

Alarm Validation Scoring (AVS) Standard

TMA AVS-01-20243 Revision 1

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Contents	Page
Foreword and Limitation of Liability	
Acknowledgements	v
Sub-committee Membership	v
Revision History:	vi
Introduction	1
Preface	1
Alarm Validation Scoring (AVS) Standard Procedures	2
1. Scope	2
1.1. General	2
1.2. Definitions (Defined Terms are Italicized)	2
2. Burglar Alarm Processing	5
2.1. Fundamental Weighting	5
Intrusion Signals (D,1)	8
Reporting Categories	9
Intrusion Alarm Level 4 Life Threatening Event	10
Intrusion Alarm Level 3 Threat to Property	10
Intrusion Alarm Level 2	10
Intrusion Alarm Level 1	10
Intrusion Alarm Level 0 (No Call for Service to ECC/PSAP)	11
3. ECC/PSAP Call for Service	11
3.1. Intrusion Alarm	11
ECC/PSAP Call for Service	11
Intrusion Alarm Request for Service Data Elements (*5.3)	13
4. Compliance Management	13
4.1. Record	13
4.2. Process Monitoring and Corrective Action	14
5. Appendices	15
Annex A (Informative)	15
5.1. Data Privacy and Retention Considerations	15
Annex B (Informative)	16
5.2. Example of an Operator Assistant Card	16
Annex C (Informative)	17
5.3. Intrusion Alarm Script	17
Annex D (Informative)	18
5.4. The Entire Swimlane Flow Diagram	18
Annex E (Informative)	19
5.5. Compliance Management	19

Annex F (Informative)	22
5.6. Common Industry Terms	22
Annex G (Informative)	24
5.7. Available Forms for Download	24

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Page iv

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Introduction

This standard has been prepared by The Monitoring Association, an ANSI accredited Standards Development Organization (SDO), under the auspices of Security Industry Standards Council (SISC.) The creation of this standard is congruent with the ever-increasing operational use of data by businesses and public safety. For an alarm activation, *Alarm Monitoring Centers* will perform a standardized assessment of applicable data to create an alarm scoring metric. The metric, also in a standardized manner, will be provided to Emergency Communications Centers (ECCs)/Public Safety Answering Points (PSAPs) when creating an alarm *Call for Service*.

The methods defined herein are at a minimum intended to result in higher criminal apprehension rates, improve law enforcement safety via data driven situational awareness and assist in the reduction of alarm calls for service that are ultimately categorized as false alarms.

Preface

This standard defines a process for burglar alarm activations where data received at a monitoring center associated with alarm activations, enable a monitoring center agent, either manually or assisted by the automation system, to use applicable data to generate standardized alarm scoring metrics. Relevant data may be video and/or audio, or other high confidence Human Presence technologies. This standard is aggregate to existing *Alarm Confirmation* processes.

A standardized method of creating an alarm scoring metric that grades the probability of unauthorized activity detected by alarm systems will assist law enforcement with resource allocation and *Call for Service* prioritization.

Alarm Validation Scoring (AVS) Standard Procedures

1. Scope

Establish standardized methods for calculating an alarm score that results in a repeatable metric that estimates the validity of a burglar alarm activation using historical and real-time data. *Calls for Service* to *Emergency Communications Centers* (ECCs)/*Public Safety Answering Points* (PSAPs) that include such a standardized scoring metric will assist public safety departments with their alarm response policies.

Note: Actions related to commercial and residential Fire Alarm systems, are found in NFPA 72.

1.1. General

- **1.1.1.** If differences exist between this document and other *Special instructions* with the monitored premises, the *Special instructions* shall take precedence.
- **1.1.2.** If a *Call for Service* was made and subsequent information indicates no emergency exists, contact shall be made to the emergency agency in an attempt to cancel their response.
- 1.1.3. When an item is marked with an asterisk (*) it indicates there is explanatory material within the annex.

1.2. Definitions (Defined Terms are Italicized)

1.2.1. Alarm Abort/Cancel

An electronic or verbal *Call for Service* by an authorized person for the alarm location that occurs within a specified time frame after an alarm event that indicates the response to an alarm event should be aborted or canceled. There is this same type of event that occurs, within the protect premises control unit that is compliant with ANSI SIA CP-01, whereby the panel has a timed window between an alarm activation and the transmission to the *Alarm Monitoring Center*, that should an "disarming" occur, during the window, the transmission is aborted.

1.2.2. Alarm Confirmation (See 1.2.15 CS-V-01) *

Alarm confirmation is a generic name given to many techniques used (1) to permit authorized personnel, at the protected premises, to appropriately identify themselves, thereby preventing emergency response agencies from being requested to respond to situations that do not represent an emergency; and (2) to confirm or deny the validity of alarm signals received at a *Alarm Monitoring Center*.

1.2.3. Alarm Level(s) (0, 1, 2, 3, 4)

Levels are a system designed to add some meaning to the supervising center's *Call for Service*. They are a result of operator observations and/or a combination of observations and automation assistance.

Defined as:

Level 0: No Call for Service

Level 1: A Call for Service with no other information.

Level 2: A *Call for Service*, with proof of or a high probability of knowing person or persons are present at the alarm site.

Level 3: A *Call for Service*, knowing person or persons are present at the alarm site and it appears there is a threat to property.

Level 4: A *Call for Service*, knowing person or persons are present at the alarm site and it appears there is threat to life.

1.2.4. Alarm Monitoring Center

A facility that receives signals from protected premises alarm systems and at which personnel are in attendance at all times to act upon to these signals. (Also known as: Central Station, Monitoring Center, Supervising Station)

1.2.5. Analytical Data

Information that is the result of raw data being analyzed by program algorithms that have been developed to give understanding to the events being presented.

1.2.6. Analytical Data Confirmation

An automated process whereby raw elements of data, when put into context, result in the determination that there is a high probability that an event is occurring that warrants a *Call for Service* to the *ECC/PSAP*

1.2.7. Asset (Artifact)

Any media or *Metadata* used in the scoring process. This shall be the original unaltered media or *Metadata* used in the evaluation of the event, and could include video, audio or other information describing the activity that is associated with the alarm event.

1.2.8. Automated Secure Alarm Protocol (ASAP)

A form of electronic communication utilizing ANSI standard protocols developed cooperatively by the Association of Public-Safety Communications Officials (APCO) and The Monitoring Association. With ASAP, life safety signals are processed through the Nlets system of state-to-state *ECC/PSAP* communication.

1.2.9. Automation Data

Data that is presented to the operator that is the result of the *Alarm Monitoring Center*'s automation system.

1.2.10. Biometrics

The measurement and/or analysis of physical, biological, behavioral, and other human characteristics typically used in verifying the identity of a person or that a person is present.

1.2.11. Burglar Tools

Any object that could criminally be used to harm an individual and/or burglarize a premises, i.e., crowbar, hammer, pipe, knife, and the like.

1.2.12. Burglar Alarm (Intrusion Alarm)

An event that is received by the monitoring center that indicates a sensor(s) has detected an entry into a protected premises, that occurs when the alarm system is "armed."

1.2.13. Business, Type of (Jeweler, Gun shop, Bank)

The primary business that is conducted at the protected premises, i.e., jeweler, car showroom, motorcycle sales, firearms, bank, check cashing, and the like.

1.2.14. Call for Service (Notification (See <u>5.6.16</u> <u>5.6.14</u>)

A call or *Data Message* to the law enforcement authority, such as *ECC/PSAP*/911 or the telephone number used to reach the responding law enforcement agency, that the *Alarm Monitoring Center* is in receipt of an alarm.

1.2.15. CS-V-01 (Alarm Confirmation, Verification and Notification Procedures)

A standard that was first developed and published in 2004, by the then CSAA (now TMA) by a committee which had representatives from; security industry, national trade associations, a sheriff's office, an insurance

company, and UL. It was based on industry best practices that had been used in industry supported studies. It has gone through several upgrades over the years and just has been updated in 2021.

The standard spells out the "best practices", in alarm handling, in the attempt to reduce false *Calls for Service*. And with the integration of it within AVS-01, AVS-01 builds upon that foundation.

CS-V-01 is also suggested to be a part of municipal ordinances, as suggested by it's being incorporated into the "Model Ordinance" of the Security Industry Alarm Coalition (SIAC).

1.2.16. Customer Confirmed Event

Monitoring station personnel in contact with the customer and/or customer-representative, receive information from same that the alarm event is valid.

a. Electronic

An electronic signal transmitted to the *Alarm Monitoring Center* that indicates to its personnel or to its *Call for Service* computer that no emergency appears to exist or confirms that an emergency does exist.

b. Verbal

A personal contact by means of telephone or audio conversation with an authorized code holder or other authorized person for the protected premises to confirm that no emergency exists.

c. Video

An electronic picture, pictures or images viewing an area of the protected premises from which an alarm signal has been received which permits *Alarm Monitoring Center* personnel to view the area which has an alarm to confirm suspicious and unauthorized activity is occurring.

1.2.17. Custodian of Record

The entity that holds the Asset of alarm events, as identified within 4.1.3. a) & b), used in the decision process that led to a *Call for Service*.

1.2.18. Data Message

Any form of electronic communication that conveys an appropriate message. (Examples would be, texting, recorded messaging, email, push *Call for Service*, and the like)

1,2,19, Dispatch (see 1,2,14 Call for Service)

1.2.20. End User (Customer/subscriber)

The person who is using the alarm system. Very often not the owner/customer/subscriber, but a person who is authorized to operate the "*End User*" interface.

1.2.21. Emergency Communications Center/Public Service Answering Point (ECC/PSAP)

A facility responsible for receiving and processing Calls for Service (1.2.14) for emergency service organizations such as fire departments, law enforcement departments, and emergency medical service organizations.

1.2.22. Enhanced Call Confirmation (ECC, formally ECV – Enhanced Call Verification)

A process, described within the ANSI TMA *CS-V-01* standard, whereby the supervising-station will make multiple attempts to confirm or deny that an alarm is or is not false.

1.2.23. Enhanced Call Verification (ECV, See 1.2.22)

1.2.24. Human Activity

There are indications that humans are and/or have recently been in the area of the alarm event.

1.2.25. Human Presence

Data presented that would indicate there is a human(s) present on the protected property.

1.2.26. Metadata - Data about the content, quality, condition, and other characteristics associated with media or other data. Examples including, but not limited to, date/time of creation, source, versioning.

1.2.27. Sensor Type

The type of detector that activated, causing an alarm signal to be sent to the monitoring center, i.e., glass-break detector, motion sensor, door sensor, and the like.

1.2.28. Special instructions

Instructions that are in addition to the normal data that each account contains/maintains. Typically, separate documented directions, from the monitoring contract document, that specifies a specific set of instructions to be followed in the event of an alarm, between the monitored premises and the *Alarm Monitoring Center*. They fall into different categories as follows:

- a. Customer supplied in writing:
 - Separate documented directions, from the monitoring contract document, that specifies a specific set of instructions to be followed in the event of an alarm, between the monitored premises and the *Alarm Monitoring Center*.
- b. AHJ supplied in writing:
 - A situation whereby the local Authority Having Jurisdiction (AHJ) has instructed the *Alarm Monitoring Center*, with a specific set of instructions to be followed, upon the occurrence of an identified event.
- Third-party supplied:
 Instructions added by someone, such as the entity that contractually owns the account and has contracted-out "monitoring" to an outside monitoring station.

1.2.29. Structural Damage

Damage that is evident to the very structure of the protected premises. (Window broken, door forced open)

1.2.30. Trip/Tripped

The act or current state of a detector that has been violated by a condition which it was designed to detect., i.e.; opening of a door, motion detector "seeing" motion in its field of view, heat detector's temperature being at a level it was designed to detect, and the like.

1.2.31. Unknown Persons Onsite

Within the Artifact, unidentified persons are detected, cannot identify themselves, and cannot be identified to or by the monitoring station personnel.

2. Burglar Alarm Processing

Note: Throughout this section, at the ending of most headings you will see a reference to this chart, that follows, and the "row and column" as the ID convention specifies the letter/row first, column/number second (i.e.B,2)

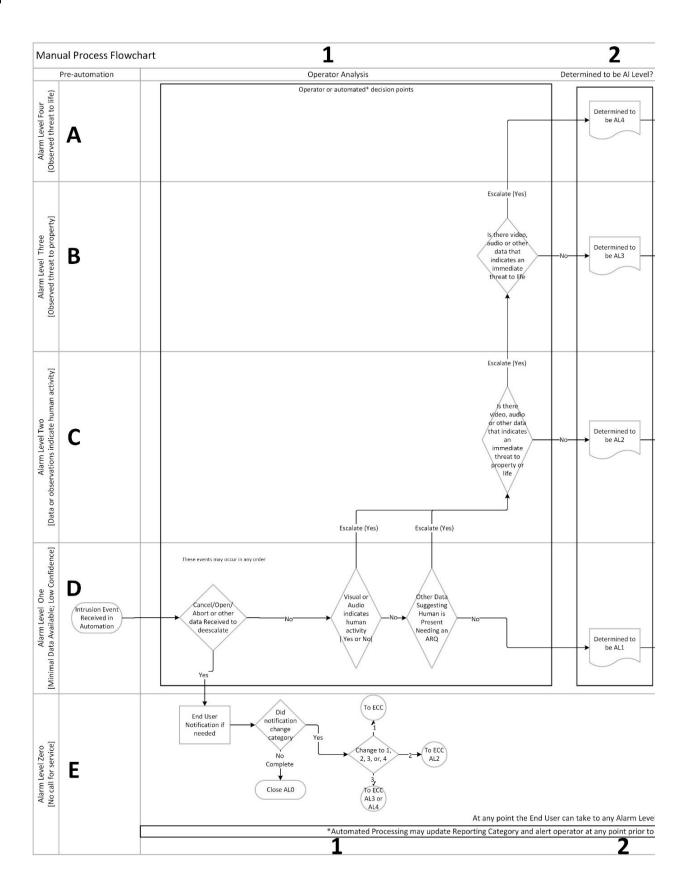
2.1. Fundamental Weighting

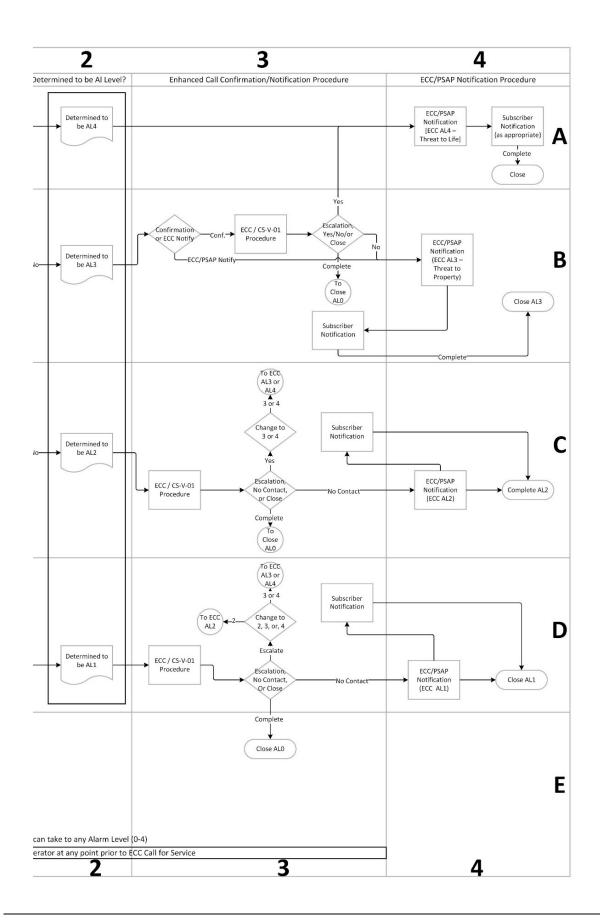
The following chart depicts the fundamental steps that occur when processing an alarm.

An intrusion alarm is considered an *Alarm Level* One in the absence of modifying factors.

During the *CS-V-01* process, as additional data is learned, the intrusion alarm is escalated, deescalated, or unchanged, followed by the *Call for Service*.

Details are in the following sections.





Intrusion Signals (D,1)

2.1.1. Signal is handled as follows:

Note: All intrusion signals are initially considered to be *Alarm Level* 1. The *Alarm Level* may escalate or deescalate based on Automation Data, data analytics and operator observation.

- a. If an *Alarm Cancel/Abort*, Opening, or other items as described in Section Intrusion *Alarm Level* 0 are received prior to making a *Call for Service*, the signal is Determined to be *Alarm Level* 0 (E), the *Call for Service* is not made, and the event is completed as prescribed by company procedures.
 - i. Proceed to identify the appropriate Alarm Level for Call for Service by the following:
 - ii. Alarm Level 1 processing (D): Are there visual/audio indicators of Human Presence?
 - iii. Yes Escalate to AL2 (C,1) and move to 2.1.1.b
 - iv. No Continue
 - v. Are there any series of events as described in the Section Alarm Level 2?
 - vi. Yes Escalate to AL2 (C,1) and move to 2.1.1.b
 - vii. No Signal is Determined to be *Alarm Level* 1 (D), move to 2.1.2
 - viii. Alarm Level 2 processing (C): Is there an observed and immediate threat to life or to property? Note: Special instructions
 - 1) Customer or Customer's Service Provider Special instructions alone cannot escalate Alarm Level.
 - Public Safety Authorities may provide Special instructions based on known circumstances that may modify the process.
 - Escalate and move on to the appropriate "Determined Alarm Level" as described below
 - i. Unchanged and proceed to Call for Service to the ECC/PSAP (1.2.21)
 - ii. Deescalate to a lower Alarm Level as appropriate and complete the event.
- b. With no additional information the signal is then handled in the identified categories below.

2.1.2. Determined to be Alarm Level 0 (E,1)

(See: Intrusion Alarm Level 0 (No Call for Service to ECC/PSAP))

- a. If, during the process, the CS-V-01escalates the Alarm, process signal accordingly, otherwise
 - 1) No Call for Service is to be made
 - 2) Process signal according to company procedures.

2.1.3. Determined to be Alarm Level 1 (D,3 & D,4)

(See Intrusion Alarm Level 1)

- a. End User Confirmation Procedure
 - 1) Proceed to the Enhanced Call Confirmation (ECC/CS-V-01) procedure(s) (D,3)
 - 2) Based on the findings of the ECC/CS-V-01 procedure, the outcome will be one of the following:

- i. Escalate and move on to the appropriate "Determined Alarm Level" as described below.
 - i. Unchanged and proceed to Call for Service to ECC/PSAP (D,4)
- ii. Deescalate to Alarm Level zero with no Call for Service and complete the event.

2.1.4. Determined to be Alarm Level 2 (C,3 & C,4)

(See: Intrusion Alarm Level 2)

- a. End User Confirmation Procedure
 - 1) Proceed to the Enhanced Call Confirmation (ECC /CS-V-01) procedure(s) C,3).
 - 2) Based on the findings of the *End User* Confirmation procedure, the outcome will be one of the following:
 - i. Escalate and move on to the appropriate "Determined Alarm Level" as described below
 - i. Unchanged and proceed to Call for Service to ECC/PSAP (C,4).
 - ii. Deescalate to a lower Alarm Level as appropriate and complete the event.

2.1.5. Determined to be Alarm Level 3 (B,3)

(See: Intrusion Alarm Level 3 Threat to Property)

- a. CS-V-01Confirmation Procedure
 - 1) Based on the available information, make a determination that the data supports one of the following:
 - i. Proceed to do the Enhanced Call Confirmation (ECC/CS-V-01) (B,3) procedure(s).
 - ii. If allowed by local jurisdiction and provided Special instructions, initiate Immediate Call for Service to the ECC/PSAP (C,4)
 - 2) Based on the findings of the *End User* Confirmation procedure, the outcome will be one of the following:
 - i. Escalate and move on to "Alarm Level 4." (A,4).
 - ii. Unchanged and proceed to Call for Service to the ECC/PSAP (B,4).
 - iii. Deescalate to Alarm Level 0 and complete the event.

2.1.6. Determined to be Alarm Level 4 (A,2)

(See: Intrusion Alarm Level 4 Life Threatening Event)

- a. Proceed to Call for Service to the ECC/PSAP (A,4).
- b. Close event as prescribed by company procedures

Reporting Categories

An intrusion alarm is considered an Alarm Level One in the absence of modifying factors.

During the *CS-V-01* process, as additional data is learned, the intrusion alarm is escalated, deescalated, or unchanged, followed by the *Call for Service*.

Intrusion Alarm Level 4 Life Threatening Event

2.1.7. Visible, audible, eyewitness or Analytical Data confirmation of a threat to life.

Examples: Observation by operator or through analytics, potential life-threatening language or sounds heard, physical altercation seen, authorized user confirms or perceives a threat to life, analytic confirmation of predetermined threat, e.g., Weapons presented in a life-threatening manner, firearms heard, and the like.

Intrusion Alarm Level 3 Threat to Property

2.1.8. Visible, audible, eyewitness or Analytical Data Confirmation of a threat to property

Examples: Observation of broken glass or other *Structural Damage*, obvious/likely criminal activity, heard, detected, or confirmed.

Intrusion Alarm Level 2

2.1.9. There is proof, or the very high probability, of non-validated or non-authorized *Human Presence* with unknown intent.

Examples of defined events Manual process:

- a. Video of person(s) on premises that cannot be validated or authorized to be onsite, and there is no additional data present that raises to AL3 or AL4.
- b. Audio of person(s) on premises that cannot be validated or authorized to be onsite, and there is no additional data present that raises to AL3 or AL4.
- c. Open/Close/Cancel/Bypass by unauthorized user code.
- d. Seismic detection with ATM, Vaults and the like.
- e. License Plate Recognition activation of 'known foe' (list supplied by the subscriber) within protected area, plus an intrusion alarm.
- f. Confirmation of presence of human(s) with unknown intent. (e.g., cell application, any technology that allows observation of premises, and the like)
- g. Manual Fire Pull/Emergency phone signal, in addition to intrusion alarm.
- h. Eyewitness call that states person is at premise.
- i. And the like

Automation Examples:

- a. Video/Audio analytics or data, where the video/audio is not presented to an operator, but that indicate high probability of *Human Presence*.
- b. Presence detection analytics that determine human device (e.g., cell phone, Bluetooth) is on premises.
- c. Lidar/Radar/WIFI or other platforms to indicate that human movement inside is occurring.
- d. And the like.

Intrusion Alarm Level 1

2.1.10. The default category for an intrusion alarm absent any contributing factors listed for Categories 0, 2, 3, or 4

Intrusion Alarm Level 0 (No Call for Service to ECC/PSAP)

2.1.11. An intrusion alarm where it is determined a *Call for Service* to *ECC/PSAP* is not warranted.

This may be determined by:

- a. Receipt of a CANCEL/OPEN/CLOSE, a recently armed system
- b. Verbal confirmation from the Contact List
- c. Visible, audible, eyewitness or Analytical Data confirmation that no threat is present
- d. An event, from the site, that could only be the result of an authorized individual. Such as bypass, late to open, and the like.
- e. A Data Message, such as from an *End User* interface, from an authorized individual, indicating there is no emergency at the protected premises.

3. ECC/PSAP Call for Service

With the categorizing established in 2 above, and the data obtained during the process, this section provides the mechanics of a *Call for Service* to the *ECC/PSAP*.

3.1. Intrusion Alarm

When executing the procedures, as indicated within *CS-V-01* and described in Section 2, only alarms that cannot be categorized as Intrusion *Alarm Level* 0, continue to this point;

ECC/PSAP Call for Service

Communications shall be established with the appropriate *ECC/PSAP*. Once communication is established, data is exchanged as directed by the *ECC/PSAP* and supported by the *Alarm Monitoring Center*. (See:

Intrusion Alarm Request for Service Data Elements (*5.3)) Data may be conveyed electronically or verbally.

3.1.1 Electronic Data Transmission

a. Data is conveyed electronically to the *ECC/PSAP* specific to the conveyance mechanism. Examples are *ASAP* to *PSAP*, NG9-1-1, and the like.

3.1.2 Verbal Data Transmission

a. Generally, the *ECC/PSAP* will "ask" for this information using their own style, order, and screening process after the opening introduction by the *Alarm Monitoring Center* operator. The opening statement to the *ECC/PSAP* shall use the following format: "This is [company name] calling with an [Commercial/Residential] Intrusion *Alarm Level* [X, description]." E.g., "This is John with ABC Security calling with a Commercial Intrusion *Alarm Level* 2 with confirmed *Human Presence*." The other information listed below, if available, should be provided to the *ECC/PSAP* as requested.

Intrusion Alarm Request for Service Data Elements (*5.3)

ID	Event Data
a.	Company Greeting
b.	Alarm company name
c.	Intrusion Alarm Level X, with the added description for Alarm Levels.
d.	Address (including Apt. No.; Suite No.)
e.	Persons in Possession "Burglar Tools", "Weapons", etc.
f.	Audible or Silent
g.	Sounds heard (Describe)
h.	Commercial Business Type (Jeweler, Gun shop, etc.)
i.	Residential or Commercial Business Name
j.	Alarm company operator number
k.	Anyone en-route to premises
l.	Signal type, Location(s), (Burglary Front Door)
m.	Permit Information
n.	Directions to the site
0.	Site Information
p.	Alarm center call back number
q.	Alarm company incident number
r.	CS-V-01

4. Compliance Management

With the alarm event categorization and *ECC/PSAP Call for Service* defined in Sections 2 and 3, this section defines ongoing compliance management responsibilities of stations using AVS to process intrusion detection system alarm events.

Alarm Monitoring Centers that want to claim compliance with this standard must have a Nationally Recognized Testing Laboratory (NRTL) AVS-01 certificate in force and demonstrate they therefore follows confirmation procedures outlined in UL 827, UL 2050, ULC S301 or ULC S304 Standards and have a subset certificate meeting the requirements of this standard.

4.1. Record

- **4.1.1.** *The alarm event record for signals handled as described in Section 2.1shall include the detailed information which formed the basis of any escalate or de-escalate decision.
- **4.1.2.** *Records of alarm event handling shall be kept for a minimum of 12 months.
- **4.1.3.** *When handling an alarm event includes analyzing a video clip, audio clip, or other data stream captured in real time during the intrusion event, the *Custodian of Record* (see 1.2.17) shall be notified that the subject event record shall include information sufficient to reconstruct the analytic automation, such as the version number(s) of the analytic(s). The event record shall also include:
- a) The video clip, audio clip, or other data stream itself, or

- b) Sufficient *Metadata* to enable understanding of decisions made during alarm event processing. The *Metadata* shall include the details upon which an escalation/de-escalation decision was made., or
- c) Operator recorded description of event that includes the details upon which an escalation/de-escalation decision was made
- **4.1.4.** *When the *Custodian of Record* for data specified in 4.1.3 is not the *Alarm Monitoring Center*, the *Alarm Monitoring Center* company shall implement a) and b);
- a) Have a contract or agreement in place with the *Custodian of Record* that commits the *Custodian of Record* to retaining the data in compliance with 4.1.2, and
- b) The Alarm Monitoring Center's alarm event handling record shall identify the Custodian of Record

4.2. Process Monitoring and Corrective Action

4.2.1. AVS Scoring Process

- a. An *Alarm Monitoring Center* shall implement a process by which compliance with Sec 2.1 is continuously measured and monitored by the station
- b. The length of time between self-assessments shall not exceed 90 days
- c. The periodic assessment described in 4,2,1, b) shall be made by analyzing a random sampling of signals processed in the covered time span, according to the following
 - 1) Sampling shall be randomized across all intrusion detection signals received.
 - 2) Target sample size is 10% of intrusion detection alarm signals received in the assessment time frame
 - 3) Minimum sample size shall be 50 alarm events and shall include samplings of all *Alarm Levels*. If available, the sampling shall be a minimum of 10 and a maximum of 25 alarm events that are *Alarm Level* 2 and above.
 - 4) Maximum sample size shall be 200 alarm events and shall include samplings of all *Alarm Levels*. If available, the sampling shall be a minimum of 40 and a maximum of 100alarm events that are *Alarm Level* 2 and above.
- d. The Sec 2.1 compliance monitoring process shall include periodic self-assessment by the *Alarm Monitoring Center* of alarm event records described in 4.1 to determine:
 - 1) *Completeness of records for the purpose of understanding how the event was handled
 - 2) *Compliance with Sec 2.1 for each Alarm Level determination
 - 3) *Accuracy of *Alarm Level* determinations based on information and *Additional Risk Qualifiers* available at the time the event was handled.
- e. If compliance with 4.2.1 d) 1) or 2) falls below 80%, the station shall take action to retrain staff, adjust system program or other action that mitigates the root cause(s) of noncompliance
- f. If compliance with 4.2.1 d.3) falls below 80% the station shall take action to retrain staff, adjust system programing or other action that mitigates the root cause(s) of noncompliance
- g. The effectiveness of corrective actions described in 4.2.1 e and 4,2,1,f shall be monitored and adjusted as necessary until the process operates within the compliance requirements specified

5. Appendices

Annex A (Informative)

5.1. Data Privacy and Retention Considerations

As a system that will house and transfer data, there are privacy and retention concerns that should be addressed.

Annex A is not a part of the requirements of this TMA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.

Some components of a privacy policy might include:

- The types of information collected by the website or application
- · The purpose for collecting the data
- · Data storage, security and access
- · Details of data transfers
- Affiliated websites or organizations (third parties included)
- · Use of cookies

A few rules of thumb for a data retention policy include:

- Identifying and classifying the data your organization holds (or transfers)
- · Knowing which governing bodies have regulations that apply to you
- Deleting data once it is no longer required or after the data retention period has been met
- Less data retained, and shorter storage requirements are desired

Annex B (Informative)

5.2. Example of an Operator Assistant Card

		ALARM LEVELS		
LEVEL 0	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
No Notification	Notification	Person(s) Present Notification	Threat to Property	Threat to Life
No person(s) seen or heard	No person(s) seen or heard	Person(s) seen and/or heard Signal caused by unauthorized	Visible/auditable evidence of threat to property	Visible/auditable evidence to threat to life
Automation clears alarm	Automation does not clear alarm	person(s)	* * *	
25 70 200 7100		Automation indicates human caused		
CS-V-01 clears alarm	CS-V-01 does not clear alarm	event(s) (Seismic, presence TBD)		
		CS-V-01 confirms unknown person(s) with unknown intent		
		Eyewitness confirms person(s) on prem		

	8)	ALARM LEVELS		
LEVEL 0	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
No Notification	Notification	Person(s) Present Notification	Threat to Property	Threat to Life
No person(s) seen	No person(s) seen	Person(s) seen and/or heard	Visible/auditable	Visible/auditable
or heard	or heard	200	evidence of threat to	evidence to threat to
		Signal caused by unauthorized person(s)	property	life
Automation clears	Automation does	77 77	11411 111	
alarm	not clear alarm	Automation indicates human caused		
		event(s) (Seismic, presence TBD)		
CS-V-01 clears	CS-V-01 does not	Company of the Compan		
alarm	clear alarm	CS-V-01 confirms unknown person(s)		
		with unknown intent		
		Eyewitness confirms person(s) on prem		

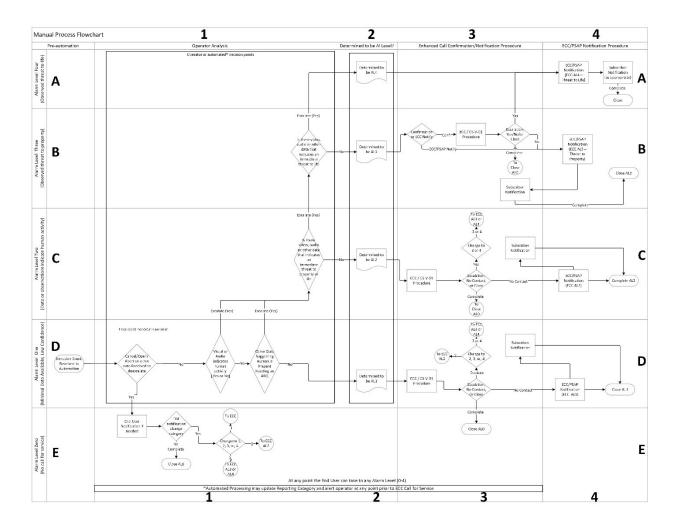
Annex C (Informative)

5.3. Intrusion Alarm Script

No,	Event Data	Suggested Dialogue / Examples
a.	Company Greeting	Dia: Hello, I have an [commercial/residential] intrusion alarm to report.
b.	Alarm company name	Dia: Calling from ABC Alarm Company
C.	Intrusion <i>Alarm Level</i> X, with the added description for <i>Alarm Level</i> s.	Dia: We have received an Intrusion Alarm, Level 2, unknown persons on premises.
d.	Address (including Apt. No.)	Dia: Address is 123 Main St., second floor apartment 203.
e.	Persons in Possession "Burglar Tools", "Weapons", etc.	Dia: The unknown person appears to have a firearm. Ex: Firearm, crowbar, hammer, rifle, pipe, knife, wearing body armor, and the like.
f.	Audible or Silent	Dia: There is an audible alarm siren on the exterior.
g.	Sounds heard (Describe)	Dia: We can hear what sounds like things being pounded and broken. Ex: Breaking glass, loud pounding on surfaces, persons shouting threating words, screaming, yelling for help, and the like.
h.	Comm (Bus type; Jeweler, Gun shop, etc.)	Dia: The premises is a Pawn Shop
i.	Residential or Commercial Business Name	Dia: This is a multistory, twin house.
j.	Alarm company operator number	Dia: This is Operator 25
k.	Anyone en route to premises	Dia: The apartment owner is responding.
I.	Signal type, Location(s)	Dia: We received an alarm from the apartment door and an image from the video camera. Ex: Door contact, glass break detector, interior motion detector, video camera, and the like. Ex: Front door, warehouse south rear door, fire exit-north side, roof hatch, show room, and the like.
m.	Permit Information	Dia: The premises has a permit No. 12345.
n.	Directions to the site	Dia: The premises in on the south side of Main Street and 2 nd avenue.
0.	Site Information	Dia: The owner does have a safe within the master bedroom closet.
p.	Alarm center call back number	Dia: Our call back number is 123-123-1234
q.	Alarm company incident number	Dia: Our ticket number is: A1234-59
r.	CS-V-01	Dia: Customer reports, seeing their video and they do not know the person seen.

Annex D (Informative)

5.4. The Entire Swimlane Flow Diagram



Annex E (Informative)

5.5. Compliance Management

A 4.1.1 The intent of Section 4.1 is to assure 1) that sufficient information is captured during alarm event handling to allow post-event analysis and 2) that data upon which an escalate/deescalate decision was made is retained for use by public safety, *NRTL* auditor, or another stakeholder.

When a video clip, audio clip or other data stream that may raise privacy concerns is retained, the station should take measures that assure compliance with applicable statutory and regulatory requirements See Appendix A, 5.1 Data Privacy and Retention Considerations.

A 4.1.2 The 12-month record retention period is consistent with alarm event record retention requirements in ANSI/UL827, Central Station Services, and the needs of this Standard's public safety development partners

A 4.1.3 After-event access controls or rights, to a video clip, audio clip or other data stream may impede efficient *Alarm Monitoring Center* analysis or *NRTL* audit of compliance. In such cases, the intent of 4.1.3.b)) and c)) is to allow the *Alarm Monitoring Center* alarm event record to include *Metadata* or an operator recorded description of the event as an alternative to placing the actual video clip, audio, clip, or other data stream in the record.

Example: A *Alarm Monitoring Center* has access to a subscriber's camera video stream during an alarm event, but the video recording is stored by the camera's manufacturer and post-event access to the video recording requires a lengthy and/or complex subscriber authorization procedure. To facilitate station analysis and *NRTL* audit, the *Alarm Monitoring Center* operator enters a descriptive narrative that may be similar to:

- a. Observed a human form walking across the front office, headed toward the production area door. The picture was very poor, so unable to further define.
- b. Saw what appeared to be a tall male in dark pants and dark hoody covering the face in view of the camera facing the back employee's entrance.
- c. Seeing a short male, in blue jeans, red plaid shirt, with a face mask, crossing the production floor.
- d. Saw three individuals running out the rear entrance, but the picture was very poor, so no further details.
- e. See what appears to be juveniles ransacking showroom cases.
- f. Male individual could be seen answering call to premises, but gave wrong passcode, and hung up. Then proceeded into the warehouse. He was wearing black pants, and dark blue jacket.
- g. Heard sounds of multiple voices (male and/or female), discussing where to go "next", then moved out of range of audio.

A 4.1.4 The intent is to assure a) that the data upon which an escalate/deescalate determination was made is retained for a period long enough to meet the needs of this Standard's public safety development partners and b) that the 3rd party *Custodian of Record* is documented and readily discoverable in the event of public safety need.

- A4.2.1.c.1) Contemporary automation systems can programmatically add many record elements. However, focus on record completeness becomes critically important when a *Alarm Monitoring Center* uses AVS methods that rely on human operator action to document parts, or all, of alarm event handling.
- A 4.2.1 b Scripted, automation driven AVS processes may simplify management and audit of compliance with *Enhanced Call Confirmation* and *ECC/PSAP Call for Service* requirements.
- A4.2.1 d Quality control procedures that include documented supervisor monitoring of event handling can be effective in identifying and correcting errors in *Alarm Level* 1/escalate/deescalate decision making.

Note: The form that follows can be used as a work sheet for documenting the compliance audit. It is also available for download from the TMA website (See Annex 5.7)

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	Pro	cess and	Des	Process and Description(s)	
	Enter recorded level		_	Y - Yes Threat to Life - Cont to "G"	Level=3
•	Y - Yes Cancel, Abort, Close, etc. Cont to "L" Level=0		<u> </u>	E N - No No Treat to Life Cont to "G"	Level=2
1	N - No Continue to "B"	Level=1	>	Y - Yes Confirm Threat to Life - Cont to "J"	Level=4
O	Y - Yes Audio/Video-Human Cont to "C"		٧ ک	Y - Yes CS-V-01 Clears Event Cont to "K"	Close Ev
۵	N - No Continue to "D"			N - No CS-V-01 Does Not Cl Evt Cont to "H" Level=2/3	Level=2/3
-	Y - Yes Human Presence - Cont to "D"		1	1 - Nothing Additional - Cont to "J"	Level=2/3
١	N - No Continue to "E"		_ [2	2 - New Info Observed - Cont to "J" Adj	Adj Level=2/3
•	Y - Yes Threat to Property - Cont to "E"	CHA.) [c	Call for Service Cont to "K"	
5	N - No - Continue to "G"	Level=2	KE	K Event is compliant? (Y or N)	

Level 0 (No Notification to ECC/PSAP)

An intrusion alarm where it is determined a Call for Service to ECC/PSAP is not warranted. This determination could be due to the receipt of a CANCEL/OPEN/CLOSE, a recently armed system, verbally from the Contact List, electronically from an End User Interface.

Level 1

After the Enhanced Call Confirmation Procedure an intrusion alarm absent any contributing factors listed above for Categories 0, 2, 3, or 4.

Level 2

Visual, audible, eyewitness or analytical data indicates non-authorized human presence, but determination of intent of said humans does not support increase to "Intrusion Level 3, and/or additional analytical data that would lower event to "Intrusion Level 1 or Level 0"

Level 3 Threat to Property

Visible, audible, eyewitness or Analytical Data Confirmation of a threat to

property
Level 4 Life Threating Event

Visible, audible, eyewitness or analytical data confirmation of a threat to life.

Quarterly/Sampling Compliance Guidance

Sample size: 10% of intrusion events Min 50 events, (min=10, max=25 2 & above) Max 200 events, (min=40, max-100 2 & above)

Annex F (Informative)

5.6. Common Industry Terms

5.6.1. 24-hour zone

Identification of areas that are always armed, e.g., emergency exits.

5.6.2. Actual Alarm

A confirmed documentable alarm event initiated by the detection of either an attempted or successful unauthorized entry of, or actions upon, a protected property by a person or persons.

5.6.3. Additional Risk Qualifiers (ARQ)

There are other data such as, higher risk account type and time, non-verified human or *Human Activity* seen or heard, site specific knowledge or data that indicates suspicious activity.

5.6.4. Alarm Verification (See CS-V-01)

Alarm verification is a generic name given to techniques used to determine whether or not suspicious and unauthorized activity is occurring, and to confirm or deny the validity of alarm signals received at a *Alarm Monitoring Center*.

5.6.5. Audio Activity (Walking, Doors)

The protected area has a listen-in feature where non-verbal audio is received at the monitoring center indicating *Human Activity*, e.g., footsteps, doors opened and/or closed, other sounds of activity.

5.6.6. Automated AVS Procedure

A process that is a part of the supervision station monitoring automation system that assesses the circumstances surrounding the alarm event, and then presents a summary of them along with the likelihood of what *Alarm Level* (see Reporting Categories) the event belongs in.

5.6.7. Communication Failure (from/to Panel at Protected Property)

An event that indicates the communications path from the protected premises to the monitoring center has been disrupted. Could be caused by physical phone line cut, ISP failure, cellular service failure, and the like.

5.6.8. Computer Aided Dispatch (CAD) System

Computer-aided dispatch (CAD) systems, used by dispatchers, call-takers, and 911 operators to prioritize and record incident calls, identify the status and location of responders in the field, and effectively dispatch responders. Responders in the field can receive messages initiated by CAD systems via their mobile data terminals, radios, and cell phones

5.6.9. Destructive Sounds

The protected area has a listen-in feature with audio received at the monitoring center indicating destructive activity, e.g., doors being kicked in, glass breaking, and the like

5.6.10. Facial Recognition (Known/Unknown)

A customer owned/operated "facial recognition" system reporting to the monitoring center, recognized, or non-recognized person(s) within the area where alarm activation occurred.

5.6.11. Interior Alarm Reporting Zone

A Reporting Zone that identifies an interior area of protection, such as a showroom motion, warehouse office door, bedroom motion, hall motion, and the like. (See 5.6.22 Zone)

5.6.12. Interior Alarm followed by Perimeter Alarm

An order of receipt from sensors (points of protection), such that it is known an interior sensor activated first, followed by a perimeter or exterior sensor activation. (See Interior Alarm 5.6.11 and Perimeter alarm **Error! Reference source not found.**)

5.6.13. Multiple Trips - Different Reporting Zones

A *Burglar Alarm* event from the protected premises that includes activations from more than one uniquely identifiable Reporting Zone.

5.6.14. Multiple Trips - Single Reporting Zone

A *Burglar Alarm* event from the protected premises where there is more than one activation from a single uniquely identifiable Reporting Zone

5.6.15. Notification (See 1.2.14 Call for Service)

5.6.16. Call for Service Cancel

The process that may occur after the contacting the *ECC/PSAP*/911 is complete and the *Alarm Monitoring Center* learns that the alarm is false and notifies them.

5.6.17. NRTL (Nationally Recognized Testing Laboratory) "Certificated" Alarm System

The term *NRTL* Certificated Service, as used in this document, refers to *Burglar Alarm* systems that have a Nationally Recognized Testing Laboratory (*NRTL*) certificate in force and therefore follows confirmation procedures outlined in UL 827, UL 2050, ULC S301 or ULC S304 Standards.

5.6.18. Occupants Phones/GPS on/off Premises

Phone location technology providing location information of authorized persons at the protected premises.

5.6.19. Recent Activity (Opening, Closing)

An arming (Closing) or disarming (Open) has occurred within several minutes of the alarm event.

5.6.20. Visual Images

Video or still image(s) Information that is available and relevant to the alarm event.

5.6.21. Zone Type (Gun safe, ATM, Safe(money)

The area, or item that is being protected, like gun safe, ATM, vault, jewelry safe, and the like.

5.6.22. Zone

The description given to a sensor or group of sensors, describing what is being protected. e. g. a single sensor on the door of a gun safe, vault, roof hatch and/or a group of sensors that protect several windows and doors comprising a zone of a "perimeter zone or an individual room with several openings to be protected. (See Sensor Type 1.2.27)

Annex G (Informative)

5.7. Available Forms for Download

