

SUPPLEMENTARY PAPER ON TECHNICAL GUIDANCE NOTE 5 (TGN 5) ALTERNATIVE SOLUTION FOR TEMPORAL CODE 3 FIRE ALARM SIGNALS

1. Background

Temporal code 3 for fire alarm signal has been discussed during the Technical Sub Committee (TSC) meeting where TSC has agreed an alternative solution alongside with the regulatory requirements. The RSC has developed an independent implementation guidance based on the outcome of the discussion, which may aid industry in completing their remediation plan in a timely manner.

This paper is to address the desired acceptance level for alternative solution on applicable fire alarm signals.

2. Standard Requirement/s:

NFPA 72 Section 18.4 requires a distinctive fire alarm evacuation signal. ANSI S3.41 Temporal Code 3 is accepted as meeting that requirement.

3. Alternative Solution:

1. New and replacement systems after November 2019 shall incorporate a Temporal Code 3.
2. Existing systems installed prior to November 2019 shall be accepted without Temporal Code provided the following conditions are met or provided:
 - i. Signal pattern is clearly distinctive (ANSI S3.41 Temporal Code 3 or Similar Equivalent Signal which is not used for any other purpose).
 - ii. Audible signals generated are consistent throughout the building.
 - iii. Audible sound pressure levels are consistent with the requirements of NFPA 72 Section 18.4.4 for public-mode signaling.
 - iv. Private-mode notification may be accepted on a case-by-case basis when audibility may not be met due to high-ambient noise levels. Designers are responsible for identifying locations on plans.
 - v. Where used, Visual signals provided to meet private mode signaling shall be in accordance with the requirements of NFPA 72 Section 18.6.
 - vi. Obsolete equipment/ appliances must be removed and not repurposed for any other use.



4. Implementation Guidance:

1. Systems installed before November 2019 shall be accepted without inclusion of Temporal Code 3 signal pattern with the above-mentioned conditions. The idea behind Temporal Code 3 is that the sounding device shall provide a pattern of a three short bursts with a second and a half gap. NFPA 72 provides requirements for a “distinctive and audible” evacuation signal (Section 10.10.2, 10.10.7 & 18.4.2.1). The pattern shall be in accordance with ANSI/ASA S3.41, American National Standard Audible Emergency Evacuation (E2).
2. NFPA 72-10.10.2
Distinctive Signals - Audible alarm notification appliances for a fire alarm system shall produce signals that are distinctive from other similar appliances used for other purposes in the same area that are not part of the fire alarm or emergency communications system.
3. NFPA 72-18.4.2.1
Distinctive Evacuation Signals - To meet the requirements of Section 10.10, the alarm audible signal pattern used to notify building occupants of the need to evacuate (leave the building) or relocate (from one area to another) shall be the standard alarm evacuation signal consisting of a three-pulse temporal pattern.
4. NFPA 72-18.4.3.1
Public Mode - To ensure that audible public mode signals are clearly heard, unless otherwise permitted by 18.4.3.2 through 18.4.3.5, they shall have a sound level at least 15 dB above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater, measured 5 ft (1.5 m) above the floor in the area required to be served by the system using the A-weighted scale (dBA).
5. Systems installed after November 2019 shall be incorporated with a Temporal Code 3 signal pattern as per NFPA 72 Section 18.4. The temporal pattern can be produced by any audible notification appliance, as illustrated in Figure A.18.4.2.1 (a) and Figure A.18.4.2.1 (b).

5. References:

RSC Technical Guidelines (Standard)
 Accord Building Standard V1.1
 NFPA 72 National Fire Alarm and Signaling Code
 ANSI S3.41 Audible Emergency Evacuation Signal

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