The International System Safety Society and the International System Safety Conference — Its Future

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In recent years, there has been a falling off of membership in the International System Safety Society and attendance at its annual International System Safety Conference (ISSC). There are a number of reasons for this, including:

- The recent tight budget constraints on government and independent organizations
- A growing loss of younger Society membership
- The impression that the Society no longer serves a unique niche in the world of system safety

The first aspect needs no further consideration, apart from how one continues to make the case to organizations about the benefits of active membership in the Society and attendance at its meetings. Typically, one might note the value of networking with peers, learning what's new and topical in system safety. I suppose one must also ask how organizations typically view graded membership in the Society as compared to equivalent membership in more formal institutions. More specifically, what does the Society's membership and level mean to the individual and the organization in terms of achieving improved performance? What benefits do organizations gain from Society membership of advertising the pedigree of its workforce? Has there been an organizational review of this nature?

The second reason follows from the first — if organizations no longer see involvement with the Society as having real value for the money spent, then this will reflect poorly in generating interest and involvement of younger professionals in those organizations. Organizational management plays a key role in whether younger members are encouraged to pursue membership.

In a sense, all three reasons are influenced by the third. Perhaps this is where an historical lesson needs to be learned. It is worth reflecting on why the International System Safety Society was formed. It arose because a number of far-sighted individuals identified that not only was the overall concept of system safety an essential ingredient in complex high-consequence technical industries, but this particular discipline was not a part of their typical structures. It is not surprising that these individuals came from the system-rich and potentially high-consequence aircraft industry. Based on this clear omission, these individuals saw the need for a clear mission and role in highlighting the importance of and setting down foundations for the system safety discipline; hence, the starting point for the concept of the International System Safety Society. In fact, the Society has been successful in pioneering this discipline. As a result, the discipline is now "common practice" in industry and, along the way, it has gained great benefit from the guidance given and the processes and tools developed by Society members. Thus, the Society is seen to have met its fundamental objective and is currently engaged in ensuring that system safety remains healthy and forward looking. Ironically, however, this success may now be the cause of the Society's current problems.

Industry, by and large, has learned the lessons pioneered by the Society such that system safety, together with the evolving processes and "tools of the trade," is now commonplace in major high-consequence industries. Therefore, there is far less propensity for industry to view the Society as the pioneering organization it once was. This reflects strongly on the first two reasons listed. Organizations now have their own internal processes for training and producing suitably qualified and experienced personnel (SQEP) in system safety and, often, prefer these people to be trained in a manner that is customized to the needs of the industry. This will have a major impact on how the industry and its younger members view the value to be attributed to Society membership in a budget-restricted environment.

These are the Problems and Symptoms — So What are the Remedies?

As a start, it would be worth carrying out a review to see whether this is the general view in U.S. government and industry. This review should seek the views of those who will become the leaders of this discipline in the future — the current cadre of young system

safety engineers – because *they* are the potential life blood of the Society's future.

Opinions of Younger System Safety Professionals

Another positive action that would help to raise the importance of the Society among younger members of the system safety discipline would be personal stories in the *Journal of System Safety* that clearly show how Society membership has helped in the author's development in the system safety discipline, and how it played an important role in the individual's career development.

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Positive Supporting Messages

Perhaps the answer also lies in the historical reason for the Society's emergence in the first place — *to identify a current major system safety gap in industry's operations and again take on the pioneering role of helping its closure through the International System Safety Society action*.

Where Do We start?

It is clear that the U.K. and parts of Europe have moved away from the U.S. customary approach to system safety — away from a standards-based approach based on "accepted" best practice as exemplified in ANSI/GEIA-STD-0010-2009. Both the U.K. and Europe have generally embarked on a more customized approach to system safety through a safety case methodology based on explicit safety justification arguments matched by necessary supporting evidence. British Defence Standard 00-56, Issue 4, which is a goal-based standard, in fact allows both approaches to be used. There is now increasing evidence that some organizations in the U.S. are moving in the safety case direction. A recent workshop was held during the 2013 International System Safety Conference (ISSC), during which the SAE International G-48 System Safety Committee agreed to review the relative benefits and weaknesses of current system safety methodologies, with a view to recommending best practice. The workshop summary was reported in the *Journal of System Safety*, Vol. 50, No. 2, Spring/Summer 2014. Workshop attendance was drawn from a wide range of expertise across government, industry and academia (though heavily U.S. biased). When viewed against ANSI/GEA-STD-0010 and MIL-STD-882, the advantages of the safety case approach were seen as: (1) upfront articulation of arguments (rationale and claims) to be used and (2) independent review to verify and validate. After extensive discussion of the safety case methodology, it was concluded that the structured, evidence-based approach to satisfying the safety arguments established at the start of a program offers benefits that were not included in other techniques, and that the approach merits being accepted among the best world-wide system safety practices. In particular, its strengths should be incorporated into other best-practice approaches.

If these views continue to gain general support in the U.S., then perhaps the Society might consider that this is indeed an important message, and that the Society might like to play a major role in pioneering the safety case approach in the U.S. Certainly, at the very least, there needs to be a working knowledge of the safety case approach in U.S. government and industry. In this global society, systems are assembled from parts procured from all over the world and, as such, there needs to be a sound working knowledge in the U.S. of "what's being offered in safety" when foreign parts are supplied with an associated supporting safety case. At the other extreme, there may now be a view emerging that the safety case methodology is the best way to go in the U.S., and this would provide a compelling reason for the Society to play *an even greater role in safety case methodology guidance and development* in support of U.S. government and industry.

Does this present the opportunity the Society is looking for — to carry out its *"second pioneering role,"* albeit that it will be a somewhat U.S.-centric exercise?

What are you views?