

CONTRACTOR SAFETY DIGEST

U.S. Chemical Safety and Hazard Investigation Board



The Importance of Contractor Selection and Oversight

A strong contractor selection process and contractor oversight policy ensures quality work and that worker safety is maintained.

Several organizations and industry associations, including the Construction Users Roundtable (CURT), the American National Standards Institute (ANSI), and the American Industrial Hygiene Association (AIHA), have developed guidelines and recommended practices addressing the use of safety criteria for selecting and prequalifying contractors. CURT guidance lists staff qualifications, accident history, a contractor's safety program, and an owner's previous experience as potential criteria for safety prequalification of a contractor. ANSI Standard Z-10, "Occupational Health and Safety

Management Systems," also recommends that the contractor prequalification process include consideration of safety criteria for successful contractor safety performance management.

CSB Investigations

The CSB has conducted several investigations where insufficient safety requirements for contractor selection and oversight were found to be causal to the incident. The following text highlights two such incidents: the April 8, 2011, explosion and fire that occurred in a fireworks storage facility near Honolulu, Hawaii; and the October 2, 2007, chemical fire that occurred in an underground tunnel in Georgetown, Colorado.

Donaldson Enterprises, Inc. Fireworks Disposal Explosion and Fire

- > **Incident Date: April 8, 2011**
- > **Honolulu, Hawaii**
- > **5 Killed, 1 Injured**
- > [Full Report and Video on CSB Website](#)

Incident Summary

Donaldson Enterprises, Inc. (DEI) was a Federal subcontractor that had been hired to dispose of confiscated fireworks. Prior to the incident, DEI personnel were disassembling individual firework tubes by hand and separating out the individual explosive fireworks components. The black powder and aerial shells are both susceptible to ignition from sparks, friction, and static electricity. The accumulated explosive powder was stored in containers in the bunker, which led to an explosion that killed five people and injured one. The explosion was likely triggered when loose explosive pyrotechnic powder spilled or leaked from the boxes and was ignited due to friction or a spark, and the ignition likely propagated

to one or more of the containers of accumulated powder.

Key Findings in Contractor Selection and Oversight

The CSB evaluated contractor safety selection and oversight and found that DEI was awarded the contract to dispose of the fireworks even though it had no prior fireworks disposal experience. Rather, it appeared that DEI was selected because its bid was the lowest-cost and most time-efficient. The CSB also found that relevant Federal contracting regulations had insufficient requirements for safe practices as well as contractor selection and oversight with respect to the unique hazards associated with hazardous materials such as fireworks.

As a result of CSB recommendations stemming from this incident, the U.S. Department of Treasury established formal policies requiring that contracts and subcontracts dealing with the storage, handling, and disposal of explosive hazardous materials incorporate rigorous safety-related contractor selection and oversight provisions.

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Xcel Energy Hydroelectric Plant Penstock Fire

- > **Incident Date: October 2, 2007**
- > **Georgetown, Colorado**
- > **5 Killed, 3 Injured**
- > [Full Report and Video on CSB Website](#)

Incident Summary

On October 2, 2007, five people were killed and three others injured when a chemical fire occurred 1,000 feet underground in a tunnel at Xcel Energy Company's Cabin Creek Hydroelectric Plant in Georgetown, Colorado. The fire occurred when industrial painting contractors were recoating a portion of an enclosed penstock tunnel with a highly flammable epoxy coating product. Five workers were trapped and succumbed to smoke inhalation inside the penstock.

The CSB investigation found that neither Xcel Energy nor the contractor, RPI Coating, Inc., adequately evaluated the dangers of the work inside the tunnel. Neither company's policies and procedures addressed the need for a confined space monitoring plan or the need for continuous monitoring in the work area where flammables were being used. The CSB also found that the majority of RPI employees working at Cabin Creek had not received comprehensive formal safety training; effective training on company policies; or site-specific instruction addressing confined space safety, the safe handling of flammable liquids, the hazard of static discharge, emergency response and rescue, and fire prevention.

Key Findings in Contractor Selection and Oversight

The CSB investigation found that Xcel's prequalification process for potential contractors only considered the contractors' financial capacity and did not disqualify bidders based on

unacceptable past safety performance. Once prequalified, Xcel reviewed and ranked the contractors' proposals, considering factors such as past performance, quality, and safety records in addition to price. RPI received the lowest score in the safety category, but ultimately received the highest ranking in the evaluation process, based primarily on low price.

Xcel added a safety addendum to the contract affirming that Xcel would "closely observe" RPI's safety performance during the recoating project. However, Xcel's oversight of RPI was inadequate.

CSB Recommendations

The CSB issued several recommendations, including one to the Colorado Public Utilities Commission recommending that the Commission revise its rules regulating electric utilities to require that competitive bidding and contractor selection rules for construction, maintenance or repair of regulated utilities include procedures for prequalifying or disqualifying contractors based on safety performance measures. The CSB unfortunately has received no substantive response from the Commission to date.

The CSB also made recommendations to Xcel to revise its contractor safety policies to ensure that the contractor selection process include criteria and procedures for prequalifying or disqualifying contractors based on specific safety performance measures and to require a comprehensive review and evaluation of contractor safety policies and procedures and safety performance of contractors working in confined spaces. Finally, the CSB recommended that Xcel conduct periodic safety audits of contractor selection and oversight at its power generating facilities to ensure adherence to corporate and safety policies. On a very positive note, Xcel revised its Contractor Safety Program in 2010 to implement the CSB's recommendations.