

The Integrator



INCOSE North Star Chapter



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North Star Newsletter

INCOSE North Star Newsletter Communication

We now begin our sixth year of publishing *The Integrator*. Please let the editor know of any special article topics of interest you'd like to see included this year. Thanks for your continued support!

Eileen.Arnold@BAEsystems.com. Eileen Arnold, Editor

Quotable Quotes: **"The engineer's first problem in any design situation is to discover what the problem really is."** Anonymous

Systems Engineering at its Best!

Removing (Some Of) The Subjectivity in Risk Assessments

Many of the objections to implementing Risk Management and actually acting upon risk results stem from the inherent subjectivity of risk assessments. This subjectivity makes it difficult to provide risk assessments that are justifiable, repeatable and comparable within a single project, much less across multiple projects or throughout an organization. It is difficult to justify a specific assessment when others of comparable or greater experience are assessing the same risks as significantly lower or higher. So the question is – How do we get risk assessments, regardless of type and coverage, justifiable, repeatable and comparable?

One methodology that has proven useful in accomplishing this prodigious feat is the Overarching Risk model - forcing all assessors to use the same set of definitions for both likelihood and consequence when doing their assessments. To successfully accomplish this, it is necessary to:

1) establish a set of factors that can be used to assess

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Chapter President's Corner

Mark Elpers, Medtronic

Welcome again to the North Star chapter of INCOSE – I am honored and humbled to serve as your 2010 chapter president. I'd like to take a moment to thank the other leadership staff not only for the work they've done over the years in getting this chapter to its current gold level of maturity but also for the work they continue to do to keep it running smoothly. These people are dedicated to advancing our profession both locally and internationally and I hope they have made some difference in your stature as systems engineers at your company. I know they make my job easier as president. So, please take a moment to thank them for their years of service to the profession.

Our 2010 plan is off to a wonderful start with presentations on INCOSE professional systems engineering certification and on the 35W/62 interchange. We hope to keep the momentum going throughout the remainder of the year with a mix of the theoretical and the practical. We also have some heavy hitters in the industry scheduled to present at our monthly meetings and to provide tutorials – so don't miss those events. Finally, we'll dedicate some monthly meetings to outreach to the educational community as well as some tours and our usual relaxing summer and holiday programs.

In closing, I would like to mention the survey we will be distributing shortly. We want to make sure that our chapter is serving your needs and this survey is one of your opportunities to tell us what those needs are. So please spend the 5 minutes it takes to complete the survey and we will do our best to make the changes you request.

Thanks again and we hope you will join us for some of our events this year!

Mark Elpers - 2010 President
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your risks and incorporate the likelihood of occurrence of that risk into them, and

2) establish a set of consequence definitions that are appropriate for the level of comparison you are dealing with.

In developing this type of Likelihood Factor, the basic assumption is that the more mature the process, the more expertise available, the more detailed the design or the more you have built, the lower the likelihood of the risk event occurring. And vice versa, of course. This assumption is not always valid, but for simplifying the methodology, we will accept it as normally valid and are careful to note any specific risks for which it is not valid.

Once you have completed and gotten acceptance of a set of overarching risks, you need to develop a set of Likelihood Level Statements for each of them. These Likelihood Level Statements incorporate the maturity of the process, the level of the design, the build level of the hardware, etc., for each risk. Use of weighing factors would enable you to use a true Likelihood times Consequence formula to come up with a risk number. It does take more time to establish, but provides a comparable and justifiable quantitative figure.

Consequence Definitions

Using this methodology also requires you to establish a set of consequence definitions that matches the level of comparison you are trying to achieve. It is easiest to use the single consequence statement that connects performance, cost and schedule.

Conclusions

This methodology has been shown to be successful as one way of minimizing subjectivity in risk assessments. It does not provide absolute results, but does provide a solid basis for making risk assessments justifiable, repeatable and comparable across projects, programs and organizations. This methodology can be used for any type of risk assessment - hardware, software, integration, management, external, etc. - and provides a valid comparison of risk level.

Dave Hall, Senior Systems Engineer

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There is an active Risk Management Working Group (RMWG) at INCOSE, meeting during the International Symposium (in Chicago in 2010) and during the past International Workshop. If you are interested in what their current activities are, go to <http://www.incose.org/practice/techactivities/wg/risk/> for additional information and contacts. Their activities include development of panel sessions and numerous Symposium papers, among other items of interest.

WELCOME, NORTH STAR NEW MEMBERS!

Name	Company	Title
Mike Amidon	U of Minn	Program Dir
Yilmaz Bayazit	Eaton Co.	SE
Jeff Bradley	Mayo Clinic	Lead Eng
Andrew Dubel	Boston Sci	Sen SW Eng
Joe Green	Medtronic	Prin SW Eng
John Kess	Eaton Hyd	Sen Eng
Tish Kutz	GDAIS	Lead SE
Kelly Lee	IBM	Exec IT Archtct
Jim Orrock	Stratasys	Mgr, S&M Eng
Chris Petersen	Medtronic	Sr. Prin. SE
Yolanda Petre	Eaton Co.	SW Engi
Dan Preska		Retired
Eric Sit	General Dynamics	Prin SE
Michael Stoner	Eaton Co.	Eng

North Star Chapter Website
<http://www.incose.org/northstar>

2010 meeting Calendar

Date	Topic/Theme	Location
9 March	SoS in Complex Med Systems	Boston Scientific
15 April	SE in Lifecycle - Dual Vee Model	BAE Systems
13 May	SE in Student Projects	Wayzata High School
10 June	IS Paper Dry Run plus Tour	U. of St Thomas
11-15 Jul	20th INCOSE International Symposium	Chicago, IL
12 Aug	SE in Risk and Project Management	LMCO
9 Sep	SE in Operating Systems	City Water Works
14 Oct	SE in Production	Ford Plant
11 Nov	SE in Architecture and MBSE	Medtronic
9 Dec	Member Holiday Party + Guest	TBD