HUMAN FACTORS

BRIEFING NOTE No. 14

Behavioural safety

Behaviour observation: any formal programme of comparing by observation workplace behaviours with pre-planned arrangements (e.g. safety critical procedures, work permits, method statements).

Behaviour modification: a systematic approach to achieving a change in 'at risk' behaviour whilst positively reinforcing safe behaviour (e.g. by coaching, system changes or other means).

Why behavioural safety?

An offshore installations managers' safety survey for the Step Change in Safety Steering Group (Reference 1) indicated that they regarded behavioural safety as a key issue for their companies. Other briefing notes, especially *Safety critical procedures*, *Safety culture* and *Human error and non-compliance* raise the problem of people at work failing to observe rules, regulations and approved ways of working by citing cases of negative behaviours. This briefing note describes some issues not covered before, introduces methods for encouraging safe behaviour and gives positive case studies.

Has your company had any of these problems?

If the answer to any of the following questions is 'Yes', then you should take action! Remember that the aim of questioning existing behaviours is to find out why they are occurring and to change the systems and conditions responsible, not to police or punish anyone.

	Yes	No
1. Do employees/contractors regularly commit 'substandard' or unsafe acts, for example: • Use unsafe methods? • Perform hazardous operations without required controls? • Override or fail to use safety devices or equipment? • Use damaged equipment?		
2. Do they regularly work in unsafe conditions, for example: • With unguarded or poorly guarded machinery? • Using defective or inadequate tools and equipment? • In defective facilities (poorly designed or built)? • Under poor lighting, ventilation or sound insulation? (Also see questions in Briefing note 6 *Safety critical procedures*, Briefing note 9 *Safety culture* and Briefing note 12 *Human error and non-compliance*.)		
3. Are unsafe acts or conditions treated as inevitable by shop floor workers or managers?		
4. Are most safety problems in the company attributed to operator rather than hardware failures?		
5. Are there any obvious conditions that encourage unsafe or sub-standard behaviour ('impossible' tasks are set, lack of training, lack of management involvement with the workforce, poor feedback processes, inappropriate procedures, etc.)?		
6. Have behavioural modification techniques been tried already (and failed)?		
7. Would management or the workforce react badly to colleagues or subordinates observing/commenting on their behaviour?		

What should my company do about it?

At the onset management should recognise that not every non-compliance or breach of procedure is necessarily dangerous or malicious. Often, the system works against even the most conscientious worker, leaving little choice but to break a rule that is unworkable. Those closest to the work can sometimes find more effective and efficient ways of working. Sometimes, these are safer, sometimes not. There should be good communications between management and workforce to ensure that better practices are adopted and unsafe practices are stopped. The necessary elements of a successful programme are:

- Training in observation and hazard recognition.
- Giving feedback and recording observations.
- Reviewing and discussing data.
- Making any required changes.

The case studies show that a lot of effort may be required in training people and allowing them time out to observe behaviours; but they also show that employees at all levels can (and should) be involved and that there are considerable benefits in using behavioural observation and modification schemes.

Management responsibility

Management should:

- Take overall ownership of the scheme and act as 'champions'.
- Be aware of the benefits and limitations of behaviour observation/ modification as a modern approach to safety improvement (see Reference 2).
- Learn from other organisations' experiences.
- Understand the basic requirements for introducing a behaviour modification scheme.
- Anticipate and be prepared to solve problems that arise.
- Apply behaviour modification at all levels, not just the shopfloor.
- Understand what motivates/reinforces sub-standard behaviour and how to encourage behavioural change.

New skills required for behavioural observation and modification

- Observational.
- Coaching.
- Challenging people.
- Provision of negative and positive feedback.
- Talking to people.
- Prioritisation and planning.
- Drafting lessons learnt.
- Root cause/solution development and analysis.

Prerequisites

Behaviour observation and modification is an advanced technique. Management should be aware that it is intended primarily to tackle occupational safety rather than process safety. Before considering whether to introduce such a scheme, management should have in place:

- Good engineering controls.
- The cultural maturity to support the new scheme (e.g. high management-workforce trust, communications and involvement).
- An effective safety management system.

The scheme should be applied to management as well as front-line staff.

CASE STUDY 1

A company introduced the 'B-Safe Programme®' to improve safety behaviour. They examined accident records to identify behavioural problem areas, then trained personnel in the observation technique. Observers found that the baseline level of safe behaviour was 48 %, i.e. people were at risk from unsafe behaviour for 52 % of the time. This improved, in different work areas, to 86 % safe on average. Remedial actions were carried out in 71 % of cases. Observers also identified numerous unsafe conditions. The site accident rate has reduced by 20 %.

Source: http://behavioral-safety.com/case_stud/ICI_JVO6_Case_Study/.

Potential problems of behavioural observation and modification….

- The effort required to run the scheme can be considerable (to hold meetings, conduct follow-up actions, audit and change the scheme, etc).
- Existing communications systems can be overloaded with the volume of information produced (can lead to inaction and discouragement).
- A particular system that worked in one area may not work in another.
- It can take a long time to see the benefit (in terms of lower incident rates).
- This system may conflict with other existing programmes.
- Employees may dislike the idea of observing others, providing feedback and being observed.
- The absence of adverse findings should not be taken to infer adequate process safety performance.
- There are many systems available and those who sell them and provide the training needed to run them may 'oversell' the benefits.

….and solutions

- Ensure that sufficient resources are available to handle increased information flow and that scheme participants are allowed enough time.
- Select the scheme carefully and be prepared to try different approaches until the right one is found.
- Be patient! Inform everyone that measurable results can be a long way off. Highlight all positive outcomes (e.g. increased communications, involvement, solving of small problems).
- Again, select carefully, look for linkages between schemes and any advantages in combining and adapting schemes.
- Keep employees informed about all initiatives and possible conflicts and ask for their feedback.
- Management should take the lead by allowing themselves to be observed and by reassuring participants that the aim is not to assign blame or invoke punishment.
- Make systematic changes to address the causes of behaviour, not just focusing on the front line.

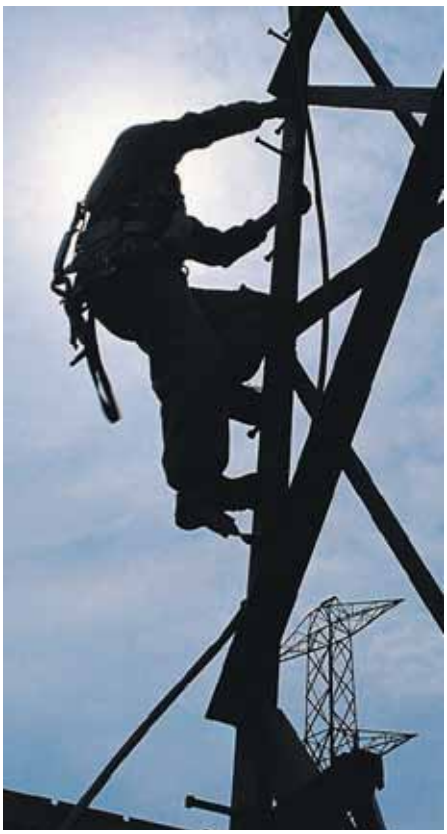
Success factors (lessons from other companies)

- Active participation of workforce and management in the scheme.
- Appoint 'champions' to maintain the momentum and take a lead at all levels.
- Issue card reminders and checklists of behaviours that need to be observed.
- Constantly reinforce and encourage use of the scheme and behavioural change.
- Develop, apply and communicate measurements that indicate the effectiveness of the programme, though be aware that measurements such as reduced lost time incidents (LTIs) could stem from other interventions.

CASE STUDY 2

Management staff on an offshore platform were concerned about a four-week shutdown during which many new contractors would be working on the platform. Their 'STOP' behavioural safety programme had become somewhat stale, but was re-launched and improved (taking out 'quotes' for observations and enhancing positive performance). Three times the usual number of STOP cards were issued and several safety themes were identified such as the use of unsafe tools. The shutdown was completed without any downturn in safety performance; indeed the number of incidents halved (although this cannot be attributed entirely to the STOP campaign).

Source: http://www.rydermarsh.co.uk/hseresearch6.html.



References

1. Step Change in Safety (2002), *OIM Safety survey*, http://www.stepchangeinsafety.net.
2. Hopkins, A. (2006), *What are we to make of safe behaviour programs?* Safety Science, Volume 44, Issue 7.

Further reading

- HSE (2002), *Strategies to promote safe behaviour as part of a health and safety management system*, HSE Contract Research Report 430/2002, HSE Books.
- Step Change in Safety, *Look this way - Guidelines and basic principles for the development of safety observation systems in the oil and gas industry*, http://www.stepchangeinsafety.net.
- Hearts and Minds toolkit, *Working safely*, http://www.eimicrosites.org/heartsandminds/worksafe.php.
- Step Change in Safety, *Changing minds - A practical guide for behavioural change in the oil and gas industry*, http://www.stepchangeinsafety.net.
- HSE (2001), *Slips, trips and falls from height offshore*, HSE Offshore Technology Report OTO 2002/001, HSE Books.
- Anderson, M (2004), *Behavioral safety and major accident hazards: Magic bullet or shot in the dark?*, Conference Proceedings, Hazards XVIII Symposium, 24 November 2004.
- HSE behavioural safety webpage: http://www.hse.gov.uk/humanfactors/topics/behavioursafety.htm.
- The Baker report (2007), *The report of the BP US refineries independent safety review panel*, available via HSE website http://www.hse.gov.uk.
- The CSB report, *Investigation report: Refinery explosion and fire BP Texas City, Texas, March 23 2005*, http://www.csb.gov.

For background information on this resource pack, please see Briefing note 1 *Introduction*.