March 2007

Newsletter
The System Safety Society
Eastern Canada Chapter
Ottawa, Ontario, Canada

http://www.russona.com/ECC-SSS
www.system-safety.org

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System Safety Society Membership

We continue to reach out to people to encourage them to become members of the System Safety Society and our chapter in Canada.

Faulty Software
When faulty software is identified, it generally stays in, theoretically controlled by a patch or fix – but that isn't always the case, and streamlining software seems to be a priority with no one.

Ann S Waterman in Journal of System Safety Society – August 2006

President's Message
Congratulations to those enrolled in PhD and Master's level system safety programmes. The System Safety Society puts a very high value on education and the application of advanced levels of knowledge. We are privileged to have access to several centres of advanced learning in Ottawa, Canada and throughout the world. Several of the people involved with the System Safety Society chapter in Canada are currently enrolled in PhD and Masters level programs in the field of system safety. We congratulate them and celebrate their accomplishments. In future issues of this Newsletter we will ask them to provide a brief description of their academic programs with the goal of encouraging others. *Bob Fletcher*

Well Said!
We all share a natural tendency to want to take a deep breath after instituting a corrective action – and consider it done with. Having wrestled either with a loss or with its hypothetical scenario and decided on what you will do to mitigate it, you cannot help having a certain sense of relief and security. A preventive action - once implemented –is often treated as « out of sight, out of mind .» Unless an accident or loss occurs which that action was supposed to have precluded, it is simply left in place to function.

Dr Vernon Grose writing on loss prevention

International System Safety Society
Conference #25
13-15 August 2007

The International System Safety Society conference in Baltimore will, for the first time, have an International Track. Throughout the conference, attendees will have the option of going to a presentation that will be like a visit to a country outside of the United States. In the early planning stages of the conference, the Conference Chair, Warren Naylor explained that he would like to create opportunities for the participants at the conference to learn about system safety as it is applied in various countries around the world.

Several countries have agreed to contribute either technical papers or tutorial / workshop sessions. Each representative nation or group of nations has been invited to provide a description of their national culture to help the audience understand more about the activities of the society in that part of the world. Each session will include an explanation about how this society is unique in terms of national culture. The presentation will then explain the safety culture within their nation. Most of the material will focus on explaining how system safety is practised in industries, universities, and government in terms of policies, principles, procedures, and practices. Various safety management or system safety analyses examples from industries of each nation will be selected to illustrate system safety practices.

Asian-Pacific countries (Singapore, Japan, and Australia), Austria, Canada, Russia, Sweden, and the United Kingdom will be providing presentations. This promises to be an excellent opportunity to gather knowledge about system safety practices from around the world without having to leave the hotel.

If you have any questions regarding these sessions please contact Bob Fletcher at: rwfletcher@sympatico.ca.

International System Safety Society
Conference #26
25- 29 August 2008

This conference will be held in Vancouver.
Early in February, Dr. Jeff Joyce chaired the first meeting of the "virtual ISSC26 conference organizing committee" by teleconference.
Jeff Joyce is Conference chair, Rod Simmons is Technical Program Chair, Ann Waterman is Publicity chair, Ann Boyer is finance chair, and Bob Fletcher is the International Chair.

Chapter members should plan to attend. If we plan now, we should be able to write a paper to present or organize a tutorial for the occasion.

The conference will showcase Canada in a setting of system safety professionals like never before. It should be one of the best conferences ever.

It should be fantastic. The hotel is a sight to behold and, of course, Vancouver is like a diamond between the sea and white-topped mountains.

To top it off, a group of spouses is already organizing an Alaska cruise to immediately follow the conference.

Recent Meetings

In December, Heather Parker, a Human Factors Specialist in the Civil Aviation Directorate of Transport Canada, gave a presentation on: *"Understanding Human Performance in Socio-Technical Systems."*

There is much support in the aviation industry for understanding human performance in socio-technical systems. As our systems become more complex, technology more advanced, and production pressures continue to increase, understanding how socio-technical systems work and how to support the performance of humans in these systems becomes increasingly important. The presentation covered the definition of Human Factors

according to ICAO, a conceptual model of Human Factors, and the relationship of Human Factors to other relevant disciplines and recent developments in terms of system models. Heather introduced the audience to different models of accident causation, how they influence the findings and some tips for investigating and analysing human and organizational factors.

Readers can view a pdf presentation of Heather's slide presentation by going to the Eastern Canada Chapter website:
http://www.russona.com/ECC-SSS

In early February Dr Heslegrave, PhD of the University of Toronto gave a presentation on *The Safety Management Audit and Review Tool. (SMART).*

Regulators are increasingly discussing the need to move from traditional, highly prescriptive approaches to safety toward more flexible performance-based methods of assessment of safety management systems (SMS). Such approaches will provide companies with the freedom to design and develop an SMS tailored to their own particular context, environment and business objectives while meeting the demonstrable requirements of the regulator.

The SMART (Safety Management Audit and Review Tool) is a new approach that is designed to assess an SMS within a framework that is pragmatic, economic, and multidimensional. The SMART method evaluates key elements of the SMS including assessing the understanding of safety policy, the success of enabling strategies and tools, and the penetration of these policies and strategies throughout the organization. Initial validation data will demonstrate how the SMART method was critical to evaluating the success of an SMS, identifying opportunities for continuous quality improvement, and providing an unbiased method to target resources for SMS enhancement. The rich analysis of this SMART approach further reinforces the notion that for any safety management system to be effective, policies and strategies need to be turned into deeds by penetrating the organization - the propagation of the deeds (safety behaviour)

is intended to promote the decisive action of individuals to inspire further action by others.

If any reader has questions of Professor Heslegrave, his e-mail address is: hesgrave@uhnres.utoronto.ca

His other mail address is:

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Adapting and Auditing An Established Management System

The most interesting presentation by Professor Heslegrave turned my thoughts to what options we have to make introducing and measuring a safety management system (SMS) a straight forward process, no matter what may be the function of the organization. With the advent of ISO 9001:2000 and its focus on customer satisfaction and continual improvement, coupled with its process approach and Plan, Do, Check, Act philosophy, the International Order for Standardisation took a major step forward towards making the standards for a quality management system (QMS) suitable for service industries. I suggest that it can also be adapted to embrace a safety management system (SMS); more so, if one makes use of ISO 9004:2000 Quality Management Systems - Guidelines for performance improvements and adapts the ISO 19011 Guidelines for quality and/or environmental systems auditing.

As one who has become familiar with the ISO QMS standards in a modest-size service industry and has also been involved in the development of an equally modest-in-scope aviation SMS, I have found the ISO 9001 clauses to be fully adaptable to safety management. The customer satisfaction focus of a QMS becomes a safety focus in a SMS, and continual improvement remains

as a never-changing objective. One only has to look at the principle clause headings to see this: QMS becomes SMS and stresses documentation; Management Responsibility focuses on the essential ingredient Professor Heslegrave mentioned in his introduction; Resource Management is followed by the rather awkwardly titled Product Realisation; the system concludes with Measurement, Analysis and Improvement, the heart of Professor Heslegrave's presentation. A QMS aims at embedding a culture of quality products or services into an organisation; a SMS aims at embedding a culture of safety within an organisation.

Although Professor Heslegrave used the word "audit" in his SMART acronym (Safety Management Audit and Review Tool), he dwelt heavily on evaluation in his presentation. I understand audit to be compliance-based, while evaluation is performance-based. Measuring performance is indeed a challenge with which many safety critical services are wrestling. However, with the axiom of a QMS being "Say what you do; do what you say", auditing then involves asking: Are you doing what you say you're doing? Is that not what Professor Heslegrave's team asked and found out? Incidentally, to conduct compliance auditing and offer up opportunities for improvement one does not necessarily need the level of expertise to which Professor Heslegrave alluded in describing his team composition.

I suggest, therefore, that organizations (whatever may be their industry) look very carefully at and consider adapting the ISO 9000 series when establishing a SMS that they want to be able to audit in a SMART way!

Robin Rousham

Upcoming Meeting

We look forward to an upcoming presentation titled *"System Safety Requirements: Verification, Validation and Accreditation (VV&A) for Modeling and Simulation Recent Developments"* to take place at noon on Thursday, 19 April 2007 at 330 Sparks Street, Ottawa Transport Canada, Tower C, Lower Food Court Combined Conference Rooms

Cost will be $5 for-members, $10 for non-members, and free for students

Call for Articles

Educating others throughout Canada regarding the use of the system safety process is our goal. You can help by sharing your ideas and your experiences from working on safety critical projects. We need several articles of approximately 200 words. We would like you to share your thoughts and your experiences. What "system" have you analysed? How did you conduct the analysis? What were the hazards you identified and the mitigation that was enacted to reduce the level of risk associated with each hazard? What safety techniques did you use? How did you measure the level of risk after the mitigation was completed? We are also interested in receiving articles on Safety Management Systems (SMS). What is the framework or structure that was established for your SMS? What are the key policies and procedures within your SMS?

Please send your articles to Robin Rousham at robin.solange@sympatico.ca. He will review the articles and prepare the newsletter for distribution. Your help is most sincerely appreciated.