TRISMAC 2008

Trilateral Safety & Mission Assurance Conference

14–16 April 2008
ESTEC
Noordwijk, The Netherlands

Sponsored by
National Aeronautics & Space Administration (NASA)
Japan Aerospace Exploration Agency (JAXA)
European Space Agency (ESA)

European Space Agency
Agence spatiale européenne

CONTENTS

Foreword

Session 1

Developing and Maintaining SMA Skills (part 1)

Chair: Roberto Ciaschi, ESA Co-chair: Alan Phillips, NASA

Developing and Maintaining SMA Skills (part 2)

Chair: Roy Malone, NASA Co-chair: Yukio Shimizu, JAXA

Lessons Learned at ESA?
M. Warhaut

The Space Endeavour: Space Achievements vs. Aspirations
G. Hall

Development of Air-Coupled Ultrasonic Inspection Device for Spacecraft Insulation
T. Mayuzumi, N. Nemoto, K. Aoyama, S. Matsubara, K. Shinoda & H. Miyamoto

The Quality Management System at ESOC from a User Perspective
P. Ferri & S. Scaglioni

Streamlining SMA Requirements to New Programmes

Chair: Takahisa Sato, JAXA, Co-chair: Jack Bosma, ESA

Electrical, Electronic and Electromechanical (EEE) Parts Selection Idea for the Advanced Solid Rocket
K. Matsuzaki, M. Tamura, K. Sunami, T. Izumi, T. Imoto & Y. Morita

Advanced QMS Activities for Improving Outputs of Research, Development and Operation
Y. Yamaoka, S. Kawase & S. Kochi

Session 2
SMA Requirements
- Process Consistency across International Programmes

Chair: James Lloyd, NASA Co-chair: Koichi Shinozaki, JAXA

Workmanship Standards and their Application on ESA Projects
B. D. Dunn

NASA Workmanship Project Activities and Future Issues
J. Plante

ENSaF - Steps towards a European Space Nuclear Safety Framework
L. Summerer

Building an Integrated PRA Model Across Oceans and International Boundaries
M. G. Lutomski

The European Cooperation for Space Standardization (ECSS)
L. Balestra

International Aerospace Quality - Supply Chain Management

Chair: Bryan O'Connor, NASA Co-chair: Jack Bosma, ESA

The Representation of the Interests of the Space Community within the International Aerospace
Quality Group
R. Ciaschi

Counterfeit Electronic Parts Risk Mitigation
B. Hughitt

Consideration of RoHS Issues and Tin Whiskers Evaluation
N. Memoto, T. Nakagawa. H. Mori, M. Hanamori, Y. Kawada & T. Tamura

Developing a NASA Lead-free Policy for Electronics: Lessons Learned
M. Sampson

SMA Challenges for Human Exploration

Chair: Takahisya Sato, JAXA Co-chair: Thomas Hartline, NASA

Use of Probabalistic Risk Analysis within the Space Shuttle Program
M. A. Canga

Maintainability: The Forgotten "Ility", Essential for Long Term Mission Success
J. Fragola, B. Putney & D. Pettit

Reconsideration of the Requirement for Odor Assessment for JAXA Space Station Program
S. Eguchi, S. Tachihara, K. Kubo & A. Hosogai,

Evaluation of Space Shuttle Solid Rocket Motor Recovery Data, A Lesson Learned for the Ares I
Launch Vehicle
F. Safie & D. Weldon

Successful Applications of Risk Management (part 1)

Chair: Mario Ferrante, (TAS-I) ESA Co-chair: Jeevan Perera, NASA

NASA's Integrated Risk Management Program
M. Stamatelatos & H. Dezfuli

Overview of NASA's System Safety Requirements in the Context of Risk-informed Decision Making
H. Dezfuli & M. Stamatelatos

Session 3
Successful Applications of Risk Management (part 2)

Chair: Homayoon Dezfuli, NASA Co-chair: Gerhard Thiele, ESA

Implementation of Safety and Mission Assurance Risk Identification and Elevation to NASA Expendable Launch Vehicle Services
R. Caimi,

Risk Management on EarthCARE/CPR Project
T. Kimura, M. Kojima & H. Kumagai

Hubble Space Telescope Servicing: A Case Study in Analysis and Presentation of Space Program Risk Information
D. Bearden, V. Hwa & J. Maguire

Achieving High Reliability and Survivability on Greenhouse Gases Observing Satellite (GOSAT)
Y. Kaneko, T. Hamazaki, M. Nakajima, M. Kasuya & T. Miura

Successful Application of Risk Management - Strategies of Lufthansa Airlines
E. Buehle

SMA QA Priorities for Future Programmes (part 1)

Chair: Yukio Yamaoka, JAXA Co-chair: Tommaso Sgobba, ESA

Effort of Knowledge Management about Space System Development
H. Imamura, M. Okada, S. Yamamoto & T. Mukai

Process Improvement and Risk Mitigation - QA-PA Contribution to Mission Cost Reduction
A. Mantineo, S. Scaglioni & E. Vicari

Independent Engineering Review at JAXA
M. Okada & H. Imamura

SMA QA Priorities for Future Programmes (part 2)

Chair: Detlev Bohle, (DLR) ESA Co-chair: Michael Stamatelatos, NASA

Galileo Safety and Dependability Programme for Safety of Life Applications
A. Brown & N. Watts

JAXA's Engineering Effort for Human Error Prevention - To Improve Effectivity of Launch Site
Facility Maintenance by "PSF Management"
K. Hayama, R. Sekita & K. Aoyama

Dependability Related Impacts of the Utilization of FPGA's in Space Projects
M. Sarno, C. Cianci & R. Caterino

Quality versus Complexity (The Galileo Product Assurance Experience)
N. Watts

Conference Highlights & Conclusions

List of Participants

How to navigate the Contents pages

Navigating with links

Clicking a link in a PDF document is like clicking a link on a Web site. Links take you to specific locations that the PDF document creator has defined. These links can jump to another location in the current document, to other PDF documents, or to Web sites. The links in the Contents Pages open the individual paper in a new window. The Contents document remains open. These links are located on the titles of the papers.

Clicking a link can also play movies, sound clips, and file attachments. Some documents contain various links to images, references and movies.

To follow a link:

1. Select the Hand tool 🖐.
2. Position the pointer over the linked area on the page until the pointer changes to the hand with a pointing finger 👆 (The hand has a "W" if the link points to the Web.) Then click the link.

Searching SP-657 PDF index file

➡

Searching Workshop SP-657 PDF index file

An Adobe PDF index is a specially prepared file that spans multiple Adobe PDF files and is available through Search. A full-text index is available for the whole set of these Proceedings documents; you can search the index for a word rather than searching each individual document. The full-text index is an alphabetized list of all the words used in this collection of documents.

Searching an index is much faster than searching all the text in the documents. An index search produces a results list with links to the occurrences of the indexed documents. It is highly recommended that you select the Match Whole Word Only option when searching indexes to significantly reduce the time taken to return results.

To search the SP-657 index, first open the Search PDF pane (Ctrl+F):

1. At the bottom of the Search PDF pane, click Use Advanced Search Options.
2. Type the word you want to find.
3. For Look In, select Select Index.
4. In the Index Selection dialog box, do one of the following:
- Select the **SP-657** index.
- If the **SP-657** index is not listed, click Add, locate the index file (**SP-657**.pdx) on the CD, and then click Open.
5. In the Index Selection dialog box, click OK, and then proceed with your search.