



U. S. Chemical Safety and Hazard Investigation Board RECOMMENDATIONS STATUS CHANGE SUMMARY

Report:	CAI/Arnel Chemical Plant Explosion
Recommendation Number(s):	2007-3-I-MA-R7
Date Issued:	May 13, 2008
Recipient:	Town of Danvers
New Status:	Closed-No Longer Applicable
Date of Status Change:	December 19, 2018

Recommendation Text 2012-3-I-CA-R25:

Pending revision of the Massachusetts Fire Safety Code (527 CMR), revise the town bylaws addressing 527 CMR 14 requirements applicable to facility licensing and annual registration to:

- Require new and current product manufacturing registrants to certify in writing that the facility complies with, at a minimum, all state and local fire codes and hazardous chemical regulations as part of the annual registration renewal.*
- Require companies holding a license and current registration for any of the eight classes of flammable materials specified in 527 CMR 14.03(2) to re-register the facility before increasing any chemical quantity above the registered amount or adding a different regulated chemical at the facility. Include a requirement in the approval process to solicit input from affected landowners, similar to the requirement for obtaining the original license and registration.*
- Revise the license and registration forms to require listing each hazardous material type and quantity, and require a separate license and permit for each of the eight classes of flammable materials specified in 527 CMR 14.03(2).*
- Require the fire department to annually inspect licensed manufacturing facilities for compliance with the fire code.*

Board Status Change Decision:

A. Rationale for Recommendation

On November 22, 2006, a powerful explosion destroyed the CAI/Arnel ink and paint manufacturing facility in Danvers, Massachusetts. Many nearby homes and businesses were damaged, some beyond repair. A number of residents were hospitalized. There were no injuries in the plant, which was unoccupied at the time.

The U.S. Chemical Safety and Hazard Investigation Board's (CSB) investigation concluded that the immediate cause of the incident was a steam valve on a mix tank heater had been inadvertently left open overnight, heated the material in the mix tank and released highly flammable vapor. The vapor accumulated within the building and was ignited by an unknown ignition source, causing the explosion.

The CSB found that the quantity of flammable materials that existed in the CAI/Arnel facility increased substantially since the time the companies were first licensed in December 1944. When the licensed quantities of flammable materials changed, the companies were never re-licensed nor were they required to be under the General Laws of Massachusetts (527 CMR). However, there is a provision for flammable materials to be licensed to control hazardous material use within a town's jurisdiction.

The CSB also found that the town of Danvers did not have bylaws addressing the licensing process. This process is necessary to review changes to the quantity and type of licensed materials used by a company. Based upon these findings, the CSB recommended that the town of Danvers revise its bylaws.

B. Response to the Recommendation

As of January 1, 2018, Massachusetts updated its state fire code to incorporate National Fire Protection Association (NFPA) 1, *Fire Code*, 2015 edition with Massachusetts amendments. The updated state fire code is entitled *527 CMR: Massachusetts Comprehensive Fire Safety Code*. The Town of Danvers Fire Department adheres to this state code, which includes the following requirements:

Section 1.12 *Permits and Approvals*

- A facility wishing to maintain, store, use, or handle hazardous materials must obtain a permit annually from the fire department;
- The fire department has the authority to require or conduct an inspection prior to issuance of a permit; and
- Any change that effects the conditions of the permit, such as the quantity of material kept, used, or stored, requires a new or amended permit.

C. Board Analysis and Decision

Based on the fact that Massachusetts updated its state fire code and the Town of Danvers Fire Department follows the code's requirements, the Board voted to change the status of Recommendation No. 2007-3-I-MA-R7 to: **“Closed – No Longer Applicable.”**