Are human errors avoidable?

Many accidents are attributed to human errors at work. It`s often said that humans are the weakest link in any work process; they are prone to accidents. In fact, when we do make mistakes – especially when there`s no obvious defence – we can often be heard to say "I`m human, not a machine!". David Towlson of RRC Training discusses whether there's any factual basis to this type of statement and whether we can improve human performance to reduce the likelihood of making errors

It is all too easy to provide examples of accidents where "human error" has given rise to a major accident with loss of life and injuries. But do we understand what is meant by "human error"? The HSE has published many guidance documents on the topic of "human failure". HSG48 – Reducing error and influencing behaviour – is a particularly useful example; it explains that there are two categories of human failure – human error and violations. Human error is an unintentional action or decision; this can happen to even the most experienced and well-trained person. Violations, on the other hand, are intentional failures – deliberately doing the wrong thing.

Human errors

Human errors occur due to slips and lapses, examples include, misreading the value on a dial, failing to put the guard down before starting the drill, or selecting the wrong size nail for the job. Human errors can also occur due to mistakes, examples include; making a poor judgement when overtaking, or an operator misinterpreting the sound of a machine breakdown and failing to switch off immediately. Such errors occur when the task is very familiar, people confuse two similar tasks, or there are distractions and interruptions; mistakes which are "decision making failures". These mistakes arise when we do the wrong thing, believing it to be right. They often occur when the operator is doing too many things at the same time, or doing too many complex tasks at once, and often when working under time pressure.Human errors and mistakes could be reduced by:

- Using checklists and reminders – procedures with "place markers" to tick off each step as it`s completed
- Providing sufficient time for complex tasks
- Planning for "what if"- procedures for abnormal and emergency situations
- Holding regular drills and exercises - to practice actions to be taken in abnormal and emergency situations
- Competence - knowledge and understanding of systems, and training in decision – making techniques
- Organisational learning - capturing and sharing experience of unusual events

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Violations

- These are intentional failures - 'deliberately doing the wrong thing'. The violation of health and safety rules or procedures is one of the biggest causes of accidents and injuries at work. There are three types of violation, classified based on the reasons for committing them
- Routine violations – non-compliance which becomes `the norm`. General consensus that rules no longer apply, such as issuing a permit-to-work without physical, on-plant checks
- Situational violations – non-compliance dictated by situation-specific factors (e.g. time pressure, workload, unsuitable tools and equipment). Non compliance may be the only solution to an impossible task, e.g. a van driver has no option but to speed to complete day`s deliveries
- Exceptional violations – non-compliance when attempting to solve problems in highly unusual circumstances, often because something has gone wrong, e.g. speeding excessively after a puncture to avoid missing a meeting

Violations could be reduced by:

- Introducing independent cross-checks or routine monitoring of critical tasks, to increase the likelihood of violations being detected
- Eliminating reasons for cutting corners; avoid unrealistic workload and targets, unrealistic or impractical procedures, and unnecessary rules by redesigning the work or workplace to make it more suitable
- Communicating reasons for rules and procedures so employees understand why they`re important
- Encouraging reporting of violations; making non-compliance socially unacceptable.
- Increasing general level of supervision

After all, it`s true that we are humans not machines; our acts and omissions are affected by our emotions, and we are able to learn from mistakes (most of us anyway). I often compare employees in this situation to a mouse that was trapped; if we trap an employee in a situation that encourages mistakes and violations, can we really blame them for breaking the rules or making these mistakes? Instead of allocating blame, we should be focusing on provision of a well designed workplace, machine controls and displays, procedures and workload that reduce the likelihood of human errors and violations.

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RRC Training will be on Stand 257 at this year's Health & Safety North.

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