

The cost implications of the mandatory use of  
insulating links on cranes

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## 1. Summary

This report will demonstrate, and reference data, to conclude the following points:

- 1.1 Accurate and consistent research shows that at least 100 crane power line contacts occur per year.
- 1.2 Government and independent data agree that such crane power line contacts are consistently the largest single 'event' of crane fatalities over the last 25 years.
- 1.3 The Federal regulations<sup>1,2</sup> expressly prohibits a crane from contacting power lines.
- 1.4 Operator training can modify the rate of fatalities but cannot stop the underlying causes of crane power line contacts.
- 1.5 Insulating links have been available since the 1950's but only from 1997 have there been insulating links which meet the requirements specified by experts for the crane industry.
- 1.6 Even the most pessimistic estimates show that the US crane industry could save at least \$63 million per year if every crane were fitted with insulating links.
- 1.7 The most optimistic estimates show that the US crane industry would have to pay out as a minimum \$85 million per year if insulating links are not fitted to every crane.
- 1.8 The payback time of the implementation costs range between 11 months and 4 years 11 months when measured against costs. (These calculations do not include any strict liability or punitive damages.)
- 1.9 Re wording the law to mandate the use of insulating links "only on jobsites

which include power lines” could reduce the retrofit costs, and hence also the payback time, by 40%.

1.10 The implementation cost in fitting insulating links is at a ‘safety ratio’ of 2.5% of the price of a new crane. This cost is also equivalent to 1 ¾ week’s rental earned by an existing crane.

1.11 It confirms that the popular opinion claiming “safety devices encourage reckless behaviour” is unfounded and confirms the obvious fact that safety devices reduce accident rates.

1.12 The average age of those electrocuted is 33 years. The 32 years of lost labor and life place a heavy cost on industry, society and family which we must not forget.

## **2. Incident rate**

2.1 Over the last twenty years crane power line fatalities have been the number one killer in the construction crane industry. Those recorded by Occupational Safety and Health Administration (OSHA)<sup>17,35</sup> confirm a steady rate of 20 fatalities per year. The US Department of Labor - Census of Fatal Occupational Injuries (CFOI)<sup>10</sup> was set up in 1992. The CFOI show a steady rate of 18 fatalities per year over 11 years.

2.2 OSHA performs many tasks which are primarily regulatory and statistics are only a by product. OSHA statistics are therefore filtered may only include data:

2.2.1. when 1 fatality occurs