



Catastrophic Incidents in Manufacturing

Employers and employees in Manufacturing need your help

NORA

The National Occupational Research Agenda (NORA) is a partnership program to stimulate innovative research and improve workplace practices. Unveiled in 1996, NORA has become a framework for guiding Occupational Safety and Health research in the nation. Diverse parties collaborate to identify the most critical issues in the workplace. Partners then work together to develop goals, objectives, and an implementation plan for addressing these issues.

Manufacturing

The Manufacturing Sector consists of industries that have been assigned a North American Industry Classification System (NAICS) number between 31 and 33 (www.census.gov/epcd/naics02/naicod02.htm#N31), as defined by the U.S. Census Bureau. This sector represents one of the largest workforces and includes a diverse group of manufacturing industries such as Beverage and Tobacco, Food, Wood Products, Primary Metals, Fabricated Metal Products, Transportation Equipment, Furniture, and Chemical Manufacturers.

Catastrophic Incidents in the Manufacturing Sector

Explosions, fires, building structural failures and other catastrophic incidents during the handling and processing of chemicals in manufacturing industries cause worker deaths, injuries, significant economic losses and serious impacts on the surrounding communities and environment each year. Notorious and tragic catastrophic incidents (human toll in the thousands of affected lives) have triggered legislation and regulation to prevent and mitigate such incidents. Reports from investigations of catastrophic incidents can be found on the U. S. Chemical Safety and Hazard Investigations Board web site (www.csb.gov).



Catastrophic incidents continue to occur as evidenced by the deaths of 15 workers in a refinery in 2005, and the deaths of another 14 workers in a dust explosion in a refinery in 2008. Both incidents also resulted in hundreds of serious and often incapacitating injuries, as well as economic and community losses in the hundreds of millions of dollars. Moreover, despite legislation, there is no accurate national surveillance system for catastrophic chemical incidents, so their number, character, causes, human, economic and environmental impacts are not well understood. Lastly, many catastrophic incidents occur for reasons that are or should be well understood, suggesting that the lessons from the past are often lost to employers and workers. There is a need to better understand the causes of catastrophic incidents in manufacturing and to develop more effective ways to remember lessons, implement preventative measures in order to eliminate the occurrence of these incidents and mitigate their impacts when they do occur.



NIOSH is the federal agency responsible for conducting research and making recommendations to prevent work-related injury, illness, and fatalities. Its mission is to generate new occupational safety and health knowledge and to transfer that knowledge into practice.

Strategic Goal: Reduce Catastrophic Incidents

The NORA Manufacturing Sector Council has developed goals to guide the reduction of the number of catastrophic incidents (e.g., explosions, chemical accidents, or building structural failures) in the manufacturing sector. These goals can be found on the NORA Web site (www.cdc.gov/niosh/nora) under the Strategic Goal 10 of the National Manufacturing Agenda. Public comments on this document are accepted at any time.

How You Can Help

Apply research findings and share data:

- Publicize the findings and known causes of catastrophic incidents in sufficient detail to help prevent their recurrence elsewhere
- Widely disseminate incident investigations in a form and through media that can effectively reach those who can help prevent accidents, such as manufacturing industry owners, managers, and workers
- Collaborate and contribute data to efforts by trade groups, government agencies, and academic or other institutions engaged in research and surveillance of catastrophic incidents

Develop and implement research strategies:

- Develop research efforts to better understand the nature and causes of catastrophic incidents
- Develop, validate, and promote tools to predict risk of catastrophic failure
- Evaluate the effectiveness of insurance audits/evaluations for catastrophic failures
- Investigate the management system, cultural, technical, human, and other potential causes of catastrophic incidents
- Research education and intervention strategies to ensure that lessons from past catastrophic incidents are used to prevent future ones

The NORA Manufacturing Sector Council includes individuals from industry, academia, labor, and government. The Council meets face-to-face twice a year. Additional communication occurs through email, conference calls, and web-based meetings. The National Institute for Occupational Safety and Health (NIOSH) facilitates the work of the Council. The Council's Catastrophic Incidents workgroup relies on corresponding members for additional expert input and feedback on the goals. Members and corresponding members primarily meet via conference calls and web-based meetings.

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For more information about NORA or the NORA Manufacturing Sector, please visit:

NORA Website: www.cdc.gov/niosh/nora

NIOSH Manufacturing Program Portfolio:
www.cdc.gov/niosh/programs/manuf/