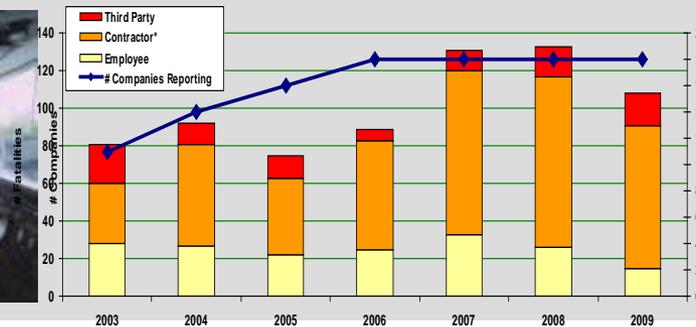


The Safety Imperative for the Extractive Industry



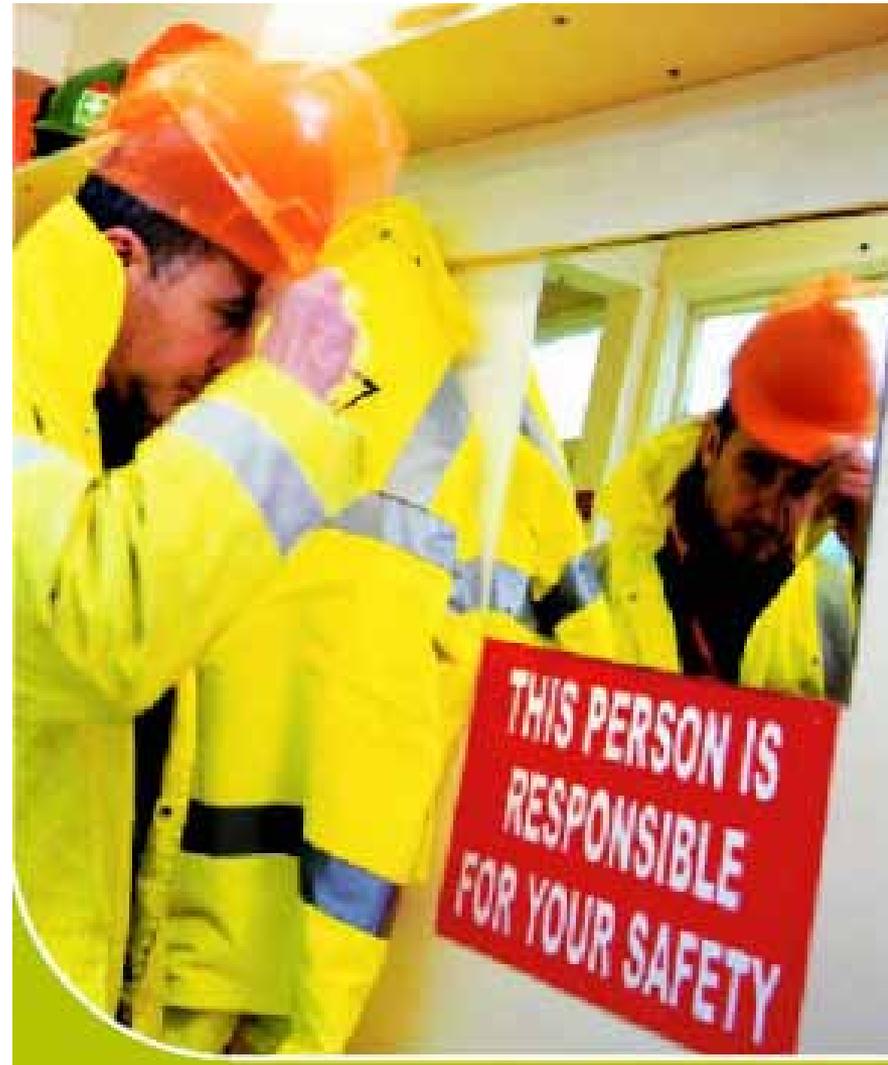
Jim O'Brien

President UEPG

Former Co-Chair CSI TF3

Overview of Presentation

- n Introduction to the CSI and Task Force 3
- n CSI Safety Definitions
- n Fatalities – the hard Lessons and Avoidance Strategy
- n LTIs – the hard Lessons and Avoidance Strategies
- n Some Benchmarks
- n Conclusion – driving for Zero!



Introduction to CSI (Cement Sustainability Initiative)



- n CSI is a voluntary coalition of the top 22 of the world's cement companies under the WBCSD
- n Scope includes their downstream activities, including aggregates
- n TF3 focused on Safety since 2001

CSI Members include:

- n **Ashgrove**
- n **Camargo Correa**
- n **CEMEX**
- n **Cimentos Liz**
- n **Cimpor**
- n **CRH**
- n **Grasim**
- n **HeidelbergCement**
- n **Holcim**
- n **Italcementi**
- n **Lafarge**
- n **Molins**
- n **Secil**
- n **Shree**
- n **Siam Cement**
- n **Taiheiyo**
- n **Titan**
- n **Votorantim**

CSI Safety Definitions (now adopted by many others)

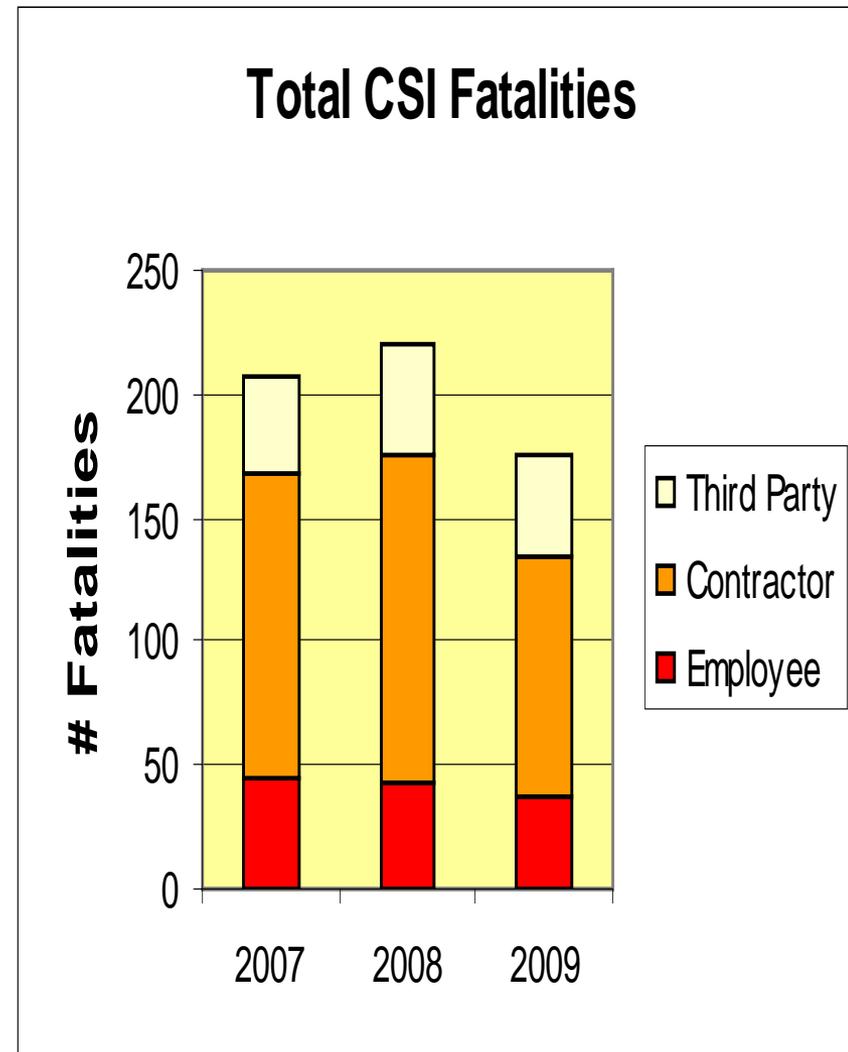
- n Safety definitions downloadable from www.wbcscement.org
- n First developed 2004, updated in 2005 & 2008
- n Key measures: Fatalities, LTIs (Lost Time Injuries)
- n Gather data for Employees, Contractors and Third Parties
- n Record both on-site and off-site

Key CSI Safety Definitions:

- n **Fatality Rate** = Number of Fatalities per 10,000 employed (or per 20m manhours worked)
- n **Lost Time Injury (LTI)** = Work-related Injury causing one or more days of absence before returning to Normal or Light Work
- n **LTI Frequency Rate (FR)** = Number of LTIs per million manhours worked
- n **LTI Severity Rate (SR)** = Number of Lost Days per million manhours worked, where SR can be quoted on a calendar or a working day basis, where SR (calendar day basis) = 1.5 (worked day basis)

However CSI Fatalities continued at high level.....

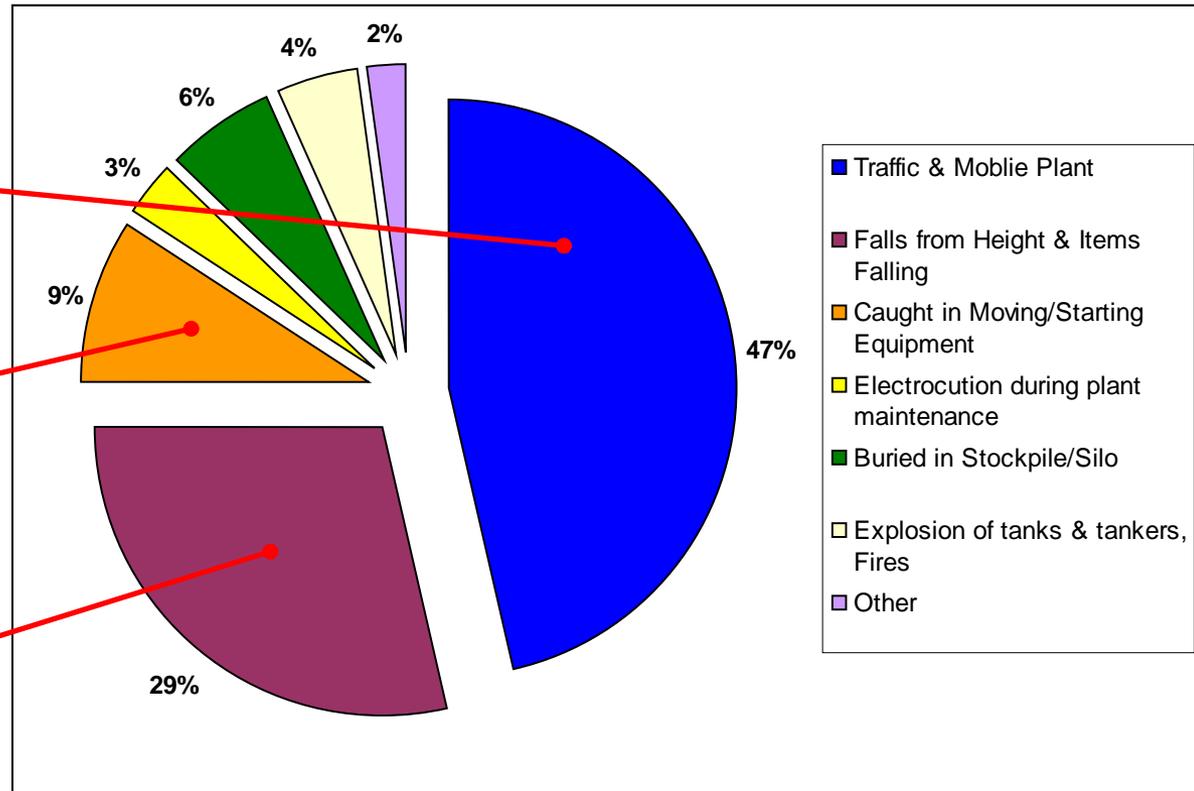
- n Up to 2008, the industry recorded over **200** fatalities (employee + contractor + third party) each year, a totally unacceptable result
- n Every fatality is a human tragedy
- n Approx 60% were to Contractors, with 20% each Employees and Third Parties
- n Despite success in steadily reducing LTI Frequency Rates, apparently no success in reducing Fatalities, despite huge safety focus
- n All agreed that something drastic needed to be done.....



CSI Fatalities by Direct Cause

Typical Direct Causes of all Fatalities were:

- n traffic & mobile plant (47%, of which 35% offsite, 12% onsite),
- n caught in moving & starting equipment (energy isolation failures) (9%),
- n falls from heights & items falling from a height (29%)
- n totalling 85% between these three main causes



The Imperative to Improve

- § Shocking statistic: about **200** fatalities in global aggregates industry/year
- § Just on **60%** of these were **Contractors** (20% each were Employees and Third Parties)
- § Most common cause (**50%**) is **Mobile Plant** (trucks, loaders, etc)
- § Hence determined need to explore other Companies and Sectors through a major benchmarking investigation during 2009.....



What were the Key Findings?

- n The surprising result was that **70% of the WBCSD Companies interviewed had specific fatality prevention programs**
- n In each of those cases, the Company had found that LTI reduction did not lead to fatality reduction, implying that the **Injury (or Bird/Heinrich) Pyramid approach did not work for them in practice**, hence fatalities had to be tackled as a distinct issue
- n These successes had typically been gained over a 5-year period, some even within 3 years



What were the Success Factors?

Key best practice factors in Fatality Prevention...

- 1. A highly visible CEO commitment**, achieving strong support from all Employees, Contractors and Trade Unions
- 2. Safety Training** for all, including Senior Management
- 3. Establishing Safety “Golden Rules”** for the areas that are the most frequent causes of fatalities in the sector
- 4. Strong Safety Management of Contractors**
- 5. Strong Safety Management of Drivers**, both on-site and more particularly off-site
- 6. Rigorous Fatality Investigation Procedures**, getting to the root causes

The CSI CEOs endorse Global Safety Initiatives



We, the business leaders of the Cement Sustainability Initiative (CSI), believe that sustainable development is a fundamental challenge in our world and in our businesses today. One key part of this challenge is the health and safety of those who work for us and live in the communities in which we operate. While each of our companies has taken action individually on this issue, we recognize that our safety performance is not yet at a level we can accept.

Consequently, we are endorsing today an initiative aimed at improving the safety of our drivers and contractors, groups in which we have seen far too many accidents and injuries. This initiative will be actively promoted within each of our companies. We will publically report on our progress, and will share safety lessons learned among our companies to help raise safety awareness and performance across our industry.

14 October 2009, Washington, DC



The CSI Driving and Contractor Safety Initiatives

Recommended Good Practice for



Both downloadable in several languages from www.wbcscement.org

The Two Initiatives

- § Driving Initiative
- § *Paul Corbin, Lafarge*
- § Contractor Initiative
- § *Mark Füllemann, Holcim*

Recommended Good Practice for



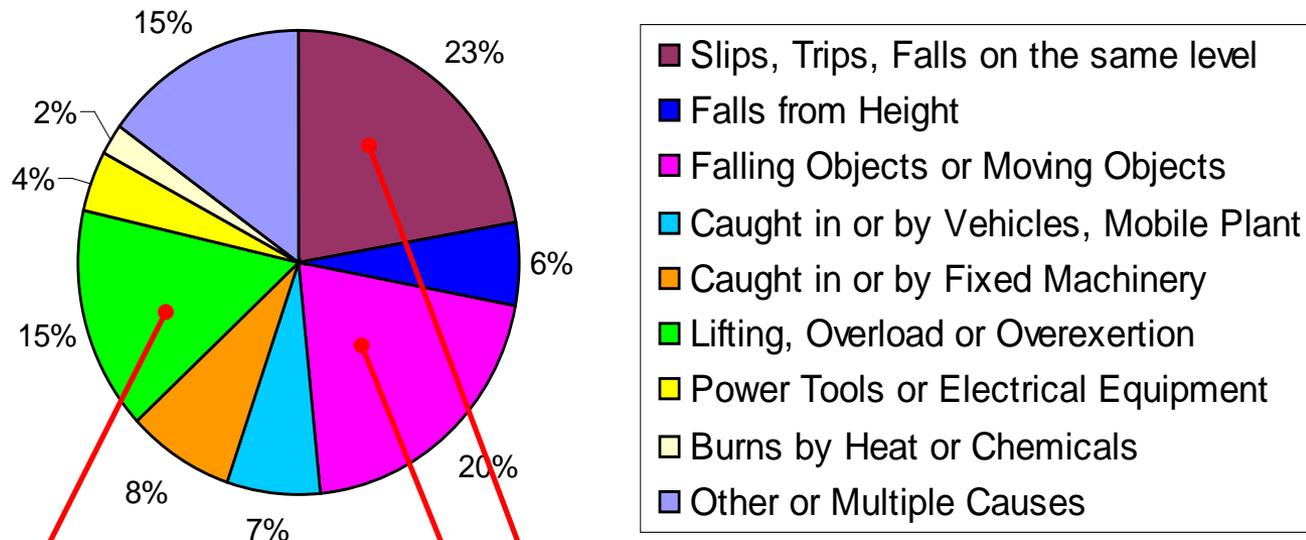
Fatality Causes in the Aggregates Sector



- § Vehicle roll-overs, stockpiles & faces
- § Engulfment in hoppers and bins
- § Drowning in ponds or flooded areas

- § Getting caught in conveyor belts
- § Falls from heights
- § Hitting overhead electricity lines
- § Road traffic accidents

Typical CSI LTI (Accident) Causes



n In CSI, LTI causes are different from Fatality causes

n 60% of all Accidents due to 3 direct causes:

n Slips, Trips & Falls

n Falling & Moving Objects

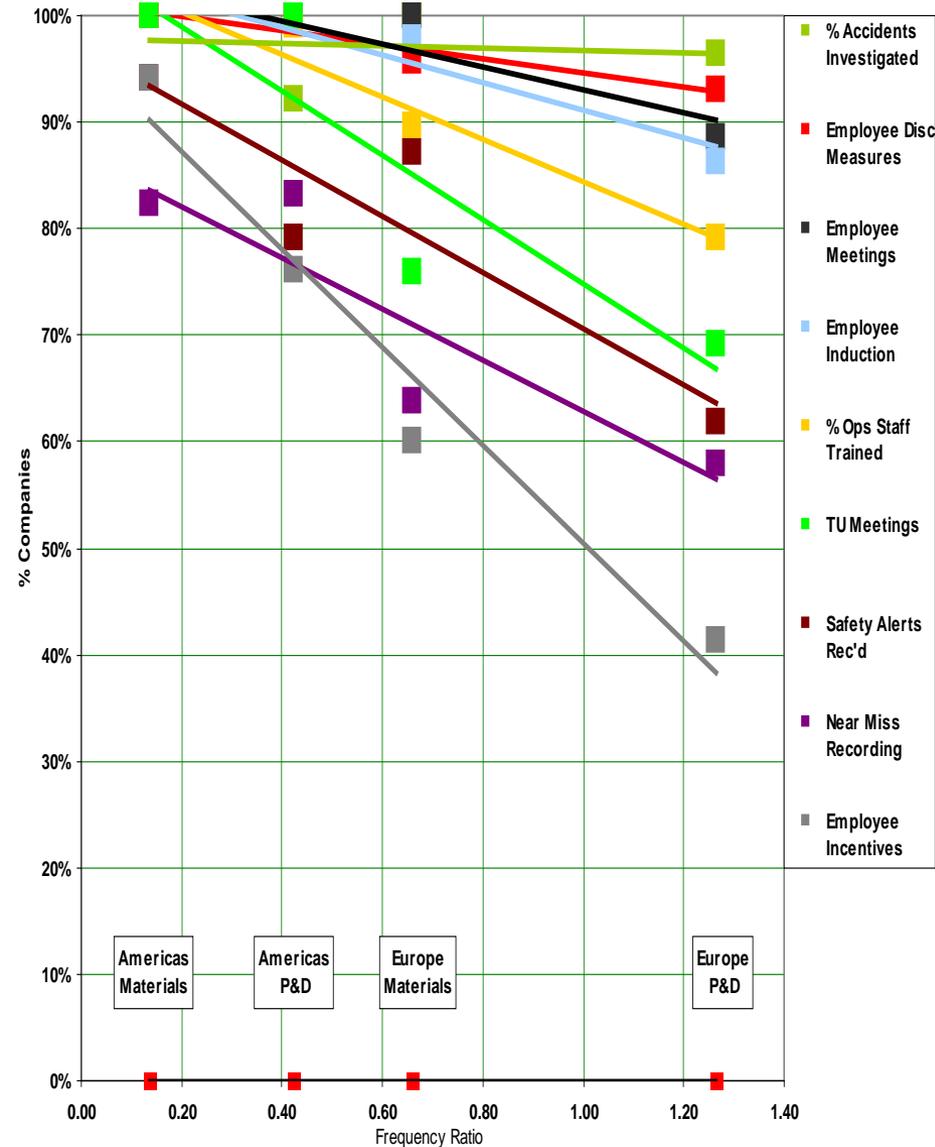
n Overexertion (Lifting, Manual Handling)

n **LTI (Accident causes are totally different from Fatality causes!**

More safety focus = better safety!

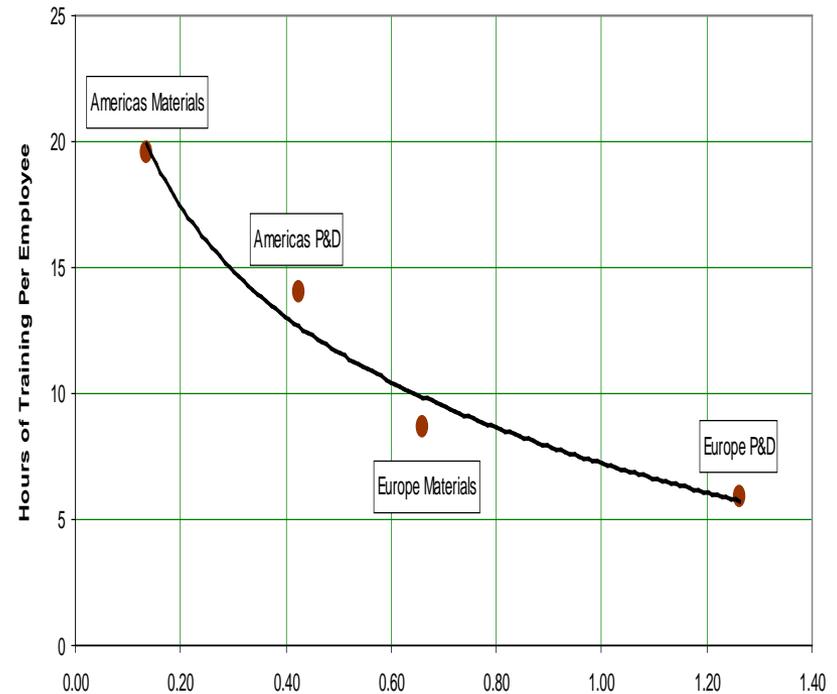
These best LTI reduction strategy is:

- n Full investigation of all LTIs
- n Disciplinary measures where needed
- n Regular safety meetings (and “tool-box talks”)
- n Induction of new employees and new contractors
- n Regular safety alerts (see www.safequarry.com)
- n Acting on near-misses
- n Incentives for improvement



.....But most of all by more Safety Training!

- n The more hours of Safety Training, the lower the LTI Frequency Rate
- n For example 20 hours of training per employee per year appears necessary to achieve an LTI FR <1 per million manhours!



Some Benchmarks and Concluding Remarks

Benchmarks:

- n Current CSI Employee Fatality Rate is just under 1 per 10,000 employed, the Contractor Rate being 4-5 per 10,000 employed
- n These safest Companies achieve Employee Fatality Rates < 0.1 and Contractor Fatality Rates < 0.6 per 10,000 employed
- n These also achieve Employee LTI FR < 0.3 , and Contractor LTI FR < 0.4 /million manhours respectively

Concluding Remarks:

- n ***There is an imperative to improve safety in the Extractive Industry***
- n ***Every Fatality (and every LTI) is one too many, a human tragedy: the only acceptable number is **Zero**.....***

Pivotal Role of Atlantic Alliance 6.....



- n ***We have all the key decision-makers here at AA6***
- n ***So let's act together to achieve the Safety Imperative!***