



Clarification on the use of Pyrotechnic Simulation Equipment “Cold Spark Machines”

APA has received numerous inquiries regarding the standards, classification and permitting requirements for the use of spark producing machines sometimes referred to as “Cold Spark Machines”.

These machines are sold under numerous brand names and produced domestically and by numerous foreign manufacturers. Many of these manufacturers and distributors are marketing and purporting that these devices are un-regulated and do not require permits or licenses for their use.

The individual requirements for permits and licensing vary from jurisdiction to jurisdiction. However, in December 2018, the National Fire Protection Association (NFPA) issued a Temporary Interim Amendment (TIA) to address this emergent technology and the introduction of this type of device into the marketplace. This was done in response to a lack of clear guidelines or standards for use or risk mitigation, and to address several instances of machines catching on fire, creating potentially injurious fall-out, and setting off fire alarms.

The general consensus among stakeholders was that these devices, while arguably somewhat safer than conventional pyrotechnics, do still pose a hazard to life safety under certain circumstances and the potential at a minimum of false alarms. There are no current, industry wide performance guidelines, manufacturing standards, or engineering and testing verifications by third parties for these machines and the expendable fuels that create the effects as might be required by a broadly recognized authority or agency. Although some manufacturers have obtained UL, CE, CSA, or other approvals from a widely recognized testing lab, These approvals only address the electrical integrity or the minimum standards for trade commodities within a jurisdiction. These approvals do not in any way indicate a certification for safe use of the effect in the public environment. Safe use, as with all special effects devices, should be determined by appropriate analyses of all the risk and environmental factors in each application and approved by all involved parties, including the authority having jurisdiction.

During the 2021 Revision cycle, the NFPA Technical Committee on Special Effects was directed to take up the task of classifying and setting standards for the use of these types of devices. After months of work, and public comments, including input from manufacturers of these devices, the devices were formally defined as Special Effects Simulation Equipment. (NFPA 1126, 2021 revision; § 3.3.40 and 3.3.41). Thus, subjecting them to all relevant permitting and licensing requirements. To avoid confusion in certain jurisdictions, NFPA 160, 2021 revision, § 1.3.3 (12) specifically excludes them from Flame effects standards and refers them to NFPA 1126.

The APA Proximate Pyrotechnics Committee strongly supports the NFPA’s 2021 revision of NFPA 1126 regarding these devices, and encourages all jurisdictions to adopt the most current edition of these two standards and recommends that all spark producing devices be regulated and permitted as pyrotechnic devices with all applicable local regulations pertaining to licensure and use. Additionally, the APA strongly encourages the manufacturers, distributors, and users to develop training programs for compliant use and emphasize the necessity to follow maintenance protocols and perform risk mitigation analyses.

If you have further questions, please feel free to reach out to APA.

Jon Berson, Chair- Proximate Pyrotechnics Committee

Brian Panther, APA President and Co-Chair- Proximate Pyrotechnics Committee

January 6, 2021