

***A Window of Opportunity for INCOSE:
The Zeroth Order
Risk Management Standard***

***A Position Paper for the International Symposium Panel:
Myriad Multiplying Risk Management Standards***

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12 July 2006

The RM Problem for Systems Engineers

- **SE's always Get the Risk Management Job**
- **Risk Management is Difficult to Understand, Communicate, and Execute**
- **Standards for RM may or may not Exist in the Industry for the Project**
 - **If so, May not Address Everything the SE needs to Perform Effective RM**
 - **If so, May not be a Standard with Which the SE is Familiar**
 - **If not, May be Difficult to Adapt a Standard from another Industry**

More RM Problems for Systems Engineers

- **RM Standards Can Vary Wildly**
 - **Basic Definitions Vary between Industries and Standards**
 - **RM Jargon and Process Descriptions Vary Wildly**
- **No RM Standard Provides the “How to” for Performing a Quantitative Risk Assessment (if even addressed in the standard)**
 - **Quantitative Risk Assessment is Based in Statistics, it is Difficult and Mathematically Intense**
 - **Engineers are not Taught (with one exception) the Proper Methods to Perform a Quantitative Risk Assessment**
 - **Quantitative Risk Assessment is the Fundamental Enabler of the Effective Practice of RM**

How Can INCOSE Serve Systems Engineers Practicing Risk Management

- **Perform Review and Analysis of Existing RM Standards – Product for INCOSE Members Practicing RM**
 - Translation Matrix for Terminology
 - Matrix of Commonalities, Conflicts, and Gaps
 - Recommend Sources for Resolution of Conflicts and Gapfilling
 - Annual Update
- **Establish a Zeroth Order RM Standard for INCOSE Members**
 - Focus on Commonalities between Existing Standards
 - Focus on Enabling SE's to Effectively Use Existing RM Standards
 - Provide a Generic “How to” Guide to Implement and Perform RM on any Project
 - Provide a “How to” to Perform Quantitative Risk Assessment Using Bayesian Statistics and New Numerical Methods

Synopsis

- **Existing RM Standards are Not Enough to Enable the SE to Perform RM Effectively**
- **Varying Definitions and Process Names between Standards and In the Practice Detract from Good RM Practice**
- **INCOSE Can Help SE's in Executing RM**
 - **Product 1: Analysis of Existing RM Standards**
 - **Product 2: The Zeroth Order RM Standard**