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InControl

Manufacturing — A Risk Profile

RISK CONTROL

The risk control, claims and other industry safety data derived from this study provides a snapshot of employee health, safety and prevention programs in the manufacturing industry.

Executive Summary

Manufacturing: A Risk Profile provides an overview of claim and operational trends within the U.S. manufacturing sector. CNA's goal in developing this study is to help manufacturers better understand their common risks, managerial controls and the financial impact of losses for their industry. The risk control, claim and other industry safety data derived from this study provides a snapshot of employee health, safety and prevention programs in the manufacturing industry.

CNA performed more than 8,190 on-site risk assessments for manufacturing customers in 2009 and 2010, forming the foundation for this study. In addition, discussions with our customers have identified three main areas of concern that we address in this study as they relate to CNA's findings:

- Operational Efficiency
- Employee Safety and Management
- Supply Chain

Operational Efficiency

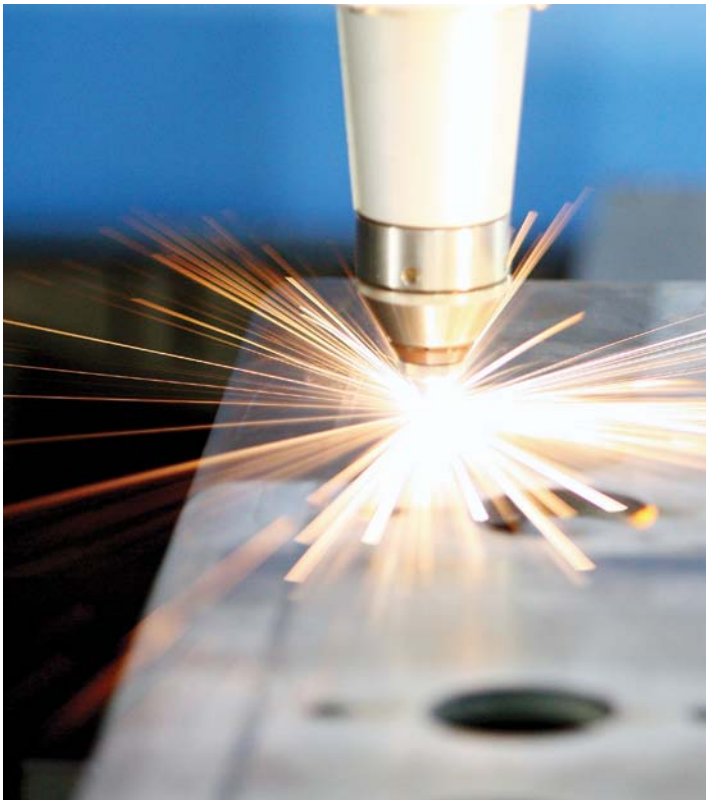
- In 2008, manufacturers experienced the second highest injury rate when compared to other major industry segments.
- Manual material handling (MMH) injuries accounted for 24 percent of all CNA manufacturing workers' compensation claims. The average direct cost of these claims was more than $12,900.
- More than 52 percent of manufacturing employees are routinely involved in manual handling tasks as part of their job.
- On average, CNA Risk Control assessments have found that having an effective MMH program in place reduces claim rates by 16 percent.

Operational efficiency is a top priority for manufacturers, particularly in today's challenging environment. Manufacturing companies depend on the expertise and efficiency of their employees as well as the reliability of machinery and facilities to maintain product quality control and timely delivery to the end user. When this suffers, so does customer satisfaction. Managing the risks that threaten employees, capital equipment and customers is a critical part of maintaining a competitive advantage through all types of economic conditions. Employee health and safety are just as vital to maximizing operational efficiency and sustaining a competitive advantage over industry competitors.

Loss Trends for Employee Injuries

Employee injuries continue to be a challenge for the manufacturing industry. In 2008, manufacturers experienced the second highest injury rate when compared to other major industry segments. The manufacturing segment experienced approximately 5.0 recordable incidents per 100 employees. The transportation / warehouse industry was the only group with a higher incident rate of 5.7 cases per 100 employees.

Managing the risks that threaten employees, capital equipment and customers is a critical part of maintaining a competitive advantage through all types of economic conditions.



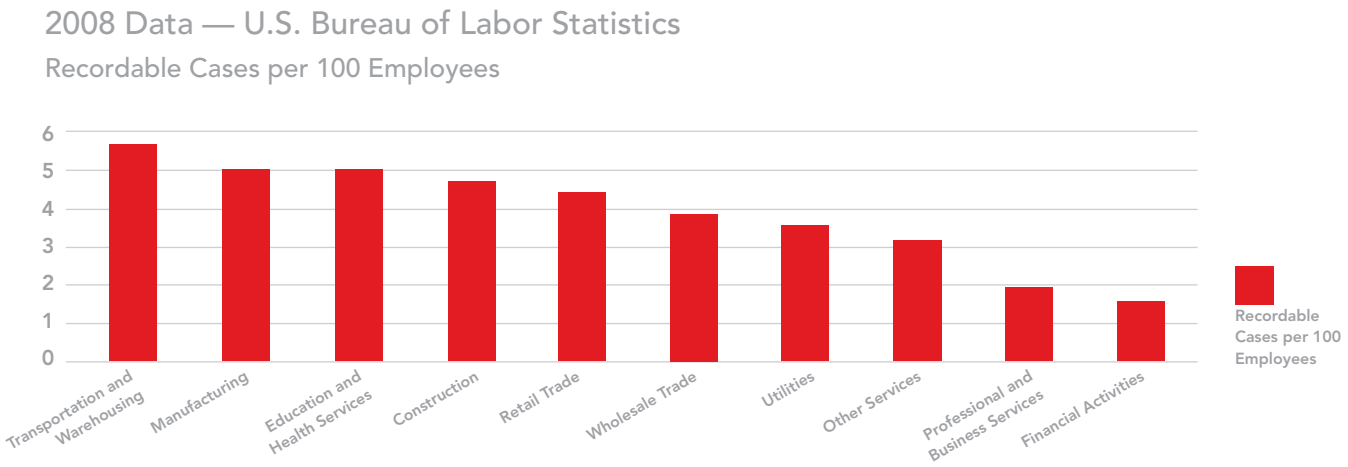
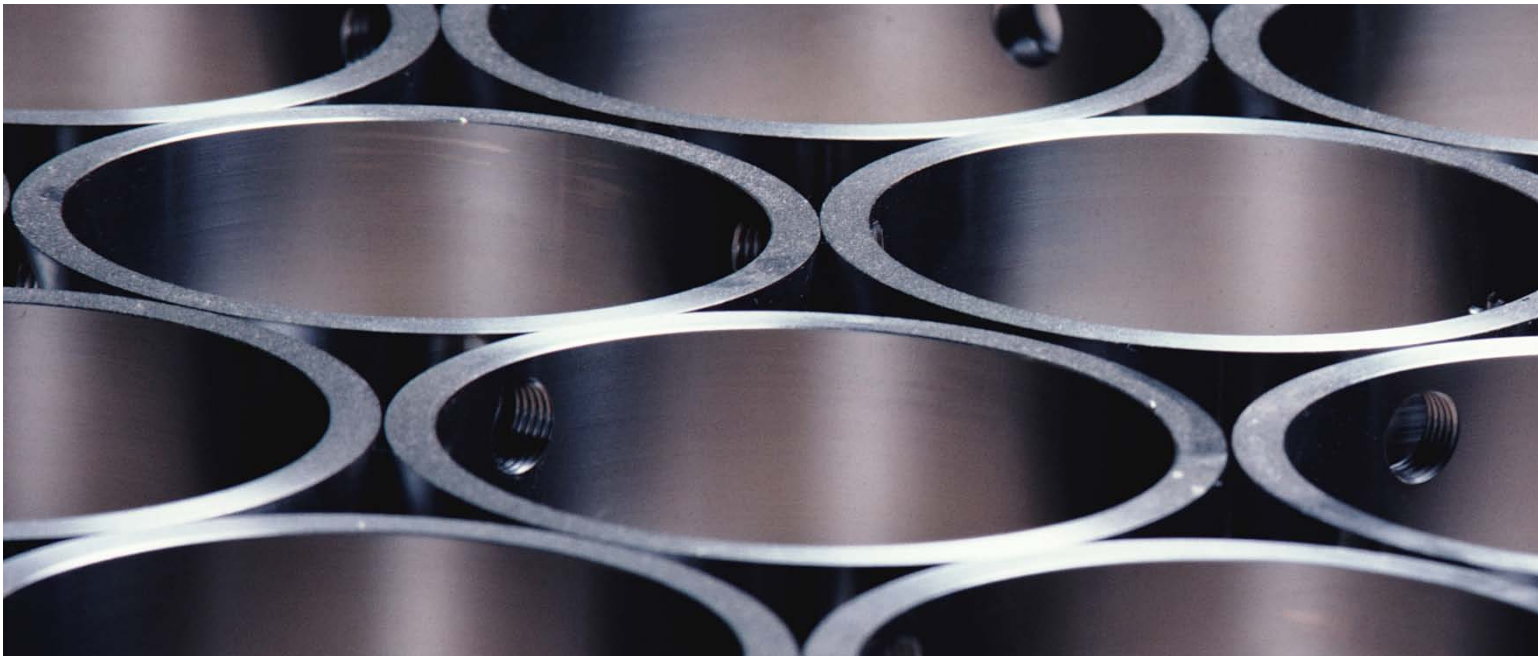


Chart 1

To put these numbers in perspective, it helps to look at how they compare to another sector with a more hazardous reputation. Many different types of dangerous activities and perils are inherent in the construction industry. However, many construction companies have strong managerial controls and resources dedicated to identifying and reducing employee-related injuries. These controls can help reduce the industry's injury rate despite the exposures to the hazardous work environment.

The numbers show the difference that these controls can make. According to the U.S. Bureau of Labor Statistics, "the construction industry sector reported 71,700 fewer cases in 2009, compared to 2008 — a 22 percent decline, lowering the incidence rate by 0.4 cases to 4.3 cases per 100 workers." The agency also reported that from 2008 to 2009, the manufacturing industry sector had a 23 percent decline in injuries and illnesses, "lowering the incidence rate by 0.7 cases to 4.3 cases per 100 workers."[1] Given that manufacturing is an overall less hazardous industry, it should have a lower incidence rate than construction rather than a comparable one.



Management Involvement

Management's involvement in employee health and safety is essential in driving and developing an effective safety culture. Many management teams employ a safety department or hire safety consultants but customarily do not get involved with a company's day-to-day safety efforts.

Research has shown that companies with lower accident rates include safety:

- Performance in management appraisals and bonus structures.
- Discussions in all production / operation meetings.
- Expenditures as a line item in their budgets.

When management places a higher level of visibility and importance on safety, the company's associated programs, policies and procedures are much more effective in reducing employee injuries and accidents.

Based on CNA risk assessments completed in 2009 and 2010, Table 1 illustrates the percentage of manufacturing accounts that have specified managerial controls in place to help ensure employee safety.

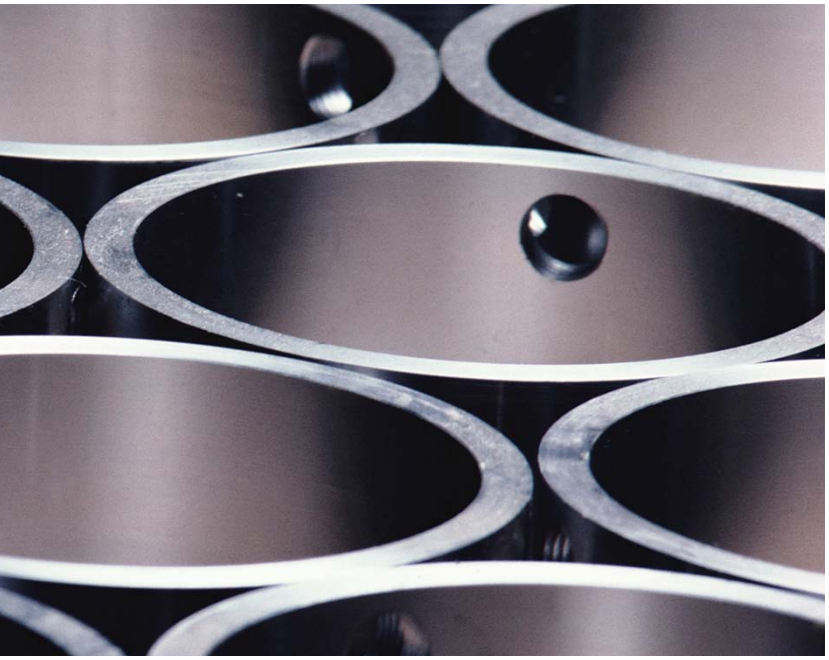
CNA Accounts with Managerial Controls

Safety is a topic part of regularly scheduled operations meetings	**79%**
Annual performance appraisal includes safety	**45%**
Capital budget for safety	**40%**
Performance bonus includes a safety factor	**23%**
Safety driven by the safety professional	**20%**

Table 1

New Employee Orientation and Training

Between 2006 and 2009, CNA claims data for the manufacturing industry revealed that approximately one-third of all employee injuries occurred within the first year of employment, as seen in Chart 2 (p. 6). Therefore, it is critical that new employees be properly trained and provided with adequate orientation. Involving new employees early in the onboarding process can help reduce the potential for injury during this first critical year of employment.



Management's involvement in employee health and safety is essential in driving and developing an effective safety culture. Many management teams employ a safety department or hire safety consultants but rarely get directly involved with a company's day-to-day safety efforts.

Workers' Compensation Claims 2006 – 2009

Claims and Severity by Length of Service

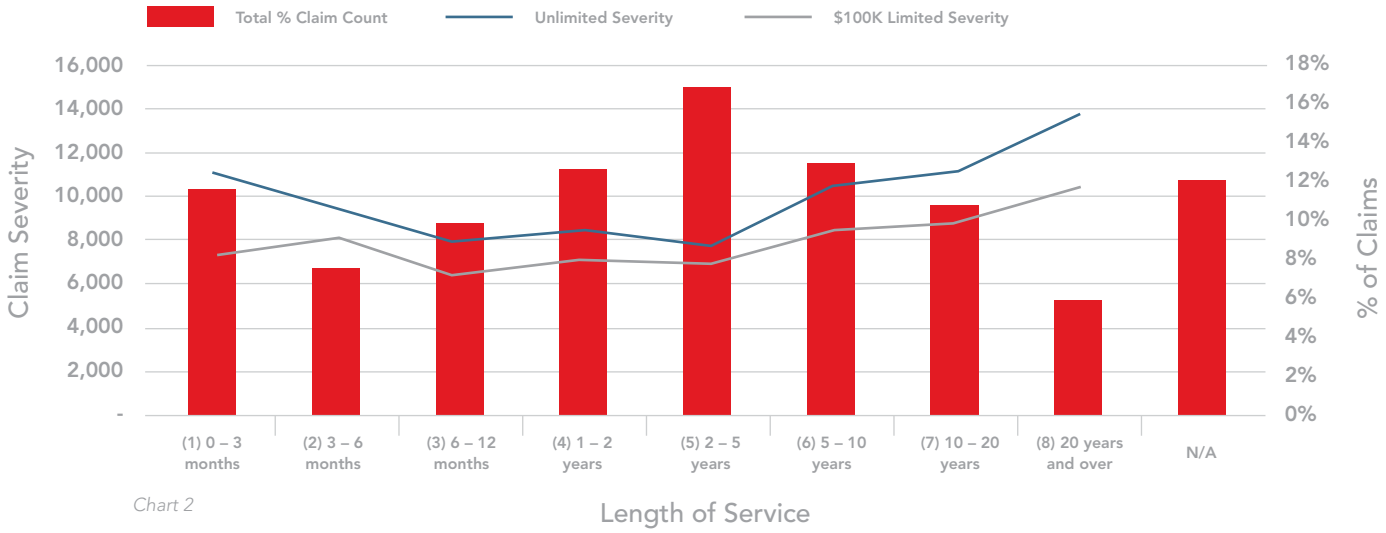


Chart 2

Injury Types

Manual material handling has consistently been the most frequent type of injury in the manufacturing segment and has been identified as the cause of the highest portion of employee injuries. Between 2006 and 2009, CNA manufacturing clients' MMH injuries made up 24 percent of all workers' compensation claims.

The average direct cost of these claims was more than $12,900. Slips, trips and falls — combined with falls from an elevation — accounted for 13 percent of all claims with average costs of $14,220 and $25,961, respectively.

Workers' Compensation Claims 2006 – 2009

Claims and Severity by Incident Type

Chart 3

Manual handling and struck by incidents are frequency drivers, while slips / trips / falls, falls from elevation and repetitive motion accidents are severity drivers.

Ideally, manufacturers should design jobs so that 90 percent of the population can perform the physical requirement of the tasks without stress.

Between 2009 and 2010, CNA Risk Control conducted more than 450 on-site risk assessments at manufacturing facilities. The assessments found that, on average, 52 percent of employees are routinely involved in manual handling tasks as part of their job. More than 25 percent of the accounts visited required employees to lift more than 50 pounds.

A study of low-back pain associated with occupational weight lifting factors shows the incidence of low-back pain, as well as increased cumulative trauma to the shoulders and legs, increases when employees are required to lift loads greater than 35 pounds.[2] In addition, lifting or handling this amount of weight leads to heavy fatigue among employees and lower productivity, which can negatively impact a company's bottom-line profitability.

As employees age, their ability to tolerate the impact of physical stress diminishes, while the incidence and severity of musculoskeletal disorders increases. Ideally, manufacturers should design jobs so that 90 percent of the population can perform the physical requirement of the tasks without stress.

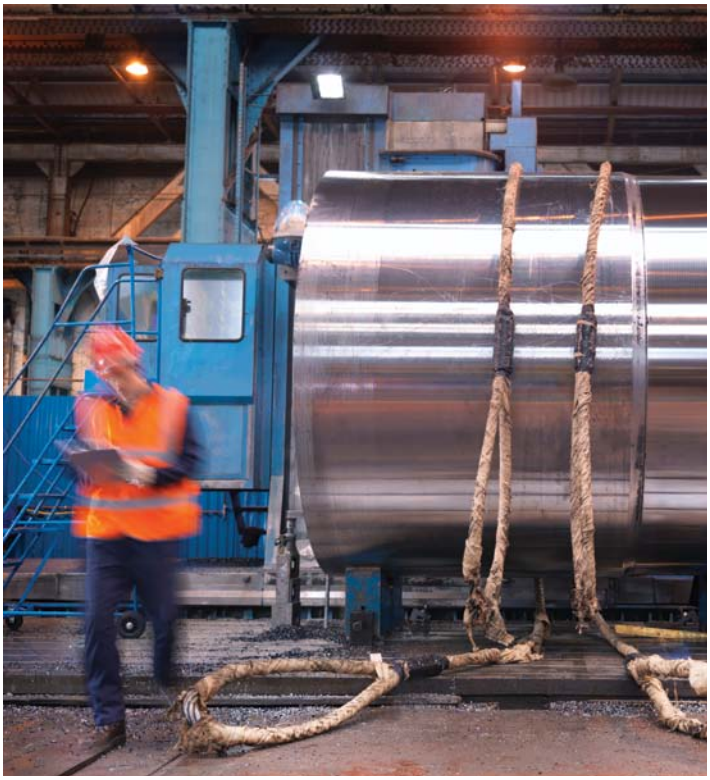
A CNA claims study found that specific unsafe activities, conditions and behaviors lead directly to increases in MMH injuries. Some of these conditions include:

- Improperly designed jobs that exceed the physical capabilities of the workforce.
- Employees who are required to perform job tasks in awkward and stressful postures and lift material that exceed their physical strength.
- Lifting of products, materials and stock off the floor and from pallets; pushing and pulling carts; handling of dies and working in static work postures.
- Poorly designed workstations.
- Higher prevalence of strains / sprains and back injuries for the aging workforce.

CNA Risk Control assessments have found that, on average, an effective MMH program reduces claim rates by 16 percent.

CNA provides the following management and employee training programs:

- Basics of Design Hazard Review: Product Risk Assessment Strategies
- Energy Efficiency Opportunities in Manufacturing Plants (Phillips Lighting)
- Enhancing Productivity and Profitability in Manufacturing
- Foundations of an Effective Product Liability Prevention Program
- Infrared (IR) Thermography
- Labels and Warnings
- Operational Excellence



CNA Solutions

Manufacturers should consider incorporating the following procedures to improve operational efficiencies:

- Apply lean and Six Sigma® manufacturing principles to:
  - Review your organization in terms of lean manufacturing's seven types of waste that impact productivity, efficiency and quality.
  - Create a value stream map to evaluate bottlenecks in your process.
  - Determine what parts of your operation are truly "out of control" using Six Sigma® data tools.
  - Assess your error proofing process with an emphasis on human factors.
  - Evaluate your supply chain to determine where you are most vulnerable to production interruption.
  - Evaluate how well you have implemented the lean process where applicable.
  - Modify your workflow and processes to improve employee safety, productivity and efficiency.
  - Establish visual controls to improve consistency in production and quality.
- Include a cost benefit impact analysis for every option / recommendation.
- Institute pre-employment / pre-placement testing protocols.

Employee Safety and Management

- One-third of all employee injuries occurred to employees within the first year of employment.
- Twenty-five percent of CNA manufacturing workers' compensation claims occurred to employees over 50 years old.
- CNA claim experience shows that the average cost for an injury of an employee between the ages 55 to 60 is almost three times greater than that of an employee between 20 to 25 years old.
- Employees over the age of 55 are 12 to 35 percent less likely to return to work than workers aged 25 to 39.
- CNA Risk Control assessments have found that the absence of an effective return-to-work (RTW) process results in claim costs being roughly 35 percent higher than those with an effective program.

The impact of injury on the aging workforce continues to be an issue for many industries. In 2009 and 2010, CNA risk assessments identified that more than 17 percent of manufacturing companies have at least half of their employees over the age of 50 years old. This number will likely continue to increase as people continue to work later into their lives.

An analysis of CNA claims between 2006 and 2009 illustrated that 25 percent of workers' compensation claims occurred to employees over 50 years old. Chart 3 (p. 10) shows that while the frequency of injury is lower for these employees, their injuries were more severe. The average cost of injury increased as the age of the employee increased. The average cost for an injury of an employee between the ages of 55 to 60 is almost three times greater than that of an employee between 20 to 25 years old.

Risk Control assessments have found that the absence of an effective return-to-work process results in claim costs being roughly 35 percent higher than those with an effective program.

Workers' Compensation Claims 2006 – 2009

Claims and Severity by Claimant Age

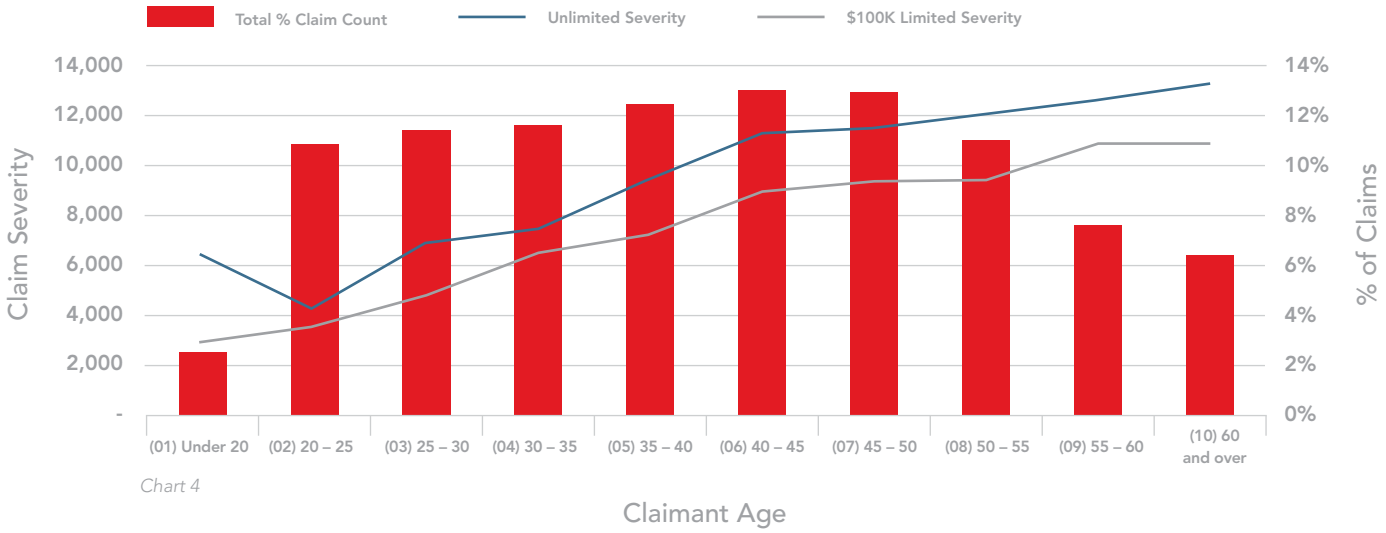


Chart 4

For older workers, adding to the cost of workers' compensation claims is the difficulty in returning them to work. Employees over the age of 55 are 12 to 35 percent less likely to return to work than workers aged 25 to 39.

Returning Injured Employees to Work

When employees are injured, it is paramount to take every appropriate measure to return them to work as quickly as possible. CNA risk assessments found that approximately 92 percent of manufacturing accounts have some form of employee RTW process in place. However, processes are not always monitored or evaluated by the organization to ensure that they are effective in returning employees back to work.

CNA's claim analysis of 81 manufacturing customers revealed that only 52 percent of the injured employees were returned to work on either full or modified duty.* Only 48 percent of the accounts in the study had a formalized process to return injured employees back to work.

**For lost time claims over $50,000 in medical and indemnity reserves.*

While many organizations have created the appropriate policies and procedures to return injured employees back to work, they often fail to employ the policies and procedures. CNA Risk Control assessments have found that not having an effective RTW process in place can result in roughly 35 percent higher claim costs.

It is difficult to return injured workers to work 100 percent of the time; however, the goal of a RTW process is to return most of the employees back to work, most of the time. The percentage will vary between jobs, plants, and individuals but, the more employees return, the larger the impact it will have on production, profitability and reducing insurance costs.

Employee Obesity

Obesity in the workplace is an emerging issue that can have a dramatic impact on workers' frequency and severity of injury. In a Duke University study, researchers found that obese full-time employees:

- Submitted twice as many claims.
- Had 13 times as many lost work days.
- Generated medical and indemnity costs, 7 and 11 times higher, respectively, than their less obese counterparts.[3]

In addition, studies have found that obese workers are more likely to incur permanent disabilities after becoming injured at work. Employee health and wellness is becoming a greater focus for organizations in an effort to reduce employee-related accidents and illnesses, as well as improve overall employee morale and work performance.

Vehicle Use

Use of vehicles is a consistent operational need for manufacturing organizations. In 2010, CNA risk assessments found that the average manufacturing company had more than 11 percent of employees who use vehicles on a regular basis. Auto accidents represent less than 1 percent of employee injuries but 4.3 percent of total injury costs.

On average, CNA found that while some manufacturing companies utilize vehicles that are employee owned, the majority use regular commercial vehicles owned by the company (trucks and vans). More than 25 percent use vehicles that require regulation by the U.S. Department of Transportation (trucks over 10,001 pounds or 15 passenger vans).

Type of Vehicle Use by Manufacturing Segment

Commercial Company Owned Vehicles	Employee Owned Vehicles Only	DOT Regulated Vehicles
65%	**7%**	**28%**

Table 2

Accident Trends for Auto

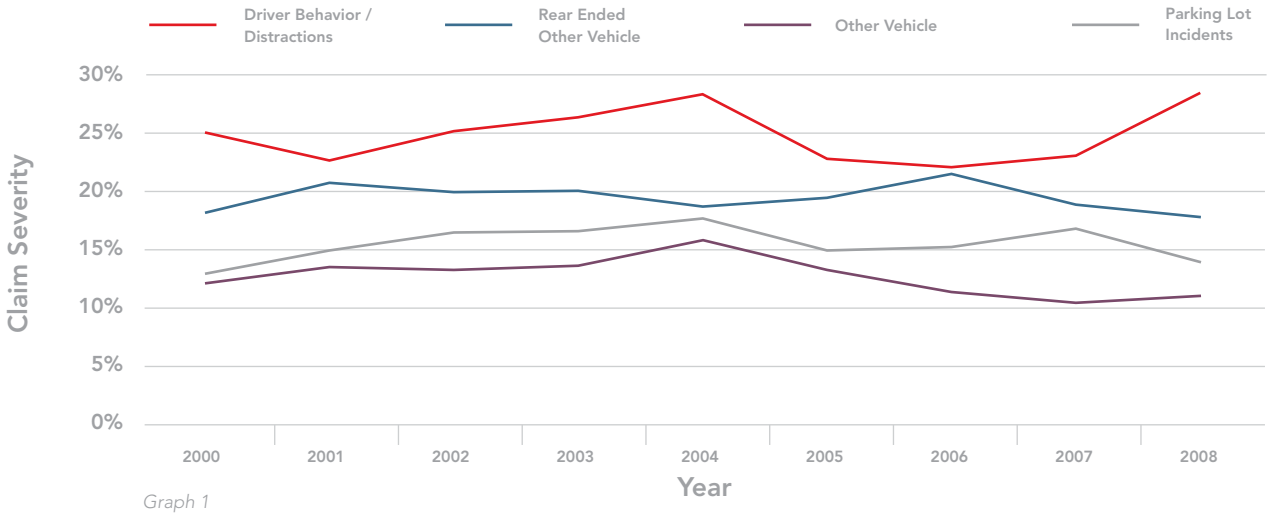
The leading cause of automobile accidents in the manufacturing segment is driver distraction or inattentive driving. In 2008, more than 25 percent of auto accidents were caused by driver distractions or inattentive driving (Graph 1). This is consistent with other industries as well as the general population. According to the National Highway Traffic Safety Administration (NHTSA), driver distractions or inattentive driving play a part in one out of every four motor vehicle crashes. That is more than 1.5 million collisions a year and 4,300 crashes daily.[4]

The Virginia Tech Transportation Institute and NHTSA conducted a study in 2006 that found that 80 percent of crashes and 65 percent of near crashes involved some type of driver inattention within three seconds of the crash.[5]

According to the U.S. Department of Transportation, research on distracted driving reveals some unsettling facts[6]:

- Twenty percent of injury crashes in 2009 involved reports of distracted driving.
- Of those killed in distracted-driving-related crashes, 995 involved reports of a cell phone as a distraction, accounting for 18 percent of fatalities in distraction-related crashes.
- In 2009, 5,474 people were killed in U.S. roadways and an additional estimated 448,000 were injured in motor vehicle crashes that were reported to have involved distracted driving.
- The age group with the greatest proportion of distracted drivers was the under-20 age group — 16 percent of all drivers younger than 20 involved in fatal crashes were reported to have been distracted while driving.
- Drivers who use hand-held devices are 4 times as likely to get into crashes serious enough to injure themselves.
- Using a cell phone while driving, whether it is hand-held or hands-free, delays a driver's reactions as much as having a blood alcohol concentration at the legal limit of .08 percent.[7]

Auto Claims by Accident Cause



Graph 1
Source: CNA Claims Study

Drivers are subject to more distractions today than ever before. Some of the most common distractions include:

- Cell phone texting / calling
- Eating / drinking
- Global positioning system (GPS) use
- Playing with the radio
- Smoking

A survey released in November 2010 by the Insurance Research Council found that 18 percent of drivers in the U.S. reported texting while driving in the last 30 days.[8] In 2010, CNA completed risk assessments revealed that the manufacturing industry has opportunities to improve the controls around employee vehicle safety. Table 3 illustrates the percentage of manufacturing companies that employ specific safety controls to manage their fleet exposure.

Managing Fleet Exposure

Company policy on "in-cab" behavior (cell phone, eating, etc.)	**41%**
Written policy restricting passengers in company vehicles	**39%**
Formal documented review of safety rules with driver sign off	**32%**

Table 3

Developing policies and procedures to educate and train drivers on safe driving practices can help to reduce the likelihood of driver behavior-related incidents. Managers and supervisors must review their company's distracted driving policy and safe driving procedures with everyone that may operate a vehicle on behalf of the company. Accountability for violation of company driving policies must be established and communicated to each driver.

CNA provides the following management and employee training programs:

- Employee Communication
- Employee Involvement
- Management Support and Accountability
- Return-to-Work for Manufacturing
- Site Safety Awareness

CNA Solutions

With employee safety of paramount importance, manufacturers may want to consider these solutions:

- Conduct assessments that address job task design / redesign, materials flow and employee efficiency.
- Implement a new employee orientation and training program.
- Establish a wellness-management program.
- Implement or improve your injury management programs.
- Conduct employee perception surveys to better understand employees' perceptions on the impact of environmental, health and safety programs as a way to improve your operations.

For Vehicle Use:

- Develop a fleet management program for all company drivers that establishes driver performance and management accountability procedures at all levels of the company.
- Review the motor vehicle records on everyone who drives for the company including employees who drive their own vehicles on company business and incidental drivers.
- Consider a new driver orientation and training program.
- Establish a formal accident reporting and investigation process.
- For company vehicles, consider using a GPS to monitor driver efficiency and productivity.
- Create guidelines to remove or control all driver distractions such as cell phone use, texting, handling objects while driving as well as eating or drinking.
- Establish a formal policy for drivers who use personal vehicles on company business.

Supply Chain

- Only 48 percent of manufacturing accounts had business continuity plans in place to continue operations in the event of a disaster.
- Only 22 percent of these accounts had plans that had been tested.
- Fifty-one percent of manufacturers had employees who were trained in responding to a disaster.
- On average, manufacturing facilities had twice as many critical faults and 40 percent more serious faults than nonmanufacturing facilities.

Manufacturers rely greatly upon the reliability of their facilities and capital equipment to produce products efficiently and with a high degree of quality. The loss of a piece of critical machinery or the loss of a facility can create significant downtime for production, damaged property and dissatisfied customers.

Loss Trends for Facilities

Between 2003 and 2006, the manufacturing industry experienced a total of 10,500 structure fires. The process manufacturing area and / or workroom was found to be the leading area of origin for industrial and manufacturing property fires.

Property losses continue to represent a small percentage of total claims but have a significant impact on the total cost of claims for the manufacturing segment. As illustrated in Table 4, CNA property claims data from 2000 to 2008 indicates the most severe claims are due to fires. These represent 38 percent of all claims of more than $100,000 with an average cost of $2.5 million.

CNA Property Claims over $100K in Severity

	Percent of Claims	Average Severity
Fire	**38%**	**$2,581,672**
Wind / Hail / Snow / Ice Damage	**35%**	**$457,749**
Explosion	**5%**	**$1,491,582**
Water Damage	**9%**	**$254,722**
Lightning (No Fire)	**1%**	**$328,799**
All Other	**12%**	**$372,844**

Table 4

Flammable and Combustible Liquids Use

According to the National Fire Protection Association (NFPA), one of the most common ignition sources of manufacturing fires is combustible or flammable liquid.[9] CNA risk assessments conducted in 2009 and 2010 found that 45 percent of manufacturing facilities use some form of combustible or flammable liquids. Approximately 70 percent of manufacturers that use flammable or combustible liquids use class 1B and class 1C liquids. According to the NFP 30 Flammable and Combustible Liquid Code, a Class 1B liquid is defined as any liquid that has a flash point below 73° F and a boiling point at or above 100° F. A Class 1C liquid is defined as any liquid that has a flash point at or above 73° F but below 100° F. Typically, these liquids are solvents or coatings used in the manufacturing process.

Manufacturers commonly use and store these liquids in smaller quantities as illustrated in Table 5.

Flammable Combustible Liquids Use in CNA Manufacturing Accounts

Quantity of Class 1B and Class 1C Liquids	
1 – 120 gallons	**57%**
121 – 300 gallons	**19%**
301 – 750 gallons	**11%**
751 – 2000 gallons	**7%**
> 2000 gallons	**6%**

Table 5

Even in small quantities, these liquids can present a serious hazard to the facility. CNA has found the controls in this area to be adequate and protected 89 percent of the time. If a fire were to occur, the inability to adequately protect this exposure could result in a serious loss to a facility.

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Storage and Warehousing

Many manufacturing companies utilize their facilities for storage and warehousing of raw materials and finished goods. In the event of a fire, these areas act as a fuel that can burn hot and spread throughout the building. Important factors in determining the extent of this exposure are the storage height and the material being stored. The plastics and products with higher commodity classifications are the most difficult type of materials to keep protected. In addition, higher storage heights increase the exposure that the warehouse area places on the facility.

During the study period, CNA risk assessments found that warehousing exposures are present at 69 percent of the visited manufacturing facilities. The most common commodity classifications of goods found were Class III commodities and plastic products (Table 6). NFPA 13 Standard for the Installation of Sprinkler Systems defines a Class III commodity as a product of wood, paper or natural fiber with or without cartons or crates and with or without pallets, sometimes referred to as an "ordinary combustible."

Commodity Storage in Manufacturing

Commodity Types Stored in CNA Insured Manufacturer's Warehouses	
Class 1	**15%**
Class 2	**14%**
Class 3	**29%**
Class 4	**13%**
Group A Plastics	**26%**
Roll Paper	**3%**

Table 6

Materials stored in warehouses were most commonly found to be at heights less than 12 feet and heights between 15 to 20 feet. The height distribution of CNA assessed manufacturing facilities with warehousing is reflected in Table 7 (p. 18).

Storage Height of Manufacturing Warehouses

Frequency of CNA Insured Manufacturer's Warehousing Storage Height	
< 12 feet	**30%**
12 feet – 15 feet	**23%**
15 feet – 20 feet	**28%**
20 feet – 25 feet	**12%**
> 25 feet	**7%**

Table 7

Protecting facilities from these types of common storage arrangements can be a challenge. Having adequately designed sprinkler protection with appropriate maintenance and testing can help to minimize the impact of a fire on a manufacturer's operations. In 2009 and 2010, CNA's Risk Control team found that only 65 percent of manufacturers with warehouse exposures had adequate or nearly adequate sprinkler protection based on current NFPA guidelines.

Fire Suppression Systems

A suppression system is a facility's best chance of controlling the fire and limiting damage and potential business interruption. If a fire occurs, sprinkler systems and special extinguishing systems designed for the hazard at the location will help reduce the total probable loss. It is important to note that many times these systems are designed for a specific hazard and, if that hazard changes, they may no longer be effective.

CNA risk assessments found that 75 percent of manufacturing facilities were equipped with a sprinkler system or special extinguishing system. However, of those facilities, 18 percent were found to be inadequate in their design and / or maintenance based on NFPA requirements.

Business Continuity

One of the most significant contributions to claim severity is lost income due to a shutdown in operations. Based on 2010 risk assessments, CNA found that only 48 percent of manufacturing accounts had business continuity plans in place to continue operations in the event of a disaster. Only 22 percent of these accounts had plans that had been tested. Of those, only 51 percent of employees were trained to know their response in the event of an incident.

The ability for an organization to respond to a disaster and take the required steps to ensure they remain operable can make a difference in a company's capability to survive a major property claim. For a manufacturing organization, identifying critical equipment, facilities and human capital are all necessary steps in the development of a viable business continuity plan.

Electrical Systems and Infrared Testing

According to NFPA's "U.S. Industrial and Manufacturing Properties" report, electrical systems are one of the leading causes of fires in the manufacturing industry. Most manufacturing organizations are heavily dependent on the reliability and performance of their electrical systems and critical equipment. Interruptions and breakdowns in the electrical system can shut down production machinery and reduce operational efficiency. Electrical failures may also cause major damage to production equipment and facilities.

In 2005, CNA's Risk Control team began performing IR scanning of an insured's electrical systems to help identify electrical faults that can lead to electrical fires and outages. In 2009, 629 IR tests were completed (Table 8). On average, manufacturing facilities had twice as many critical faults and 40 percent more serious faults than nonmanufacturing ones. Critical and serious faults are much more likely to lead to fires or electrical outages. These faults of a facility's electrical system also contribute to increased energy costs.

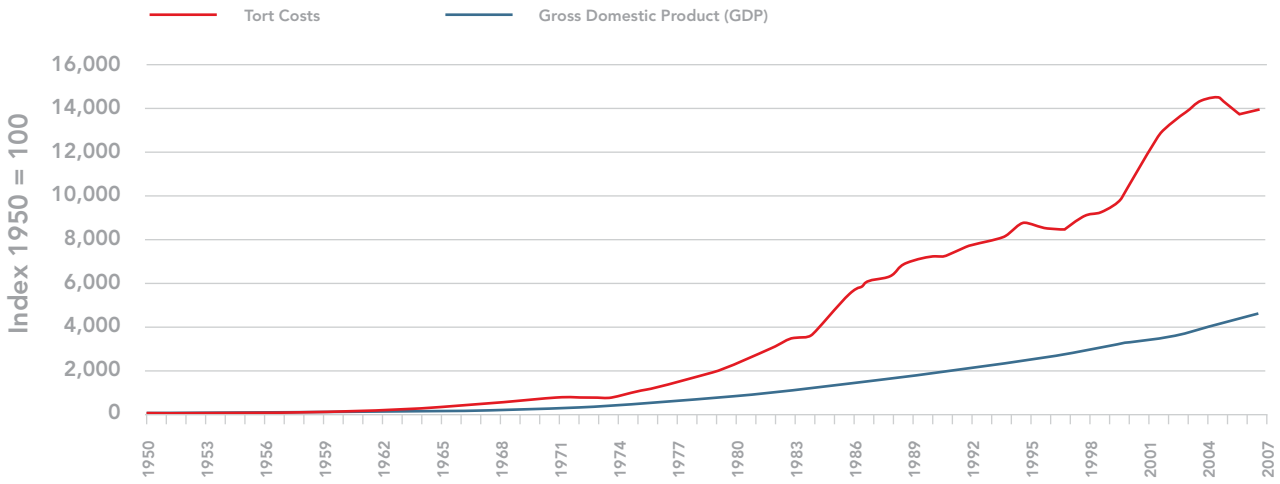
Number of Electrical Faults per Location

Average Number of Electrical Faults per Location	Critical	Serious	Intermediate	Minor	Total Faults
Manufacturing	**0.6**	**1.4**	**4.1**	**1.3**	**7.4**
Nonmanufacturing	**0.3**	**1.0**	**4.3**	**1.0**	**6.7**

Table 8

Most manufacturing organizations are heavily dependent on the reliability and performance of their electrical systems and critical equipment. Interruptions and breakdowns in the electrical system can shut down production machinery and reduce operational efficiency. Electrical failures may also cause major damage to production equipment and facilities.

Tort Costs Continue to Rise



Graph 2
Source: U.S. Bureau of Economic Analysis and Tillinhast-Towers Perrin

Customers, Suppliers and Business Partners

In addition to a company's employees and facilities, their customers, suppliers and business partners are critical components of the organization's success. Maintaining a high-quality reputation with these customers and business partners helps ensure long-term financial success.

When significant issues arise between organizations, their customers or business partners, they typically present themselves as tort claims. Rising tort claims are a major impediment to U.S. manufacturing competitiveness. The Manufacturing Institute found that, "Overall, tort claims and the attendant litigation cost more than $250 billion a year, or over 2 percent of GDP. Almost two-thirds of this amount is for commercial tort claims..."[10]

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Customers

A manufacturer's primary operation is to produce a product that is eventually used by a customer. These customers can be an end user of the product or another company that will use the product in their operations. Ensuring that products exceed customer expectations and do not result in failures is vital in developing long-standing relationships with customers.

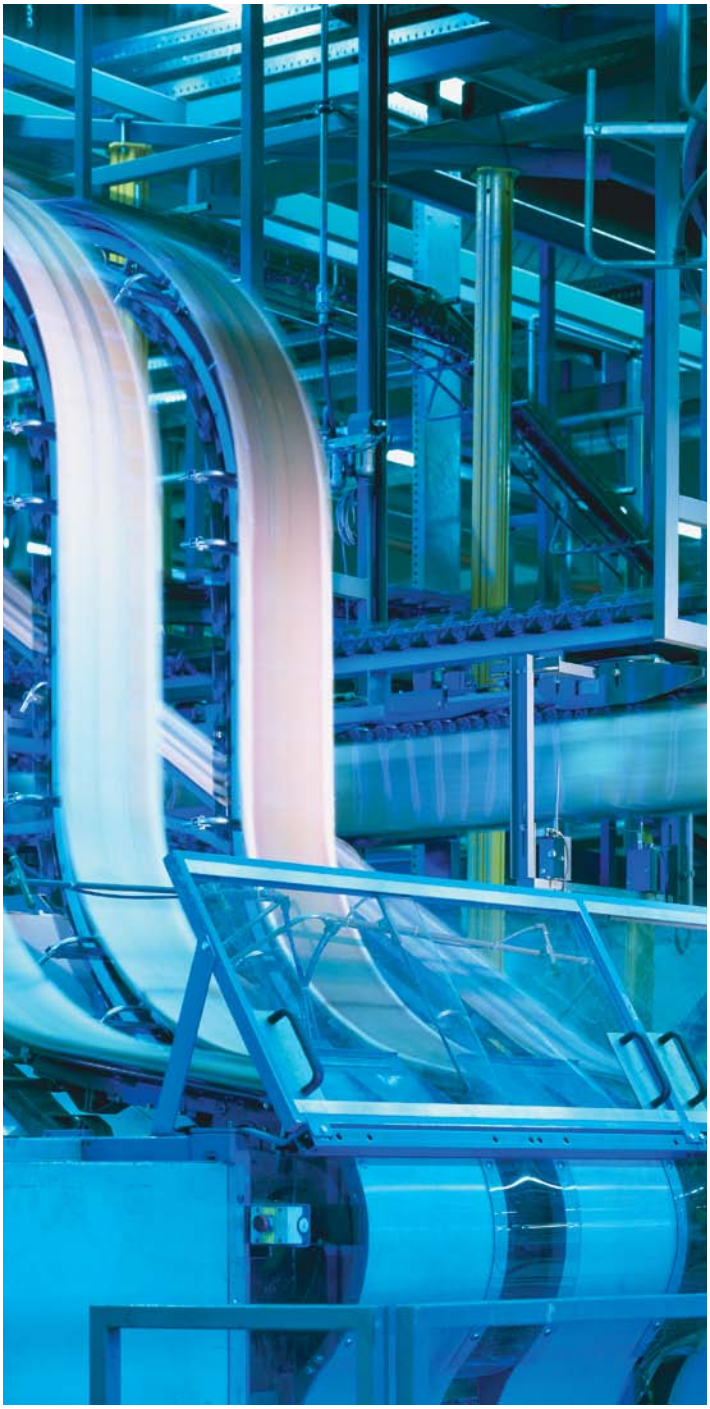
CNA conducted risk assessments in 2009 and 2010 that revealed many manufacturers have opportunities to improve their controls in managing their product quality programs. Table 9 illustrates the percentage of manufacturing customers that practice different product quality standards.

Product Quality Controls in Manufacturing

CNA Manufacturing Accounts with Product Quality Controls	
Formal periodic recall program testing with auditing	**27%**
ISO 9000 certification	**38%**
Formal product liability / quality training sales staff	**49%**
Legal counsel review of all contracts, purchase orders and written agreements	**59%**
Engineering review of instruction books, field failure reports, complaints as well as sales and promotional literature	**87%**
Appropriate risk transfer strategies for suppliers	**87%**

Table 9

These types of product quality controls can be critical in helping reduce the potential for a product-related incident, as well as providing an organization with necessary mitigation resources. Reducing the likelihood of product-related incidents is critical in maintaining a strong brand reputation with customers and other business partners.



CNA Solutions

Manufacturers should consider implementing the following procedures to help avoid costly business and supply chain interruptions:

- Perform IR testing that includes the scanning of critical machinery and equipment.
- Evaluate the need to use flammable and / or combustible liquids as part of your operation. Look for alternative, safer liquids to accomplish process requirements.
- Review your supply partners to identify weaknesses in their operations to prevent disruptions.
- Implement a metal halide light replacement program to improve energy efficiency and reduce fire potential in production facilities and warehouses.
- Conduct aerial IR surveys for roofing systems. A regular observation and repair program increases the life of the roof by as much as five years.
- Regularly conduct reviews of:
  - Building and sprinkler plans
  - Hazardous materials
  - Flammable liquids
  - Combustible metals
- Product failures can be avoided by developing policies and procedures that focus on product development and quality. Topics that should be addressed in a typical manufacturer's program include:
  - Company policy and organization
  - Complaint handling
  - Design, research and development
  - Field service, sales and repair
  - Marketing and sales
  - Packaging and shipping
  - Product recalls
  - Purchasing
  - Quality assurance
  - Warning labels and instructions

CNA Risk Control Services

CNA is an industry-leading provider of risk control services. We offer systematic, sustainable risk control solutions that reduce exposures, improve productivity and protect a company's bottom line.

In today's market, manufacturers face a number of challenges — an aging workforce, foreign competition and a less experienced workforce. Operational efficiency, employee safety and management and supply chain are of greatest concern to manufacturing firms. With these and other factors in mind, CNA Risk Control consultants work with clients to help identify potentially expensive exposures and manage the risks associated with them. Our manufacturing specialists will work on-site with you to tailor the steps, processes and staffing that are uniquely suited to your business.

Only CNA offers the expertise of UL Recognized Risk Engineers, individuals who have been certified by UL, a world leader in advancing safety. UL Recognized Risk Engineers blend insurance coverage knowledge with risk management principles to build customized risk engineering solutions for our clients.

For more information, please visit www.cna.com/riskcontrol.

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Let CNA help you create a better workplace today. To learn more about how CNA Risk Control can help you manage risk, increase efficiencies and be more productive, please call us at 866-262-0540 or visit www.cna.com/riskcontrol.

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