

# From the Editor's Desk...

*JSS Technical Editor*  
*C. G. Muniak Ph.D.*



## Paradigms

This is the first issue where I have the honor of serving as the editor of *Journal of System Safety (JSS)*. I would like to thank Clif Ericson for his many years of service as editor and I am comforted by the knowledge that Clif is still available to give advice.

At the 2015 International System Safety Conference (ISSC) in San Diego, we had one of the most enjoyable off-site social events that I have experienced. This event was on the aircraft carrier *USS Midway*, which is now the *USS Midway* Museum. Our historian, Rex Gordon, gave a presentation on the battle of Midway. He made the interesting point that one factor in the American victory was that at certain critical points in the battle, the Japanese may have been locked in paradigms that prevented them from making needed tactical adjustments. I could not help but think that our historian was trying to tell Society members that it might be good to examine our paradigms related to the International System Safety Society (ISSS).

The “From the Editor’s Desk” column in the previous issue of *JSS* contained some “social change” questions from Clif that are related to the decline in ISSS membership. These questions — which bring to mind the topic of paradigms — touched on several possible issues within our Society, including that it is too expensive, the benefits and value are too low, there are competing social media alternatives, it is too military-oriented or it is simply not needed (i.e., system safety engineers are performing adequately without being a member of a professional society). I have done my own small, unscientific survey on these questions.

Preliminary results show considerable variability in the responses; however, there may be a pattern. Cur-

rent members seem to feel it is not too expensive and there is a benefit of membership (in particular, they feel value is added to their careers by networking and gaining knowledge at conferences). Some former members responded that they thought it was too expensive (I am not sure, however, that lower expenses would get them to re-join) and, while there is some limited benefit, they feel they can perform adequately without membership. Both present and former members thought the military orientation of the ISSS is not an issue, but that we could use more input from other domains.

Then, there were some interesting comments that did not fit a particular pattern. One former member personally feels there is a benefit, but his management did not see value in the ISSS. This lack of support from management led this person to drop their membership. Another former member said she works uncompensated overtime almost every day

and has zero desire to think about system safety for even one minute longer after a long day of work. One person opined that Google has replaced the need to be a member of any professional society.

My thought is that we may want to shift or add paradigms to address the issue of lost members, but we should be careful, as some existing paradigms appear to have value for many of our present members.

The first technical paper in this issue, “An Innovative Method to Hypothesis Testing for System Safety Assessment” by Dr. Robert W. L. Thomas, Marilyn J. Eichelberger, Missey Lee and Joel Haan, derives an equation for the probability distribution of the failure rate employing only the number of tests and the observed count of the failures. The theory developed in this paper is for deriving the exact failure rate distribution for system safety applications; however, it is equally

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valid for investigating success rates and/or for performance assessment tests.

The second technical paper in this issue, “Implementing a Process for Marketing Optional Safety Equipment,” written by Clifford Parizo and Chris Robinson, considers the topic of safety features that may be considered “optional.” The U.S. Department of Transportation Federal Aviation Administration (FAA) encourages the use of optional, non-required equipment that can improve safety for increased numbers of rotorcraft under most operational conditions. The FAA expects that safety benefits will be greater than the potential risk introduced by the installation of Non-Required Safety Enhancing Equipment (NORSEE). This approach involves considering not only the risk side of the safety equation, but also the safety benefits.

The “TBD” column discusses the role and importance of mentors and mentoring. Charles Hoes discusses how mentoring could be an important way that the ISSS provides value to some of its members. He also suggests ways that the ISSS could give value to our member companies. The suggestions in this article may be a partial answer to the membership issues discussed earlier.

In his “Design-Based Safety” column, David MacCollum discusses the war on science and how it relates

to system safety, while in the “System Safety in Healthcare” column, “Unique Device Identification (UDI): A New Government Initiative to Improve Patient Safety,” Dev Raheja explores a recent approach to protect patients from hazards in medical devices. The UDI helps with identifying and analyzing devices involved in adverse events.

The “Unintended Consequences” column by Terry Hardy contains a discussion of an event that occurred on October 21, 2008, at the Diablo Canyon Power Plant in California. The reactor was manually scrammed when operators detected an inadequate flow of cooling water to the circulating water system. The mechanism that caused the problem is described, and we are reminded that natural environments can be an unexpected source of hazards.

Finally, the “Notes On Society History” column by our historian, Rex Gordon, contains a discussion on the origin of the system safety concept.

Please send emails on your thoughts concerning social change, paradigms and any other matters in which you are interested to [cmuniak@stevens.edu](mailto:cmuniak@stevens.edu).

Regards  
Chuck