cancelling certain alarm conditions, where such cancellation is authorized by the user or responsible/authorized person

NOTE *Such filtering is not usually applied to signals from fire alarm systems in residential care premises.*

1) Documents that are referred to solely in an informative manner are listed in the Bibliography.

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3.1.4 alarm management system (AMS)

system which stores, organizes, controls, manages and allows retrieval of client data and is interfaced to alarm receiving equipment for automatic annunciation of messages for each alarm system

[SOURCE: BS EN 50518:2019, **3.1.4**]

3.1.5 alarm message

message that indicates that an alarm condition has occurred, or which provides supplementary information concerning a previously reported alarm message

3.1.6 alarm receiving centre (ARC)

continuously manned remote centre to which information concerning the status of one or more alarm systems is reported

[SOURCE: BS EN 50518:2019, **3.1.5**]

NOTE For the avoidance of doubt, alarms from systems in accordance with BS 8418 which were formerly handled at a Remote Video Response Centre (RVRC) may also be handled at an ARC that operates in conformity to this British Standard.

3.1.7 alarm signal

signal which, upon being received at an ARC, identifies a signalled alarm condition

3.1.8 client

person or organization with whom the ARC has entered into a contract to provide alarm monitoring services

NOTE In BS 8484, this is known as the "supplier".

3.1.9 confirmed alarm

signalled alarm condition which the ARC identifies as indicating that a genuine alarm has occurred

NOTE This determination might be because:

a) the alarm signal indicates that local filtering within the alarm system (AS) has identified a high probability of a genuine alarm, e.g. as a result of two independent events occurring in sequence; or

b) filtering actions taken at the ARC (e.g. listening in, viewing video, receipt of two or more independent alarm signals from the supervised premises or user confirmation) to identify that the signal is not a false alert.

3.1.10 customer

person or organization utilizing the services of the client

NOTE The customer can also be the client.

3.1.11 detection device

device designed to generate an alarm message in response to the sensing of an abnormal condition indicating the presence of a hazard

[SOURCE: BS EN 50518:2019, **3.1.12**, modified]

3.1.12 dwelling

unit of residential accommodation occupied (whether or not as a sole or main residence):

a) by a single person or by people living together as a family;

b) by not more than six residents living together as a single household, including a household where care is provided for residents;

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c) by persons who do not live together as a family, but who live in self-contained single-family flats, maisonettes or bedsits within the unit; or

d) as a shared house

NOTE The definitions in c) and d) relate only to some types of house in multiple occupation and specifically exclude hostel type accommodation. They can, however, include houses with long-term lodgers.

3.1.13 escalation instructions

documented instructions available to the operator on receipt of an activation message/call and giving details concerning use of response services

3.1.14 false alarm

signalled alarm condition that is incorrectly identified as a genuine alarm and has been notified to the relevant emergency service

3.1.15 false alert

signalled alarm condition that (without having been extended to the relevant emergency service) is regarded by the ARC as cancelled, such cancellation having been authorized by the customer

NOTE 1 Such authorization can be either:

a) on a case-by-case basis by use of suitable code words or numbers in accordance with a defined alarm filtering routine; or

b) by prior written agreement.

NOTE 2 Communication whereby the customer/user causes (i) a mis-operation signal or (ii) an unset signal to be sent to the ARC affirming that the signalled alarm condition is to be filtered out and not extended to the relevant emergency service are examples of cancellation authorized by the customer [see NOTE 1a)].

3.1.16 fire signal

signal intended to indicate the occurrence of a fire

[SOURCE: BS 5839-1:2017, **3.26**]

3.1.17 hold up device (HD)

device which, when manually operated, causes an alarm message to be generated

[SOURCE: BS EN 50518:2019, **3.1.18**]

3.1.18 genuine alarm

alarm condition which has resulted from:

a) an attack, or attempts at such, on the supervised premises, the alarm equipment or the line carrying the alarm signal;

b) actions by the emergency services in the execution of their duties;

c) a hold-up alarm (HUA)/lone worker service signal made with good intent; or

d) a confirmed social or fire alarm signal

3.1.19 lone worker (LW)

individual who works by themselves, without close or direct supervision

NOTE 1 Examples of other terms used within the industry for LW include mobile worker or remote worker.

NOTE 2 Guidance on managing the risks of working alone is given in the HSE guidance document, INDG73 [1].

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3.1.20 lone worker application (LWA)

dedicated application (software) running on a non-dedicated device(s) able to transmit an activation message/call and to provide communications

NOTE For example, a non-dedicated device can be a mobile device or phone.

3.1.21 lone worker device (LWD)

dedicated electronic device, able to transmit an activation message/call and to provide communications

3.1.22 lone worker service (LWS)

combination of an LWD/LWA, monitoring, training and management information provided by a client to a customer, enabling a response to an LW's activation message/call

3.1.23 mis-operation signal

signal that is unambiguously identifiable at the ARC as indicating that the alarm system has mis-operated

NOTE The designation of a particular type of signal as a mis-operation signal is a matter for agreement between the alarm company and the ARC, with the concurrence of the customer.

3.1.24 pre-activation message/call

information sent from an LWD/LWA to an ARC providing the operator with details about planned LW location, identity, nature of the task and any potential risk applicable at that point in time

NOTE 1 Collectively, these details might result from an LW's dynamic risk assessment.

NOTE 2 Examples of other terms used within the security industry for pre-activation message/call include memo, amber alert and pre-alert.

3.1.25 residential premises

dwellings and buildings used as a specialized grouped living environment

3.1.26 set

status of an alarm system that determines whether certain signals are notified

3.1.27 signalled alarm condition

state of monitoring equipment at an ARC (or other remote location) that indicates that an alarm condition has occurred

NOTE Once signalled at the ARC as an alarm condition, the event is regarded as a signalled alarm condition even if subsequently filtered out by the ARC personnel as being a false alert not requiring relevant emergency service response.

3.1.28 social alarm system

system providing 24 h facilities for alarm triggering, identification, signal transmission, alarm reception, two-way speech communication, reassurance and assistance, for use by persons considered to be at risk

[SOURCE: BS EN 50134-3:2012, **3.1**]

3.1.29 specialized grouped living environment

accommodation that provides self-contained, independent living for occupants who are wholly or mainly limited to a specific section of population and who are likely to require additional measures

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to secure their safety and wellbeing, including but not limited to accommodation provided for elderly people, children and people with a physical or mental impairment

NOTE Such environments are distinct from a nursing home or residential care home in that the residents are usually able to look after themselves, or require limited personal support, are active and are afforded a degree of independence.

3.1.30 supervised premises

part of a building to which protection is afforded by an alarm system

3.1.31 T_{OP}

time of the first action initiated by the ARC operator or the AMS according to the action plan agreed with the client

[SOURCE: BS EN 50518:2019, Figure 2]

3.1.32 T_{RCT}

time of the output message from the RCT

[SOURCE: BS EN 50518:2019, Figure 2]

3.1.33 ΔT_{OP}

time elapsing between the moment of availability of the alarm message at the output of the RCT and the time of the first action initiated by the ARC operator or the AMS ($\Delta T_{OP} = T_{OP} - T_{RCT}$)

[SOURCE: BS EN 50518:2019, Figure 2]

3.1.34 unset

status of an alarm system that determines whether certain signals cannot be notified

3.1.35 user

person authorized to operate an alarm system

NOTE The user can also be the customer.

3.1 Abbreviated terms

For the purposes of this British Standard, the following abbreviated terms apply.

AMD Audio monitoring device

AMS Alarm management system

ARC Alarm receiving centre

AS Alarm system

CIE Control and indicating equipment

F&RS Fire and rescue service

HD Hold-up device

HUA Hold-up alarm

IAS Intruder alarm system

I&HAS Intruder and hold-up alarm system

NPCC National Police Chiefs' Council

RCT	Receiving centre tranceiver
VMD	Video monitoring device
VSS	Video surveillance system (previously known as CCTV)
WD	Warning device

4 General

4.1 Primary function

The primary function of an ARC should be the handling of alarm and/or VSS signals, together with other signals relating to the change of status of the alarm and/or VSS systems, such as setting, unsetting or fault signals, and any related or subsidiary operations, such as keyholding or controlling a response service.

4.2 Working environment

The ARC should maintain an environment in its operations area that is free from unnecessary distractions such that:

a) the amount of ambient noise transmitted to the user is limited; and

b) the operator can listen to and quickly verify an incident, even through unclear received audio.

NOTE The working environment in the ARC is particularly important when handling lone worker or social alarms or other audio communication systems.

4.3 Operational resources processes

4.3.1 Staff selection and screening

All ARC staff should be selected and screened in accordance with the types of risk arising from the information to be handled by the ARC and the nature of staff contact with customers, clients, users and their data.

For ARCs processing signals from security applications (as defined in BS EN 50518:2019), all staff should be screened in accordance with the screening process described in BS 7858.

For ARCs processing signals from non-security applications (as defined in BS EN 50518:2019), potential staff risks extend beyond those contained within the screening framework in BS 7858 and the ARC management should have and operate a suitable screening framework and process, based on identified risks for each post.

4.3.2 Staff training

All staff should receive a period of training within the ARC to familiarize them with the routines and practices of operation. There should be a stated minimum period of training to provide staff with the competence to carry out specified duties, which should be completed before the operator is allowed to handle alarms without direct supervision. Training plans should include the specific requirements for the types of alarms the operator might be required to handle. Further training should be given, as necessary, for specific subjects, such as new equipment or changes in operational procedure.

4.4 Response agreement

There should be a written response agreement with each client specifying the action(s) to be taken on receipt of an alarm, fault, other signal including mis-operation signal, or any other services to be provided by the ARC.

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The response agreement should contain, as a minimum, the following.

a) Prioritization of alarm signals: the prioritization applied by the ARC to different alarm signal types in instances where multiple signals appear in an alarm queue prior to processing, e.g. a fire alarm signal might be considered a higher priority to be processed than an intruder alarm signal, so would be processed before the intruder alarm signal.

b) Multiple false activations: where multiple false activations (nuisance alarms) occur from an alarm system, if the ARC chooses to isolate all or part of that system, the response agreement should specify the minimum frequency (number/time) of alarm signals received before the affected part is isolated. Each case of detection device or system isolation/suspension should be communicated to the client/user at the time of isolation, along with a maximum isolation period.

c) Reports: any reports or other information to be provided to the client. The ARC should, as a minimum, provide a monthly report of any alarm system activation to their client in order to aid the client in their management of false alarms.

NOTE 1 Annex A outlines common lines of communication/the contractual relationship between the ARC, client, alarm company, customer, users and emergency services.

NOTE 2 Where the client and the customer are the same person, the ARC and the client might agree that monthly reports of all activations are not required.

d) Notification of alarms: the arrangements for contacting a customer or user following a signalled alarm condition.

e) Notification of transmission faults: the arrangements for contacting the customer or user following the identification of a fault on the transmission systems and if applicable, include any delay period applied before notifying the customer or user.

f) Filtering of alarms: a documented policy on filtering of alarms should be provided to the client. The policy should detail:

   1) which alarm signals are to be filtered;

   2) how/when filtering is to be applied; and

   3) duration/time limits of filtering.

   Where an ARC utilizes technology to automatically filter alarm signals after the signal has been transmitted from the alarm system, the client should be provided with a description of how the filtering process works and an agreement obtained in writing.

The ARC should make available to the client a copy of their response agreement for review.

4.5 Critical data omissions

If the ARC becomes aware that critical data required to complete the response agreement is unavailable or inaccurate (e.g. there is a user who is no longer valid on the system), within 24 h a formal notice should be issued in accordance with the response agreement requesting the supply of the missing data.

4.6 Confidentiality

Documented procedures to authenticate the exchange of confidential information between the ARC and the customer and/or alarm company should be agreed with the client.

NOTE 1 Authentication can be achieved by various means, for example, use of passwords or codes.

NOTE 2 Examples of confidential information include changes to setting or unsetting times, the cancelling of alarm conditions, and the names and addresses of users.

NOTE 3 Attention is drawn to the relevant data protection legislation.

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4.7 Transmission system faults

A transmission system may consist of one or more transmission paths; where a fault exists on all transmission paths at the same time, the customer should be notified without delay.

For transmission systems with more than one path, a fault on one path should be notified to the customer as soon as practicable but at least within 24 h. The time period to notify of a single path fail on systems with more than one path and how the customer is to be notified should be included in the response agreement.

The restoration of a fault signal on the transmission system should be notified to the customer as soon as practicable but at least within 24 h.

NOTE See 5.6 for further recommendations for processing transmission path faults on intruder alarms systems.

Recurrent and/or intermittent transmission system faults should be identified and reported to the client to enable corrective action to be completed.

A record of all transmission system faults and their duration should be maintained by the ARC. As a minimum, a monthly report should be provided to the client identifying systems in fault condition, including the duration of that fault.

4.8 Testing of monitored alarm systems

The ARC should have a documented procedure for accepting an oral request to place a monitored alarm system on test by a user, client or authorized alarm company, such that alarm signals are not to be passed to the emergency services and/or nominated contact(s) during the period of the test. The procedure should be agreed with the client.

As a minimum, the procedure should include that the person making the request confirms:

a) their name and organization;

b) a system identifier, e.g. a system identification code; and

c) a previously agreed passcode (except for fire and social alarm systems).

Where clients require a weekly schedule for testing the receipt of fire alarm signals, this should be agreed in writing. The ARC should review any scheduled test agreements every 12 months with the customer.

The ARC procedures should revert to their original status after the test period has elapsed. The time period allowed for the system to remain on test should not be greater than 8 h.

Where systems can be placed on test by remote access to the AMS, the process should be documented and include logging of:

1) a unique identifier for the user requesting the change of status, e.g. engineer ID, customer name;

2) the time the change of status is requested and the end time/date for the monitoring of the AS to revert to its original status; and

3) the signal types that are not to be actioned for the duration of the test period.

Remote access to change the status of alarm response by the ARC should follow cyber security best practice and be periodically reviewed.

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4.9 Monitoring of setting and unsetting

4.9.1 General

Where monitoring of the setting and unsetting of an alarm system is required, the latest times for setting and the earliest times for unsetting each day should be agreed in writing with the client and recorded.

Where arrangements are made to permit variations to be notified, this should be done by an agreed confidential exchange and changes should be recorded. Unless otherwise agreed, all setting and unsetting times should be recorded for monitored systems. There should be an unambiguous presentation of setting and unsetting signals in the ARC. It should not be necessary for the operator to derive such signals by the interpretation of alarm or transmission path fault signals.

Where an ARC monitors setting and unsetting of an IAS, the police should not be called to respond to user deviation from the agreed time schedules for setting and unsetting. The ARC should contact the client and/or other users/keyholders as agreed with the client.

4.9.2 Setting

Where an alarm system has not been set by the latest time agreed for this with the client, the ARC should contact the user at the supervised premises or a keyholder to establish the cause and/or other agreed actions.

4.9.3 Unsetting

Where an alarm system is unset before the earliest time agreed for this with the client, the user/customer should be informed without delay.

NOTE Premature unsetting signals might be indicative of an alarm system management problem; either the agreed unsetting time is complied with by establishing improved control or it is revised to accord with actual practice.

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5 Intruder and hold-up alarm monitoring

*COMMENTARY ON CLAUSE **5***

*Minimum performance requirements for the handling of signals from I&HAS are contained within BS EN 50518:2019, **9.2**.*

5.1 Intruder and hold-up alarm systems not utilizing confirmation technology

*COMMENTARY ON **5.1***

Confirmation of an intruder alarm signal is not mandatory for all I&HAS. Where police response is not required, confirmation of intruder alarm signals need not be applied.

Systems holding a unique reference number (URN) issued by the police prior to confirmation of intruder alarms becoming mandatory may still be processed without the need for further confirmation.

The presentation of an unambiguous unconfirmed alarm to the ARC operator should be the result of signal processing by the CIE or by equipment at the ARC, not by the ARC operator.

Alarm filtering should be applied to intruder alarm signals where police response might be requested.

NOTE Hold-up alarm (HUA) signals do not usually require filtering unless the URN has been removed following false alarms.

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5.2 Designation of alarm signals from I&HASs capable of providing sequential confirmation

*COMMENTARY ON **5.2***

An alarm condition from the first IAS detection device or HD initiates transmission of an unconfirmed alarm to the ARC. If an independent detection device subsequently activates within the confirmation time, an unambiguous sequentially confirmed alarm is presented to the ARC operator.

The presentation of an unambiguous sequentially confirmed alarm to the ARC operator should be the result of signal processing by the CIE or by equipment at the ARC, not by the ARC operator.

5.3 Designation of alarm signals from I&HASs capable of providing audio confirmation

It should only be possible to listen in to a supervised premises from a remote location following receipt of an alarm condition. Once the ARC has listened in and then logged off, unless otherwise agreed with the client, it should not be possible for the ARC to listen in again until a further alarm condition is received at the ARC.

Where the ARC establishes the connection with the supervised premises for the purposes of listening in, there should be an audible and/or visual indication at the ARC that verifies the identity of the supervised premises. This identification should be generated from equipment located at the supervised premises.

The ARC should listen in up to the point where the alarm condition can be designated as an audibly confirmed alarm or for a minimum of 60 s (30 s for AMD activation) and for systems that include stored audio, all of the stored audio if live audio has not provided sounds consistent with intrusion.

NOTE 1 These listening periods are not intended to delay action by the ARC where there is positive evidence of intrusion or hold-up.

If, as a result of listening in to the supervised premises, the ARC decides not to designate the alarm condition as audibly confirmed, the actions taken by the ARC should be as agreed with the client.

These actions should prohibit contacting the police and activation of the WD at the supervised premises if the user/keyholder is not attending.

NOTE 2 If technology permits and it is appropriate to do so, the ARC operator may remotely activate the WD at the supervised premises.

*NOTE 3 In the case of a HUA where the sounds are inconclusive, the ARC may use the call back method of confirmation (see **5.5**). This is applicable to residential premises only.*

5.4 Designation of alarm signals from I&HASs capable of providing visual confirmation

It should only be possible to view images from a supervised premises in a remote location, following receipt of an alarm condition. Once the ARC has viewed images and then logged off, unless otherwise agreed with the client, it should not be possible for the ARC to view images again until a further alarm condition is received at the ARC.

Where the ARC establishes the connection with the supervised premises for the purpose of viewing images, there should be an audible and/or visual indication at the ARC that verifies the identity of the supervised premises. This identification should be generated from equipment located at the supervised premises.

The ARC should view all images received as a result of an alarm condition, up to the point where the alarm is designated as visually confirmed.

If, as a result of viewing images from the supervised premises, the ARC decides not to designate the alarm condition as visually confirmed, the actions taken by the ARC should be as agreed with the client.

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NOTE 1 These actions prohibit contacting the police and activation of the WD at the supervised premises if the user/keyholder is not attending.

NOTE 2 If technology permits and it is appropriate to do so, the ARC operator may remotely activate the WD at the supervised premises.

All images received at the ARC should be recorded with the time and date and retained for at least three months in a format that can be easily retrieved.

NOTE 3 In the case of a HUA where the images are inconclusive, the ARC may use the call back method of confirmation (see 5.5). This is applicable to residential premises only.

5.5 Telephone confirmation of hold-up alarm (HUA)

Where telephone confirmation is used, the ARC's procedure for call back (i.e. what response/filtering the ARC takes when responding to a HAS activation) should be shared with the user/client.

The procedure should as a minimum contain the following:

a) if the call is answered, whether a password or duress word is required;

b) if the call is answered but the HUA cannot be confirmed, the police should not be notified; and

c) actions to be taken if no answer.

NOTE 1 If a sequentially confirmed HUA is received, the telephone confirmation procedure is not required to be completed.

NOTE 2 See the NPCC policy [2] for further guidance.

NOTE 3 For police response, telephone call back for confirmation of HUA is only permitted in residential premises.

5.6 Transmission path conditions to be regarded as confirmation

The ARC should treat the following conditions as confirmed alarms as there is likely to be high confidence that there is genuine alarm.

a) If an ARC receives a transmission path fault signal followed by an alarm signal, or an alarm signal followed by a transmission path fault.

b) For systems with more than one transmission path, where no paths remain.

c) A HUA and a transmission path fault signal and vice versa.

d) A tamper condition followed by a transmission path fault and vice versa.

The conditions listed in a) to d) should occur from the same supervised premises during a single set period up to a maximum of 96 h to be regarded as a confirmed alarm.

5.7 Alarm filtering

5.7.1 Application of alarm filtering

Alarm signals/conditions to which alarm filtering is required to be applied should be subject to an intentional delay of not more than 120 s from presentation in the AMS (120 s being the maximum alarm filtering delay) before being extended to the police, as an opportunity for the alarm to be designated as a false alert and therefore cancelled as part of the alarm filtering routine.

NOTE 1 Alarm filtering of an unconfirmed alarm need not be applied if the ARC has received a transmission path fault signal from the same supervised premises during the same set period up to a maximum of 96 h before the alarm was received.

The intentional delay of 120 s should be applied unless the following four conditions are satisfied.

a) The ARC has agreed with the client to provide monitoring of setting and unsetting in accordance with 4.9.

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b) The sequentially confirmed alarm is received at least 30 min after the latest time agreed for setting.

c) The sequentially confirmed alarm is received at least 30 min before the earliest time agreed for unsetting.

d) The ARC has evidence indicating that the IAS at the supervised premises is in the set condition and has been in the set condition for at least 15 min.

NOTE 2 This is an opportunity for the alarm signal to be designated as being a false alert and therefore cancelled as part of the alarm filtering routine.

If, during the alarm filtering delay, the ARC receives a signal that is identifiable as either:

1) being a mis-operation signal; or

2) indicating that the alarm system is unset;

the ARC should, in the absence of any contrary indications, designate the remotely notified alarm condition as being a false alert and regard the remotely notified alarm condition as cancelled.

NOTE 3 Examples of contrary indications are audible or visual evidence of genuine intrusion or genuine attempted intrusion.

NOTE 4 It is a matter to be agreed between the parties whether or not users/keyholders are to be called in the event of a false alert.

The ARC should advise clients in writing of the procedures applicable to alarm filtering.

NOTE 5 During alarm filtering, the ARC might attempt to contact the supervised premises and/or users/keyholders by telephone and/or receive incoming telephone calls from users/keyholders, with a view to obtaining duly authenticated authorization (using suitable code words or numbers), by live voice, for the alarm condition to be designated as a false alert and therefore cancelled. Such practices are to be regarded as optional and/or for contractual agreement and are not included in this British Standard.

NOTE 6 In the event of adverse and unforeseen circumstances (e.g. severe weather conditions or extended power failures) affecting alarm monitoring at an ARC, the processing of alarms by the ARC might occasionally become delayed. It is permissible under these circumstances for alarms to be held in the alarm filtering delay for longer than 120 s and for the alarm to be cancelled if a mis-operation signal or an unset signal is received during the extended alarm filtering delay.

There should be an indication at the ARC, available to the ARC supervisor, of the number of alarms held in the filtering delay so as to facilitate best use of operators and the contacting of staff in reserve.

5.7.2 Authorization of cancellation

Cancellation of a remotely notified alarm condition should be individually authorized by the client, case-by-case in accordance with a defined alarm filtering routine, where the user or the I&HAS communicates with the ARC (using suitable code words or numbers) affirming that the I&HAS has mis-operated and that the alarm is to be filtered out.

NOTE 1 Communication, whereby the user or I&HAS causes an unset or mis-operation/abort signal to be sent to the ARC affirming that the I&HAS system has been unset or mis-operated and therefore that the remotely notified alarm condition is to be filtered out, is an example of cancellation individually authorized by the client.

Where it can be identified that a restore signal is from an individual detection device, this should not be regarded as a mis-operation signal or that the system has been unset.

NOTE 2 This does not preclude the client giving general or specific standing authority, by prior written agreement, that the alarm company's ARC may designate some alarm signals as void (i.e. cancelled).

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5.8 Detection device inhibit signal following reinstatement of the I&HAS

*COMMENTARY ON **5.8***

Sequential confirmed I&HAS may be configured to reinstate after a period of time commonly known as the confirmation time (for an IAS this is typically 30 min) if there has only been a single alarm activation during this time. At time of reinstatement, the detection device(s) remaining in alarm condition, e.g. due to a door being open or a HUA not reset, may be automatically inhibited by the I&HAS and a signal sent to the ARC to indicate that the detection device(s) has been inhibited.

Where a detection device inhibit signal is received, the ARC should inform a keyholder that detection device(s) in the I&HAS are inhibited.

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6 Fire alarm systems

*COMMENTARY ON CLAUSE **6***

The ARC and ARC operator are part of the critical path between a fire being detected and a rescue or extinguishment of the fire taking place. Any delay in the receipt of a call, information gathering, passing the call to the F&RS and passing appropriate information to the F&RS might delay the F&RS response or contribute to an inappropriate response being made and therefore could put occupants and fire-fighters lives at risk.

6.1 General

Fire alarm signals should be given priority and should be clearly distinguishable from other alarm indications, at least by visual means.

Unless agreed otherwise, fire alarm signals should be passed without delay, except where filtering is required.

The performance criteria for processing fire alarm signals should be in accordance with BS EN 50518:2019, **9.2**.

Filtering should:

a) usually be applied to all signals received from residential premises;

b) not be applied to signals from fire alarm systems in residential care premises; and

c) for other premises, only be implemented by the ARC if requested, in writing, by the client.

NOTE 1 The ARC might identify opportunity for service improvement through the development of a management dialogue with each F&RS to which fire alarm signals are to be passed.

NOTE 2 An ideal method of providing address details to the F&RS is a unique reference number (URN).

The ARC should provide a monthly report to the client or the client's nominated representative of all systems where there is a customer instruction not to notify alarms to the F&RS. The report should differentiate between new entries to the list from the previous month.

Where the ARC receives an instruction to "temporarily" cease notification of alarms to the F&RS from a specific site (e.g. due to false alerts), a report should be provided to the client on a monthly basis listing the site(s) until the temporary instruction is removed.

NOTE 3 This is to prevent temporary instructions remaining longer than necessary.

In all cases where the time between receipt of a signal and transmission of information to the F&RS exceeds 180 s, a written report should be made, describing the circumstances and action taken.

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6.2 Filtering

In the case of fire alarm signals from systems that are subject to filtering, the ARC should pass the signal to the F&RS without further delay if:

a) no contact can be established with the supervised premises within 30 s;

b) a person at the supervised premises confirms that there is a fire;

c) within a maximum of 60 s, voice communication with a person at the supervised premises has failed to establish unambiguously that the signal is a false alert; or

d) a person on site authorizes the F&RS to be called.

NOTE 1 The timing stated above is from commencement of the first action by the ARC operator or AMS according to the action plan agreed with the client.

Filtering procedures should be documented and readily accessible to ARC operators and should clearly record the agreed maximum filtering period.

NOTE 2 See Annex B for a contacting site flow diagram.

The ARC should review any filtering agreements every 12 months with the client. The filtering agreements should determine the arrangements for review, confirmation or cancellation (filtering) of signalled fire alarm conditions.

6.3 Fire signals transmitted automatically via social alarm systems

*COMMENTARY ON **6.3***

Signals from fire detection systems or devices may be transmitted to an ARC via a social alarm system in the following circumstances.

- *A fire detection device, such as a smoke or temperature rise detection device, is installed as a trigger device within a social alarm system.*
- *The control and indicating equipment in a fire alarm system operates as an automatic trigger device within a social alarm system. This is a common system configuration within grouped living systems installed within specialized grouped living environments.*
- *The control and indicating equipment in a fire alarm system uses the social alarm system as part of its alarm transmission path.*

Social alarm systems are designed to provide support to individuals who are deemed to be vulnerable and at risk. Where a social alarm system is installed in specialized grouped living environments, it is appropriate for fire signals to be relayed to the same location as alarm signals from the social alarm system, as this allows the F&RS to be updated when additional information is received by the ARC via social alarm signals. However, in the first instance, it might not be appropriate to summon the F&RS on receipt of a fire signal at an ARC, without filtering of that signal.

6.3.1 General

Where the ARC's AMS has the facility to extend the 2-way speech path from the AS to the F&RS, the ARC should have a documented procedure for the operation of this functionality.

NOTE In certain circumstances, the F&RS control might wish to give fire survival guidance directly to an occupant.

6.3.2 Signals from a fire detection device operating as a trigger device

The signal should be filtered using the social alarm system two-way speech facility to verify the need to pass the signal to the F&RS. Filtering should be undertaken in accordance with **6.2**.

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Where the social alarm system is not part of a grouped living system, the connection between the ARC, the F&RS and the social alarm system should be kept open until the call is closed by the arrival of fire crews on the scene or at the request of the F&RS control officer.

Any further information gained, such as the exact location and condition of the occupant, other persons involved and the exact location and cause of the fire, should be transferred to the F&RS.

NOTE It might be advantageous to include a second operator to speak to the occupant or F&RS.

6.3.3 Signals from a fire detection system operating as a trigger device

*COMMENTARY ON **6.3.3***

This system configuration is generally found in specialized grouped living environments and is extremely unlikely to occur within a single-family dwelling.

Generally, the relay output port on the fire alarm control and indicating equipment is connected to the relay port of a social alarm local unit, allowing the fire alarm system to trigger the social alarm system when an event occurs at the control and indicating equipment. This system configuration does not provide for transmission of information about the nature of the event (panel fault, system test or detection device activation – verified or otherwise) to the ARC, but it does allow the ARC to establish two-way speech to the interconnected local unit, which is generally installed close to the control and indicating equipment.

A small number of systems are installed using a connection from the control and indicating equipment relay output port to a trigger device within the social alarm system that does not support two-way speech. In these circumstances, it is not possible to communicate via the social alarm system with anyone proximate to the control and indicating equipment.

Grouped living systems have a facility to hold signals on site for response by a local responder using a personal receiver system. Where the grouped living system is switched to "on site" mode, signals being forwarded to an ARC have been delayed on site for the period set within that local system (typically between 60 s and 300 s) and ARCs processing signals from such systems need to be aware of the possibility of signals being held on site and take due account of this when processing signals received from such sites.

Prior to March 2013 it was acceptable for grouped living systems to be installed with a single alarm transmission path; this changed when BS EN 50134-3:2012 came into force. The changes in the 2012 version of BS EN 50134-3 are not retrospective; the majority of grouped living systems were installed prior to the changes in requirements and these systems might not have been modified to support multiple alarm transmission paths. For this reason, the requirement to keep the connection between the supervised premises and the ARC open until the arrival of the F&RS or an instruction from the F&RS control officer has been dropped, to allow for the unhindered flow of alarm signals from these sites.

Where the alarm message provides the ARC with information that confirms that transmission of the signal has been delayed at the supervised premises for more than 60 s from the triggering event, the signal should be passed to the F&RS without further delay.

In all other cases, the signal should be filtered to verify the need to pass the signal to the F&RS. Contact with the supervised premises for the purpose of filtering should be made using the mechanism agreed with the client; usually, this would be by using the social alarm system two-way speech facility. Filtering should be undertaken in accordance with **6.2**.

In a specialized grouped living environment, additional alarm signals might be received from residents using the social alarm system and the information received from such calls should be used to clarify the circumstances at the supervised premises. Any further information gained, such as

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unambiguous confirmation of the existence (or otherwise) of a fire, the exact location and cause of the fire and other persons involved should be transferred to the F&RS.

6.3.4 Signals from a fire detection system using a social alarm system as part of its transmission system

Signals from fire alarm system installations should be handled in accordance with **6.1**.

7 Social alarm systems

Signals from trigger devices deployed for fire detection and notification purposes should be processed in accordance with Clause **6**.

The performance criteria for processing social alarm signals should be in accordance with BS EN 50134-7:2017, **9.1**e).

For all other signals from social alarm systems, the ARC should follow the specific operating procedures given in BS EN 50134-7:2017, **9.2** and **9.4**a), b) and c).

NOTE Further information on social alarm monitoring can be found in BS EN 50134-7:2017, the TSA Quality Standards Framework [4] and PD CEN/TS 17470.

8 VSS monitoring

8.1 Detection-activated remotely monitored VSS

*COMMENTARY ON **8.1***

Detection-activated video surveillance systems (VSS), installed and maintained in accordance with BS 8418, are capable of obtaining a police response to visually confirmed criminal activity. Not all detection-activated VSS require a police response and therefore other responses, as per the agreement with the client, are common.

When an activation is received at the ARC and presented to an ARC operator, images associated with that activation are also received; prior to taking action, operators view these images for a period of time to ascertain what has caused the activation. A response is only requested by the ARC if the images provide positive evidence of unauthorized access to the supervised premises, criminal activity or perceived criminal activity.

8.1.1 General

The supervised premises documentation should clearly detail the layout of the supervised premises and the areas to be viewed when a detection device initiates an activation.

The supervised premises plan should show detailed information, including the detection area and camera fields of view, to enable ARC operators to be able to describe accurately the nature of incidents as they occur.

8.1.2 Isolating detection devices

Where the ARC isolates a detection device, actions should be taken in accordance with the response agreement.

Detector isolation should be logged at the ARC.

8.1.3 Image quality

The quality of images received should be at least sufficient to enable an ARC operator, with normal or corrected vision, to determine the nature and detail of a viewed event.

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8.2 ARC procedures and documentation

8.2.1 Storage of images received

Images received at the ARC should be stored electronically. Reference images should be stored electronically and should be secure and readily accessible to the ARC operator during live event handling for comparison purposes. For functional cameras, reference images relating to each of the preset positions should be stored.

Documented procedures should be established for indexing and accessing images stored from a particular incident.

The retention period for the images should be included in the response agreement.

8.2.2 Images for evidential purposes

Where data and/or images are stored digitally and might be required as evidence for a crime, they should be stored in accordance with BS EN 62676-4:2015, Clause **11**.

NOTE See BS 10008 (all parts) for further guidance on evidential weight and legal admissibility of electronic information.

When recording information from an activation, the ARC operator should take into account and document any information that they judge to be potentially useful for investigative and evidential purposes.

8.2.3 Image quality check

When the quality of an image is identified as being too poor to allow the ARC operator to determine the nature and detail of a viewed event, a formal notice should be issued in accordance with the response agreement advising of the nature of the problem and requesting that remedial action be taken.

8.3 Activation management

8.3.1 Classification of activations

The ARC should classify activations. As a minimum, the classification system used should distinguish between false alerts and confirmed alarms. The activity for each detection device/camera combination should be recorded and classified according to the cause of the activation so that the VSS can be managed effectively with regard to the VSS faults or deficiencies.

8.3.2 Multiple false activations

When multiple false activations occur, the ARC should carry out actions in accordance with the response agreement.

9 Signals from lone worker systems

*COMMENTARY ON CLAUSE **9***

The emergency response services, i.e. Police, Ambulance, F&RS, may only be contacted as a result of a signal from an LWD/LWA if the LW service conforms to BS 8484. The BS 8484 LW service includes: supplier recommendations, the LWD/LWA, training and support of users. Where the supplier of the LW service does not comply with BS 8484, signals from LWD/LWA are not passed to the emergency response service.

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9.1 Service

The ARC should:

a) record which systems conform to BS 8484 and which do not to ensure the appropriate response is given;

NOTE 1 Conformity to BS 8484 can be demonstrated by certification by a UKAS accredited certification body.

b) receive and process information to evaluate incidents accurately and in accordance with Table 1;

c) provide a service in accordance with the agreed escalation instructions;

d) request the appropriate response;

NOTE 2 The police might not be called unless the LW service conforms to BS 8484.

e) record activation messages/calls that have been cancelled or judged to be false alerts by an operator; and

f) direct the relevant response service to the location of the LWD/LWA with the relevant personal information and situation about the LW requesting assistance.

NOTE 3 Attention is drawn to relevant police requirements for LWS as detailed in the NPCC policy [2].

Table 1 — *Target ARC response times from receipt of activation message/call*

Action	Time	Calls to fall within activation/verification response times
	s	% of total calls
Activation message/call received at ARC and operator starts verification[A)]	10	80
	40	98.5
Complete verification[B)]	120	80
	180	90
	600	98.5

NOTE Verified alarms can be escalated to the emergency response services if the severity of an incident warrants this.

A) ΔT_{OP}

B) This time period is measured from T_{RCT}

9.2 Operational functions

The ARC should:

a) have sufficient trained and competent operators to respond to activation messages/calls in accordance with Table 1;

NOTE 1 To respond is to accept and commence evaluation of an activation message/call.

b) establish the accurate location of the LW; and

c) be able to continue monitoring of activation messages/calls either at the ARC or from alternative premises within 2 h, i.e. in the event of an outage at the primary ARC site.

NOTE 2 It is desirable for the full business continuity plan to be up and running as soon as possible within the 2 h window.

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9.3 Oral communication

Any oral communication between a LW and an operator should be one-way initially (LW to operator) until the operator has established through the audio facility that it is safe to speak.

NOTE Immediate two-way audio is acceptable if the LWD/LWA has identified a probable incapacitation of a LW.

9.4 Performance criteria

Unless otherwise agreed in writing with the customer, action should be taken to verify activation messages/calls and establish communications with an appropriate response service within the times stated in Table 1.

The ARC should collate and tabulate performance in responding to alarm messages in accordance with the targets within Table 1.

Performance data should be produced for monthly periods and achievement of the performance targets should be determined over a rolling quarter.

9.5 Lone worker information

Relevant LW information should be recorded and made available to an operator when an activation message/call is received at the ARC. This information should include:

a) escalation instructions;

b) points of contact; and

c) personal details, which might include the following:

   1) employment information, such as their job title;

   2) risk factors linked to their work and/or location;

   3) identification details, such as a physical description and/or photograph which might aid police in identifying the LW; and

   4) medical information, such as details of medical conditions, allergies and treatment.

NOTE Medical information can, if supplied, help the operator to analyse the situation (which might be a medical emergency) and can assist paramedics in making a correct diagnosis, carrying out effective treatment and avoiding inappropriate treatment.

9.6 Establishing the nature of an incident

The operator should establish the nature of the incident and the appropriate response required.

NOTE Establishing the nature of an incident confirms whether it is a false alert, a verified alarm that requires no alarm call, or verified alarm that requires an alarm call.

The following information should be made available to the operator:

a) accurate location;

b) audio and/or visual information, including oral information from the LW, if speech is possible;

c) pre-activation message/call, where applicable;

d) duress code (if used);

e) personal details; and

f) points of contact, who might be needed to provide further information if the situation or location are unclear.

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9.7 Verification

Once an operator has established a verified alarm and that an alarm call is required, the operator should escalate the incident to the appropriate response services in accordance with the escalation instructions.

9.8 False alerts

False alerts should be terminated by the operator. The operator should attempt to inform the LW at the time of termination and should then follow the agreed escalation process. False alerts should be recorded by the operator. The ARC should inform the client about any false alerts.

9.9 Procedures and documentation

9.9.1 Audit trails and records

A complete audit trail should be kept of all activities carried out in response to pre-activation message/calls and activation messages/calls.

All records and incident logs at the ARC should be maintained for a minimum of 12 months, except where the customer states alternative requirements in an agreed contract, and should include the following:

a) time and date of any pre-activation message/calls and activation messages/calls;

b) identity of operator(s) involved in the management of the incident;

c) operator actions in response to an activation;

d) time at which the operator closes down the incident; and

e) audio and/or visual recordings associated with the incident.

9.9.2 Operating procedures

Documented operating procedures should be in place to support the consistent and continuous service provided by the ARC. As a minimum, procedures as described in BS EN 50518:2019, Clause **9** should be implemented and the following guidance given to operators:

a) working within the ARC, including its functions and limitations;

b) dealing with unverifiable activation messages/calls;

c) capabilities and operation of the different LWD/LWA types registered with the ARC;

d) active tracking of activations;

e) creating reports; and

f) escalating problems to more senior staff.

9.10 Access to information

9.10.1 LWD/LWA user protection from unauthorized surveillance

Documented operating procedures in the ARC should be in place, as agreed with the client, to detect and prevent the use of LWDs/LWAs for unauthorized surveillance. There should be a documented procedure for verifying authorization for all requests for LW surveillance.

9.10.2 Remote access

For services conforming to BS 8484, there should be capability for the ARC operator to initiate a message/call and listen. Any remote access to an LWD/LWA should be in accordance with an authentication procedure, e.g. receiving messages/calls from a pre-registered number.

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9.11 Management of activation messages/calls and alarm calls

Management of activation messages/calls and alarm calls should include monitoring of audio and accurate location so that the response service can be informed of any changes to the LW's circumstances.

On closing an incident, the operator should complete the required management information, e.g. incident type, actions, geographical location and outcome.

The ARC should make statistics available to the client for the purpose of reporting back to the customer as in Table 2 and Table 3.

Where verification of an activation message/call cannot be completed, the operator should escalate as stated in the escalation instructions.

Table 2 — *Monthly lone worker alarm statistics (example)*

Month	Employees with BS 8484 devices/ apps	Employees with non-BS 8484 devices/ apps	Total activations (a)	Number of verified alarms (b)	Passed to police – URN (c)	Passed to police – 999/101 (d)	Number of ARC filtered false alerts (e)
–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–

NOTE Number in column (a) equals total of columns (b)+(c)+(d)+(e).

Table 3 — *Monthly summary of verified alarms (example)*

Date/time	URN or 999/101	Incident type	Response by (if police name the force)	Result
–	–	–	–	–
–	–	–	–	–

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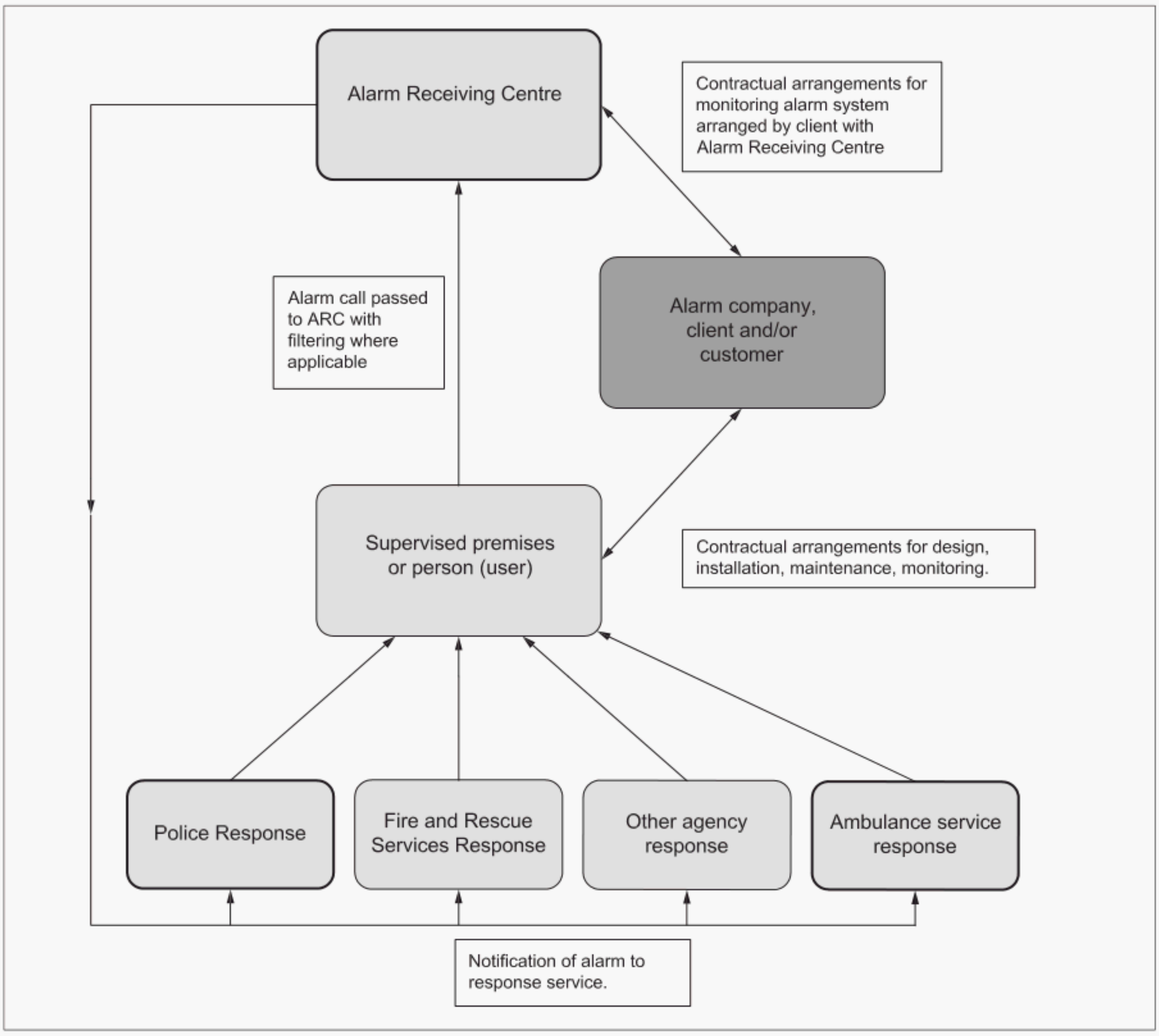
Annex A (informative) Representation of the typical relationship and lines of communication between stakeholders in alarm monitoring and response

The alarm service chain involves multiple stakeholders, each performing their agreed role. Figure A.1 shows the various stakeholders and their lines of communication/contractual relationships.

Figure A.1 — *Typical relationship and lines of communication between stakeholders in alarm monitoring and response*



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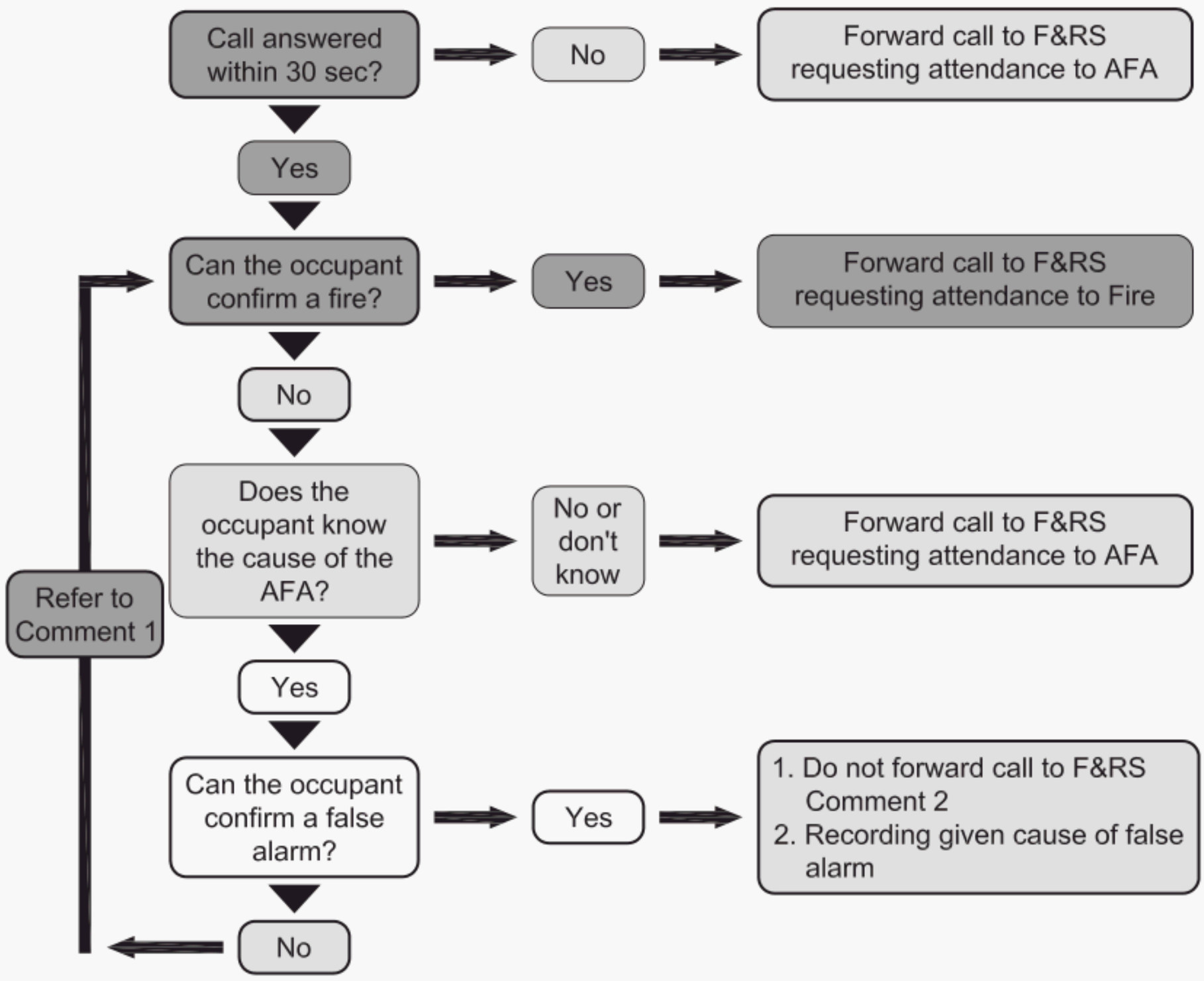
Annex B (informative)
Filtering actions for fire alarm signals

Fire alarm signals can normally be passed without delay and without the application of filtering procedures.

Certain fire alarm signals received at the ARC might require filtering in an attempt to verify if the signalled alarm condition is genuine or a false alert. Time is critical when responding to fire alarms therefore any attempts to filter are to be kept to a minimum.

Figure B.1 gives guidance on actions and timing when filtering fire alarm signals from automatic fire alarm systems (AFAs).

Figure B.1 — *Response from ARC to site following receipt of a fire alarm signal (where filtering is required)*



Comment 1 Do not recycle an enquiry more than once. Occupiers who are confused over the filtering process ought to have been identified under the risk assessment and alternative filtering measures put in place. If the false alarm cannot be confirmed, forward call to F&RS requesting attendance to AFA.

Comment 2 If the alarm signal is not sent to F&RS, inform the caller that if fire, or signs of fire, are subsequently discovered, a new alarm call will be required in order to alert emergency services.

NOTE 1 This figure is adapted from the CFOA's Code of practice: Best practice for summoning a fire response via fire alarm monitoring organisations [5], with the kind permission of the Chief Fire Officers' Association.

NOTE 2 Filtering procedures are determined and vary by fire authority.

Bibliography

Standards publications

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 5979 (withdrawn), *Remote centres receiving signals from fire and security systems – Code of practice*

BS 5839-1:2017, *Fire detection and fire alarm systems for buildings – Part 1: Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises*

BS 8243, *Installation and configuration of intruder and hold-up alarm systems designed to generate confirmed alarm conditions – Code of practice*

BS 8418, *Installation of detection-activated VSS – Code of practice*

BS 8484, *Provision of lone worker services – Code of practice*

BS 8591 (withdrawn), *Remote centres receiving signals from alarm systems – Code of practice*

BS 10008 (all parts), *Evidential weight and legal admissibility of electronically stored information*

BS EN 50134-3:2012, *Alarm systems – Social alarm systems – Part 3: Local unit and controller*

PD CEN/TS 17470, *Service model for social care alarms*

Other documents

[1] HEALTH AND SAFETY EXECUTIVE. *Protecting lone workers – How to manage the risks of working alone*. INDG73. London: HSE Books, 2020.[2)]

[2] NATIONAL POLICE CHIEFS' COUNCIL. *Police operational advice and security industry requirements for response to security systems*. London: NPCC, 2020. Appendix V, Annex A.[3)]

[3] ASSOCIATION OF CHIEF POLICE OFFICERS IN SCOTLAND. *ACPOS security systems policy*. Scotland: ACPOS.[4)]

[4] TELECARE SERVICES ASSOCIATION. *TSA Quality Standards Framework*.[5)]

[5] CHIEF FIRE OFFICERS' ASSOCIATION. *Code of practice: Best practice for summoning a fire response via fire alarm monitoring organisations*. Tamworth, CFOA Services, 2014.[6)]

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2) Available from: www.hse.gov.uk/pubns/indg73.pdf.
3) Available from: www.policesecuritysystems.com.
4) The ACPOS security systems policy is currently under review with Police Scotland, which is expected to release a new "Police Scotland – Security systems – Guidance document" (name might be subject to change).
5) Available from: www.tecquality.org.uk/the-qsf-modules.
6) Available from: www.cfoa.org.uk/10863.

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