

Overview of Hazardous Material Process or Processing Regulations



Timothee Rodrique, Director
Division of Fire Safety
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Department Of Fire Services

Agenda

- **Why we are proposing regulations**
- **A review of the current regulations**
- **A review of the proposed regulation**



Department Of Fire Services

- **Why are we looking to regulate process safety?**
 - **Result of three explosions**
 - **Leominster - 2005**
 - **Danvers - 2006**
 - **Middleton - 2011**



527 CMR 14 State Fire Code

- **Currently very limited regulation.**
- **Compliance with Federal Law Regarding Process Safety Management. Upon the application or renewal of any license, or permit.**
- **Head of the fire department may, as a condition to the issuance or renewal of said permit or continued activity thereunder, require documentation confirming compliance with the Federal requirements of 29 CFR1910.119.**

OSHA PSM

- **OSHA PSM Program does not equal SAFETY**
- **Why?**
 - **Too complex for most facilities**
 - **Mission creep**
- **Both OSHA Covered facilities**
 - **Danvers**
 - **Middleton**
 - **What was the difference?**
 - **One knew and one didn't!!**

Proposed State Fire Code Regulations

- **Currently in draft form**
- **Still needs public hearing**
- **Still needs final Board action**
- **Still needs final adoption and training**

527 CMR State Fire Code

- **527 CMR Regulations**
 - Will discuss proposed or DRAFT regulations
 - Draft regulations are subject to change
 - Draft regulations are not enforceable



Hazardous Material Processing

- **Purpose**
 - **Protect the public emergency response personnel from fire or explosion hazards arising out of processing flammable, combustible, toxic or corrosive substances.**
 - **Enhance awareness of local emergency personnel about actual/potential hazards and risks associated with hazardous material processing in their community.**
 - **Establish permitting requirements for facilities that engage in the processing of hazardous materials.**

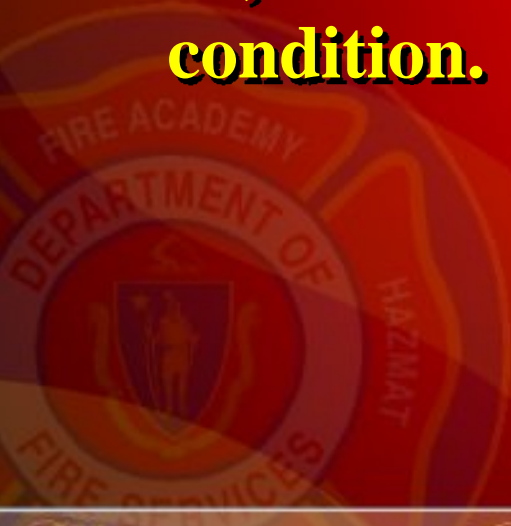
Hazardous Material Processing

527 CMR 33 – Process Safety - DRAFT

- **Establishes requirements for a company processing hazardous materials**
 - **What is processing?**
 - **A sequence of physical operations such as heating, cooling, mixing, distilling, compressing.....chemical operations such as polymerization, oxidation, reduction & other chemical processes...**

Hazardous Material Processing

- **Hazardous Material**
 - **Hazardous Material**: A chemical or substance that possesses a **physical hazard** or **health hazard** as defined and classified in **527 CMR 33**, whether the material is in usable or waste condition.



Hazardous Material Processing

- **Physical Hazard**

- A chemical for which there is evidence that it is a combustible liquid, compressed gas, cryogenic, flammable gas, flammable liquid, flammable solid, organic peroxide, oxidizer, pyrophoric or unstable (reactive) or water-reactive material.

- **Health Hazard**

- A classification of a chemical for which there is statistically significant evidence that acute or chronic health effects are capable of occurring in exposed persons. The term “health hazard” includes chemicals that are toxic or highly toxic, and corrosive.

Hazardous Material Processing

- **Creates categories and requirements**
 - **Based on vessel size used to process hazardous materials**
 - **Unlike OSHA – there are no lists, figuring out size, etc..**
- **Five Categories**
 - **Category 1 to Category 5**

Hazardous Material Processing

- **Category 1**
 - **Process hazardous materials with a vessel size up to 2.5 gallons**
- **Category 2**
 - **Process hazardous materials with a vessel greater than 2.5 gallons but less than 60 gallons**
- **Category 3**
 - **Process hazardous materials with a vessel size greater than 60 gallons but less than 300 gallons or a process area that is classified as being a H occupancy**
- **Category 4**
 - **Process hazardous materials with a vessel size greater than 300 gallons, but not regulated by OSHA or EPA Risk Management Plan**
- **Category 5**
 - **Verification of compliance with OSHA or EPA Risk Management Plan**

Hazardous Material Processing

- **Category 1**
 - **Compliance with OSHA 1910.1200 and 1910.1450**
 - **Policy for complying with 527 CMR 14**
 - **Compliance with Emergency Response Planning**
- **Category 2**
 - **Compliance with Category 1**
 - **Compliance with Emergency Response Planning & floor plan submittal**
 - **Permitting Requirements**

Hazardous Material Processing

- **Category 3**
 - **Compliance with Category 2**
 - **Completes the Category 3 Hazard Evaluation**
 - **Hazard Evaluation Policy in place to deal with process changes (prior too)**
 - **Maintains Category 3 evaluation for 2 years**

Category 3 Hazard Evaluation

- **A written evaluation performed or procedure conducted to identify hazards, including adjacent vessels that contain hazardous materials, and determine the required preventive, protective, and safety control measures in conformance with recognized and generally accepted good engineering and safe work practices associated with a particular process or condition and the facility wherein such process or condition is taking place.**

Hazardous Material Processing

- **Category 4**
 - **Compliance with Category 3**
 - **Category 4 Limited Safety Program is in place and completed prior to each process being modified**
 - **Implement appropriate Process safety controls to mitigate the hazards associated with normal and abnormal operating conditions in the Category 4 Limited Safety Program**
 - **Records for 2 years**

Category 4 Limited Safety Program

- **Process information, MSDC, process chemistry, piping, instrumentation diagram, safety relief design, process control safety alarms and interlocks**
- **Facility suitability: building code compliance, electrical hazard, ventilation designs, fire protection, spill containment and control**

Category 4 Limited Safety Program

- **Process hazard safety analysis:** effects of failure, suitable administrative and engineering controls to minimize failure and to control unanticipated releases
- **Written procedures:** operating and maintenance, precautionary shutdown and emergency response

Category 4 Limited Safety Program

- **Written training program for O&M personnel and outside contractors whose work or activity may affect process safety**
- **Written records management protocol which tracks changes**
 - **Chemical, equipment, operating procedures**
 - **Includes date of change and manager responsible for oversight of change**
- **Internal review at least every 3 years**

Hazardous Material Processing

– Category 5

- **Demonstrate implementation of 29 CFR 1910.119 or 40 CFR Part 68**
- **Permitting Requirements**
- **Emergency Response Planning**
- **Records for 2 yrs.**



Hazardous Material Processing

- **Annual inspection and permit**
 - On or before September 30 (?) and annual basis
- **Stagger filings**
 - As of certain date; can't operate w/o permit
 - Filing of application in accordance with regulation allows for continued operation
 - Fire Chief can require third party review, if identifying in writing the reasons for failing to endorse the permit
 - Only for category 3 and 4 processes
- **Company to identify category(s) to fire department and submit paperwork**

Hazardous Material Processing

- **Any person permitted under 527 CMR 33 shall prior to engaging in any new or modified hazardous material process activity which results in a change to the highest category authorized by the current permit, must notify the head of the fire department and file a new application to appropriately modify the existing permit.**

Hazardous Material Processing

- **Emergency Response Provision**
 - **Identify emergency coordinators within 1hr. Response time**
 - **Updated list of contact information**
 - **Facility floor plan (NTS) showing haz.mat, volumes, equipment**
 - **Changes noticed within 14 days**
 - **Category 3 – 5 establish protocol in conjunction with F/D on shutdown hazards**
 - **Facility liaison with fire department**

Hazardous Material Processing

- **Post Incident Provision**
- **Category 3 through 5 only**
 - **Incident involving fire department, EMS response or reportable release of hazardous material**
 - **Written post incident report completed and submitted within 45 days**
 - **Covers: summary of the incident and contributing factors, recommendations to prevent a future recurrence, summary of dates of the recommendations and corrective actions, a reassessment and confirmation of the category under which the facility is operating or application of a new permit**
 - **Category 5 copy of report submitted for OSHA**
- **Trade Secrets**

*Emergency response is not our
first line of defense from harm.
It's just the only option
remaining after engineering,
education and enforcement fail.*

Thank you!

Commonwealth of Massachusetts



Department Of Fire Services