OH&S implications to Construction, Design and Management

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problem definition

Non-fatal major injury rates to employees
by industrial sector
Safety Statistics Bulletin 1998/199, Health & Safety Executive
construction work involves:

- OBJECT - BUILDING
- PEOPLE
- PROCESS
- TOOLS
  - e.g. BUILDING TECHNOLOGY EQUIPMENT
  - e.g. HUMAN RESOURCES MANAGEMENT TRAINING
  - e.g. INDUSTRY LEGISLATION LONG TERM STRATEGIES
but why accidents happen?

- Who is to blame?
- Is it the government?
- Is it the construction industry?
- Or particular employers?
- What about individual workers?
- … or is it the weather?
OHS in construction
“CDM” construction, design and management regulations

- Contributors to accidents
- Europe 1995
- CDM regulations
- Planing supervisor

Design

Organisation

Implementation

38%
key performance indicators

- Construction cost
- Construction time
- Client satisfaction (product)
- Client satisfaction (service)
- Defects
- Health & Safety
- Productivity
- Profitability
- Predictability - cost
- Predictability - time
people performance indicators

Ease of Use

Relevance to managers

Relevance to employees

Effectiveness in identifying areas to be addressed

Effectiveness in identifying managers and employees attitudes

Potential to suggest solutions

Potential to identify training needs

Business benefits seen in use
optimising safety cost (Thoday 1976)

Failure costs

Total safety costs

Prevention and appraisal costs

Optimum point

Minimum level of failure

Minimum level of prevention and appraisal

Imperfection

Increasing safety performance

Perfection
Photo VR Camera set - construction site image capture

- Wide angle converter (38-115 mm converts to 24-72 mm)
- Photo VR camera (digital / 35mm SRL)
- Nodal point rotation (360 deg)
- Rotational tripod head
- Tripod with spirit level and lever

Photo VR Camera set - construction site image capture
photo VR:
visualizing risk
walk thorough
You are considering 5 places and 7 constructs in the context of Meanings of risk.

The name of the person from whom the grid is being elicited

Name

The domain about which the grid is being elicited

Domain: The work place

The context or purpose for eliciting this grid

Context: Meanings of risk

Singular and plural terms for elements and constructs, and rating scale range

Element: place  Elements: places

Construct: construct  Constructs: constructs  Scale from 1 to 5

Capabilities: 6 Ratings  C +Names  C +Categories  C +Numbers

When you are ready click on  Cancel  Done
e-card format
Think of the following three places in the context of **Roof Work**. In what way are two of them alike and different from the third? Select the one which is different.

- **location 3**
- **location 5**
- **location 4**
### VARIATIONS IN 6 MONTHS

<table>
<thead>
<tr>
<th></th>
<th>Pre-scheme implementation</th>
<th>Time when implemented</th>
<th>Time after implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Awareness</strong></td>
<td>Workers may not be aware of actions</td>
<td>Workers are more aware of actions</td>
<td>Workers are usually aware of actions</td>
</tr>
<tr>
<td><strong>Behaviour</strong></td>
<td>Less conscious control</td>
<td>Controlled behaviour</td>
<td>Less conscious control</td>
</tr>
<tr>
<td><strong>Attention demands</strong></td>
<td>Attention is sometimes required</td>
<td>Attention is required</td>
<td>Attention is sometimes required</td>
</tr>
<tr>
<td><strong>Concentration</strong></td>
<td>Actions easily disrupted</td>
<td>Concentration</td>
<td>Action could be disrupted</td>
</tr>
<tr>
<td><strong>Response determinants</strong></td>
<td>Little knowledge</td>
<td>Augmented knowledge, same beliefs/values</td>
<td>Improved knowledge, same beliefs/values</td>
</tr>
<tr>
<td><strong>Training approaches</strong></td>
<td>Identify the need for training</td>
<td>Target specific risk-taking attitudes</td>
<td>Teach problem-solving skills or new knowledge</td>
</tr>
<tr>
<td><strong>Cultural/attitudinal change</strong></td>
<td>Old way of doing things</td>
<td>New way of doing things</td>
<td>Some degree of negative attitudes about site safety</td>
</tr>
</tbody>
</table>
challenges

- Industrial fragmentation
- Short term vision
- Training and education
- Cultural change

... and most importantly, OHS should be understood as an “investment” and not as an “expense” (e.g. to improve project quality, retain human resources, etc.) for the benefit of employees, companies and the industry as a whole

... this contrary to the industrial perception