

Developing a safety culture in a research and development environment: Air Traffic Management domain

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Abstract

Measuring safety culture has been undertaken in many industries (e.g. oil, nuclear, aviation) over the past twenty years, as a proactive method of collecting safety information about the current level of safety in the organisation. However, there has been little work undertaken to develop the safety culture of the designers of these technological systems, to ensure that their designs are endeavouring to reach the highest levels of safety. A tool was developed to measure the current level of safety culture of designers in an air traffic navigation R&D organisation which contains 21 sub-sections under the following four main headings: i) Management demonstration of safety; ii) Planning and organising for safety; iii) Communication, trust & responsibility for safety and iv) Measuring, auditing and reviewing. The findings indicated that the main areas for improvement are: i) the safety management system; ii) team integration and; iii) responsibility for safety. Based on the survey findings some changes were undertaken in an attempt to improve the safety culture at the centre and a repeat survey is planned for April, 2005 to assess any improvements. This paper will describe the survey method and findings, the safety improvement plan, preliminary findings from the follow-up survey and lessons learnt during the change process.

Introduction

Safety culture in ATM operations

Air Traffic Management (ATM) is currently seen by other industries as a 'High Reliability Organisation' (HRO), although it is not fully understood why ATM is so safe. Safety, at the levels seen in ATM, is something of an 'emergent property', built on the professionalism within the industry, and decades of trial and error in evolving best practices and procedures. It is obviously desirable that ATM retains this hard-won HRO status. The most likely way it could lose this characteristic is via fundamental change, i.e. changes at the core of ATM (since change is one of the main generalised causes of accidents). A recent study found that around 50% of incidents and accidents have a root cause in design (EUROCONTROL, 2004), thus indicating that it is important at the development stage of new systems that safety is

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