



*Risk Control  
Industry Guide Series*

**Pool & Spa Contractors Industry**



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This study reflects on information derived from insurance claims. These claims form a database that can be analyzed to determine the many and varied causes of loss. CNA Risk Control presents this study of specific CNA claims and industry trends. We begin with a review of exposures inherent to the pool and spa contractors industry and conclude with suggested practices to manage these risks.

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## Pool and Spa Contractors Industry Defined

For the purposes of this study, pool and spa contractor companies will be defined to include contractors who build or install above and below ground swimming pools, hot tubs, and spas for both commercial and residential customers. Besides pool and spa construction, members of this industry group also install fencing, railings, and may be involved in patio and deck construction. Other equipment installed may include heaters, water filtering and treatment systems, pool covers and high pressure pumps for hot tubs and spas.

According to the Association of Pool and Spa Professionals, there are roughly 8.5 million swimming pools in the United States and some 5.6 million hot tubs installed in the United States.<sup>1</sup> The average in-ground swimming pool costs between \$30,000 and \$35,000. Landscaping around the pool could cost anywhere from \$3,000 to more than \$100,000.<sup>2</sup>

The range of size for companies in this very fragmented industry is very large. Most pool and spa builders are small operations, and the industry is highly competitive due to the low barriers to entry and education requirements.

Profitability in the pool and spa contractor industry fluctuates with the health of the national economy.

## Pool and Spa Contractors: An Analysis of Loss Exposures in the Pool and Spa Contractors Industry

Pool and spa contractor companies face both traditional contractor loss exposures, such as employee injuries, automobile accidents, liability claims and property losses, as well as unique exposures related to use of pools especially, in recent years, of child safety issues including unauthorized entry and pool drain entrapment.

This industry is very labor intensive with considerable handling of excavated soil by powered equipment as well as the manual handling of material such as tile, piping, concrete reinforcing material, cements and grout. Many pool contractors offer maintenance services and chemical supply sales as well as construction services.

Other typical loss exposures to this industry include those typical of contractors and can include:

- Slips and falls to workers due to poor housekeeping, and work areas located near excavations or on scaffolding
- Underground utility interruption during excavation
- Accidents involved with vehicles transporting material to and from the work site, and powered excavating equipment
- Theft of high value equipment, tools or materials
- Exposure to toxic chemicals used to treat water and silica dust during construction

The following is an analysis of those exposures based on an analysis of claims incurred by pool and spa contractor companies insured by CNA between January 1, 2004 and December 31, 2007, and in the industry segments listed above.

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## Worker's Compensation Claims

### *Top Five Incidents Causing the Injury, Shown as a Percentage of Total Claims*

<b>Incident Type</b>	<b>Percent of Total Claims</b>
Manual Handling/Physical Stress	20%
Struck By	17%
Slips/Trips/Falls on Same Level	11%
Struck Against	10%
Vehicle Accident	9%

### *Top Five Incident Types, Shown as a Percentage of Total Claim Dollars*

<b>Incident Type</b>	<b>Percent of Total Claim Dollars</b>
Manual Handling/Physical Stress	26%
Vehicle Accident	15%
Slips/Trips/Falls on Same Level or Slips/Trips No Fall	12%
Fall From Elevation	11%
Struck Against	8%

This data indicates that workers in the pool and spa contractor sectors are most likely to suffer injuries from manual handling incidents, and struck by accidents usually caused by poor housekeeping or material movement. The third leading cause for injuries is slips and falls incidents at the construction site. These same three incident types also are in the top five incident types relative to total claim dollars.

### **Manual Handling, Physical Stress Incidents**

Pool construction lends itself to a high degree of manual handling. Claims are caused by the manual handling of a variety of work-related materials. These include reinforcing material, piping, tile, grout and other such materials involved in the construction process, as well as manual movement of raw materials from delivery trucks and throughout the construction site. Although powered vehicles are used to reduce the need to manually move construction materials, this industry segment still relies heavily on moving materials manually.

### **Struck By or Struck Against Incidents**

The pool and spa contractors industry must move large amounts of raw materials. A major cause of worker injuries results from contact with material being moved, either manually or by powered vehicles. Profitability in this industry depends on the efficient construction of the project and timely completion. This requires rapid and continuous movement of raw materials to and from the construction site thus exposing workers to injuries resulting from contact with moving objects. Poor construction site housekeeping also contributes to these incidents.

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## Slips, Trips and Falls on the Same Level

This industry is especially vulnerable to injuries from slips, trips and falls primarily due to the terrain contractors are working on and the placement of the materials being handled.

## Property Claims

### *Top Five Incidents Causing the Loss, Shown as a Percentage of Total Claims*

<b>Incident Type</b>	<b>Percent of Total Claims</b>
Wind Damage	33%
Burglary-Loss Of Property	21%
Theft	12%
Water Damage	9%
Fire	5%

### *Top Five Incident Types, Shown as a Percentage of Total Claim Dollars*

<b>Incident Type</b>	<b>Percent Of Total Claim Dollars</b>
Fire	55%
Wind Damage	28%
Water Damage	4%
Theft	4%
Burglary-Loss Of Property	4%

Property claims data shows wind damage, burglary and theft as the most frequent type of loss with fire being as the highest severity.

## Wind Damage

Wind damage results almost exclusively from hurricanes in the southern tier of the United States and storms in the Northeast.

## Burglary – Loss of Property and Theft

Incidents involving loss of equipment, tools and material from construction sites is the primary contributor to this incident type.

## Fire

Fire losses include damage to property at business locations which house offices and garages. Causes of fire losses at pool and spa contractor facilities include electrical ignition sources, careless smoking, poor housekeeping, poor machinery maintenance and exterior exposures.

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## Auto Claims

### *Top Five Incidents Causing the Loss, Shown as a Percentage of Total Claims*

<b>Incident Type</b>	<b>Percent of Total Claims</b>
Struck By Object	25%
Rear-ended Other Vehicle	16%
Backed Into Claimant	8%
Not Available	7%
Insured Struck Parked Car	5%

### *Top Five Incident Types, Shown as a Percentage of Total Claim Dollars*

<b>Incident Type</b>	<b>Percent Of Total Claim Dollars</b>
Rear-ended Other Vehicle	33%
Turned Left In Front of Oncoming Vehicle	7%
Lost Control of Vehicle-Left Road	7%
Other Vehicle Rear-ended Insured	6%
Failed to Yield	6%

## Struck by Objects

This incident type, while the most common, resulted in very low severity of claims. These incidents involve property damage to claimants' vehicles resulting from rock or other foreign objects encountered while driving.

## Rear-ended Other Vehicle

Analysis of auto claims reveals one of the most preventable types of accidents, rear-ending other vehicles, as a leader in terms of frequency and severity. Otherwise this industry segment exhibited a wide variety of automobile claims in virtually every claim category.

## General Liability Claims

### *Top Five Incidents Causing the Loss, Shown as a Percentage of Total Claims*

<b>Incident Type</b>	<b>Percent of Total Claims</b>
Damage Not Otherwise Classified	36%
Struck By	17%
Leaking/Seeping	14%
Completed Operations	9%
Construction Defect/Faulty Workmanship	6%

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*Top Five Incident Types, Shown as a Percentage of Total Claim Dollars*

<b>Incident Type</b>	<b>Percent Of Total Claim Dollars</b>
Damage Not Otherwise Classified	24%
Leaking/Seeping	19%
Completed Operations	16%
Construction Defect/Faulty Workmanship	9%
Slips/Trips/Falls on the Same Level	7%

### **Damage Not Otherwise Classified and Leaking/Seeping**

Combined, these categories represent the largest percent of total claims and the largest severity. Analysis of these claims reveals a wide variety of incidents involving damage to customers' property from chemicals, water damage from leaks and other miscellaneous damages related to some type of construction defect not recorded. Several larger claims involved pop-up pools under construction due to rain.

### **Completed Operations and Construction Defect/Faulty Workmanship**

These claims involve errors in the basic structure design being constructed resulting in property damage.

### **Pool and Spa Contractors Industry Issues**

In the pool and spa contractors industry, analysis identifies manual handling and physical stress incidents as the leading cause of worker injuries.

Other issues facing the pool and spa contractors industry are thin profit margins in challenging economic times where there is enormous competition for every construction dollar. Rising fuel and material costs apply additional pressure on small- to mid-sized contractors' bottom line. As profit margins shrink and competition increases, most pool and spa contractors are looking for ways to improve productivity and cut costs.

The number of workers 55 and older will increase by 49 percent from 2004 to 2014. The percentage of 55 and older in the total workforce will increase from 11.9 percent in 1994 to approximately 21.2 percent in 2014.<sup>3</sup> The average age of the workforce will be 41.6 years by 2014.<sup>4</sup> Physical limitations of older workers typically manifest themselves in more frequent material handling and physical stress incidents and result in far longer recovery times than that of younger workers. Yet, these workers are especially valuable to the industry due to their work experience.

Also facing the pool and spa construction industry is the fact that far fewer people are coming to the construction trades. There are various reasons for this trend but the bottom line is that less experienced and less educated workers are finding their way into the construction trades. This means that pool and spa contractors must spend more time training and managing workers than in the past. In addition to increased training time, new and inexperienced workers are more likely to make errors leading to costly construction rework costs and are more likely to have accidents than more experienced workers.

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CNA understands the pressure pool and spa contractors are under to turn a profit faced by the various issues. Our studies on physical stress and manual handling accident prevention lead to the conclusion that, accident costs aside, the application of simple ergonomic principles to the construction trade can have enormous impact on a company's profitability. In addition, our studies reveal up to 2.5 hours of non-productive time per day, per employee on the typical job site.

Simple techniques, such as preplanning the staging of materials to reduce carrying, could result in a 10 percent improvement in production, not to mention the reduction of manual handling and protection of older workers.

CNA's ErgoPRO is a six-step ergonomic process that provides pool and spa contractors the knowledge, work method techniques, engineering guidelines and information required to integrate the human factor with the overall construction process. This process offers specific solutions to the frequent injuries related to the manual handling of materials in the pool and spa contractors industry. CNA's "Motion is Money" a process to enhance worker productivity and reduce risk factors, directly relates ergonomic concepts to measurable improvements in productivity and profitability.

## Suggested Practices

The analysis of claim data presented here suggests practices that could be effective in reducing losses. These practices have been proven by pool and spa contractor companies determined to reduce claim costs and increase profitability.

### Implementation of comprehensive safety programs that addresses employee safety and the safety of others is key to reducing workers' compensation, liability, auto and property losses in the pool and spa contractors industry.

- Employee Safety** — Manual handling, physical stress and repetitive motion injuries are indicated as loss leaders in the claim analysis for the pool and spa contractor industry. An ergonomics program can protect workers from these types of injuries and increase productivity. An effective safety program that raises employee safety awareness, and works to control and eliminate hazards, can help to minimize the impact of other loss sources, such as slips, trips and falls and struck by accidents.

CNA's other resources include guides and bulletins on worker safety practices and unique resources for loading dock safety both, of which, are contributors to liability claims.

- Auto** — Fleet safety is an essential part of pool and spa contractor companies' safety program. Even if the company does not operate a fleet of company-owned vehicles, few companies can operate without an occasional business use of hired or non-owned vehicles by employees.

This analysis of the pool and spa contractor industry claims indicates accidents in which the insured driver rear-ended another vehicle as the leading loss source in terms of frequency and severity. A fleet safety program that includes screening driver qualifications, raising driver safety awareness, and implementing driver accountability procedures can impact this type of preventable accident.

CNA's Fleet Institute for Contractors provides information necessary to understand and improve your fleet safety program and measure your results. Topics include how to prevent rear-end and lane change accidents, controlling accident scene and true cost of accidents, non-owned vehicles, cargo securement, negligent entrustment, driver selection, and review of the most common FMCSR that apply to contractors and ways to comply with them.

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CNA offers resources to aid in the implementation of a fleet safety program, including guides and bulletins on managing fleet safety, accident prevention and driver safety awareness.

- **Property** — A program for managing property risks is crucial in the prevention and mitigation of potentially catastrophic property losses. Claim data reveals that high-severity claims account for the majority of total incurred property losses for this industry segment.

Property protection programs include emergency response plans, self-inspection procedures and other special procedures related to maintenance of fire protection systems and control of ignition sources.

- **Security** — Managing security should be a priority for the pool and spa contractor industry. Our analysis reveals theft of tools and materials to be one of the more common incident types for this industry. In general, security is about access control. Carefully crafted policies and procedures can address these exposures and are especially effective when coupled with relatively inexpensive security monitoring equipment. Securing of the job site should be one of the first priorities for pool and spa contractors.

CNA offers a variety of resources for the management of property risks. These tools include guides and bulletins on emergency response planning, property protection and guidelines addressing both physical security and information risks.

- **Liability** — The pool and spa construction industry in the United States is characterized by its rapid pace in completing projects required to maintain profitability. With this emphasis on speed and customer demand for quality, progressive pool and spa contractors have adopted formal procedures to manage projects and control construction quality.

Construction error incidents begin with unexpected or poorly defined customer expectations that are created early on in the engagement. A formal contract creation and management program is important so that order contracts are crafted to clearly define these expectations to avoid costly rework.

Similarly, good quality control and project management techniques should be employed to prevent losses caused by faulty workmanship or failed products and to ensure the performance and durability of the construction project.

Programs employed by pool and spa contractors should include the following elements:

- Assignment of accountability for quality. Most successful pool and spa contractors have written policies for quality and have clearly defined responsibilities for job quality to craftsmen, crew supervisors, purchasing agent and the job manager.
- Conduct inspections of completed work at various stages to verify adherence to codes and plans. Typically each job has a designated crew supervisor to perform inspections and oversee operations. Inspections are performed prior to start of work to determine readiness conditions, during the construction process, and following the completion of the job. This is a critical component to ensure quality construction materials and installation methods are being used at each stage of the construction process.
- Selection of approved or UL/FM listed materials are assessed for fitness for the intended purpose and compatibility is verified. Purchasing agents and project designers need to collaborate to ensure that not only are quality materials selected but that they are inspected and stored properly. Any defects that are detected must be reported to the supplier promptly.

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- Employee training programs. Training of craftsmen includes quality program responsibilities, design, installation and material storage requirements, inspection procedures, marking of any non-conformances and any product specific training
  - Documentation. Pool and spa contractors should document key activities of quality control programs for each job. Documentation includes a list of materials approved and used, readiness, process, and completion inspection results, resolution of non-conformances and training.

CNA has abundant resources to assist our clients in the pool and spa contractors industry to help control exposures and craft effective control programs to improve profitability and cut costs. Visit us at [www.cna.com/riskcontrol](http://www.cna.com/riskcontrol) to learn more about ways we can keep your business profitable.

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## School of Risk Control Excellence

### Courses applicable for the Pool and Spa Contractors Industry:

- Builders Risk – Protecting the Job Site from Fire, Wind, Water and Theft** – Provides tools and techniques to help limit exposures to hazards such as fire, wind, water and theft
- Contractor Utility Disruption** – Offers precautionary practices to follow prior to the start of any underground work
- Controlling Equipment Theft** – Identifies ways to control equipment theft and mitigate the associated risks
- Drug and Alcohol Prevention** – Identifies ways to properly manage the work risks and legal issues of drug screening with pre-employment, post-accident, reasonable suspicion and random testing
- Excavation Safety for Pool Structures** – Learn about OSHA requirements and industry expectations, safe excavation practices and underground utility damage prevention.
- Lower Back Pain and Manual Material Handling** – Covers symptoms, characteristics and risk factors that contribute to the development of lower back pain
- OSHA 10-Hour for Construction** – Provides training on construction safety, health and emphasizes hazard identification, avoidance, control and prevention
- Pool and Spa Contractors Boot Camp** – Addresses industry loss drivers from a safety and industrial practice viewpoint
- Risk Transfer for Construction** – Addresses strategies for allocating and insuring risks to help minimize exposure and shift it to the responsible party
- Pool Popping Epidemic** – Learn about the mechanics behind a pool popping incident, the regions and types of pools most often affected by this epidemic, the controls that contractors can implement to mitigate these claims, and the risk transfer and insurance coverage that can be put in place to protect your company
- OSHA Safety for Service Techs** – Learn about OSHA compliance and the work performed by pool and spa technicians, chemical handling and hazard communication, electrical and power tool safety and silica awareness
- Hazard Communication for Pool Retailers** – Hazard Communication (Hazcom) training is designed to provide workers with the information they need to know in order to understand the hazards and identities of the chemicals they are exposed to when working

To find out more about these classes, go to: [www.cna.com/riskcontrol](http://www.cna.com/riskcontrol)

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## Footnotes

<sup>1</sup> Association of Pool and Spa Professionals

<http://www.apsp.org/clientresources/documents/PK%20Data%20Free%20Info%20-%202006.pdf>

<sup>2</sup> <http://www.realestatejournal.com/homegarden/20060809-hoak.html>

<sup>3</sup> Toossi, M. (2005, November). Employment outlook: 2004-14: labor force projections to 2014:

retiring boomers. Retrieved October 30, 2008, from

<http://www.bls.gov/opub/mlr/2005/11/art3full.pdf>

<sup>4</sup> Silverstein, M. (2007, December). Will you still need me when I'm 64? Designing the age-

friendly workplace. *EHS Today*. Retrieved October 9, 2008 from

[http://ehstoday.com/safety/ehs\\_imp\\_77115/](http://ehstoday.com/safety/ehs_imp_77115/)

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To learn more about how CNA Risk Control can work with you to help you mitigate risks, please speak with your local independent agent, call us toll-free at 866-262-0540, or view our Risk Control tools online at [www.cna.com/riskcontrol](http://www.cna.com/riskcontrol).

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