Date: **May 2012**

To: **All NACOSS Gold and Systems Silver approved companies and applicants for NACOSS Gold and Systems Silver approval**

TECHNICAL BULLETIN No. 0021 (Issue 2)

Guidance on the implementation of BS 8243:2010
Installation and configuration of intruder and hold-up alarm systems designed to generate confirmed alarm conditions – Code of practice
(Supersedes BSI DD 243:2004)

OVERVIEW

This Technical Bulletin gives guidance on the MAIN CHANGES between British Standards Institution (BSI) Draft of Development DD 243:2004 ("the DD") and British Standard Code of Practice BS 8243:2010 ("the BS").

The DD applies when Intruder and Hold-up Alarm Systems (I&HASs) are installed to PD 6662:2004 and require police response. The BS applies when I&HASs are installed to PD 6662:2010 and require police response.

For full details please refer to the DD and/or the BS as applicable.

NSI Technical Bulletin 0013 gives guidance on the implementation of PD 6662:2010 including details about the two-year transition from PD 6662:2004 to PD 6662:2010, which ends on 31 May 2012.

NSI Technical Bulletin 0015 gives guidance on the implementation of BS EN 50131-1:2006 (including Amendment A1:2009), which applies when I&HASs are installed to PD 6662:2010.

NSI Technical Bulletin 0016 gives guidance on the implementation of DD 263:2010, which applies when I&HASs are installed to PD 6662:2010.

Section 1 of this Technical Bulletin, starting on page 4, gives details of changes relating to the design, installation and configuration of the intruder alarm system (IAS) within an I&HAS.

Section 2 of this Technical Bulletin, starting on page 13, gives details of changes relating to the design, installation and configuration of the hold-up alarm system (HAS) within an I&HAS.

Section 3 of this Technical Bulletin, starting on page 18, gives details of the changes relating to the handling of alarm information by alarm receiving centres covering both the handling of intruder alarms and the handling of hold-up alarms.

NOTE REGARDING THE STATUS OF BS 8243:2010 Compliance with the recommendations in the BS is regarded as mandatory for all organisations wishing to maintain NSI approval for the design, installation and maintenance of electronic security systems, subject to any clarifications and guidance included within this Technical Bulletin or subsequently issued.

CLAUSE 1 – SCOPE

The main change to the scope of the BS is the inclusion of recommendations for the confirmation of hold-up alarms (HUAs).

Note: Hold-up alarms are outside the scope of the DD.

The provisions of the BS relevant to HUAs must be followed when confirmation of HUAs is required.

Confirmation of HUAs is optional except where required under the ACPO and/or ACPOS policies on police response to security systems.

Confirmation of HUAs becomes mandatory when police response to HUAs has been lost due to too many false HUAs.

CLAUSE 2 – NORMATIVE REFERENCES

The normative references have been updated and are BS 5979, BS 8473, BS EN 50131 (all parts), BS EN 50131-1:2006+A1:2009, BS EN 50131-3:2009, BS EN 50136 (all parts), DD CLC/TS 50131-7 and PD 6662.

PD 6662:2010 references the 2008 edition of DD CLC/TS 50131-7. However, the 2010 edition has superseded the 2008 edition, which means that it may not be easy to obtain the 2008 edition. Therefore you may hold either edition of DD CLC/TS 50131-7. Differences between the two editions (which are few in number) are referenced in PD 6662:2010.

CLAUSE 3 – TERMS, DEFINITIONS AND ABBREVIATIONS

This clause of the BS includes extra terms, definitions and abbreviations including ones relating to the confirmation of HUAs.

Please refer to clause 3 of the BS for full details of the terms, definitions and abbreviations. The following changes are brought to your attention.

3.1 Terms and definitions

3.1.10 client
person or organisation purchasing the I&HAS and/or other alarm services from an alarm company and/or ARC

The above definition related to the "customer" in the DD.

3.1.12 confirmed alarm
condition that follows after two independent actions or signals have been generated from an audible, visual, or sequential source confirming that there is or has been a high probability of genuine alarm has occurred

The above clarifies the basis for designating an alarm condition as "confirmed".

3.1.14 digital key
device used for setting and/or unsetting an IAS which can be removed from the supervised premises

Such a device/key was formerly known as "Portable Ancillary Control Equipment" abbreviated to "Portable ACE" or "PACE".

Examples of digital keys include magnetic card, electronic token or similar, provided these keys have the required number of differs according to the Grade of the I&HAS (see Table 3 of BS EN 50131-1:2006+A1:2009).

3.1.15 digital key reader
fixed equipment which enables IAS to be unset using a digital key and which is incorporated within CIE, or ACE, or be a separate item or subsystem to provide the required functionality

The above definition helps to differentiate between equipment that is used to receive information contained within a digital key and other equipment, such as a keypad, that is used for the manual input of a code.

3.1.17 duress
notification of an alarm condition resulting from a discreet user action during unsetting without use of a HD (e.g. a special code), specifically intended for use when the user is under coercion

HD is the abbreviation for Hold-up Device.

3.1.22 genuine alarm
policed alarm condition which has resulted from:

a) a criminal attack, damage, or attempt at such, upon/to the supervised premises, the alarm equipment or the transmission path carrying the alarm signal; or

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

c) a call emanating from a HAS made to summon urgent assistance when an assailant enters a previously defined area with the intention of harming or threatening any person within that defined area

3.1.28 multi action hold-up device
device capable of sending two or more unambiguous signals or messages to the CIE as a result of two or more different methods of operation

NOTE An example of a different method of operation could be the simultaneous push of two buttons to create an unconfirmed alarm followed by holding in the same two buttons a second time for a predetermined period to create a confirmed alarm.

3.1.30 remotely notified alarm condition
state of monitoring equipment at an ARC, which indicates an alarm condition

NOTE This does not preclude other signals (e.g. unset, set, mis-operation, fault, etc.) being received at an ARC.

3.2 Abbreviations

ACE	Ancillary Control Equipment
ALD	Audio Listening Device
AMD	Audio Monitoring Device
ARC	Alarm Receiving Centre
CIE	Control and Indicating Equipment
HD	Hold-up Device
HUA	Hold-up Alarm
HAS	Hold-up Alarm System
I&HAS	Intruder and Hold-up Alarm System
IAS	Intruder Alarm System
VMD	Video Monitoring Device
WD	Warning Device

SECTION 1 – CHANGES RELATING TO INTRUDER ALARM SYSTEMS (IAS)

CLAUSE 4 – PRIMARY DESIGN AND CONFIGURATION OBJECTIVES

The BS contains new requirements for HAS, the details of which can be found in Section 2 of this Technical Bulletin.

There has been a certain amount of re-structuring and re-wording of clause 4 of the BS to help clarify the requirements. However, there are no significant changes in relation to IAS.

CLAUSE 5 – DESIGN, INSTALLATION AND CONFIGURATION OF I&HASs INCORPORATING ALARM CONFIRMATION TECHNOLOGY

The BS contains new requirements for HAS, the details of which can be found in Section 2 of this Technical Bulletin.

There has been a certain amount of re-structuring and re-wording of clause 5 of the BS to help clarify the requirements. Also, there are some changes in relation to IAS, which are detailed below.

Clause 5.1.3 – Control indicating equipment (CIE) and notification equipment

Clauses 5.1.3 and 5.1.4 of the DD have been combined into 5.1.3 of the BS as follows:

The recommendations of Annex H should be followed.

The CIE and notification equipment should be located and supervised to minimize the risk of vandalism or sabotage.

NOTE It is preferable for the CIE, signalling and network equipment to be located in an area where a confirmed activation will be generated.

The paragraph about locating the CIE to minimize the risk of vandalism or sabotage is not new. However the NOTE about locating the CIE, signalling and network equipment in an area where a confirmed activation (alarm) will be generated is new and should be considered on every design.

Annex H of the BS is a significant addition to the standard giving recommendations applicable to manufacturers of control and indicating equipment (CIE) in addition to the provisions of BS EN 50131-3:2009.

Some of the key points in Annex H are as follows:

H.3.1 Intruder alarms

1) A sequentially confirmed intruder alarm may occur if there is an intruder alarm from one detector and a tamper signal from another detector in the set condition.

2) A failure of communication to a device on a data bus system, which cannot be identified as a fault, must be processed as a tamper alarm.

3) Failure of communication to multiple devices on a data bus system, which cannot be identified as a fault, must be processed as a confirmed alarm providing the IAS is set.

H.3.2 Hold-up alarm (HUA)

The combination of a tamper alarm condition and a HUA condition must be interpreted as a confirmed HUA.

H.7 Processing and notification

H.7.1 General

1) The processing and timing performance specified in BS EN 50131-1:2006+A1, 8.4 and 8.9 must apply to each alarm condition individually.

2) If the unconfirmed alarm is generated by a tamper condition, a tamper signal only must be notified.

3) If the confirmed alarm is generated by a tamper condition, the tamper condition must be notified, as required by Table 7 of BS EN 50131-1:2006+A1:2009, in addition to the confirmed alarm.

H.7.3 Confirmed alarms

Notification of a confirmed alarm must be unambiguous.

It must be possible for the ARC to know from the signals received whether a confirmed INTRUDER alarm has occurred or whether a confirmed HOLD-UP alarm has occurred.

For the avoidance of ambiguity, when using ATS with limited information content (e.g. fast format):

a) a HUA followed by a confirmed alarm must be considered as a confirmed HUA.

b) an intruder alarm followed a by a confirmed alarm must be considered as a confirmed intruder alarm.

c) a tamper alarm followed by a confirmed alarm must be considered as a confirmed intruder alarm.

d) a HUA and an intruder alarm (in either order) followed by a confirmed alarm must be considered as a confirmed HUA.

e) a HUA and a tamper alarm (in either order) followed by a confirmed alarm must be considered as a confirmed HUA.

You should check with your ARC to find out how they handle the various combinations of alarm signals and to make sure there is no ambiguity.

Clause 5.2 – Design and configuration of audio confirmation I&HASs

There are new requirements for audio confirmation of hold-up alarms, the details of which can be found in Section 2 of this Technical Bulletin.

There are no significant changes in relation to IAS.

Clause 5.3 – Design and configuration of visual confirmation I&HASs

There are new requirements for visual confirmation of hold-up alarms, the details of which can be found in Section 2 of this Technical Bulletin.

There are no significant changes in relation to IAS.

Clause 5.4 – Design and configuration of sequential confirmation I&HASs

There are new requirements for sequential confirmation of hold-up alarms, the details of which can be found in Section 2 of this Technical Bulletin.

There are no significant changes in relation to IAS.

CLAUSE 6 – OTHER MEANS OF MINIMIZING FALSE ALARMS FOR I&HAS

Clause 6.1 – General

The reference to DD 245 has been deleted.

DD 245 is superseded by BS 8473, which is called-up by PD 6662:2010.

We have applied BS 8473 since its introduction when it superseded DD 245.

Clause 6.2 – Alarm filtering

There are no significant changes.

Clause 6.3 – Methods of completion of setting

The methods of completing the full setting procedure have not changed and are as follows:

a) shunt lock fitted to the final exit door; or

b) push button switch mounted outside the supervised premises; or

c) protective switch (i.e. door contact) fitted to the final exit door of the alarmed premises or area; or

d) digital key; or

e) in conjunction with an ARC.

A new paragraph and accompanying NOTE has been included in the BS as follows:

If method a), b), c) or d) are used, then the setting procedure should always be a two-stage process of initiating the setting procedure within the supervised premises (e.g. using digital key or other secure means such as a code number) followed by completion of setting by the relevant method.

NOTE 1 This prohibits the use of a timed exit procedure whereby, following initiation of the setting procedure, the IAS sets after a given time has elapsed. This is because of the possibility of a false alarm if the time is accidentally exceeded.

The DD does not permit a timed exit procedure whereby following initiation of the setting procedure the user has to leave the supervised premises within a certain time. The inclusion of NOTE 1 in the BS clarifies the prohibition of timed exit for the avoidance of doubt.

The last paragraph of 6.3 of the DD has been re-worded as follows in the BS:

Where appropriate, additional internal audible indications should be provided so that persons within a building are informed that the IAS is due to be set. Additional ACE should be provided, where appropriate, so that if the IAS is set there are means available locally within the supervised premises to unset the IAS.

These additional internal audible indications are important for minimizing false alarms.

Part setting

Clause 6.3 of the BS covers completion of the full setting procedure (to fully set the IAS). Therefore there is a certain amount of flexibility in terms of part setting the IAS. However, methods used to part set IAS should minimize false alarms. Always check with the local police force to see if they accept confirmed intruder alarms when the IAS is part set.

Clause 6.4 – Methods of unsetting

Clause 6.4.1 – General

There are still FIVE METHODS OF UNSETTING as detailed in sub-clauses 6.4.2, 6.4.3, 6.4.4, 6.4.5 and 6.4.6 of the BS. ONE OF THE METHODS MUST BE CHOSEN and the unsetting arrangements must be in accordance with the method selected.

There is a new paragraph in 6.4.1 of the BS which states:

Methods 6.4.4 and 6.4.5 should be selected only after careful assessment of the implications for security as required by DD CLC/TS 50131-7.

A similar recommendation appeared in 6.4.4 of the DD, but not in 6.4.5 of the DD. The above new paragraph in the BS indicates that the methods of unsetting detailed in 6.4.4 and 6.4.5 must be selected with care; 6.4.4 because there is still a security implication associated with disabling all means of intruder alarm confirmation when the initial entry door is opened; 6.4.5 because there is the possibility of false alarms and loss of police response.

The paragraph in 6.4.1 of the DD that related to giving consideration to providing a means of voice communication with the ARC within the entry route is not included in the BS.

The penultimate and pre-penultimate paragraphs of the DD relating to the location of ACE have been replaced by the following paragraph in the BS:

The location of ACE should be consistent with ease of operation. Under normal operation, unauthorised persons should be prevented from observing the unsetting code. These recommendations apply to each subsystem configured to generate a confirmed alarm if set in isolation from the remainder of the IAS.

The unsetting code cannot be observed when digital keys are used, only the fact that a digital key is being used to unset the IAS.

Clause 6.4.2 – Prevention of entry to the supervised premises before the intruder alarm system (IAS) is unset

The wording of some of the paragraphs in 6.4.2 of the BS has been edited compared to the DD. However, the changes do not appear to be significant.

The NOTE in 6.4.2 of the DD has not been included in the BS. The NOTE stated that the recommendations of 6.4.2 also apply when an IAS is divided into separate areas each capable of being independently set.

The omission of the NOTE from the BS is significant in the sense that it appears to mean that the other methods of unsetting (as detailed in the BS) can be used for separate areas when they are each capable of being independently set. This provides for a certain amount of flexibility in the design of an IAS that is divided into separate areas.

When the 6.4.2 method is chosen it will be for unsetting the IAS from a fully set state to either the unset state or to a part set state. Then separate areas that remain set may be unset using the other methods detailed in the BS where appropriate. Care should be exercised with the design because mixing methods of unsetting can sometimes lead to misunderstanding and false alarms.

The penultimate paragraph of 6.4.2 of the BS has been re-worded compared to the DD as follows:

To provide security in case the powered lock fails (for example, due to failure of the CIE or an extended period of prime power source failure), the alarm company should agree with the client the arrangements by which the supervised premises remain secure when the IAS is set. The details of the agreed arrangements should be included in the written system design proposal and as-fitted document supplied to the client.

The words "and as-fitted document" have been added so as to require the agreed arrangements to be included in both the system design proposal and the as-fitted document. The same change has been made to clause 6.4.3 of the BS.

Clause 6.4.3 – Prevention of entry to the supervised premises before all means of intruder alarm confirmation have been disabled

The wording of some of the paragraphs in 6.4.3 of the BS has been edited. However, the changes do not appear to be significant.

The NOTE in 6.4.3 of the DD has not been included in the BS. The NOTE stated that the recommendations of 6.4.3 also apply when an IAS is divided into separate areas each capable of being independently set.

The omission of the NOTE from the BS is significant in the sense that it appears to mean that the other methods of unsetting (as detailed in the BS) can be used for separate areas when they are each capable of being independently set. This provides for a certain amount of flexibility in the design of an IAS that is divided into separate areas.

When the 6.4.3 method is chosen it will be for unsetting the IAS from a fully set state to either the unset state or to a part set state. Then separate areas that remain set may be unset using the other methods detailed in the BS where appropriate. Care should be exercised with the design because mixing methods of unsetting can sometimes lead to misunderstanding and false alarms.

Clause 6.4.4 – Opening the initial entry door disables all means of intruder alarm confirmation

There are no significant changes to the method of unsetting described in 6.4.4 apart from the inclusion of an extra paragraph in the BS as follows:

Only in circumstances where it is not practicable to install means to detect opening of the initial entry door, alternative means should be used to detect entry into the supervised premises so as to cause a timed entry procedure to start. Where a movement detector is used, it should be positioned so that the intended area of coverage is unlikely to be blocked by stock or other objects.

The inclusion of the above paragraph provides limited opportunity to use alternative means (such as movement detectors) to start the entry time if it is not practical to install means to detect opening of the initial entry door (for example glass fronted buildings).

Clause 6.4.5 – Completion of unsetting using a digital key

There are significant changes to the method of unsetting described in 6.4.5. These changes help to improve security. However they also increase the possibility of false alarms.

The first paragraph of 6.4.5 identifies that confirmed alarms are now possible if detectors located off the entry route are activated during the entry time and/or after the entry timer expires.

The following summarises the position with regard to the generation and notification of intruder alarms under 6.4.5 of the BS:

a) If no alarm condition exists, but the entry time expires before the IAS is unset, an unconfirmed intruder alarm must occur.

b) When alarm condition(s) occur during the unsetting procedure (from detector(s) off the entry route) they must be notified by a WD or indicated. The alarm condition(s) must not be remotely notified (to an ARC) until the indicator or WD has operated for the minimum of 30 seconds and the entry timer has expired resulting in the notification of a sequentially confirmed alarm.

c) If the entry timer expires after the indicator or WD has operated for a minimum of 30 seconds, a sequentially confirmed alarm must be notified to the ARC at the time the entry timer expires.

d) The activation of another independent detector after expiry of the entry timer must cause a sequentially confirmed alarm to be remotely notified immediately, overriding the 30 second remote notification timer (if this timer is still running).

e) If an unconfirmed alarm occurs before the entry time starts, the confirmation time must start. A sequentially confirmed alarm must be remotely notified at the expiry of the entry time and within the confirmation time.

An unconfirmed alarm must be remotely notified prior to, or simultaneously with, a sequentially confirmed alarm (dependent upon the circumstances).

If a false alarm occurs as a result of user entry to the supervised premises, the alarm company must take appropriate steps to minimize the chances of more false alarms, for example by offering user training and/or offering to change to one of the other means of unsetting.

Further description of the circumstances listed in a) to e) above are given in Figures G.1, G.2, G.3 and G.4 within the BS. They are by no means illustrative of all of the possible circumstances that can occur in practice.

Similar to 6.4.4 an extra paragraph has been included in 6.4.5 of the BS as follows:

Only in circumstances where it is not practicable to install means to detect opening of the initial entry door, alternative means should be used to detect entry into the supervised premises so as to cause a timed entry procedure to start. Where a movement detector is used, it should be positioned so that the intended area of coverage is unlikely to be blocked by stock or other objects.

The inclusion of the above paragraph again provides limited opportunity to use alternative means (such as movement detectors) to start the entry time if it is not practical to install means to detect opening of the initial entry door (for example glass fronted buildings).

Clause 6.4.6 – Unsetting carried out in conjunction with an alarm receiving centre (ARC)

There are no significant changes to this method of unsetting.

ANNEX A – FURTHER RECOMMENDATIONS FOR DESIGN, INSTALLATION AND CONFIGURATION OF IASs INCORPORATING ALARM CONFIRMATION TECHNOLOGY

A.1.1 (General) and A.1.2 (Portable radio ACE) of Annex A of the DD have not been included in the BS. This is because the requirements for portable ACE (now known as digital keys) are included in the EN 50131 series, including Part 3 (CIE).

A.1 Tamper detection

There are no significant changes.

A.2 Reinstatement of the I&HAS

A.2.1 Intruder alarm systems (IASs) incorporating sequential confirmation technology only

The fourth paragraph has been converted to a NOTE in the BS that reads:

NOTE 2 For systems where unsetting is in accordance with 6.4.5, if the initial entry door is inhibited due to being open at the time of reinstatement of the IAS, the entry time can start by alternative means such as a movement detector on the entry route. If so, the IAS will be configured such that notification of any alarm and initiation of the confirmation time is delayed until expiry of the overall entry time. If an alarm occurs as a result of the expiry of the overall entry time, the alarm condition will be notified as an unconfirmed alarm.

This means that starting the entry time by alternative means, such as a movement detector on the entry route, is optional under the BS.

The last paragraph has been changed to read as follows in the BS:

For the purpose of this standard, the requirement of the final paragraph of BS EN 50131-1:2006+A1, 8.10 should be read as applicable to each confirmation period; the number of events recorded can therefore exceed 10 during any set period.

In practical terms there is no significant change.

A.2.2 Intruder alarm systems (IASs) incorporating sequential confirmation technology and either audio and/or visual confirmation technology

There are no significant changes.

A.2.3 Hold-up alarm system (HAS) incorporating sequential confirmation technology

This is a new sub-clause for HAS incorporating sequential conformation technology. Details are given in Section 2 of this Technical Bulletin.

A.3 Restoring following an intruder alarm condition

The content of A.4 of the DD has been changed to the following in the BS:

After an intruder alarm condition has occurred the IAS should be restored in accordance with BS 8473.

This means that users may not restore (reset) their IASs after a confirmed alarm has occurred.

ANNEX B – ALARM RECEIVING CENTRE (ARC) ALARM HANDLING PROCEDURE FOR ALARM SIGNALS ASSOCIATED WITH TRANSMISSION FAULT SIGNALS

Refer to Annex B for example of alarm handling procedure.

ANNEX C – ALARM RECEIVING CENTRE (ARC) PROCEDURES FOR HANDLING TWO TRANSMISSION FAULT SIGNALS

Refer to Annex C for example of transmission fault handling procedure.

ANNEX D – OPERATIONAL RECOMMENDATIONS FOR AN I&HAS EQUIPPED WITH SEQUENTIAL CONFIRMATION TECHNOLOGY

Refer to Annex D for example of requirements for an I&HAS with sequential confirmation technology.

ANNEX E – ALARM RECEIVING CENTRE (ARC) PROCEDURES FOR ALARM SYSTEMS CAPABLE OF PROVIDING CONFIRMATION

Refer to Annex E for alarm handling procedures for audio and visual confirmation.

ANNEX F – INFORMATION TO BE INCLUDED IN THE SYSTEM DESIGN PROPOSAL AND AS-FITTED DOCUMENT

Refer to Annex F for information to be included in the system design proposal and the as-fitted document.

Please note that there is an ERROR in item j). The reference to unsetting method 6.4.5 is incorrect and should be 6.4.4.

ANNEX G – TIMING DIAGRAMS

Refer to Annex G for timing diagrams in relation to unsetting method 6.4.5.

ANNEX H – RECOMMENDATIONS FOR CONTROL AND INDICATING EQUIPMENT (CIE)

Refer to Annex H for the recommendations for CIE.

SECTION 2 – CHANGES RELATING TO HOLD-UP ALARM SYSTEMS (HAS)

This Section of the Technical Bulletin covers changes relating to hold-up alarm systems (HAS), in particular confirmation of hold-up alarms (HUA).

CLAUSE 1 – SCOPE

HUA are included within the scope of the BS as follows:

If HUA confirmation is to be included in the installation, then the relevant clauses of this standard apply.

NOTE HAS alarm confirmation may be used as required in the ACPO/ACPOS Security Systems policies [1] [2].

Hold-up alarm (HUA) confirmation is OPTIONAL except when required under the ACPO/ACPOS policies. Under the ACPO policy, for example, HUA confirmation becomes MANDATORY if restoration of police response to HUAs (after loss such response) is required.

CLAUSE 4 – PRIMARY DESIGN AND CONFIGURATION OBJECTIVES

4.1.3 Design objectives for hold-up alarm systems (HAS)

The BS includes the following design objectives:

HASs should be designed, installed and configured in accordance with the recommendations given in this British Standard to:

a) provide effective confirmation facility; and

b) minimize the likelihood of false alarms (see 4.5).

4.2.2 Hold-up alarm systems (HAS)

The BS calls for the following in terms of HUA confirmation technologies:

HASs should incorporate one or a combination of the following alarm confirmation technologies:

1) audio confirmation (see 5.2);

2) visual confirmation (see 5.3);

3) sequential confirmation (see 5.4);

4) telephone confirmation (call back) (see 7.4).

An explanation of the selected combinations should be provided to the user/client to ensure the most appropriate confirmation technology is used.

Unless agreed with the client in writing, sequential confirmation should be used only in conjunction with telephone confirmation.

The installer should obtain written confirmation of the client/user's acceptance of the chosen option, and detail how the confirmation works.

4.5 Design recommendations for hold-up alarms systems (HAS) using confirmed technology

The BS gives the following design recommendations for HAS:

The HAS should be installed to minimize the risk of accidental operation.

To minimize the risk of false activation:

a) **HD on CIE or ACE should be segregated from the main keys, dedicated, defined and contain two separate buttons with synchronized push.**

b) **HD on CIE or ACE should be engineer programmed only (default "off").**

c) **Single action "single push devices" should not be used.**

d) **Time delay trigger devices should not be used.**

e) **Portable HD (wireless devices) should be dedicated, should not incorporate any other functionality, and should have two separate buttons with synchronized push to activate.**

f) **Duress codes should be used only where the risk makes it necessary and as permitted by the relevant response authority.**

g) **Duress facility should be engineer programmed only (default "off").**

The above provisions are similar to those in Appendix T of the ACPO policy.

CLAUSE 5 – DESIGN, INSTALLATION AND CONFIGURATION OF I&HASs INCORPORATING ALARM CONFIRMATION TECHNOLOGY

5.1 General

The provisions set out in 5.1 of the BS must be followed in so far as they apply to HAS. This includes following the recommendations of Annex H of the BS.

Some of the key points in Annex H are as follows in relation to hold-up:

H.3.2 Hold-up alarm (HUA)

The combination of a tamper alarm condition and a HUA condition must be interpreted as a confirmed HUA.

H.7.3 Confirmed alarms

Notification of a confirmed alarm must be unambiguous.

It must be possible for the ARC to know from the signals received whether a confirmed INTRUDER alarm has occurred or whether a confirmed HOLD-UP alarm has occurred.

For the avoidance of ambiguity, when using ATS with limited information content (e.g. fast format):

a) a HUA followed by a confirmed alarm must be considered as a confirmed HUA.

b) an intruder alarm followed a by a confirmed alarm must be considered as a confirmed intruder alarm.

c) a tamper alarm followed by a confirmed alarm must be considered as a confirmed intruder alarm.

d) a HUA and an intruder alarm (in either order) followed by a confirmed alarm must be considered as a confirmed HUA.

e) a HUA and a tamper alarm (in either order) followed by a confirmed alarm must be considered as a confirmed HUA.

You should check with your ARC to find out how they handle the various combinations of alarm signals and to make sure there is no ambiguity.

5.2 Design and configuration of audio confirmation I&HASs

The recommendations of sub-clause 5.2 of the BS apply to audio confirmation of HUAs. In particular attention is drawn to the following:

5.2.2 Audio confirmation of intruder detection and hold-up

In parts of the supervised premises with audio confirmation, all HD, CIE and notification equipment must be sited within the expected range of an ALD.

The area of coverage of an ALD must be greater than the area of coverage of any accompanying HD.

When audio confirmation of HD is provided, audio capability must be available to cover all HDs.

5.3 Design and configuration of visual confirmation I&HASs

The recommendations of sub-clause 5.3 of the BS apply to visual confirmation of HUAs. In particular attention is drawn to the following:

5.3.1 General

Where a visual confirmation facility is installed, an imaging device must view the whole area of coverage of any area associated with a HD.

After a HUA condition there must be a minimum of three images transmitted to the ARC, one image at the time of the HUA. Subsequently, there must be two more images within 5 seconds of the HUA.

5.3.4 Visual confirmation of a hold-up alarm (HUA)

When a HD is activated the images must be transmitted from the supervised premises to the ARC for interpretation.

5.4 Design and configuration of sequential confirmation I&HASs

The recommendations of sub-clause 5.4 of the BS apply to sequential confirmation of HUAs. In particular attention is drawn to the following:

5.4.1.2 Criteria for sequentially confirmed hold-up alarm systems

For an alarm condition to be regarded as sequentially confirmed:

a) the HAS must be configured so that at least two separate alarm conditions are reported within the confirmation time; and

b) signals emanating from HDs must be from either;

1) two or more HDs separately identifiable at the CIE; or

2) a multi action HD.

The hold-up confirmation time (see 3.1.11) must be not less than 8 hours and not more than 20 hours.

The hold-up confirmation time can be programmed to be any time from 8 hours up to 20 hours. Using 8 hours as an example, the hold-up confirmation time starts when the first HUA condition occurs and the second HUA condition must then occur within a maximum of 8 hours if a sequentially confirmed HUA is to occur.

The reason that the hold-up confirmation time is much longer than the intruder confirmation time is because there may be circumstances where users held under duress may be prevented from causing the second HUA condition for a significant period of time.

Recommendations for HDs can also be found in PD 6662:2010, Annex A.

5.5 Confirmation of hold-up alarm system (HAS) using alarm receiving centre (ARC) telephone call back

The recommendations of sub-clause 5.5 apply to confirmation using ARC telephone call back. In this respect, the recommendations given in sub-clause 7.4 for the ARC to confirm the HUA signal by telephoning the supervised premises must be followed:

a) The ARC's procedure for call back (i.e. what response/filtering the ARC will take when responding to a HAS activation) must be shared with the user/client.

b) There must be guidance to the user/client on what their responsibilities are in respect of a HAS activation.

If the ARC receives a sequentially confirmed HUA, the telephone call back confirmation procedure does not need to be completed.

ANNEX A – FURTHER RECOMMENDATIONS FOR DESIGN, INSTALLATION AND CONFIGURATION OF IASs INCORPORATING ALARM CONFIRMATION TECHNOLOGY

A.2.3 Hold-up alarm system (HAS) incorporating sequential confirmation technology

This is a new sub-clause for HAS incorporating sequential confirmation technology.

If a HD is triggered, an unconfirmed alarm should occur and the confirmation time should start.

If a sequential HUA does not occur within the confirmation time, the HAS should be reinstated so that if a HD is triggered, an unconfirmed alarm occurs and the confirmation time starts.

NOTE If the HAS is restored before expiry of the confirmation time, then reinstatement does not need to occur.

At the time of reinstatement of the HAS, an alarm condition should not occur. To achieve this, HD(s) remaining in alarm condition at the expiry of the confirmation time should be inhibited and a signal sent from the CIE to the ARC to indicate that the HD(s) has been inhibited. The ARC should inform a keyholder that HD(s) in the HAS are inhibited.

The process of reinstatement should not remove an alarm condition. There should be an indication at the CIE that an alarm condition has occurred and that a restore is required.

These provisions are very similar to those for intruder alarm systems (IASs) incorporating sequential confirmation technology (see A.2.2).

SECTION 3 – HANDLING OF ALARM INFORMATION BY ARCS

This Section of the Technical Bulletin only covers the changes between the DD and the BS. The changes mainly relate to confirmation of hold-up alarms (HUAs), but also include changes to the handling of intruder alarms.

7.1.1 Listening-in

Where audio confirmation occurs due to AMD activation, the listen-in periods must be a minimum of 30 seconds and include all of the stored audio if live audio does not provide sounds consistent with HUA or attempted HUA.

7.1.2 Audibly confirmed alarm signals

As soon as the ARC reaches a decision, according to agreed procedures, that the sounds emanating from the supervised premises are consistent with HUA, or attempted HUA, the alarm signal must be designated as being audibly confirmed.

If sounds are inconclusive with regard to intrusion, or attempted intrusion into the supervised premises, the alarm signal must not be designated as being an audibly confirmed alarm signal and the ARC must wait to see if a sequentially confirmed alarm occurs.

*If sounds are inconclusive with regard to HUA the ARC may use the call back method of confirmation (see **7.4**).*

7.2.1 Viewing

The requirements in 7.2.1 of the BS apply to confirmation of HUA, as well as confirmation of intruder alarms. For example, the ARC must view all images received as a result of an alarm condition, up to the point where the alarm is designated as visually confirmed.

7.2.2 Visually confirmed alarm signals

As soon as the ARC reaches a decision, according to agreed procedures, that the images emanating from the supervised premises are consistent with HUA, or attempted HUA, the alarm signal must be designated as being visually confirmed.

If images are inconclusive with regard to HUA or attempted HUA into the supervised premises, the alarm signal must not be designated as being a visually confirmed alarm signal and the ARC must wait to see if a sequentially confirmed alarm occurs.

*If images are inconclusive with regard HUA the ARC may use the call back method of confirmation (see **7.4**).*

7.2.3 Visually confirmed video monitoring device (VMD) activations

As soon as the ARC reaches a decision, according to agreed procedures, that the images emanating from the supervised premises are consistent with HUA, or attempted HUA, the VMD activation should be treated as being visually confirmed.

*If images are inconclusive with regard to hold-up (personal attack) intrusion the ARC may use the call back method of confirmation (see **7.4**).*

7.3.2 Designation of hold-up alarm (HUA) signals for sequential confirmation

The first HUA signal from any HD to the CIE must initiate transmission of an unconfirmed HUA to the ARC.

If the CIE receives a second HUA signal from a different HD or a second signal from a multi action HD within the hold-up confirmation time, then an unambiguous sequentially confirmed HUA should be presented to the ARC operator (see A.2.3).

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

7.4 Telephone confirmation of hold-up alarm (HUA)

Where telephone confirmation is used, the following apply;

a) The ARC's procedure for call back (i.e. what response/filtering the ARC will take when responding to a HAS activation) should be shared with the user/client.

b) There should be guidance to the user/client on what their responsibilities are in respect of a HAS activation.

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

NOTE 2 Attention is drawn to the ACPO/ACPOS Security Systems Policies [1] [2].

7.5 Alarm filtering

7.5.1 Application of alarm filtering

There are no significant changes except that the alarm filtering delay must be 120 seconds (see 7.5.3 below).

7.5.2 Authorization of cancellation

There are no significant changes with regard to the method of cancelling alarms.

7.5.3 Method of alarm filtering

There is a significant change, which is that sequentially confirmed intruder alarms must be subject to an intentional delay of 120 seconds measured from the time the first (unconfirmed) alarm is received.

Under the DD the delay was up to 120 seconds, which meant that filtering times could be less than 120 seconds (though typically not less than 90 seconds).

As before under the DD the 120 second delay does not need to be enforced if four conditions are satisfied:

1) The ARC has agreed with the client to provide monitoring of setting and unsetting in accordance with BS 5979.

2) **The sequentially confirmed alarm is received at least 30 minutes after the latest time agreed for setting.**

3) **The sequentially confirmed alarm is received at least 30 minutes before the earliest time agreed for unsetting.**

4) **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 minutes.**

As before under the DD if, during the alarm filtering delay, the ARC receives a signal that is identifiable as either:

a) **being a mis-operation signal (see 3.1.27); or**

b) **indicating that the alarm system is unset;**

then 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.

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

It is understood that the 120 second filtering delay does not apply to hold-up alarms.

ANNEX A – FURTHER RECOMMENDATIONS FOR DESIGN, INSTALLATION AND CONFIGURATION OF IASs INCORPORATING ALARM CONFIRMATION TECHNOLOGY

A.2.3 Hold-up alarm system (HAS) incorporating sequential confirmation technology

This is a new sub-clause for HAS incorporating sequential confirmation technology including the following:

At the time of reinstatement of the HAS, an alarm condition should not occur. To achieve this, HD(s) remaining in alarm condition at the expiry of the confirmation time should be inhibited and a signal sent from the CIE to the ARC to indicate that the HD(s) has been inhibited. The ARC should inform a keyholder that HD(s) in the HAS are inhibited.

These provisions are very similar to those for intruder alarm systems (IASs) incorporating sequential confirmation technology (see A.2.2).

ANNEX D – OPERATIONAL RECOMMENDATIONS FOR AN I&HAS EQUIPPED WITH SEQUENTIAL CONFIRMATION TECHNOLOGY

Refer to Annex D for example of requirements for an I&HAS with sequential confirmation technology, including hold-up.

ANNEX H – RECOMMENDATIONS FOR CONTROL AND INDICATING EQUIPMENT (CIE)

Refer to Annex H for the recommendations for CIE.