Twin Presentations on 12th November 2007

Does it look Good – Is it Safe? –Part 1

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George Allcock started this "Double-bill" by presenting the view from the large Engineering firm's position. Regardless of the size of the firm, George commented, it is important to get a strong grip on the basic principles of protecting people. That means knowing, he said, what ***Good / Safe*** looks like, and how accidents are caused! The following elements are significant, he added: -

- Exposure to foreseeable ***Hazards***, causing foreseeable ***Injury or Ill-health***
  by
- ***People acting / behaving*** in a way they may be reasonably expected to act
  in
- ***Circumstances*** that may reasonably be expected to occur

All observations of incidents in these elements, he went on, must be called into question, if accidents were to be prevented. He expanded on the likely causes by saying that they could be

Engineering Causes	• Equipment, machine, process or facility not suitable • Mechanical, electrical, pneumatic, hydraulic or other failure • Guard or safety device not provided, not suitable or poorly designed • Failure of guard, safety or warning device
People Causes	• Not aware of correct procedure (should have known) • Did not follow correct procedure • Mistaken action / decision (bad judgement) • Deliberate act / omission • Lack of, or limited, employee capability • Lack of reasonable care or attention
System Causes	• Correct / Safe method / procedure not available • Method / procedure available but not suitable or not adequate • No, or poor, training • No, or poor, information • No, or poor, monitoring and review. (This also applies to the other Causation Categories above)

In any work situation, these are just some of the ***"Indicators"*** that Safety Performance may be impaired and that remedial action needs to be taken. The list is not exhaustive and should be a catalyst to create a greater awareness of hazards, especially in the 'personal' or 'circumstance' categories, which often get ignored alongside the common, physical ones, like Engineering, tripping or slipping hazards. George emphasised that informed workplace observation, like this, should lead the observer to question issues that should also be addressed in good business practice, as part of creating an acceptable work 'ethos'.

This critical examination of ***"Indicators"*** Needs to be thorough and systematically applied by asking: -

- What work operation is being done?
- When is it carried out? (***In what order, in a sequence of operations, is more significant than "on Tuesday at 2.00 pm, in this context!***)
- Where is it being done? (***Which workshop, what floor, which machine?***)
- Who is doing it? (***Mechanical Fitter, Electrician, Painter etc.***)
- How is it being done?

BUT – the most significant stage in this examination is that the enquirer should ask **"Why?" about all of the other questions,** in order to develop valuable solutions to the issues!

As an example, George showed the above photograph, which illustrates a procedural failure with pedestrians in a traffic area, despite the provision of traffic barriers and a pedestrian access door. If the vehicle access door had been closed then the pedestrians might have complied, but was there a robust procedure for this and was the training adequate? The man using the pedestrian door was complying with the system and looks like a 'manager', but was he at fault for not cautioning the others? After all, he was giving a good 'visible' example to the others, but a bad example by appearing to 'condone' their non-compliance! (N.B. Do you think, also, that the position of the "No Pedestrian" sign is confusing and discourages correct use of this door?)

The hazards observed in the above case are self-evident and the risks fairly immediate and are defined as "Direct Indicators" in this approach. The next example George used was not so obvious, however, but the risks are severe and involved the casual observance of interlock keys, lying on top of the operator's control panel for a conveyor system. The keys themselves did not present on immediate hazard to anyone in the vicinity BUT they were an "Indirect Indicator" of a serious hazard in other ways. This was revealed when the simple question was asked "What are those Keys for and Why are they there?" It transpired that, when the workpieces on the conveyor changed, their different physical characteristics sometimes caused the control system to trip out. 'Someone' then uses the key to access a remote electrical panel behind the conveyor to re-adjust the conveyor settings before re-starting it. This operation is inherently unsafe and does not provide sufficient protection to a second party, out of site of the remote control panel.

Any manager seeing this situation and who asks the "What, When, Where…..Why?" series of questions will not only identify the risk issues but will send out a powerful message to drive through improvements and compliance. Moreover, asking an operative to demonstrate the work operation, is a powerful way of engaging people, getting them to think more freely and encouraging them to become more involved.

In a similar example of a defective system, George cited a situation in Workshop where these racks were tidy and apparently well organised. However, something seemed to be ***missing***, when it came to putting items on the top shelf or removing them! When questions were asked, it was found that steps were available, in fact, but were a long way from the rack. This made safe behaviour a little difficult and increased the probability that workers would cut corners by adopting bad practice, particularly if only a

small number of items were involved on the top shelf. Another solution, of course is to prohibit the use of the top shelf, or use it for very infrequently used items and insisting on strict compliance with need to use steps. Whatever the solution, workplace audits, or inspections should involve observing actual behaviours and talking to people about the work they do.

In another example of a missing control measure, George presented an example of more immediate risk in the form of electrical testing work. This is quite common where electrical equipment is being assembled or maintained and this photograph is typical. The problem, here, is that although there are prominent notices at the operator's position, there is no evidence of any barriers to prevent other people from approaching the test area and receiving a fatal electrical shock or severe electrical burns. This also indicates that this activity may not have been risk assessed and that this may also mean there is no robust testing procedure with clearly defined authorised personnel or Permit To Work system.

George's next example was a photograph of engineers working in a mechanical robot cell, where the Castell Interlock key had been left in the guard system, whilst the main power isolation switch was still on! This was a strong 'indicator' that there was no lockout in place and probably no safe system of work in operation, or even specified!

It is also bad practice to rely on an interlock system (even with a properly secured interlock key) to isolate power for prolonged access to a hazardous machine, when it could develop a fault, or be inadvertently activated.

Prolonged access to hazardous cell

Main Switch

Castell Interlock

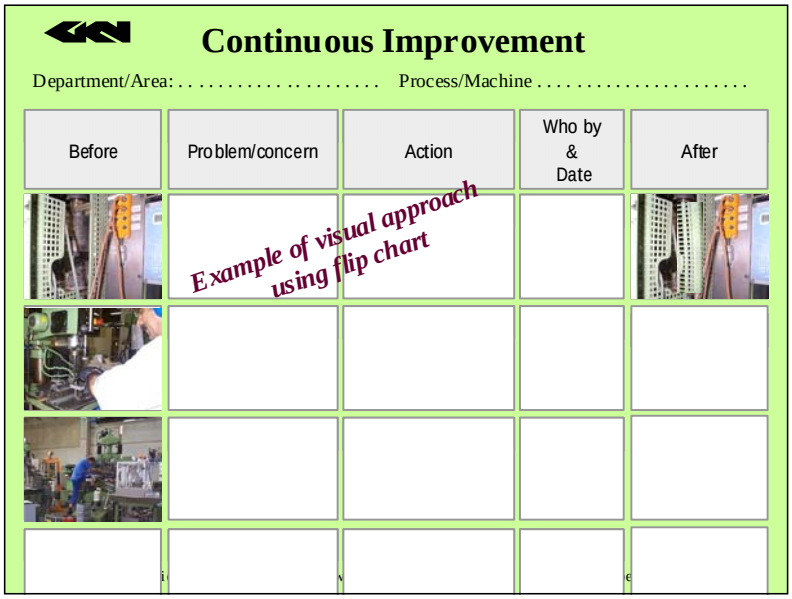
Successful identification of all these "Indicators", however, will only occur if the right "ethos" exists to encourage a greater awareness, alongside the knowledge that a positive Management System exists to improve performance. Continuing on the theme of "Does it Look Good – is it Safe?", George gave us some common-sense ways of distinguishing between Poor and Good Performers.

Poor performer		Good/excellent performer
No clear leadership/ownership	⇉	Visible/active management leadership
Control & command culture		Supportive culture
People – 'consultation'		People – real **involvement,** teamworking
Changes made – safety added		Safety built-in to **change management**
Problem management (reactive		**Risk Management** (proactive/preventative)
Poor housekeeping		Good **Housekeeping** – visual management
None/occasional self audits		Regular **audit, measurement & review**
Focus on failure/corrective actions		**Continuous improvement**
Some training where law requires		**Planned and structured** training at all levels
Memos and notices		Active **objectives, targets & plans**
Ownership by a few e.g. specialists		Ownership by **line management/everyone**

The ability to recognise the "indicators" helps the entire workforce to identify the "performer" characteristics built-in to the business model – be they Good or Bad. The authority to improve performance and manage safety can then be devolved down to **Work Teams (Cells)** of approximately 5 or 6 persons. Their Action Plans are incorporated into a co-ordinated programme, together with individual employee, department/section and Plant plans supported by an active Safety Committee. This structure is supported by sub-systems at different levels in the organisation: -

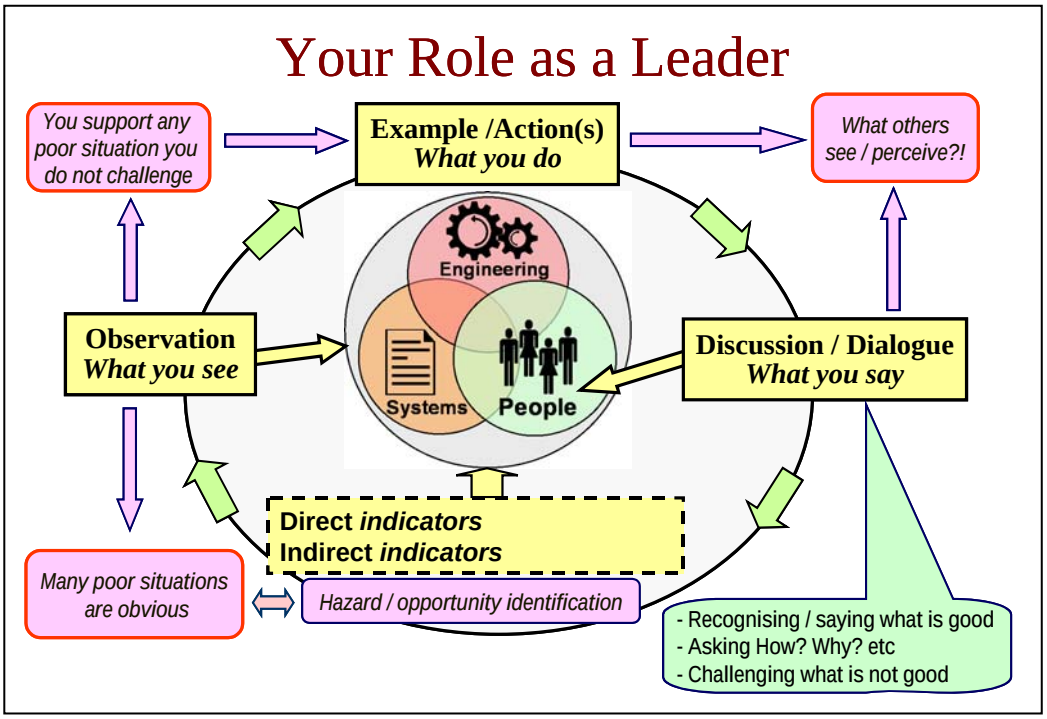
- Schedules for safety team activities showing Good Practice
- Machine Operator checklists showing standards of e working operations
- Display/control boards, showing Department/Cell information, communications and control measures
- Examples of risk assessments and current issues on display boards.
- Monthly summary of accidents, risks, issues/concerns raised

- Visual technique for risk issues or improvement opportunities, recorded on A1 size paper to encourage team activity. This uses photos for capturing and communicating risk issues. The Problem or Concern is described, the Remedial Action specified and the responsible person identified, together with the required action deadline. Finally, the finished state is illustrated in the "After" photograph



- Photographs are also used to demonstrate Correct/safe way and Incorrect/Unsafe way to carry out fitting work in a 'side-by-side' format.
- The similar images are also used to compile safety posters to illustrate common causes of accidents and the safe/unsafe way of preventing them.

George concluded by saying that the following diagram neatly summarised this whole concept, which embodies the principle of basic Leadership in this highly visible, proactive process. Instead of being buried in manuals, it is alive, on the shop floor and run by all the stakeholders.


Your Role as a Leader
You support any poor situation you do not challenge
Example /Action(s)
What you do
What others see / perceive?!
Observation
What you see
Discussion / Dialogue
What you say
Engineering
Systems
People
Direct indicators
Indirect indicators
Many poor situations are obvious
Hazard / opportunity identification
- Recognising / saying what is good
- Asking How? Why? etc
- Challenging what is not good