**From:** noreply@formstack.com
**To:** Fire Prevention and Building and Safety Commission
**Subject:** Code Comments, Proposals and Advice
**Date:** Friday, December 11, 2020 9:58:59 AM



# Formstack Submission For: 4202

Submitted at 12/11/20 9:58 AM

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| **Indiana Code You Are Commenting On:** | NFPA 72 2010 26.6.3.1.4.1 |
| **Comment or Proposal:** | 675 IAC28-1-28 NFPA 72 - 23.21.3 item yyyyyy on page 48 references NFPA 72 (26.6.3.1.4.1) to delete without substitution modifies this code rule. |
| **File:** | |

Cottage Watchman Security Systems
Division of E.F. Rhoades & Sons, Inc.

Critical Condition Alarm Monitoring Specialists.

I am Frank Rhoades; President of E.F. Rhoades & Sons Inc. DBA Cottage Watchman Security Systems.

Our Company has been involved in sales and service of the electronic side of the fire alarm industry for over 30 years. We provide alarm monitoring services in which Indiana Fire Code requires the use of a phone line and one alternate technology, (cellular, IP, Long range radio). It is becoming more difficult to get regular (POTS -plain old telephone service) and in most all commercial applications the phone service is VOIP (phones that work directly over the internet) Please note these articles, https://www.moneytalksnews.com/landline-phone-disappearing-in-these-20-states/ https://www.ooma.com/blog/are-copper-phone-lines-going-away/

Note that these VOIP phones are using the internet to communicate. A typical fire communicator using a phone line to transmit its signals to a monitoring station will use tones to "talk" into the phone line, when VOIP is used there is a conversion the changes it into data, it is then sent over the internet then converted back to voice technology for the alarm receiver to take it. It needs to be known that there has been and are times that the conversion process does not pass our fire signals due to some carriers trimming down the signals to push more data through. The Cellular And IT fire communicators use a data format from point to point eliminating the conversion process, it is a cleaner, faster and more dependable way to transport the fire signals.

The NFPA 72 2010 Fire Code that Indiana adopted has a provision in it to allow for a single path data communication to the monitoring company. The single path language used in this code requires whatever single path technology that is used, must notify someone within 5 minutes when that pathway go down. (NFPA 72 2010 26.6.3.1.4.1) It should be noted that in the next NFPA code cycle 2013, that the notification delay was increased to 60 minutes and remains in place in the most recent 2019 NFPA 72 code.

The 675 IAC28-1-28 NFPA 72 - 23.21.3 item yyyyyy on page 48 references NFPA 72 (26.6.3.1.4.1) to delete without substitution modifies this code rule. This removes the ability to utilize single path communications. If this was rule was amended to remove it, then the language in the NFPA 72 2010 would allow single path communication. The result would bring about a less costly, faster and reliable form of fire alarm communication.

We have been using cellular communication devices along with a POTS (conventional) phone line, and have found the cellular path to be very reliable and much faster than the traditional phone service. In our area (Warsaw, In.) a business phone line can run $75.00 and up per month. The single path communication whether it is cellular or IP (internet) typically runs half of that or less, depending on the company and their location.

There are several manufactures that are producing a single path commercial fire rated LTE cellular communicators and are being used in states that have adopted single path. Due to the rapidly developing secure technology and the increasing difficulty in getting regular phone service, I would request a hearing on this subject to see if these changes can be made.

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jurisdiction as quickly as practicable.

(gggggg) Amend Section 26.3.7.3, to insert a new item (3) to read as follows: Notify the fire department as quickly as practicable.

(hhhhhh) Amend Section 26.3.7.3, to renumber item (3) to item (4) and renumber item (4) to item (5), and amend (5) to read as follows: When service has been restored, provide notice to the subscriber and the authority having jurisdiction as to the nature of the signal, the time of occurrence, and the restoration of service when equipment has been out of service for 8 hours or more.

(iiiiii) Amend Section 26.3.7.4, (3) to read as follows: Provide notice to the subscriber and the authority having jurisdiction as to the nature of the interruption, the time of occurrence, and the restoration of service, when the interruption is more than 8 hours.

(jjjjjj) Amend Section 26.3.8.3 to read as follows: The central station shall furnish reports of signals received to the authority having jurisdiction immediately upon request.

(kkkkkk) Amend Section 26.4.4.1.3 by deleting the exception without substitution.

(llllll) Amend Section 26.4.4.1.4 by inserting "approved" before "private-mode" and delete all text after "appliances".

(mmmmmm) Amend Section 26.4.4.6.3 by inserting "and" before "operate", delete the "," after "signals", and delete "and take such action as shall be required by the authority having jurisdiction" without substitution.

(nnnnnn) Amend Section 26.4.5.1.2 by deleting the word "or" after the word "owner" and substituting "and".

(oooooo) Amend Section 26.4.5.2.1 by deleting "designated by the authority having jurisdiction" without substitution.

(pppppp) Amend Section 26.4.5.2.2 by deleting "or" and substituting "and".

(qqqqqq) Amend Section 26.4.5.3 by deleting "or other locations accepted by the authority having jurisdiction".

(rrrrrr) Amend Section 26.4.5.4 by deleting "shall be accepted by the authority having jurisdiction and" without substitution.

(ssssss) Amend Section 26.4.5.6.1 (1) to read as follows: Immediately notify the fire department and the emergency response team.

(tttttt) Amend Section 26.4.5.6.2, (1) by deleting "or other means accepted by the authority having jurisdiction" without substitution.

(uuuuuu) Amend Section 26.4.6.3 to read as follows: The central station shall furnish reports of signals received to the authority having jurisdiction immediately upon request.

(vvvvvv) Delete Section 26.5 in its entirety without substitution.

(wwwwww) Delete Section 26.6.2.2 without substitution.

REMOVE

(xxxxxx) Delete Section 26.6.3.1.1 without substitution.

→ (yyyyyy) Delete Section 26.6.3.1.4.1 without substitution.

(zzzzzz) Amend Section 26.6.3.2.1.4(A) to delete the text and insert to read as follows: (A) A system employing a DACT shall employ two (2) transmission channels. The DACT shall employ one of the following transmission means for the primary channel and a different transmission technology for the secondary channel from the following:

(1) A telephone line (POTS).

(2) A cellular telephone connection.

(3) A one-way private radio alarm system.

(4) A two-way RF multiplex system.

(5) An internet alarm communicator.

(aaaaaaa) Amend Section 26.6.3.2.1.4(B) to delete Exception No. 2 without substitution.

(bbbbbbb) Delete Chapter 27 in its entirety, and insert to read as follows: For public emergency alarm reporting systems, see local ordinance.

(ccccccc) Delete Chapter 29 in its entirety and substitute the following: Single and Multiple-Station Alarms. Single and multiple station alarms shall be installed in occupancies in Class 1 structures as required in the Indiana Building Code, the Indiana Fire Code, and IC 22-11-18, and in accordance with Chapters 4 through 10 of this standard. *(Fire Prevention and Building Safety Commission; 675 IAC 28-1-28; filed Aug 23, 2006, 4:03 p.m.: 20060906-IR-675050104FRA; readopted filed Aug 8, 2012, 8:08 a.m.: 20120905-IR-675120260RFA; filed Feb 21, 2014, 4:15 p.m.: 20140319-IR-675120522FRA; errata filed Nov 7, 2014, 8:26 a.m.: 20141203-IR-675140454ACA)*

**675 IAC 28-1-29 (Reserved)**



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(3) If used, any subsidiary station and its communications channel
(4) The signal receiving, processing, display, and recording equipment at the supervising station

*Exception: Transmission channels owned by, and under the control of, the protected premises owner that are not facilities leased from a supplier of communications service capabilities, such as video cable, telephone, or other communications services that are also offered to other customers.*

**26.6.2 General.**

**26.6.2.1 Master Control Unit.** If the protected premises master control unit is neither integral to nor co-located with the supervising station, the communications methods of Section 26.6 shall be used to connect the protected premises to either a subsidiary station, if used, or a supervising station for central station service in accordance with Section 26.3, proprietary station in accordance with Section 26.4, or remote station in accordance with Section 26.5.

**26.6.2.2* Alternate Methods.** Nothing in Chapter 26 shall be interpreted as prohibiting the use of listed equipment using alternate communications methods that provide a level of reliability and supervision consistent with the requirements of Chapter 10 and the intended level of protection.

**26.6.2.3 Multiple Buildings.** For multiple building premises, the requirements of 10.16.6.3 shall apply to the alarm, supervisory, and trouble signals transmitted to the supervising station.

**26.6.2.4 Equipment.**

**26.6.2.4.1** Alarm system equipment and installations shall comply with Federal Communications Commission (FCC) rules and regulations, as applicable, concerning the following:

(1) Electromagnetic radiation
(2) Use of radio frequencies
(3) Connection to the public switched telephone network of telephone equipment, systems, and protection apparatus

**26.6.2.4.2** Radio receiving equipment shall be installed in compliance with *NFPA 70, National Electrical Code*, Article 810.

**26.6.2.4.3** The external antennas of all radio transmitting and receiving equipment shall be protected in order to minimize the possibility of damage by static discharge or lightning.

**26.6.2.5 Adverse Conditions.**

**26.6.2.5.1** For active and two-way RF multiplex systems, the occurrence of an adverse condition on the transmission channel between a protected premises and the supervising station that prevents the transmission of any status change signal shall be automatically indicated and recorded at the supervising station. This indication and record shall identify the affected portions of the system so that the supervising station operator will be able to determine the location of the adverse condition by trunk or leg facility, or both.

**26.6.2.5.2** For a one-way radio alarm system, the system shall be supervised to ensure that at least two independent radio alarm repeater station receivers (RARSRs) are receiving signals for each radio alarm transmitter (RAT) during each 24-hour period.

**26.6.2.5.2.1** The occurrence of a failure to receive a signal by either RARSR shall be automatically indicated and recorded at the supervising station.

**26.6.2.5.2.2** The indication shall identify which RARSR failed to receive such supervisory signals.

**26.6.2.5.2.3** Received test signals shall not be required to be indicated at the supervising station.

**26.6.2.5.3** For active and two-way RF multiplex systems that are part of a central station alarm system, restoration of service to the affected portions of the system shall be automatically recorded. When service is restored, the first status change of any initiating device circuit, any initiating device directly connected to a signaling line circuit, or any combination thereof that occurred at any of the affected premises during the service interruption also shall be recorded.

**26.6.2.6 Dual Control.**

**26.6.2.6.1** Dual control, if required, shall provide for redundancy in the form of a standby circuit or other alternate means of transmitting signals over the primary trunk portion of a transmission channel.

**26.6.2.6.1.1** The same method of signal transmission shall be permitted to be used over separate routes, or alternate methods of signal transmission shall be permitted to be used.

**26.6.2.6.1.2** Public switched telephone network facilities shall be used only as an alternate method of transmitting signals.

**26.6.2.6.2** If using facilities leased from a telephone company, that portion of the primary trunk facility between the supervising station and its serving wire center shall not be required to comply with the separate routing requirement of the primary trunk facility. Dual control, if used, shall require supervision as follows:

(1) Dedicated facilities that are able to be used on a full-time basis, and whose use is limited to signaling purposes as defined in this Code, shall be exercised at least once every hour.
(2) Public switched telephone network facilities shall be exercised at least once every 24 hours.

**26.6.3 Communications Methods.**

**26.6.3.1* General.**

**26.6.3.1.1 Conformance.** Communications methods operating on principles different from specific methods covered by this chapter shall be permitted to be installed if they conform to the performance requirements of this section and to all other applicable requirements of this Code.

**26.6.3.1.2 Federal Communications Commission.** Alarm system equipment and installations shall comply with the Federal Communications Commission (FCC) rules and regulations, as applicable, concerning electromagnetic radiation, use of radio frequencies, and connections to the public switched telephone network of telephone equipment, systems, and protection apparatus.

**26.6.3.1.3** ***NFPA 70, National Electrical Code.*** Equipment shall be installed in compliance with *NFPA 70, National Electrical Code.*

**26.6.3.1.4 Communications Integrity.** Provision shall be made to monitor the integrity of the transmission technology and its communications path.

**26.6.3.1.4.1 Single Communications Technology.** Where only one communications technology is used, any failure of the



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communications path shall be annunciated at the supervising station within 5 minutes of the failure.

**26.6.3.1.4.2 Multiple Communications Technologies.** Where two or more different technologies are used, the following requirements shall be met:

(1) Provision shall be made to monitor the integrity of each communications path.
(2) Failure of any communications path shall be annunciated at the supervising station and at the protected premises within not more than 24 hours of the failure.

*Exception: Where technologies used are described elsewhere in this Code, monitoring for integrity shall be permitted to comply with those requirements.*

**26.6.3.1.5 Spare System Unit Equipment.** An inventory of spare equipment shall be maintained at the supervising station such that any failed piece of equipment can be replaced and the systems unit restored to full operation within 30 minutes of failure.

**26.6.3.1.6 Loading Capacity of a System Unit.**

**26.6.3.1.6.1** The maximum number of independent fire alarm systems connected to a single system unit shall be limited to 512.

**26.6.3.1.6.2** If duplicate spare system units are maintained at the supervising station and switchover can be achieved in 90 seconds, then the system capacity shall be permitted to be unlimited.

**26.6.3.1.7 End-to-End Communication Time for an Alarm.** The maximum duration between the initiation of an alarm signal at the protected premises, transmission of the signal, and subsequent display and recording of the alarm signal at the supervising station shall not exceed 90 seconds.

**26.6.3.1.8 Unique Identifier.** If a transmitter shares a transmission or communications channel with other transmitters, it shall have a unique transmitter identifier.

**26.6.3.1.9 Recording and Display Rate of Subsequent Alarms.** Recording and display of alarms at the supervising station shall be at a rate no slower than one complete signal every 10 seconds.

**26.6.3.1.10 Signal Error Detection and Correction.**

**26.6.3.1.10.1** Communication of alarm, supervisory, and trouble signals shall be in accordance with this section to prevent degradation of the signal in transit, which in turn would result in either of the following:

(1) Failure of the signal to be displayed and recorded at the supervising station
(2) An incorrect corrupted signal displayed and recorded at the supervising station

**26.6.3.1.10.2** Reliability of the signal shall be achieved by any of the following:

(1) Signal repetition — multiple transmissions repeating the same signal
(2) Parity check — a mathematically check sum algorithm of a digital message that verifies correlation between transmitted and received message
(3) An equivalent means to 26.6.3.1.10.2(1) or 26.6.3.1.10.2(2) that provides a certainty of 99.99 percent that the received message is identical to the transmitted message

**26.6.3.1.11* Sharing Communications Equipment On-Premises.** If the fire alarm transmitter is sharing on-premises communications equipment, the shared equipment shall be listed.

**26.6.3.1.12* Secondary Power.** Secondary power capacity in accordance with 10.5.6 shall be provided for all equipment necessary for the transmission and reception of alarm, supervisory, trouble, and other signals located at the protected premises and at the supervising station.

**26.6.3.1.13 Unique Flaws Not Covered by This Code.** If a communications technology has a unique flaw that could result in the failure to communicate a signal, the implementation of that technology for alarm signaling shall compensate for that flaw so as to eliminate the risk of missing an alarm signal.

**26.6.3.2 Digital Alarm Communicator Systems.**

**26.6.3.2.1 Digital Alarm Communicator Transmitter (DACT).**

**26.6.3.2.1.1* Public Switched Network.** A DACT shall be connected to the public switched telephone network upstream of any private telephone system at the protected premises.

**(A)** The connections to the public switched telephone network shall be under the control of the subscriber for whom service is being provided by the supervising station alarm system.

**(B)** Special attention shall be required to ensure that this connection is made only to a loop start telephone circuit and not to a ground start telephone circuit.

*Exception: If public cellular telephone service is used as a secondary means of transmission, the requirements of 26.6.3.2.1.1 shall not apply to the cellular telephone service.*

**26.6.3.2.1.2 Signal Verification.** All information exchanged between the DACT at the protected premises and the digital alarm communicator receiver (DACR) at the supervising or subsidiary station shall be by digital code or some other approved means. Signal repetition, digital parity check, or some other approved means of signal verification shall be used.

**26.6.3.2.1.3* Requirements for DACTs.**

**(A)** A DACT shall be configured so that, when it is required to transmit a signal to the supervising station, it shall seize the telephone line (going off-hook) at the protected premises and disconnect an outgoing or incoming telephone call and prevent use of the telephone line for outgoing telephone calls until signal transmission has been completed. A DACT shall not be connected to a party line telephone facility.

**(B)** A DACT shall have the means to satisfactorily obtain a dial tone, dial the number(s) of the DACR, obtain verification that the DACR is able to receive signals, transmit the signal, and receive acknowledgment that the DACR has accepted that signal. In no event shall the time from going off-hook to on-hook exceed 90 seconds per attempt.

**(C)*** A DACT shall have means to reset and retry if the first attempt to complete a signal transmission sequence is unsuccessful. A failure to complete connection shall not prevent subsequent attempts to transmit an alarm where such alarm is generated from any other initiating device circuit or signaling line circuit, or both. Additional attempts shall be made until the signal transmission sequence has been completed, up to a minimum of 5 and a maximum of 10 attempts.

**(D)** If the maximum number of attempts to complete the sequence is reached, an indication of the failure shall be made at the premises.



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**26.5.9 Inspection, Testing, and Maintenance.**

**26.5.9.1** Inspection, testing, and maintenance for remote supervising stations shall be performed in accordance with Chapter 14.

**26.5.9.2** Where required, inspection, testing, and maintenance reports shall be submitted to the authority having jurisdiction in a form acceptable to the authority having jurisdiction.

**26.6 Communications Methods for Supervising Station Alarm Systems.**

**26.6.1* Application.**

**26.6.1.1** Section 26.6 shall apply to the following:

(1) Transmitter located at the protected premises
(2) Transmission channel between the protected premises and the supervising station or subsidiary station
(3) If used, any subsidiary station and its communications channel
(4) Signal receiving, processing, display, and recording equipment at the supervising station

**26.6.1.2** The minimum signaling requirement shall be an alarm signal, trouble signal, and supervisory signal, where used.

**26.6.2 General.**

**26.6.2.1 Master Control Unit.** If the protected premises master control unit is neither integral to nor colocated with the supervising station, the communications methods of Section 26.6 shall be used to connect the protected premises to either a subsidiary station, if used, or a supervising station for central station service in accordance with Section 26.3, proprietary station in accordance with Section 26.4, or remote station in accordance with Section 26.5.

**26.6.2.2* Alternate Methods.** Nothing in Chapter 26 shall be interpreted as prohibiting the use of listed equipment using

**26.6.3.2 Communications Integrity.** Provision shall be made to monitor the integrity of the transmission technology and its communications path.

**26.6.3.3 Single Communications Path.** Unless prohibited by the enforcing authority, governing laws, codes, or standards, where a single communications path is used, the following requirements shall be met:

(1) The path shall be supervised at an interval of not more than 60 minutes.
(2) A failure of the path shall be annunciated at the supervising station within not more than 60 minutes.
(3) The failure to complete a signal transmission shall be annunciated at the protected premises in accordance with Section 10.15.

**26.6.3.4 Multiple Communications Paths.** If multiple transmission paths are used, the following requirements shall be met:

(1) Each path shall be supervised within not more than 6 hours.
(2) The failure of any path of a multipath system shall be annunciated at the supervising station within not more than 6 hours.
(3) Multiple communications paths shall be arranged so that a single point of failure shall not cause more than a single path to fail.
(4) The failure to complete a signal transmission shall be annunciated at the protected premises in accordance with Section 10.15.

**26.6.3.5* Single Technology.** A single technology shall be permitted to be used to create the multiple paths provided that the requirements of 26.6.3.4(1) through 26.6.3.4(4) are met.

**26.6.3.6 Spare System Unit Equipment.** An inventory of spare equipment shall be maintained at the supervising station such that any failed piece of equipment can be replaced and the systems unit restored to full operation within 30 minutes of fail-

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