The Journey to Zero

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18 November 2014

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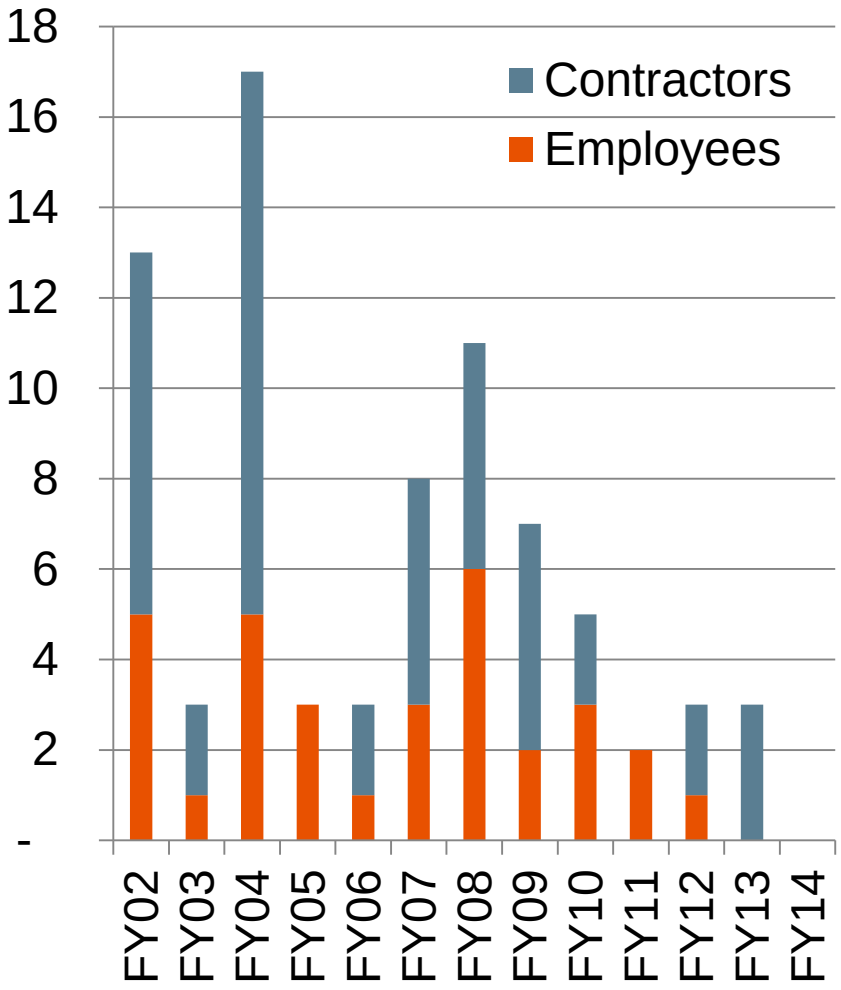
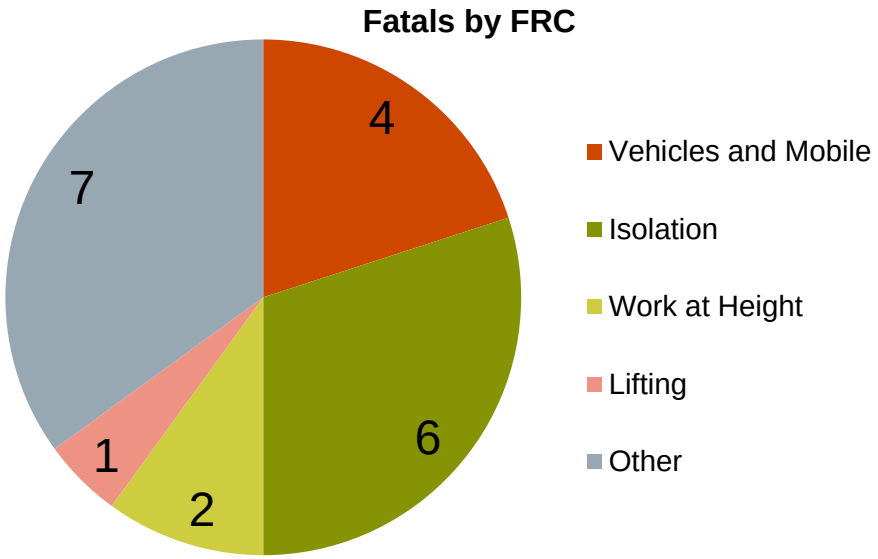
Fatalities – Global Operations

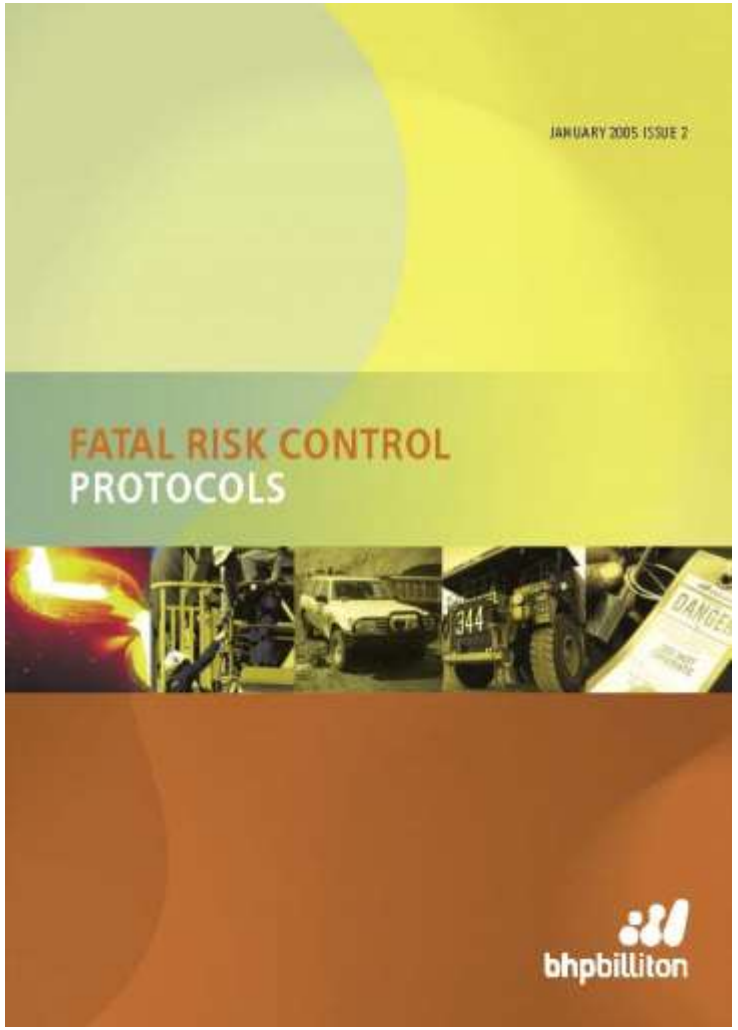


- **78 Fatalities since 2002 (32 employees, 46 contractors**
- **58 Fatalities from FY02 to FY08**
- **20 Fatalities from FY09 to FY13**
  - 13 of 20 Fatalities from FY09 – FY13 were related to failure of the Fatal Risk Controls



Context

- After BHP and Billiton merged, the Board demanded improved safety performance
- The corporate HSEC team undertook a detailed study of fatalities which had occurred in both entities, and analysed the root causes and contributing factors
- From that study were the “Fatal Risk Control Protocols” born
- An improved incident investigation method was developed, called ICAM, and consistently applied
- A set of Management Standards were developed to guide leaders
- Accountability for HSEC performance was placed directly on front line leaders
- Clutter was removed



FRCP focus areas

- **The analysis showed that the vast majority of fatalities resulted from regularly undertaken tasks, which, if properly controlled, may have prevented the event.**
- **The FRCP's were created to manage the following risk issues:**
  - Light Vehicles
  - Surface Mobile Equipment
  - Underground Mobile Equipment
  - Underground Ground Control
  - Hazardous Materials Management
  - Molten Materials Management
  - Equipment Safeguarding
  - Isolation
  - Working at Height
  - Lifting Operations

The Fatal Risk Controls

- **The Fatal Risk Controls were mandated minimum standards applicable to all projects, operations and facilities across the globe**
- **Business leaders were, and continue to be measured against their operation's compliance to the standards**
- **The original FRCP was developed with minimum standards for:**
  - **Equipment**
    - Appropriate for the task
    - In excellent working condition
  - **Procedures**
    - Standard Operating Procedures
    - Planned Task Observation requirements
    - Training requirements
  - **Behaviours**
    - The expected reaction of personnel to conditions, hazards and risks
    - Personal discipline
    - Integrity

Revisions to the Fatal Risk Controls

- In 2008, a strategic decision was taken to revise the way in which BHP Billiton operates
- The new operating model placed accountability squarely with the line managers and front line leaders, and documentation was simplified. This led to a more effective organisation
- A specific instruction was given to leaders in the business: Eliminate Fatalities!
- This led to revised Fatal Risk controls in the form of a Standard

Fatal Risk Control Standard, ver. 2

- **The document was simplified in its requirements, but placed more accountability on Line Management to own the actual control**
- **Site specific Standard Operating Procedures had to be developed to allow personnel to achieve the standard**

2 Single person anchor points shall be capable of withstanding 15kN (approximately 3,372lbf). Where it is not practical to install dedicated anchor points (i.e. ad hoc work), anchor points capable of withstanding 15kN shall be identified through a risk assessment process and shall be approved by a competent person prior to commencement of work.

3 Where personnel are required to work within 2 metres of an opening where they could fall, they shall use personal fall restraint equipment, such as a fixed lanyard and harness as a minimum, which will prevent them from falling over the edge.

4 Where there is potential to fall more than 2 metres, personnel shall wear appropriate personal fall arrest equipment. In such circumstances a full body harnesses, including shock-absorbing lanyard or inertia reel, is mandatory. The use of body belts for fall arrest is prohibited, except for specialised tasks such as pole-climbing belts worn by specially trained linesmen.

- Require *employees* and *contractors* to use a fall arrest or fall restraint equipment where provision of a secure working area is not reasonably practicable. The equipment must incorporate a full body harness attached to anchor points and or safety lines designed to withstand the maximum dynamic load from all persons attached to the anchor point and/or safety line.

Learning from Incidents

- **It was agreed that a consistent, robust process was required to:**
  - Understand the mechanism involved in harm events
  - Delve deeply into the causes to understand the root cause and contributing factors
  - Put controls in place to manage the Organisational failings and the Absent and Failed Defences

- **The Incident Cause Analysis Method (ICAM) was developed and implemented consistently at all operations, projects and facilities across the globe**

- **Information stemming from the investigations were captured in standardised Information System called First Priority Enterprise (FPe)**

- **Learnings from serious incidents were shared globally through safety networks**

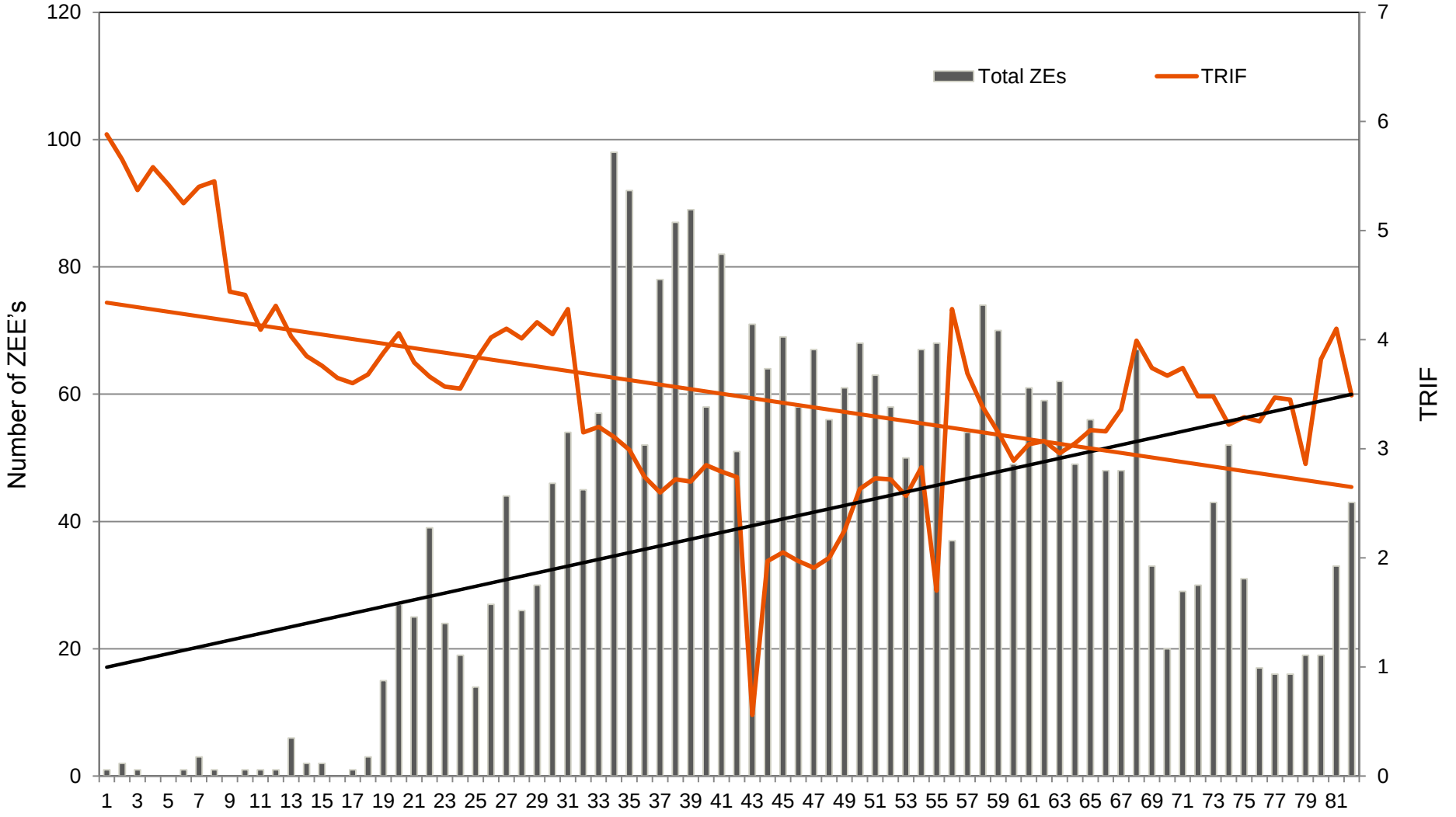
Zero Barrier Events

- **Extra focus was placed on high-potential incidents through a classification called "Zero Barrier" events. These events were essentially near-fatal events where:**
  - All key barriers and behaviours failed, and;
  - There was an uncontrolled release of Energy, and;
  - It was only by chance that a more severe outcome did not occur.
- **Zero Barrier Events were treated as fatalities, and were given attention at the highest levels of the organisation**

Modifying Behaviours

- **A mechanism to cut the risks through hazard identification and management was developed for some Business Units**
- **These incidents were called Zero Energy Events (ZEE's) and comprised:**
  - Hazard where no energy had been released, but might;
  - At-risk behaviours where nothing has yet gone wrong, but might.
- **Targets were put in place for each person to identify and report at least one ZEE per month, thus:**
  - Forcing people to be observant;
  - Notice the hazards in the workplace;
  - Do something about the hazard in the workplace;
  - Report it through their line Supervisor and Manager.
- **A clear correlation was noticed between the increasing number of ZEE reports, and a decrease in the Total Recordable Injury Frequency (TRIF).**

ZEE Reports and TRIF



Visible Coaching Leadership

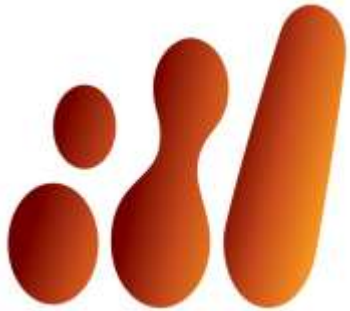
- **Targets were put in place in some Business Units for specific amounts of quality time to be spent in the field by Senior Leaders**
- **Quality time was broadly defined as:**
  - A friendly discussion between colleagues about their health and wellbeing, and the safety issues that impact on their work;
  - Verification that risks have been identified and managed;
  - Assurance that the team knows, understands and follows the procedure.
- **This time was measured, and Leaders from all levels were held to account**
- **The numbers and quality of Planned Task Observations and Critical Task Observations were captured and tracked**
- **Leaders were trained to engage with the front line personnel in a way that was neither intimidating nor disrespectful, and yet dealt firmly with the issues where required**

Culture Change

- Slowly, the way in which we did business changed
- Fatality prevention became a way of life
- Procedures, written in blood, developed into simple, easy-to-read documents
- Efforts were put in place to eliminate the culture of fear, allow personnel to report bad news, and say what needs to be said
- Investigations focussed on what the Business failed to do, rather than on the errors of the personnel

Our Journey as a Lesson

- **In an attempt to understand the Road to Zero, the following imperatives might be used:**
  - Only ZERO is acceptable
  - Encourage hazard awareness
  - Undertake open, honest investigations when things do go wrong
  - Live the values
    - Simplicity
    - Integrity
    - Respect
    - Sustainability
    - Accountability
    - Performance



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