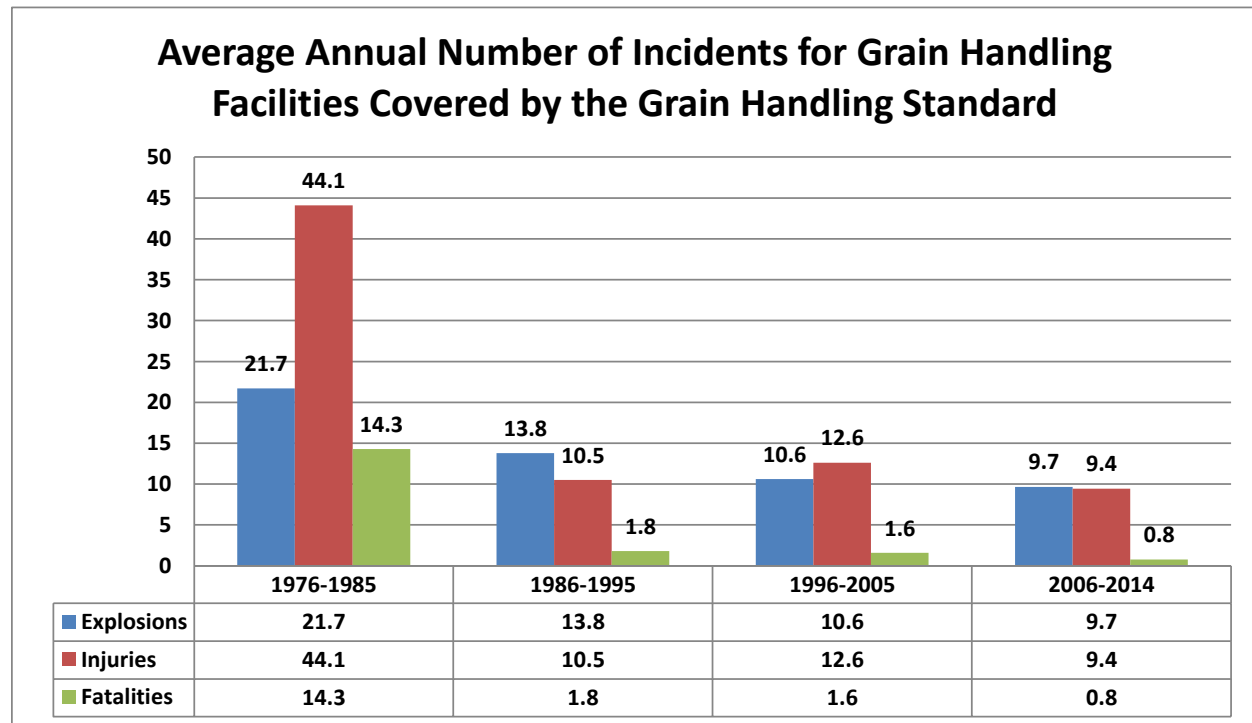


## Dramatic Decline in Number and Severity of Explosions

Over the last 40 years, there has been an unprecedented decline in explosions, injuries and fatalities at grain handling facilities<sup>1</sup>. As shown in the table, incidents at facilities covered by the Occupational Safety and Health Administration's (OSHA) grain handling standard, 29 CFR 1910.272 have trended lower for the period 1976 through 2014<sup>2</sup>.



These data show that between 1976-1985 and 2005-2014, explosions declined 55 percent, injuries declined 79 percent and fatalities declined 95 percent. The grain handling standard has been effective even as the amount of grain handled has increased significantly. From 1976-1985, the grain industry handled annually an average of 13.6 billion bushels of grain, whereas from 2005-2014 an average of 19.1 billion bushels was handled.<sup>3</sup> Even with this 40% increase in the amount of bushels handled during these time periods, the number of explosions, fatalities and injuries dropped significantly.

The benefits realized in addressing fire and explosion hazards, conducting research and education, and the implementation of the grain handling standard have combined to bring tremendous benefits to the grain handling industry. The savings resulting from the reduction of

<sup>1</sup> The OSHA grain handling standard applies to the following types of grain handling facilities: grain elevators, feed mills, flour mills, rice mills, dust pelletizing plants, dry com mills, soybean flaking operations, and dry grinding operations of soycake.

<sup>2</sup> Incident data source: Kansas State University (KSU) and USDA's Grain Inspection, Packers and Stockyards Administration.

<sup>3</sup> Production data source: USDA's National Agricultural Statistics Service.

injuries and fatalities and the benefits to health and safety have greatly improved work conditions. Further the economic benefit of implementing the grain handling standard and increasing the knowledge to avoid fires and explosions have also been very beneficial.

It is indisputable that great strides have been made in reducing the incidence and severity of fires and explosions at grain handling facilities over the last 40 years. The record of improvement in reducing personal injury and equipment damage from grain dust explosions is proof that the grain handling standard has been and continues to be effective.