



Combustible
Dust

Michigan Legislative and
Enforcement Overview



MIOSHA
Michigan Occupational Safety
and Health Administration

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Outline

- Industries impacted by the NEP in Michigan

Examples of Industries Impacted by the federal OSHA NEP

- Same as federal NEP:
 - Crop preparation services (grain handling)
 - Food products
 - Lumber and wood products
 - Furniture and office and store fixture manufacturing
 - **Chemical manufacturing (including fireworks)**
 - Rubber and plastic products
 - Abrasive products
 - Primary metal industries (foundries, etc.)
 - **Fabricated metal industries**
 - **Power generation, transmission, and distribution**
 - Sanitary treatment facilities
- Reference Appendix D in the NEP for a complete list

Michigan History

- Several explosions
 - Sugar pops to buffing and polishing
 - About one explosion per year
 - An explosion involving fatalities every other year.
 - Many involved aluminum buffing/polishing
 - One compliance officer – did about 8 on the west side.

Combustible Dust Explosions Independence Professional Fireworks Co.

- Osseo, MI
- 1999, two explosions
- 11 dead total**
- First explosion 12/98 7 fatalities
- When ATF done we listed;



Independence Fireworks

- Part 55 (b) "Miscellaneous provisions".
- (b)(1) "General hazard." No person shall store, handle, or transport explosives or blasting agents when such storage, handling, and transportation of explosives or blasting agents constitutes an undue hazard to life.
- NFPA 1154
- Static dissipating shoes & clothing
- PPE
- Sources of ignition (radio's)
- Storage of explosives
- Static pads
- Heat location
- Spark arrestors

Independence Fireworks

- 3/1999
- First day back
- 2nd explosion
- 5 fatalities (Owners Included)
- One survivor – late for work.

Combustible Dust Explosions Ford Rouge Plant

- Dearborn, MI
- 1999
- 6 dead, 14 seriously injured
- Primary explosion natural gas
- Secondary explosion – coal dust
- Ford paid \$1.5 million in fines over safety violations at the site.



Plaques line a memorial wall for six workers killed in the 1999 Ford Rouge plant explosion in Dearborn.

Combustible Dust in Michigan

- Enforcement history
- Combustible dust alliance
- Michigan industrial ventilation conference

Combustible Dust Inspections

- Implementation based upon available resources
- Complaint based
- Compliance considering combustible dust as part of a routine inspection.

Combustible Dust Citations

- From 1/01/2008
- Diverse
- From the most to least frequent
 - Part 77 Grain Handling
 - Part 40, 1910.303 and 1910.305 Electrical
 - Part 3 Fixed Ladders
 - Part 21 Powered Industrial Trucks

Combustible Dust Citations

- Parts 22, Tractors
- 4080, General duty
 - Electrical, or Housekeeping
- 147 Lockout.
- Part 14, conveyors
- Part 1a, abrasive wheels.
- RTK, PRCS, PPE, Fire Brigades, Welding and Cutting

Actual Combustible Dust Citations

- Part 77 grain handling
 - Housekeeping
 - Fugitive grain dust
 - Emergency plans
 - Training
 - Preventative maintenance
 - tramp metal removal (grinders & mills)
 - Conveyor bearing location and temperature sensors
 - Alarm systems

Electrical

- Portable cord inspection
- Removal of damaged item from service
- Conductors entering boxes, fittings or cabinets
- Junction & pull box covers
- Splices & terminations
- Use of flexible cords & cables
- Intrinsically safe for hazardous locations
- Insulation integrity
- Guarding live parts
- Space about electrical equipment

Buffing & Polishing

- Fire & Explosion prevention for magnesium, titanium, aluminum, lint & wax
- Suitable hood design
- Exhaust system design
 - Deflagration prevention and protection

Alliance

- BS&B Mfg – combustible dust deflagration prevention and protection

Ventilation Conference

- February in Michigan
- Design course
- Operations & Maintenance course
- One day course on Combustible Dust
- One day Trouble Shooting course

Summation

- Michigan is following the NEP
- Not a Special Emphasis program
- Complaint / Incident Based and/or
- Part of a routine inspection
- Citations include:
 - Combustible dust issues +
 - Safety issues +
 - Health issues
