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Risk Assessment Revisited - a presentation by Stan Mooney, British Safety Council.

Stan said that he would start his presentation by describing what he looked for when carrying out an audit. His work covered a vast range of businesses, from Cheltenham Ladies College to chemical firms and a chocolate factory. A BSC Audit could take anything from one day upwards, with up to 78 elements of which one was devoted to Risk Assessment. The Risk Assessment element was one of 16 Essential Elements.

Firstly, he was interested in people's competency to carry out the task - had they got the experience and knowledge it required? Secondly, he looked for the presence of a 'Co-ordinator' and whether he/she lead the organisation, or just helped others carry it out. This meant finding out not just who was nominally responsible for Health and Safety, but who was responsible for seeing that policies were actually implemented! The role of the Safety Officer was also crucial in this context, because he is never '**responsible**' for safety implementation, although he has an obligation to render competent advice to management. The overall objective, therefore, is to assess the **management** of safety.

The next aim is to confirm that risk assessments have been carried out **in all areas** of the business. All too often '**safety**' seems to finish at the end of the production line. In an aside, Stan said that that he liked to arrive at an audit location early, so that he could what really went on before people were 'on guard' and so that he could take a more penetrating look at their activities. He quoted an incident where he arrived at 0815 hrs., before the reception area was open, and saw a 38 tonne vehicle parked in a very narrow alleyway. On one side of the truck there was a 15 foot wall and on the other side there was a narrow pavement. Half way along the pavement there was a drain, 10 inches below the surface. Stan questioned whether this drain had featured in the risk assessment for the workplace, whether the wall would have withstood any impact from a 38 tonne vehicle and whether there was a risk to persons on the other side of the wall.

Even reception areas can be instructive! Very often they contain notices about quality but very rarely about safety standards. He quoted one example of a fire procedure which made the Managing Director responsible for telephoning the Fire Brigade. Unfortunately, he was on holiday in Italy, at the time! Equally as important as production areas are **offices and salesmen** travelling round a territory. How often will a new sales person receive three weeks training, only to leap into a £12,000 car with no instruction or competency assessment?

Then there is the matter of assessing **contractors' work**. Stan recalled the case of a ladder left against a single storey building and no one seemed to know that a window cleaner had used it to gain access to windows on an adjacent upper storey! In the same area of contractors' work, although large firms frequently acted as

'**Good Neighbours**' to small firms, was the same practice observed for self-employed contractors?

Another major question in effective risk assessment is "**Are the Significant results of assessments publicised and made known?**" There was a case where there was a comprehensive range of risk assessments in the safety officer's office, but the departmental manager had not told his two supervisors!

Again, there is the question of "**are all Risk Assessments used?**", or just left gathering dust in the manager's office. Sometimes they may be used to devise safety arrangements, but may not be used to ensure effective risk control measures

Even if all these steps are in place, there is still no guarantee that employees are **made aware** of their provisions and the need to comply. The final link in the system is, of course the **Review** and here it is vital that there is a systematic **Review Programme** in place to ensure continued effectiveness.

Some risks are so obvious that a formal risk assessment was hardly needed, but it was still possible to overlook unexpected variations in hazards in commonplace scenarios. Stan illustrated this with some more cases;-

- A safety officer had been asked for an additional Safety Sign and agreed to issue it, with the proviso that he wanted to know why it was required. On further investigation, he found out that the request had been triggered by an accident in which an operator had received a chemical burn from a broken pipe on a Drum Pump. It transpired that there was one inch of the chemical in the storage bund and that the operators did not know where the first aid kit was located.
- Scaffolding did not have proper ladder access, hand rails, toe boards or structural strength.
- multi-tier storage racking had plastic safety marking tape instead of proper hand rails above floor level. It had been in regular use by Fork Lift Truck drivers, whose training should have warned them that it was defective but who made no criticism.
- A Display Screen Equipment work station was badly organised and one power lead was in an exposed position where it could have presented a tripping hazard. In addition, if that particular lead had been pulled out of the computer, it would have caused the failure of all the firm's computers, with the loss of £22,000 per day! A good example of an injury and property damage hazard wrapped up in one item.

Some risk assessments also miss the obvious because the assessors simply fail to identify hazards. Stan quoted an example in one local Authority where 300 had been trained to do risk assessment and he audited a risk assessment on a balcony crèche area.. Alarminglly, the balustrade had gaps big enough to allow a child to slip through, but this very probable hazard had been missed! In a second Local Authority example, a risk assessment had been done for carrying tea through a closed door to a Councillors' meeting room. **The Risk assessment actually required the door to be propped open with a fire extinguisher!**

When it came to the system of assessing risk, Stan emphasised the need to adopt an essentially simple method and quote HS(G) 65, Successful Health and Safety Management. He defined "**Hazard**" as the **Potential to cause Harm**, whereas "**Risk**" is a combination of the **Severity of the Potential Loss x The Likelihood that the loss will be realised**. The **Degree of Risk** should be assessed by considering the existing control measures actually in current practice (not those in place **on paper!**) Examples **types of hazard** are:-

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|------------------------|---|
| • Ladders | Fall or Collapse |
| • Walking about | Slips, Trips or Falls |
| • Electrical Equipment | Electric Shock or Burns |
| • Handling Chemicals | Exposure to inhalation, contact, ingestion. |

Stan stressed that simplicity was the key to successful assessment and used the Space Race as an analogy. When NASA found that ball point pens would not work in zero gravity, they developed a **sophisticated electric pump** to pressurise the ink. The Russians issued their astronauts with a **pencil!** In Norwich :Local Authority Supervisers carry out Risk Assessments because they know the hazards on the jobs and are in close contact with the workforce to communicate the outcome.

Training is an important element in ensuring consistently good implementation of risk control measures, but this is often neglected by most companies. In one firm employing 22 persons were refurbishing 12 ton machines. Two temporary workers used two cranes and it was discovered that they were not trained to operate either the cranes or to sling loads.

The rating figures used by BSC are given below:-

DEGREE OF RISK			
Hazard Severity		Likelihood of Occurrence	
5	Very High	5	Certain
4	High	4	Very Likely
3	Moderate	3	Likely
2	Slight	2	Unlikely
1	Minor	1	Extremely Unlikely

The definition of the factor descriptions are given in the enclosure with this newsletter. The Maximum Score of $5 \times 5 = 25$ is conveniently converted to a % rating by multiplying 25 by 4. As an example, the steps at Gaywood Croft would be assessed as follows:-

$$\text{Severity of Loss (4) x Likelihood (2) x 4 = 32\%}$$

Regarding a system for ensuring a Suitable and Sufficient Risk Assessment, the important requirements are as follows:-

- Identify the Hazard
- Assess the Likelihood of Injury or Damage
- Determine the number of People affected
- Consider the Existing control Measures
- Identify any relevant Legal Requirements (A Safety Professional should know which legislation is relevant when he checks the Risk Assessments)
- Specify Information to be provided and Recommendations for further Actions
- Specify a programme for follow up action - it may not be immediate.
- Specify a review Date.

In order to devise effective Risk Control Measures it is vital to adopt the following hierarchical approach:-

1. Elimination
2. Substitution
3. Enclosure
4. Guarding
5. Safe System of Work
6. Written Procedures
7. Adequate Supervision
8. Identification of Training Needs
9. Information / Instruction (Safety signs / Handouts)
10. Personal protective Equipment

It is interesting to observe that the Management Effort needed to maintain these controls is in inverse order to the ranking.

The programme for Reviewing risk assessments will be dictated mainly by:-

- Any reason to suspect that original assessment is no longer valid
- A change in the work process
- Any change in legislation
- Any Change in Control Measures
- Introduction of new technology or machines
- There is a requirement (e.g. COSHH every five years) to Review

The record of the assessment should ensure that the following information is included:-

- A description of the process - the job, the activity and the work area assessed.
- Whether the risk has been identified
- Identification of the persons at risk
- Control Measures to be implemented
- Assessment date and Review Date
- Signature of Assessor

Stan then gave the following list of legislation requiring Risk Assessment:-

- Management of Health and Safety at Work Regulations 1992 (Amendment Regulations 1994)
- COSHH Regulations 1994
- Noise at Work Regulations 1989
- Manual Handling Regulations 1992
- Health and Safety (Young Persons) Regulations 1997
- Health and Safety (Display Screen Equipment) Regulations 1992
- Personnel Protective Equipment Regulations 1992
- Control of Lead at Work Regulations 1980
- Ionising Radiation Regulations 1985
- Health and Safety First Aid Regulations 1981
- Provision and Use of Work Equipment Regulations 1992
- Construction (Head Protection) Regulations 1989

(Secretary's Note: More information on this can be found in INDG218

Guide to risk assessment requirements: common provisions in health and safety law - ISBN O 7176 1211)

Stan concluded his presentation with a series of slides showing how improvements had been made in several firms to safe working practices involving storage of empty drums, storage and handling of corrosive chemicals, protection of electrical wiring, safe clearance of cutting machines, dust extraction and guarding of automatic machines.

Members' Questions

Mark Hoare of Birmingham University asked if Stan knew why Risk Assessment had been done so poorly over the years. Stan replied that he thought most approaches tried to be over-complicated, in the same way that CDM had generated wasteful measures. The HSE's 5 Steps to Risk Assessment was ideal because it was simple enough for shop floor operatives to use.

Mike Wilkinson of Marsh & McLennan commented that so much was wasted on superfluous paper exercises. He then asked how a firm should start its risk assessment programme - was a generic approach best? Stan agreed that a generic approach was a good start. It should cover all work areas, department by department - even the so-called 'low risk' areas and include the different types of jobs, workplaces machines and times of day. The assessor should always confirm the approach with the person at 'the top' to control a co-ordinated programme. It was important to designate an 'Implementing Person' at the outset. Mike added that the 'follow through' was vital to ensure that proposals were implemented thoroughly!

Ken Talbot stressed the importance of the Employees' role in this process. Stan agreed and quoted a case where a maintenance fitter was working above chemicals with a safety harness which had to be momentarily unclipped, and then re-attached, as he passed an obstruction. As he did this, on one occasion, he slipped and fell into 200 gallons of water - and in the next tank was 200 gallons of Caustic Soda! The answer was to have two lanyards on the harness so that one could be attached on the far side of the obstruction, before detaching the first harness.

David Elliott of Delta Extruded Metals mentioned a contractor who maintained mechanical saws in a variety of conditions and locations. In those circumstances he was given a personal risk assessment.

A visitor, **John Roberts** of Safeguard, asked if Stan could give more information about the two office accidents to which he referred earlier. Stan replied that the first was a fatality caused when an office worker moved two, single bar electric fires whilst they were still switched 'on'. One fire was faulty and he carried them in different hands so that the electric current passed across his chest - the very worst fault path. The second concerned an executive who was late for a meeting and was running up some stairs when he realised that he had forgotten some papers. As he turned round, halfway up, he collided with a woman who was following him and her neck was broken in the subsequent fall.

Dick Bell of Kidderminster & District Training Co. asked if there were many problems arising from disagreements amongst assessors on a choice, say, between Major or Minor Injury as the likely severity. Stan said that the issue was not really that critical as most value was obtained from the systematic approach. Dick then suggested that it might be safest to opt for the highest choice and Stan agreed.

Roy Gill of John Laing asked what Stan thought of the capability of designers and Stan declined to answer on the grounds that he might end up being sued for libel! He did offer, however, an anecdote about an office alteration where a toilet door was designed to open directly into a kitchen used to prepare Directors' food!

The chairman then closed the meeting with the remark that it was pleasant to hear so much positive feedback about the benefits of risk assessment in practice and asked members to show their appreciation to Stan in the usual way.