

On August 9, 2011 at approximately 4:20pm, 42-year-old Timothy B. Larson of Realm Catalyst, Inc. and 66-year-old William Stehl of Rainbow of Hope aka Rainbow of Hope Foundation sustained serious multiple injuries when a pressure vessel containing compressed gas, including oxygen and hydrogen, exploded. The Division initiated an inspection in the evening of August 9, 2011, in response to a radio broadcast of the event.

The incident occurred in a building within the industrial park at 12349 Gladstone Ave, Sylmar, CA 91342. Timothy B. Larson and William Stehl were preparing equipment for an upcoming sales demonstration for Strategic Sciences Inc, to promote the benefits and properties of the TyLar gas experimental fuel, which they manufacture. A Tylar gas-containing cylinder exploded while in the process of being handled in the non-intrinsically safe work area, resulting in severe burns and serious multiple amputations to the two employees.

Cal/OSHA concluded that flammable levels of Tylar gas, handled in non-explosion proof environments, were directly contributory to the explosion. Citations were issued as follows:

Rainbow of Hope (ROH):

General/regulatory citations for: T8CCR 460(a), lack of pressure vessel permits and T8CCR 5194(e)(1) lack of Hazard Communication Program

Serious citations for: T8CCR 2340.1, lack of insulation of conductors on the generator equipment; T8CCR 3203(a) lack of IIPP and for failure to correct unsafe explosion-prone conditions; T8CCR 3328(a) failure to follow manufacturer recommendations on the use of pressure-vessel tanks for only its designated gas; T8CCR 5194(f)(1) improper hazardous materials container labeling; T8CCR 5194(g)(2) lack of accurately and completely identifying physical and chemical properties of TyLar gas in the MSDS.

Serious willful citations for: T8CCR 2540.3(a) handling of flammables likely to release in ignitable levels in non-intrinsically-safe work environments; T8CCR 5164(a) improper storage of incompatibles, specifically oxygen and hydrogen in same tanks;

Serious willful accident-related citation for: T8CCR 5416(c) failure to eliminate all the sources of ignition in work environments where flammables are likely to accumulate at ignitable levels.

Total penalties assessed against ROH: \$239,625.00

Realm Catalyst Inc:

General/regulatory citations for: T8CCR 460(a), lack of pressure vessel permits and T8CCR 5194(e)(1) lack of Hazard Communication Program

Serious citations for: : T8CCR 2340.1, lack of insulation of conductors on the generator equipment; T8CCR 3203(a) lack of IIPP and for failure to correct unsafe explosion-prone conditions; T8CCR 3328(a) failure to follow manufacturer recommendations on the use of pressure-vessel tanks for only its designated gas; T8CCR 5194(f)(1) improper hazardous materials container labeling; T8CCR 5194(g)(2) lack of accurately and completely identifying physical and chemical properties of TyLar gas in the MSDS.

Serious willful citations for: T8CCR 2540.3(a) handling of flammables likely to release in ignitable levels in non-intrinsically-safe work environments; T8CCR 5164(a) improper storage of incompatibles, specifically oxygen and hydrogen in same tanks;

Serious willful accident-related citation for: T8CCR 5416(c) failure to eliminate all the sources of ignition in work environments where flammables are likely to accumulate at ignitable levels.

Total penalties assessed against RCI: \$239,800.00

Strategic Sciences Inc:

General/regulatory citations for: T8CCR 460(a), lack of pressure vessel permits and T8CCR 5194(e)(1) lack of Hazard Communication Program

Serious citations for: T8CCR 2340.1, lack of insulation of conductors on the generator equipment; T8CCR 2540.3(a) handling of flammables likely to release in ignitable levels in non-intrinsically-safe work environments; T8CCR 3203(a) lack of IIPP and for failure to correct unsafe explosion-prone conditions; T8CCR 3328(a) failure to follow manufacturer recommendations on the use of pressure-vessel tanks for only its designated gas; T8CCR 5164(a) improper storage of incompatibles, specifically oxygen and hydrogen in same tanks; T8CCR 5194(f)(1) improper hazardous materials container labeling; T8CCR 5194(g)(2) lack of accurately and completely identifying physical and chemical properties of TyLar gas in the MSDS.

Serious Accident Related citation for: T8CCR 5416(c) failure to eliminate all the sources of ignition in work environments where flammables are likely to accumulate at ignitable levels.

Total penalties assessed against SSI: \$61,465.00