



# Humans as Heroes and Hazards

By Phil Smith, Managing Director of Critical Team Performance Ltd

In this article, Phil Smith, Managing Director of UK based Critical Team Performance Ltd, talks about the ground breaking training his company is conducting with the British Army and the critical importance for all high performing, technically competent, individuals and teams to have a fundamental awareness of 'Human Factors' (HF) in critical environments.

In early 2010 Critical Team Performance was contacted by the British Army to help prepare and train the Explosive Ordnance Disposal Search and Destroy teams, and other closely attached Units prior to their deployment on Operations to the Middle East. The aim was to deliver a package of non-technical skills awareness training to help reduce and counteract those instances of Human Error that can lead to accidents and incidents both at an individual and team level.

Phil has a passion for Human Performance training that spans over 20 years. He founded CTP in the knowledge that other teams and individuals operating in critical environments would benefit from increased awareness on how to tackle the issues surrounding Human Error.

A very successful 2-day pilot programme for senior British Army EOD and Search instructors was established and as a result of this CTP was invited to deploy on final Mission Rehearsal Exercises into the desert in December 2010. The training was delivered to over 150 soldiers and repeated again in June 2011 to approximately 250 soldiers. This training is now ongoing and will remain for the foreseeable future. Significantly, the officer commanding the EOD and Search Group said:

"CTP delivered Human Factors training to a large cohort of Explosive Ordnance Disposal and Search officers and SNCOs, the majority of whom are destined for operations in the near future. A thoroughly professional approach com-



bined with a relaxed, innovative and witty demeanour enabled CTP to win over even the most sceptical; the value of their training in the safety critical sphere of EOD and Search soon became apparent to all ranks. There is no doubt that CTP's experience, knowledge and unbridled enthusiasm is inspirational and contributed to the success of the classroom course. Equally important though was their HF input into scenario-based exercises in the field and their analysis for use in after action reviews. In summary, it was extremely valuable training delivered in a highly effective manner"

So, what is Human Factors / Human Error awareness all about?

*"Human error is the inevitable by-product of the pursuit of success in an imperfect, unstable, resource constrained world." (Dekker, 2002)*

Human Factors refer to environmental, organisational and job factors, and human and individual characteristics

which influence behaviour at work in a way which can affect health and safety. A simple way to view human factors is to think about three aspects: the job, the individual and the organisation, and how they impact on people's health and safety-related behaviour.

Have you ever wondered why senior police officers make serious errors of judgment; why pilots fly into mountains; or surgeons remove the wrong kidney? It is not that any of these people lack the knowledge or skill to do their jobs. It is not that they set out to 'get it wrong.' Rather, it is that they have the same potential vulnerabilities as the rest of us. *'To err is human.'* Understanding the potential for making errors is an important step along the road to developing strategies to prevent those very human errors from becoming catastrophes.

It is of fundamental importance to understand which factors help to ensure that teams of technically competent people working together achieve their collective and individual goals; this whilst

maintaining high standards of professionalism and safety.

Over 30 years ago this was one of the questions that required an answer from the American aviation industry to the FAA in an attempt to prove to the FAA that everything was being done to prevent further aircraft accidents and incidents. At that time over 75% of aviation accidents were attributed to 'pilot error.' It became clear that advances in technology had significantly reduced the likelihood of an aircraft accident. Therefore, it was incumbent upon the airlines to investigate additional ways to ensure the safety of their aircraft and passengers. The answer to the question was to focus on the non-technical skills of the operating crews. This included developing training that looked at increasing awareness in areas such as communication skills, decision making processes, situation awareness, stress, leadership, teamwork, and threat and error management. Since that time the aviation industry has been at the forefront of numerous studies examining the impact of 'Human Performance and Limitations' on the success, or otherwise, of working in highly technical, critical environments.

The aviation model has been adapted by many 'critical' industries. It is now widely used in the petro chemical, nuclear, shipping and more recently, healthcare sectors and it is recognised that 'human error' accounts for the vast majority of accidents and incidents that occur in the working environment. These accidents and incidents cost time, resources, and most importantly, can cost lives. CTP is unique at delivering this awareness training in the EOD and Search area.

For many years, psychologists have been interested in the cognitive and social factors that affect workers' performance and how to minimise errors. Human error cannot be eliminated; it is an essential facet of the human condition. Professionals will always try to avoid making errors. Unfortunately even the most highly-trained and motivated professionals will make mistakes. However, with suitable understanding of human factors and appropriate training, teams



*Phil Smith, Managing Director of CTP.*

can trap or mitigate the consequences of any such errors.

The study of Human Factors in Critical Team Performance helps us to manage risk. It is best thought of as the study of those characteristics that make us so much more intelligent and versatile than computers. These human attributes allow us to be highly adaptive, creative and imaginative, but they come with a price. Our very flexibility and originality makes us unsuitable for tasks requiring precision and repetition.

When competent professionals make mistakes it is not because they suddenly lose their technical skills (knowledge or motor skills) as these are in their long-term memory. On a bad day it is their non-technical skills (awareness and organisation) that are degraded and prevent the effective deployment of their technical skills. This explains how it is that good people make bad errors.

The extent to which highly technical-ly competent operators (and associated teams/passengers/patients) from many specialisations are harmed by well-intended practice is now well documented.

Newspaper headlines are rarely forgiving when an instance of 'human error' leads to a tragic incident. Modern EOD and Search practice has unprecedented power, but is inherently complex and dangerous. When this power is delivered using the fallible human brain we gain flexibility and sensitivity but cannot avoid the potential for error. Safer practices and procedures require defences against lapses in human performance. It also requires us to understand the strengths and weaknesses of ourselves, our colleagues and the systems in which we work. Improvement is up to us.

EOD and Search Teams and closely attached specialist Units and personnel work in very real, high-pressure situations. What can be done to absolutely minimise risk, and how can you get the group to perform outstandingly as a team? What checks and balances are there in place to ensure a satisfactory outcome to the event, and can the team's defences be breached?

The Critical Team Performance programme aims to create a better understanding of personality, behaviour, error management, team dynamics and appropriate communication skills to enhance the performance, safety, efficiency and morale of Critical Teams and reduce the instances of error that could potentially lead to a catastrophic failure.

CTP is the only company to deliver this awareness training in the EOD and Search environment. We are truly passionate about excellence. The term 'human factors' has now become synonymous with the ability of high performing teams to operate in highly technical, often stressful, environments and be better able to handle critical events and crisis.

*For further information on CTP programmes applicable to your teams and colleagues please contact CTP either through our website at [www.criticalteamperformance.co.uk](http://www.criticalteamperformance.co.uk) or if you would like to ask Phil Smith any further questions please email him at [phil@criticalteamperformance.co.uk](mailto:phil@criticalteamperformance.co.uk).*

*If you prefer to call, please call:  
T: +44 (0) 1628 474245  
M: +44 (0) 7984 436110*