

NFPA 61 DHA 1/1/22

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Mountaire Farms

ASSP Meeting 2/16/21

HISTORY

- 2008 (Imperial Sugar) Georgia sugar refinery explosion
- February 7, 2008
- 14 deaths, 38 injured
- <https://www.youtube.com/watch?v=Jg7mLSG-Yws>



HISTORY

- Broken equipment inside a steel conveyor belt sparked the first explosion at the Imperial Sugar refinery.
- The initial blast rocked the building, jolting more dust into the air. And like so much tiny kindling, that dust ignited seconds later, creating a fireball visible miles away.
- Eight workers died that night and six more eventually succumbed to their burns. Dozens others were injured but survived, 14 of them spending months at the Joseph M. Still Burn Center in Augusta.
- Those lives lost from the Feb. 7, 2008, tragedy were Eric Barnes, John Calvin Butler Jr., Truitt Byers, Alphonso Fields Sr., Michael Kelly Fields, Malcolm Frazier, McKinley “Von” Habersham Sr., Shelathia “Shon” Harvey, Earl Johnson, Patricia Ann “Pat” Lowe Proctor, Earl Quarterman, Byron Singleton, Tony Thomas and Michael “Big Mike” Williams.
- Better housekeeping would have prevented any loss of life, a federal investigation determined.
- Imperial sugar payed more than 4 million for safety violations as part of a \$6 million settlement with regulators. They also agreed to a three year program of OSHA oversight.



WHO

- NFPA 652 Standard on the Fundamentals of Combustible Dust requires the deadline of September 7, 2020.
- NFPA 61, which is food and agricultural products that most of us fall under pushed their deadline to January 1, 2022.
- NEP-Combustible Dust National Emphasis Program (Reissued) effective 3/11/08, we would still be cited under 1910.272, 1910.307 (Electrical for Hazardous Locations)

WHAT IS IT?



DHA-Dust Hazard Analysis



Identify the fire, deflagration, and explosion hazards in your facility



Organizations must review and update DHA every 5 years.



“Qualified Person” completes



Results documented and action items tracked

DHA PROCESS

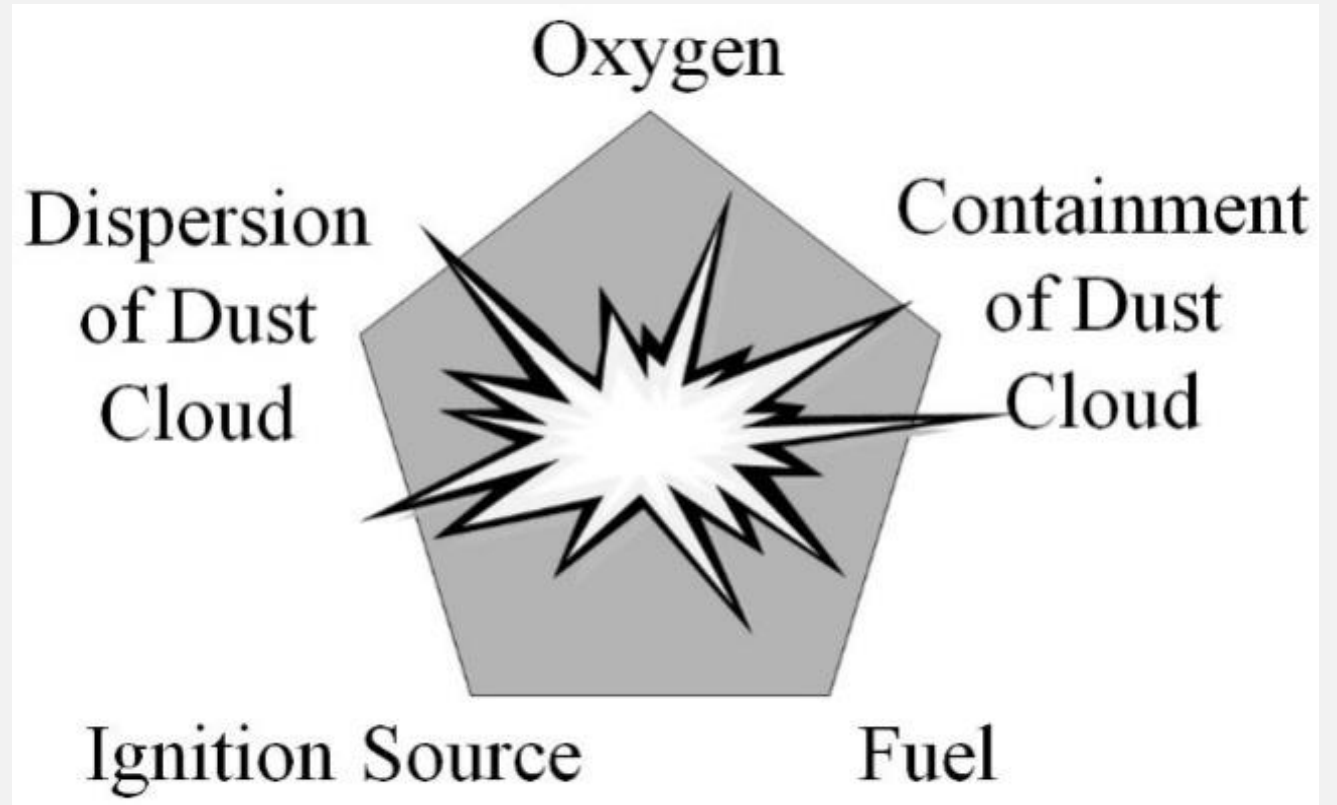
- Modeled on (OSHA) Directive CPL 03-00-008“Combustible Dust National Emphasis Program”, National Fire Protection Association (NFPA)652: Standard on the Fundamentals of Combustible Dust, and NFPA 61: Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities.

The hazard analysis included:

- A review of available data for the materials handled at the facility;
- A review of processes that generate and handle combustible dust;
- An inspection of open and hidden areas where dust could accumulate;
- An inspection of ventilation systems;
- A determination of the means by which combustible dust becomes airborne at the facility;
- Identification of possible ignition sources; and,
- A review of current safeguards in place.

DHA PROCESS

- **Explosion Pentagon**





GETTING STARTED ON SITE

- In a DHA, a detailed review of each process component and each building area where combustible dust is handled, generated, or present is conducted.
 - Site Map
 - Process Flow Map
 - Site Manager
 - Maintenance Manager
 - Tour the facility following the grain, or process

INTERESTING FINDINGS

- Using diesel-powered front-end loaders in bins for unloading
- High degree of maintenance (clean the engine compartment every four hours during unloading)
- Additional signs, warning and deflector panels
- Rate areas and have it available for contractors/like construction standards (Class II Div. II Group G)



**AUTHORIZED PERSONNEL ONLY
CLASS II DIVISION I AREA
WHEN IN USE
NO CELL PHONES**



**PLEASE PLACE PHONE, RADIOS
& UNRATED FLASHLIGHTS HERE**



WHAT TO CONSIDER

NFPA 61-
industry
specific
checklist
included in the
appendix

NFPA 652

NFPA 70

Ensure top
management
support/the
right people
available

HELPFUL TIPS

Plan your time

Get Engineering and
Regional Managers
involved!

Travel, written reports,
time for questions are
included



RESOURCES


- [NFPA 61](#)
- [NFPA 652](#)
- [NFPA 70](#)
- [*www.dustsafetyconference.com*](#)
- [*https://www.geaps.com/education/online-training-programs/distance-education/geaps-544-preventing-grain-dust-explosions/*](#)

BENEFITS

This will make your facility safer!

A light blue downward-pointing arrow connects the first box to the second.

You will learn more about your facilities and your processes.

A green downward-pointing arrow connects the second box to the third.

You might even have a good time!