

SAMPLE PROPOSAL

The 2010 International Applied Reliability Symposium, North America

*June 15 - 18, 2010
Reno, Nevada USA*



You are invited to submit a presentation proposal that addresses the Symposium theme:

"Sharing applications, success stories and lessons learned in reliability and maintainability engineering."

Please complete the following presentation proposal form and return it via e-mail to Present@ARSymposium.org. The deadline for submissions is **December 4, 2009**.

Presentation Proposal

1. The title of the presentation (remember that attendees have a choice of sessions to attend so the title should be interesting and also must accurately reflect the content of your presentation)

Making FMEA a More Powerful and Effective Reliability Tool

2. A short summary to describe the presentation in the brochure and on the Web site (**must be "print-ready" and approximately 100 – 200 words**)

Failure Mode and Effects Analysis (FMEA) has had varying degrees of success, as implemented by companies worldwide. When implemented effectively, this tool has the potential to be a powerful aid in reducing or eliminating the risk from product designs and manufacturing processes to bring about more successful product launches. This presentation examines why FMEA has not been living up to its potential in some organizations, and describes how to get better results with individual FMEAs and how to implement a more effective overall FMEA process. Four key "success factors" are highlighted: 1) an effective FMEA process, 2) strong management sponsorship, 3) adequate FMEA resources and 4) "best practice" FMEA application.

3. A detailed outline of the presentation including the introduction, the major points to be covered and the conclusion (see the sample proposal for guidance – insert additional lines below as needed)

Few reliability tools elicit stronger responses from quality and reliability professionals than Failure Mode and Effects Analysis (FMEA). Reactions around the virtual "water cooler" range from "waste of time, lack of support" and "don't want anything to do with it" all the way to "powerful tool, effective way to prevent problems" and "needs to be done across the board." In fact, the success of this potentially powerful tool depends largely on how FMEAs are performed and managed within the organization. There are four broad success factors that are critical to uniformity of success in the application of FMEA in any company: 1) an effective FMEA process, 2) strong management sponsorship, 3) adequate FMEA resources and 4) "best practice" FMEA application. This presentation highlights lessons learned from the presenter's many years of experience performing and managing FMEA activities for General Motors, participating in the development of the SAE J1739 standard for Design, Process and Machinery FMEAs and facilitating FMEAs for clients in government and industry.

The major points to be covered in the presentation include:

- The primary reasons for ineffective FMEAs (based on practical experience)

- The essential elements of an effective FMEA process
 - FMEA Strategic Plan
 - Projects should be selected based on risk.
 - Analyses should be done during the “window of opportunity.”
 - FMEA Resource Plan
 - A “homeroom” can be important to process and execution.
 - Training for FMEA team members, facilitators and management is essential.
 - Generic FMEAs
 - A resource of historic (empirical) and potential failure modes, effects, causes and controls at the generic level of the system, subsystem or component.
 - Program-Specific FMEAs
 - Performed by a team of a manageable size with the required expertise during the “window of opportunity” that maximizes the impact of the analysis to drive improvements.
 - Basic FMEA Steps
 - Management Reviews
 - High risk issues should be escalated to the Failure Review Board process to bring proper context and ownership to the issue.
 - Quality Audits
 - Provides feedback loop to improve the FMEA process.
 - “Quality Objectives” samples are provided in the appendices of the SAE J1739 standard.
 - Supplier FMEAs
 - Include the requirement for FMEAs of supplier components that are identified as higher risk into the contracts.
 - Review supplier FMEAs based on the organization’s quality objectives.
 - Execution of Recommended Actions
 - FMEAs have little value unless the recommended actions are fully executed.
 - FMEA team should stay intact during the execution stage and should be empowered to initiate actions that will reduce the risk to an acceptable level.
 - Linkage to Other Processes
 - Potential linkages include DFMEA to DVP&R; DFMEA to PFMEA, PFMEA to Process Flow Diagram and Control Plan.
 - Test and Field Failures
 - One of the common mistakes when implementing an FMEA is to omit subsequent test and field failures.
 - Integrated Software Support
 - Relational database software can manage multiple FMEA projects and help to ensure consistency, provide charts and other reports to highlight portions of the analysis, make “lessons learned” from past FMEAs easily accessible, etc.
- Management Sponsorship and Support
 - Management support is often led by an FMEA champion at the executive level – describe role.
- Best Practice FMEA Application
 - Put together the right team
 - Do your homework
 - Understand FMEA basics and provide experienced and effective FMEA facilitation
 - Get the “level of detail” right

This presentation has highlighted “lessons learned” and tips for maximizing the potential of your FMEAs by establishing an effective process, developing strong management sponsorship for FMEA activities, providing

adequate resources for analysis activities and striving for “best practice” FMEA application. By mastering the four success factors described in this presentation, an organization will be able to make FMEA a more powerful and effective reliability tool.

4. A short explanation of how this presentation will be of use to the reliability professionals who attend the Symposium (*i.e.* “business case”)
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FMEA is a potentially powerful reliability tool that can help an organization to assess and reduce the risk associated with product and process designs. Used effectively, the tool can help the organization to improve designs early in the development process when modifications are the most cost-effective. The presenter’s extensive experience performing, managing and facilitating FMEAs make him well-qualified to share practical insights to greatly improve the effectiveness of an organization’s FMEA projects.

5. Key words to identify the main theme(s) of the presentation
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FMEA, FMECA, Risk Assessment, Reliability Management

Presenter Information

Please identify a single primary author for this presentation and provide his/her contact information in #1 – #4 below. List contributing authors, if any, in #5.

NOTE: All correspondence from the ARS will be addressed to the primary author and only the primary author will receive complimentary registration to the event and be eligible for an “Excellent Presentation” award.

1. Primary Author’s Name
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Carl S. Carlson

2. Primary Author’s Title and Company
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3. Primary Author’s Mailing Address and Contact Info
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4. Primary Author's Bio (in a concise format that would be suitable for publication, if needed)

Carl Carlson is a consultant and instructor in the areas of FMEA, reliability program planning and other reliability engineering and management disciplines. He has 20 years experience in reliability engineering and management positions at General Motors, most recently Senior Manager for the Advanced Reliability Group. His responsibilities included Design FMEAs for North American operations, developing and implementing advanced reliability methods to achieve/demonstrate reliability requirements and managing teams of reliability engineers. Previous to General Motors, he worked as a Research and Development Engineer for Litton Systems, Inertial Navigation Division.

Mr. Carlson co-chaired the cross-industry team to develop the Society of Automotive Engineers (SAE) J1739 for Design/Process/Machinery FMEA and participated in the development of the SAE JA 1000/1 *Reliability Program Standard Implementation Guide*. He has also chaired technical sessions for the Reliability Track of the Annual SAE Reliability, Maintainability, Supportability and Logistics (RMSL) Symposium, was a four-year member of the Reliability and Maintainability Symposium (RAMS) Advisory Board and served for five years as Vice Chair for the SAE's G-11 Reliability Division.

Mr. Carlson holds a B.S. in Mechanical Engineering from the University of Michigan and completed the Reliability Engineering sequence from the University of Maryland's Masters in Reliability Engineering program. He is an ASQ Certified Reliability Engineer.

5. List the Contributing Author(s), if any (please indicate whether contributing authors will be sharing the stage at the event)

None

Please note that if your presentation is selected for inclusion in the Symposium, it will be assigned to a Track and Session (i.e. time slot) at the discretion of the ARS Review Board. If you have any special schedule constraints, please notify ARS in advance.



International Applied Reliability Symposium

Summary of ARS Presenter Responsibilities

After the completion of the proposal review period, an ARS representative will contact you in **mid-December 2009** regarding the status of your submission. If your proposal is selected and you agree to participate in the event as a presenter, we ask for your cooperation with the deadlines and requirements posted at <http://www.ARSymposium.org/present.htm> and this page provides a summary of what you can expect.

- **Accept Your Selection:** Please notify ARS via e-mail no later than **January 6, 2010** to accept your selection as a presenter. To avoid the disruptions caused by modifications to the published Symposium program, please do not agree to participate as a presenter if you are not able to make a firm commitment to comply with the deadlines for submitting presentation materials and deliver your presentation at the event.
- **Requirements for Submitting Presentation Materials:** Detailed information is available on the Symposium Web site at <http://www.ARSymposium.org/present.htm>. The most important considerations are:
 - **Use ARS PowerPoint Template:** All presentations must follow the ARS PowerPoint template, which can be downloaded from the ARS Web site.
 - **Submit Complete Final Draft Only:** You must submit a complete final draft of the presentation no later than **April 16, 2010**. After you submit the file, changes will not be accepted unless requested by ARS to make the document print-ready.
 - **Submit Publication Release Form:** Please do not include content in your presentation that can't be released for publication and please make whatever arrangements are necessary within your organization to submit the signed publication release form no later than **April 16, 2010**.
- **Registration:** If you are the primary author for a presentation, your complimentary registration will be processed automatically and you will receive confirmation via e-mail in **April 2010**. Co-authors who plan to attend the event must register separately on their own (see <http://www.ARSymposium.org/register.htm>). All ARS attendees must make travel and hotel arrangements on their own.
- **At the Symposium:** There will be a brief (optional) orientation for presenters at 6 pm on the evening prior to the start of the event to allow you to familiarize yourself with the configuration at the podium. In addition, please plan to arrive at the podium 5 – 10 minutes before your scheduled presentation and note the following:
 - **Dress Code:** Although the general attire at the Symposium tends to be "business casual," most presenters choose to dress more professionally for their own presentations.
 - **Presentations Pre-Loaded on Laptops:** All PowerPoint presentations will be pre-loaded on laptops furnished by the Symposium. If your presentation requires additional multi-media files, please submit them in advance so that we can confirm that they will play correctly at the event.
 - **Microphones:** Two microphones will be available in each room: one that will be used by the primary presenter (a lapel or headset mic) and one that will be used for questions from the audience (a hand-held mic). The hand-held mic can also be used by a second presenter, if needed.
 - **Timing:** As a courtesy to attendees and other presenters at the event, we make every effort to follow the published program schedule. The moderator will explain the timing aids available to you (usually a clock that shows the actual time and a timer that counts down the remaining session time). It is your responsibility to conclude your prepared remarks with sufficient time to accept questions from the audience before ending the session at the specified time.
 - **Questions from the Audience:** Please make sure that the audience can hear the questions. You may need to ask audience members to use the second microphone or repeat the questions yourself before answering.

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