

Recognized as the Pre-eminent Aerospace Quality Conference with Additional Special Emphasis on Safety

20th Annual

cqsdi

Conference on Quality in the Space and Defense Industries

March 19 - 20, 2012

Cape Canaveral, FL

Quality, Efficiency, and Innovation
Solutions for Today's Challenges and Changing Environment



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Gary Wegrzynowicz, *DCMA*

James Wade, *Raytheon*

The USS Spruance sits pierside at Naval Weapons Station Seal Beach, Calif., Jan. 9, 2012, where it will conduct ordnance operations.



Sponsored by the ASQ Aviation, Space and Defense Division

Supported by the National Aeronautics and Space Administration, the Department of Defense, the Missile Defense Agency, and the Defense Contract Management Agency.

If you work with a company that is involved in the space and defense industries, this conference will be your most important and rewarding professional experience for 2012!

The conference will include keynote and featured speakers, panel presentations and in-depth concurrent breakouts. Government and industry leaders will discuss the latest policies and practices that will directly affect your organization.

Recertification Credits from ASQ

ASQ recertification units will be issued for this event. Please save a copy of your attendee badge as proof of attendance.



Radisson Resort at the Port
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An MH-60S Knight Hawk helicopter passes the USS Chafee while delivering supplies to the USS Carl Vinson during a vertical replenishment mission with the USNS Bridge in the Pacific Ocean, Jan. 2, 2012.

Quality Innovations

Abstract: Quality innovations are essential to continuously assure mission success, increase effectiveness and promote efficiency throughout the space and defense industries. Some of the most impactful innovations in quality, however, may originate from unexpected sources. This panel will highlight and discuss some of the most innovative approaches to quality ranging from extreme space missions to cutting-edge consumer products to health care and patient safety.

Impact of Industry-Driven Standards

Abstract: Regulations, budgets and policy changes can have an immediate and costly impact to your business. Updates to AS9100 standards, requirements being developed by the G-14 subcommittee, and changes in ICOP Standards to name a few, all have an effect on how we do business. Add the ending of the shuttle era, the beginning of commercial space, increasing counterfeit problems and we find all companies are challenged to reduce risks and increase compliance to new requirements while increasing efficiency. This panel will focus on the ways companies are addressing these changes, with an assessment of risks, costs, and schedule to be compliant.



U.S. Navy Seaman Michael Linscott directs an F/A-18F Super Hornet from Strike Fighter Squadron 41 aboard the aircraft carrier USS John C. Stennis in the Arabian Gulf, Nov. 21, 2011.

Efficiency – Achieving Desired Results with Less

Abstract: The times we are in are unprecedented for tight budgets... and the picture for the future looks to be even more constrained. The international debt crisis and numerous political realities continue to exert enormous pressure to reduce spending. All of Space and Defense must consequently operate with greater efficiency while sustaining and even improving Quality.

Our industry has historically demonstrated a bias toward continuous improvement over the years and has yielded considerable efficiencies through proven tools such as Lean and the leveraging of economies of scale. But much more will be required. Tomorrow's winners will develop new creative approaches to Supply Chain Management, Risk Management, Cost of Quality, and the incorporation of technology that enable us to work smarter and optimize the use of scarce resources.

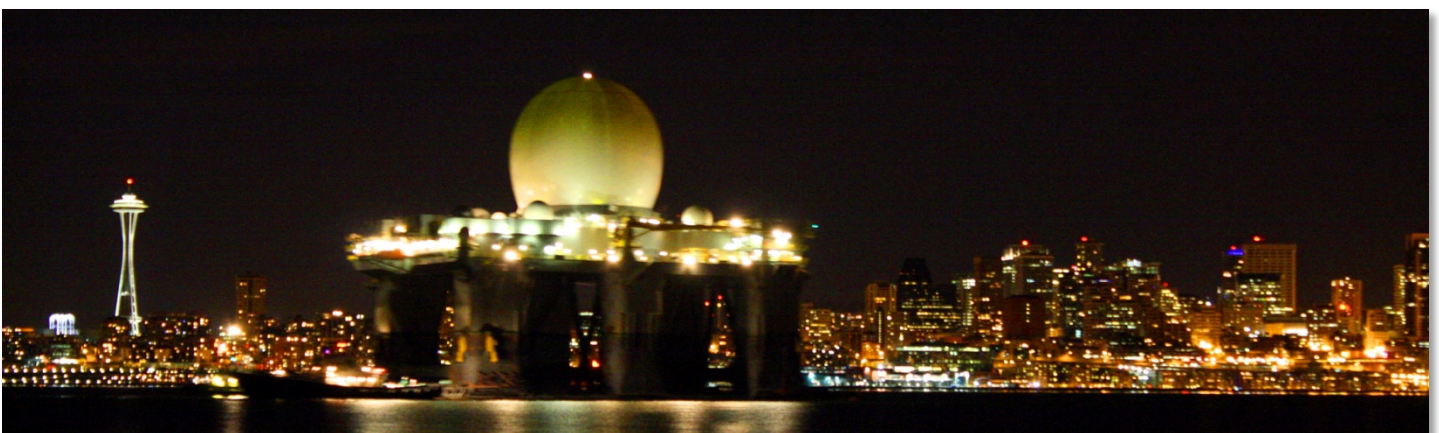
This Panel will address the Efficiency challenges we Quality professionals face. The panel members will offer both explorations of new and better applications of existing tools as well as some vision for out-of-the box solutions.

Sea-Based X-Band Radar (SBX) passes the Seattle skyline on May 10, 2011 as it enters Elliott Bay just before arriving at Vigor Shipyards Seattle.

Commercial Space Initiatives

Abstract: At last year's conference one of the most attended sessions was the one on "Commercial Space". As a result of that interest and the continuing expansion of commercial space programs this year's conference will again focus on Commercial Space. Current plans indicate at least one private company could make the first delivery of supplies to the International Space Station in 2012.

As stated in public law: "The goal of safely opening space to the American people and their private commercial, scientific, and cultural enterprises should guide Federal space investments, policies, and regulations; ...private industry has begun to develop commercial launch vehicles capable of carrying human beings into space and greater private investment in these efforts will stimulate the Nation's commercial space transportation industry as a whole; ...space transportation is inherently risky, and the future of the commercial human space flight industry will depend on its ability to continually improve its safety performance..." For this special topic, we have selected a panel of experts in this area to discuss their approach to achieving that goal with a focus on the quality and safety aspects of accomplishing successful commercial cargo and commercial crew space transportation. Panelists will address methods on managing the quality and safety pendulum as it relates to this new business opportunity. You will also have an opportunity to put your questions to them. This promises to be a very interesting panel.



Program Agenda

► Monday, March 19

7:00-8:00 am: Registration/Continental Breakfast

8:00-8:15 am: Welcome and Opening Remarks

- **Ryan M. Nowosielski**
Chair, ASQ Aviation,
Space & Defense Division

8:15-8:45 am: Keynote Speaker

- **Christopher J. Scolese**
Associate Administrator, NASA

8:45-9:15 am: Featured Speaker

- **To Be Announced**

9:15-9:30 am: Break

9:30-10:30 am: **Session One Panel**

Quality Innovation

- **Bill Tosney**
Corporate Chief Engineer,
The Aerospace Corporation
- **Chris Goeschel**
ScD, MPA, Director of Strategic
Development and Research Initiatives for the
Johns Hopkins Armstrong Institute for
Patient Safety and Quality
- **Thomas A. Gardner, Jr.**
PhD, PE, Chief Technology Officer, ManTech
International Technical Services Group

10:30-10:45 am: Transition to Panel Breakouts

10:45-11:45 am: Session One Panel Breakouts

11:45-1:00 pm: Lunch

1:00-1:30 pm: Luncheon Keynote Speaker

- **James Pitts**
Corporate VP and President,
Northrop Grumman Electronic Systems

1:30-1:45 pm: Transition to General Session

1:45-2:15 pm: Featured Speaker

- **Michael E. Shields**
Executive Director of Quality Assurance,
Defense Contract Management Agency

2:15-2:30 pm: Break

2:30-3:30 pm: **Session Two Panel**

Impact of Industry-Driven Standards

- **Sherri Fike**
Vice President, Mission Assurance
Ball Aerospace and Technologies Corporation
- **Christopher Brust**
Director of the Quality Assurance
Engineering Division, Defense Contract
Management Agency
- **Dale K. Gordon**
Director, Supply Chain and Material
Management Quality, Aerojet Corporation

3:30-3:45 pm: Transition to Panel Breakouts

3:45-4:45 pm: Session Two Panel Breakout

5:00-6:00 pm: **Attendee Social**

► Tuesday, March 20

7:30-8:30 am: Registration/Continental Breakfast

8:30-8:45 am: Opening Remarks

- **Ryan M. Nowosielski**
Chair, ASQ Aviation, Space & Defense Division

8:45-9:15 am: Keynote Speaker

- **Lt. Gen. Thomas J. Owen**
U.S. Air Force

9:15-9:45 am: Featured Speaker

- **Walter (Wally) Massenburg**
Senior Director of Business Execution in the
Mission Assurance, Quality and Raytheon
Six Sigma™, Raytheon Integrated Defense
Systems (IDS)

9:45-10:00 am: Break

10:00-11:30 am: **Session Three Panel**

Achieving Desired Results with Less

- **Stephen Arms**
Quality and Mission Success Director, Air
and Missile Defense, Lockheed Martin
- **Col. Vincent J. Feck**
USAF Commander, Defense Contract
Management Agency, DCMA Lockheed
Martin, Fort Worth
- **Carol Armstrong**
Corporate Director of Quality, Northrop Grumman
- **Michael Wadzinski**
QS Deputy Director BMDS, Chief Engineer,
Missile Defense Agency

11:30-11:45 am: **Introduction to Special Topics Session:
Commercial Space Panel**

11:45-1:00 pm: Lunch

1:00-1:30 pm: Luncheon Featured Speaker

- **To Be Announced**

1:30-1:45 pm: Transition to Special Topics

1:45-2:15 pm: **Special Topics Session**

- **Steve Bouley**
Vice President, Launch Vehicle and Hypersonic
Systems, Pratt and Whitney Rocketdyne
- **Frank Culbertson**
Senior Vice President and Deputy General
Manager, Orbital Sciences Corp, Advanced
Programs Group
- **William Surles "Bill" McArthur, Jr.**
Director, Safety and Mission Assurance,
NASA Johnson Space Center

3:00 pm: The Americas Aerospace Quality Group (AAQG) Space Forum (*We encourage anyone who wants to know more of this group's role and goals to attend this informal session*)

► A reminder to all that the **NASA Quality Leadership Forum (QLF)** will be held in this same location on Wednesday and Thursday. It is open to all wishing to attend with no charge. Agenda is available at CQSDI registration.

QUALITY INNOVATION

Session Manager/Panel Moderator:

Richard Day

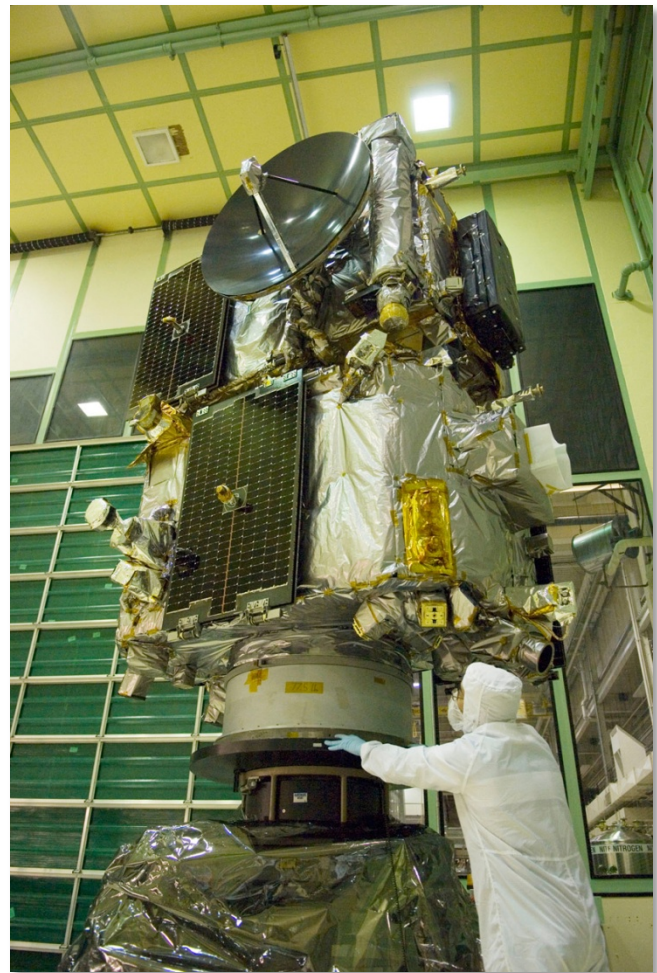
Space Sector Chief of Mission Assurance
APL Deputy Chief Quality Officer
The Johns Hopkins University
Applied Physics Laboratory

Richard Day is Chief of Mission Assurance for Civilian Space and National Security Space programs at The Johns Hopkins University Applied Physics Laboratory (APL) and the Laboratory's Deputy Chief Quality Officer. Previously, in the U.S. Senior Executive Service at NASA Goddard Space Flight Center, he served as Assistant Center Director for Management Systems, Director of Mission Success, Acting Director/Deputy Director of Systems Safety & Mission Assurance, Systems Management Office Director and Chair of the Management System Council. Mr. Day has over three decades of experience in space flight program management, systems engineering and mission assurance, including a decade of senior executive leadership, organizational governance, policy development, program oversight, and independent risk assessment.

Mr. Day's various honors and awards include the Senior Executive Service Presidential Rank Award, the NASA Medal for Outstanding Leadership, and the NASA Exceptional Service Medal. His professional affiliations include the American Institute of Aeronautics and Astronautics, International Council for Systems Engineering, Society for Risk Analysis, and American Society for Quality.

Mr. Day also teaches for The Johns Hopkins University Whiting School of Engineering. He developed a case-based graduate degree course, *Assuring Success of Aerospace Programs*, for technical managers, systems engineers and mission assurance professionals. Mr. Day earned a M.S. in Space Technology from The Johns Hopkins University and a B.S. in Aerospace Engineering from the University of Maryland. He also completed the Contemporary Executive Development Program at the George Washington University, the Program on Negotiation at Harvard Law School, Building Relationships That Work at Wharton Executive Education, and Inside Washington: Business and Public Policy at the Brookings Institution.

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STEREO (Solar TErrestrial RElations Observatory) launched in October 2006, has provided a unique and revolutionary view of the Sun-Earth System. Above is the spacecraft at the Johns Hopkins University (JHU) Applied Physics Laboratory (APL).

Keynote Speaker (8:15 am)



Christopher J. Scolese
Associate Administrator
NASA

Christopher J. Scolese currently serves as the Associate Administrator of the National Aeronautics and Space Administration (NASA), the agency's highest-ranking civil servant position. As Associate Administrator, Scolese is responsible for the oversight and integration of NASA's programmatic and technical efforts to ensure the successful accomplishment of the Agency's overall mission. From Jan. 20, 2009, until July 2009, Scolese served as the Acting Administrator of NASA. As the Acting Administrator, he was responsible for leading the development, design, and implementation of the Nation's civil space program. As such, Scolese provided overall leadership for NASA's multiple field installations, worked closely with the Executive and Legislative branches to ensure that NASA was supporting appropriate national policy, and led an international collaboration in carrying out high-profile space missions including the Space Shuttle, the International Space Station, the Hubble Space Telescope, and a multitude of other scientific and technological efforts.

Previously, Scolese served as NASA's Chief Engineer. As Chief Engineer, Scolese was responsible for ensuring that development efforts and mission operations within the Agency were planned and conducted on a sound engineering basis, as well as for the long-term health of the NASA engineering workforce.

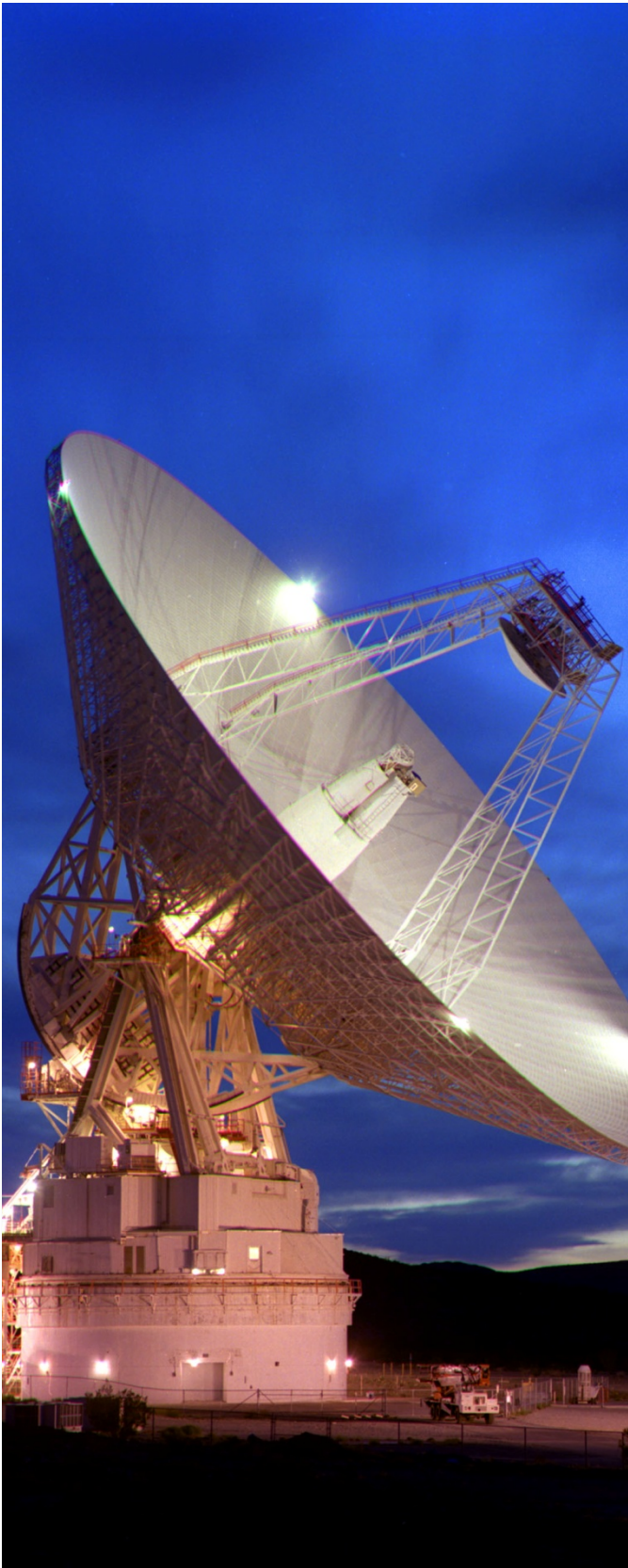
Formerly, Scolese was the Deputy Director of the Goddard Space Flight Center where he assisted the Director in overseeing all activities. He also served as the Deputy Associate Administrator in the Office of Space Science at NASA Headquarters. In this position, he was responsible for the management, direction and oversight of NASA's Space Science Flight Program, mission studies, technology development and overall contract management of the Jet Propulsion Laboratory.

Featured Speaker (8:45 am)

To Be Announced



With hardware from the Earth-orbiting International Space Station appearing in the near foreground, a nighttime European panorama reveals city lights from Belgium and the Netherlands at bottom center. The British Isles partially obscured by solar array panels at left, the North Sea at left center, and Scandinavia at right center beneath the end effect of the Space Station Remote Manipulator System or Canadarm2. This image was taken by the station crew on Jan. 22, 2012.



The 70-meter (230-foot) diameter antenna is the largest, and therefore most sensitive, Deep Space Network (DSN) antenna, and is capable of tracking a spacecraft travelling more than 16 billion kilometers (10 billion miles) from Earth.

► First Panelist

Bill Tosney

Corporate Chief Engineer
The Aerospace Corporation

In keeping with his current management position as a General Manager and Corporate Chief Engineer of The Aerospace Corporation, Mr. Tosney is actively engaged in advancing the constructs of mission assurance and enterprise systems engineering throughout the National Security Space (NSS) community. He is working to develop matrix relationships with government and industry leaders, professional societies, and the international community to work across the U.S. space industry to advocate enterprise mission assurance and end to end systems engineering. In addition to this focus he is helping to design, develop, and integrate knowledge management solutions for technical decision support processes. Solutions, lessons, and best practices are being embedded in the corporate technical command media initiative currently underway. The command media codifies our internal accountabilities throughout the development life-cycle. Mr. Tosney is widely recognized as a pioneer in satellite test effectiveness. He also serves on numerous government panels, review teams, and studies in the area of systems engineering, test effectiveness and mission assurance.

Breakout #1: The Relevance and Innovative Methods of Mission Assurance in Space

Facilitator: Bill Tosney

Abstract: Mission assurance has a demonstrated relevance in the high-stakes world of space systems. More and more the value of mission assurance is challenged from a cost efficiency perspective while at the same time we all too often repeat the mistakes of the past. The recipe and supporting processes for mission assurance are discussed from a verification management and accountability perspective. Bridging quality, engineering, lessons learned, and program management into a unified set of process and supporting toolset help to form the basis for success in today's national security space systems.

▶ Second Panelist

Chris Goeschel

Assistant Professor, Johns Hopkins Schools of Medicine, Nursing and Public Health
 Director of Strategic Development and Research Initiatives, The Armstrong Institute for Patient Safety and Quality

Dr. Goeschel is the Director of Strategic Development and Research Initiatives for The Johns Hopkins Armstrong Institute for Patient Safety and Quality, and Co-Director with Dr. Peter Pronovost, of their AHRQ ACTION II research partnership. An Assistant Professor in the Johns Hopkins Schools of Medicine, (Anesthesiology and Critical Care), Nursing (Health System Outcomes,) and Public Health (Health Policy and Management), Dr. Goeschel teaches courses on quality and patient safety and is a frequent speaker both nationally and internationally, with a particular interest in cultivating clinical and administrative leadership for improving the science of healthcare delivery. She is a Fellow of the American Academy of Nursing.

Dr. Goeschel has significant healthcare leadership experience, first as a critical care nurse, then as a hospital executive, as the founding executive of the Keystone Center in Michigan and more recently as a health services researcher. She was the Michigan PI on a groundbreaking Hopkins study that reduced bloodstream infections in over 100 Michigan ICU's. She joined Dr. Pronovost's research team at Johns Hopkins in 2006, and has contributed to large scale ICU improvement projects in Spain, England, and Peru as well as a current AHRQ funded initiative that is taking the Hopkins CLABSI program to every state in the U.S. and Puerto Rico. She is PI on a study adapting the Hopkins CLABSI program to outpatient dialysis centers and a co-investigator on a new national project to improve surgical safety.

In addition to her doctor of science in Health System Management, Dr. Goeschel holds masters degrees in Public Administration and in Pastoral Studies. She is a member of the Board of Directors of the Maryland Patient Safety Center, a member of the National Quality Forum Steering Committee for Serious Reportable Events and Healthcare Associated Conditions, a senior advisor to the World Health

Organization Patient Safety Program, and an appointment as Honorary Visiting Fellow in the Department of Health Sciences, University of Leicester, the United Kingdom. She has published more than 60 articles and several book chapters related to patient safety and the measurement and evaluation of safety efforts.

Breakout #2:

Advancing Quality in Healthcare Delivery

Facilitator: Chris Goeschel

Abstract: Scientific discovery and the application of new knowledge are the linchpins of progress. Passion, persistence, and commitment to science fuels our ability to explore space, decipher the human genetic code, and develop breathtaking biomedical therapies. Yet understanding and advancing the science of healthcare delivery ~learning how to ensure that every patient actually receives the best evidence based care~ is in its infancy. Dr. Peter Pronovost, me, and our colleagues at the Johns Hopkins Armstrong Institute of Patient Safety and Quality are expanding our vision for how to advance the science and are learning from and with scientists from a wide range of disciplines. I will share examples from our work that have had far reaching impact and will describe some of the challenges that we see on the horizon.



The Modular Prosthetic Limb (MPL) from the Revolutionizing Prosthetics program, sponsored by the Defense Advanced Research Projects Agency (DARPA), aims to provide the most advanced medical and rehabilitative technologies to upper-extremity amputee patients.

▶ Third Panelist

Thomas A. Gardner, Jr.

Chief Technology Officer

ManTech International Technical Services Group

Tommy Gardner has extensive experience in government acquisition and science and technology. He presently serves as the Chief Technology Officer for ManTech International Technical Services Group. His prior assignment at Raytheon was as a Director for their Technical Services Company. He previously was the Deputy for Science and Technology for the Chief of Naval Operations. He served as Major Program Manager for the Navy's Deep Submergence Program and was the Deputy Program Manager for the Navy's Advanced Technology Program. He commanded the nuclear submarine, *USS San Juan* (SSN 751). After 28 years in the Navy, he retired in 2004. Tommy Gardner's educational background covers multiple disciplines, as well as a variety of specialized technical courses. In his position at ManTech he is focusing on strategy and international markets in Smart Power.

Dr. Gardner has a B.S. in Mechanical Engineering from the US Naval Academy, and M.S. in Management of Technology from MIT, a Masters of Public Administration from Harvard and a Ph.D. in Energy Economics from George Washington University. He is a registered Professional Engineer in Mechanical Engineering in the State of South Carolina. He served in the U. S. Navy as an Engineer Officer of a nuclear submarine. He served as a Materials Officer and Squadron Engineer for a Submarine Squadron. He managed Gas Turbine energy projects for Naval Sea Systems Command for an International Naval consortium. He has introduced a cellular phone network into southern Afghanistan, which required power production and support for 20 remote cellular sites under the Expeditionary Cellular Communications Program (ECCS). He is currently overseeing ManTech's work at the Defense Systems Information Agency (DISA) on Network operations and Cyber Situational Awareness. Dr. Gardner has produced award winning articles and papers throughout his career and given many speeches to Professional Organizations. He currently serves on the Industry Advisory Board of the American Society of Engineers (ASME).

Dr. Gardner has been awarded the Department of Defense Financial Management Award and the Defense Superior Management award for Program Management. He served 27 years in the U. S. Navy and has been in technical positions in Industry for the last 8 years. He has over ten years of managing technical projects in countries throughout the world, including in developing and conflict countries like Afghanistan.

Breakout #3:

Quality Innovations in History Lead to Quality Improvements for the Future

Facilitator: Thomas A. Gardner, Jr.

Abstract: Why do we think about Quality the way we do? What innovations have occurred in quality that changed the way we operate? What is the History of Quality Thought? From the days of the ancient Egyptians building the Pyramids to the Philosophers of Greece to the Guilds of the Middle Ages the concepts of Quality have been with us. Modern Quality thinkers like Deeming, Taguchi and Shewhart have brought new insights into the field. Understanding the past will prepare us to see a better future. How can we take what has gone before to create an improved quality system for tomorrow?



In Simon's Town, South Africa, the USS San Juan (SSN 751), accompanied by two South African submarines, sails into False Bay on November 4, 2009. San Juan is currently making an historic visit to South Africa in order to conduct various maritime pursuits including regional security cooperation activities, military-to-military exchanges and community relations activities.

IMPACT OF INDUSTRY-DRIVEN STANDARDS

Session Manager/Panel Moderator:

Phil Montag

Director, Business Quality Services
Honeywell Technology Solutions Inc.

Philip Montag is the Director of Business Quality Services for Honeywell. Honeywell's Business Quality Services contracts provide technical support for NASA, Honeywell, and Commercial Customers in the areas of Quality Assurance, Metrology, Inspection and Audit, and Asset Management both nationally and internationally. Prior to joining Honeywell, he held positions with Supplier Management Innovations, Inc. as CEO, with Ciena as Director of Supplier Technologies & Quality Assurance and with AT&T Submarine Systems as Supplier Quality Manager.

Philip began his career in Supplier Quality and Technology Management at AT&T in Reading, Pennsylvania. For 14 years, he supported AT&T Submarine Systems in various roles, including supporting technology transfer of manufacturing processes from Bell Laboratories into manufacturing, manufacturing technical support for assembly and test of lasers for the first fiber optic long-haul undersea communication cables, and Supplier Quality Manager for all high-cost / high-reliability / high-risk components for the undersea and terminal equipment. Philip has extensive background in the areas of laser/optical component manufacturing and qualification, supplier management, and supplier auditing.

Following his AT&T career, he joined CIENA, a newly formed telecommunications equipment provider. As Director of Supplier Technologies and Quality Assurance, he managed a group of commodity engineers and incoming inspection for all components and sub-assemblies purchased by the company. In this role, Philip created and implemented corporate processes for component/supplier qualification, supplier auditing, supplier selection and supplier ratings. In 2003 he joined Honeywell and prior to his role as Director he held positions as Program Manager for the NASA Supplier Assurance Contract, the NASA Workmanship Training Center, the NASA Contractor

Assurance Services contract, the NASA Six-Sigma Support Contract, and MIT Lincoln Labs Technical Support Contract.

During his career of over 25 years in Supplier Management, Philip has audited over 300 suppliers throughout the world and holds a Bachelor's Degree in Computer Science, Associates Degree in Specialized Electronics Technology, and is a member of the Optical Society of America and Institute of Electrical and Electronics Engineers and the Aviation/Space & Defense Division of American Society for Quality.

Abstract: Regulations, budgets and policy changes can have an immediate and costly impact to your business. Updates to AS9100 standards, requirements being developed by the G-14 subcommittee, and changes in ICOP Standards to name a few, all have an effect on how we do business. Add the ending of the shuttle era, the beginning of commercial space, increasing counterfeit problems and we find all companies are challenged to reduce risks and increase compliance to new requirements while increasing efficiency. This panel will focus on the ways companies are addressing these changes, with an assessment of risks, costs, and schedule to be compliant.



Airmen load a tank into a C-5M Super Galaxy on Dover Air Force Base, Del., November 15, 2011.

Luncheon Keynote Speaker (1:00 pm)



James Pitts
Corporate VP and President
Northrop Grumman Electronic
Systems

James F. Pitts is corporate vice president and president of Northrop Grumman's Electronic Systems sector, a world leader in defense electronics systems.

In this role, Pitts oversees business operations in areas such as defense electronics, airspace management systems, navigation systems, radar and self protection systems, communications systems, marine systems, space systems, oceanic and naval systems, government systems and logistics services. Additionally, he serves on the company's corporate policy council.

In 2001, Pitts was named vice president and general manager of Electronic System's Aerospace Systems division and had executive responsibility for all the division's programs. Prior to this appointment, he was vice president of engineering and manufacturing, responsible for all engineering and manufacturing operations for the Electronic Systems sector.

In 1991, he was named vice president of Avionics Systems for the sector. This included product development and production for tactical and fire control radars on the F-16, F-22, B-1B, and C-130 platforms. He was named deputy general manager of the systems development and engineering division in 1990. Pitts has held positions of increasing responsibility since he joined the company in 1973.

Pitts earned a bachelor's degree in engineering science and a master's degree in electrical engineering from The Johns Hopkins University. He also attended the Executive Forum at INSEAD business school in Fontainebleau, France, and the Advanced Management Program at Harvard University. He holds three patents in support of various electronic warfare techniques and developments.

He currently serves as chairman of the Maryland Business Roundtable for Education, and on the University of Maryland, Baltimore County Board of Directors. He previously served as vice chairman of the University of Maryland Medical System and the Governor's Workforce Investment Board.

Featured Speaker (1:45 pm)



Michael Shields
Executive Director of Quality
Assurance
Defense Contract Management
Agency

In his current position, Michael Shields manages the Agency's Quality Assurance Directorate which is composed of a community of approximately 2,700 functionally aligned Quality Assurance Engineers and Specialists in performance of their contract management responsibilities. He is responsible for leadership in providing quality assurance support throughout the acquisition system, achieving operational excellence which inspires warfighter confidence through the issuance of new policies and management of core quality assurance business processes, developing effective performance management measures which influence industrial base performance, and in revitalizing the Agency's quality assurance workforce through development of professional certification and training.

Prior to his assignment at DCMA, Michael Shields managed the Defense Logistics Agency's Quality Assurance and Product Testing Programs. In that position, he was responsible for developing policies, defining informational functional requirements, performing operational analysis, surveillance oversight, and staff direction to each of the Agency's Defense Supply Center Quality Assurance and Product Verification business units. He also served as the Agency's representative on the Quality Assurance Committee of the DAR Council. He served the Joint Aeronautical Logistics Commanders Council in development of effective controls for the acquisition of critical safety items and audit of both major buying centers and defense distribution depots. He also participated in numerous engineering and quality assurance cross talks and conferences with Military Service customers.

Michael Shields is an American Society for Quality (ASQ) Certified Quality Engineer, and ASQ Certified Auditor. He started his education at New York State University with a BS in Business. He completed his formal education with an MBA from Colorado State University. Michael's awards include three Vice President Gore Hammer Awards for making Government operate more efficiently.

► First Panelist

Sherri Fike

Vice President, Mission Assurance
Ball Aerospace and Technologies Corp.

Sherri Fike leads Mission Assurance for Ball Aerospace & Technologies Corp. The Mission Assurance function ensures the highest standards of quality for all Ball Aerospace processes and products.

Sherri is responsible for program mission assurance management and the disciplines of reliability, parts, radiation effects and systems safety engineering-- as well as hardware, software, supply chain and materials quality assurance, which support all Ball Aerospace programs. She is also responsible for providing environmental, health and safety support and quality management resources for the company.

With more than 32 years of aerospace experience, Sherri worked as a software engineer and Advisor for the company's software process improvement efforts, held supervisory positions in the Space Instruments Control and Data Products Group and was Integrated Product Team Lead on the Hubble Space Telescope Near Infrared Camera Multi-Object Spectrometer (NICMOS) and on the Advanced Camera for Surveys (ACS) programs. Prior to joining Ball Aerospace in 1991, Sherri was a software engineer at the National Security Agency and worked for HRB-Systems in State College, PA.

Over the last several months Sherri's MA staff has co-lead a company initiative chartered with defining a product class structure that allows for flexibility in tailoring program processes to meet the new demands of customer cost, schedule and risk profile requirements, as well as the increasing number and complexity of standards.

Sherri earned a Bachelor's degree in Computer Science from Pennsylvania State University and is a published author, presenting at several international conferences. She has been recognized with several Ball Aerospace excellence awards, including the Follett Award for excellence in system engineering, and the Gabe Award, for professional achievements which enhance the company's marketplace competitiveness. She is also a member of the PSU Industrial Engineering Advisory Board, which promotes bringing industry practices into academics and introducing students into the workforce.

Breakout #1:

Integrating industry standards through Early Action and Risk Based Tailoring

Facilitator: Sherri Fike

Abstract: Process is our primary mechanism to capture lessons learned and continuously improve. Aerospace process is captured in policies and standards. How do we reconcile the need for continuous improvement in a time of "Doing More without More" associated with Government budget cuts? At Ball Aerospace we have taken a basic three prong approach.

First we provide strong and active support as an industry voice on the many teams which are developing new processes (AS5553 and companion process for example) and support for existing processes undergoing upgrade, AS9100 rev C for example. In this manner we can help shape change which can be most efficiently deployed.

Second we work to become early adopters of processes, for example AS9100 rev C, and we support Space Quality Improvement Council (SQIC) Mission Assurance Improvement Workshop teams extensively. These teams are producing effective guidance documents and in some cases standards. They are being developed in cross government - industry partnership environment, which is very effective.

Third we have deployed a very thorough process and tool set to capture all the company processes and the appropriate process tailoring needed to meet program contractual requirements, thus establishing a solid Ball Aerospace process compliance baseline for every program. An integral element of this process is change management so that after a program baseline is established any new industry process change, which may or may not be applicable to a program, is evaluated and internal process elements necessary to meet, or exceed the new requirement are evaluated. Finally the going forward process baseline may be adjusted, but the program moves forward under released process control. At the core of Ball Aerospace tailoring is an assessment of risk verses cost and schedule.

▶ Second Panelist

Christopher Brust

Director of the Quality Assurance Engineering Division, Defense Contract Management Agency

Christopher Brust has been with DoD for the last nine years and currently serves as the Director of the Quality Assurance Engineering (QAE) Division at DCMA-HQ. DCMA performs contract administration for DoD, the Missile Defense Agency and NASA. As part of the Quality Assurance Directorate, he provides leadership and vision to the QAE Division. He provides expert technical assistance to DCMA management, Customers and to the Office of the Secretary of Defense (OSD) regarding advancing technologies, enhanced manufacturing and counterfeit issues. His activities extend into developing contractual quality assurance processes to improve the Quality Assurance capabilities of DCMA and to enhance contractor performance. Additionally, he is influencing DCMA, DoD and industrial sectors with government and industry-best practices via participation on the SAE G19A and G21 Committees, where he is involved in developing specifications and inspection and test matrix plans to detect suspect and confirmed counterfeit components. He is also the DCMA representative on DoD ad hoc working groups such as the Joint Aeronautical Logistics Commanders (JALC) and others.

In DoD, he previously held positions within the Defense Logistics Agency (DLA), which included interfacing with the Military's Engineering Directorates to improve technical services to the procuring command. The first 18 years of his career were in the private sector with the majority of his experiences involving the areas of Quality Assurance, Process Engineering, and Policy. He held positions as Process Engineer and Quality Manager working for companies such as Grumman Corp. and Hitachi Chemical.

Christopher Brust earned a Bachelor of Science degree in Chemical Engineering at the University of Buffalo, NY and is a Black Belt in Lean Six Sigma. He has received multiple awards including the Air Force Exemplary Civilian Service Award for distinguished performance as a member of the Nonconforming Titanium Task Force with the Air Force Materiel Command. The team's significant accomplishments enabled programs to perform accurate risk assessments and take proper mitigation actions to avert potential catastrophic failures due to poor titanium properties.

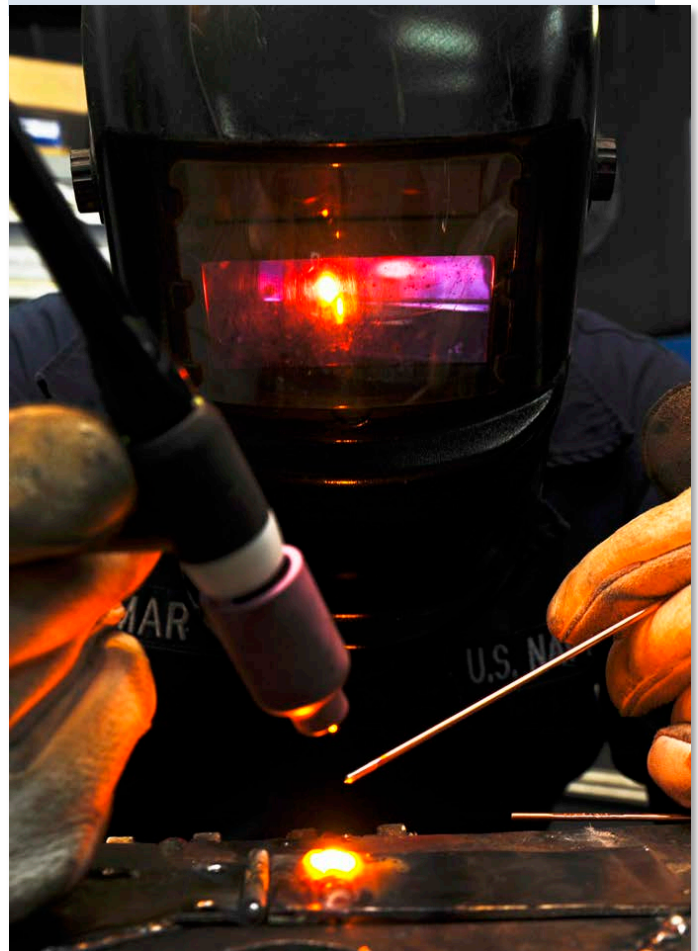
Breakout #2:

Risk-Based Surveillance – a Government/Industry Partnership

Facilitator: Christopher Brust

Abstract: Ever growing pressures for cost control coupled with increased globalization of the supply chain pose serious challenges to the mission of the Defense Contract Management Agency (DCMA). Ensuring that appropriate contractual clauses and specifications are defined as requirements in the contract and utilizing electronic tools to transfer data into useable information is critical.

We will discuss how DCMA is working with government and industry partners on specifications and clauses and the tools that are being developed to enhance risk based surveillance.



A U.S. sailor welds a piece of stainless steel to carbon aboard the aircraft carrier USS George H.W. Bush under way in the Arabian Gulf, Nov. 4, 2011.

▶ Third Panelist

Dale K. Gordon

Director, Supply Chain and Material Management
Quality, Aerojet Corporation

Mr. Gordon is currently Director of Supply Chain and Material Management Quality for Aerojet. He has enterprise supplier quality responsibility for the tactical and ballistic missile and space application products. He was previously Group Director, Quality and Compliance for Woodward Airframe Systems that manufactures actuators, motors, sensors and other electro-mechanical devices in aerospace, defense and commercial applications. He also worked for Rolls-Royce Corporation in the manufacture and support of small and medium sized gas turbine engines for use in the civil aviation, defense and industrial markets. Mr. Gordon has been involved with aerospace quality for over 35 years in all aspects of the Quality function. Some of his past responsibilities included; Quality Director, Manager of Quality Systems, Quality Engineering, Supplier Quality, Nondestructive Testing and Quality Program Manger. He is currently Chair of SAE Committee G-14 and was Past Chairman of the Americas Aerospace Quality Group (AAQG) which has responsibility for the AS 9100 Quality standard and other AS 9xxx standards. Mr. Gordon has been active over the years in AIA quality and supplier committees. He is an ASQ Fellow, holds a Bachelor of Industrial Engineering from GMI (now Kettering University) and an MBA from Butler University.



An Aerojet AJ26 rocket engine is prepared to be installed in the E-1 Test Stand at Stennis Space Center.

Breakout #3:

Improved Quality Standards and Best Practices

Facilitator: Dale K. Gordon

Abstract: The topics outline the activities and tools being promoted and adopted by the major aerospace prime manufacturers for the improvement of the supply chain. Specifically there have been some significant efforts in the past several years to improve the quality and application of the quality system standards with the release of AS9100 Rev. “C” and along with it revised application and auditing guidance in the form of AS9101 “D” and AS9104 series of standards. Additionally, there has been significant work put forth by the IAQG (International Aerospace Quality Group) at the same time to expand and complete the Supply Chain Management Handbook which is a compendium of best practices for use by any providers of materials and services to the Aviation, Space and Defense industries. This talk will outline some of these advancements and identify their application and relevance to Space and Defense products.

NASA's Mars Science Laboratory, lifted by Aerojet's solid rocket boosters, heads off to Mars from Cape Canaveral.



ACHIEVING DESIRED RESULTS WITH LESS

Session Manager/Panel Moderator:

Ed Jopson

Manager, Mission and Supplier Assurance
Northrop Grumman Electronic Systems
Intelligence Surveillance and Reconnaissance

Mr. Jopson has been in the Space and Defense, Quality and Mission Assurance profession for most of his 35 plus year career. Currently he is Manager, Mission and Supplier Assurance for - Intelligence Surveillance & Reconnaissance Division. Prior to coming to NGEES, he served as the Field Site Integration Chief (QSI Division) of the Safety and Mission Assurance Directorate at the Missile Defense Agency, where he was responsible for system-wide safety, quality, and mission assurance at all MDA/QS field sites as well as supervision of Mission Assurance Representatives at MDA contractor sites, the JNIC and range, launch, and test sites.

Jopson's early career encompassed several years in aerospace design and manufacturing environments. He worked in the design, development, and manufacture of spacecraft thermal control systems through the 1980's. Jopson was awarded a U.S. patent for a heat exchanger design he developed while at Dynatherm Corporation. Jopson's career continued at NASA's Goddard Space Flight Center (GSFC). As a quality engineer with Unisys Corporation under NASA contract, Jopson was promoted through three engineering levels while on the highly successful International Solar Terrestrial Physics/Global Geospace Science (ISTP/GGS) Project. Later, Jopson served as Quality Engineering Section Head, managing 47 Quality Engineers at the GSFC and sites across the U.S. Jopson coordinated all phases of NASA Mission Assurance support simultaneously on eight concurrent space flight projects.

Mr. Jopson holds a Master of Science Degree in Technology Management from U of MD, is a Certified Level III Acquisition Professional and Senior Member of ASQ.

Abstract: The times we are in are unprecedented for tight budgets... and the picture for the future looks to be even more constrained. The international debt crisis and numerous political realities continue to exert enormous pressure to reduce spending. All of Space and Defense must consequently operate with greater efficiency while sustaining and even improving Quality.

Our industry has historically demonstrated a bias toward continuous improvement over the years and has yielded considerable efficiencies through proven tools such as Lean and the leveraging of economies of scale. But much more will be required. Tomorrow's winners will develop new creative approaches to Supply Chain Management, Risk Management, Cost of Quality, and the incorporation of technology that enable us to work smarter and optimize the use of scarce resources.

This Panel will address the Efficiency challenges we Quality professionals face. The panel members will offer both explorations of new and better applications of existing tools as well as some vision for out-of-the box solutions.



A KC-135 Stratotanker prepares to offload fuel to Royal Danish Air Force F-16 Fighting Falcons, which are flying in formation behind the tanker over Royal Air Force Mildenhall, England, Feb. 1, 2012.

Keynote Speaker (8:45 am)



Lt. Gen Thomas J. Owen
U.S. Air Force

Lt. Gen. Thomas J. Owen is Commander, Aeronautical Systems Center, Wright-Patterson Air Force Base, Ohio. As ASC Commander and Program Executive Officer for aircraft procurement and modernization, he leads the Air Force's center of excellence for development and acquisition of aeronautical systems. The center is responsible for the management of more than 556 Air Force, joint and international programs, executes an annual budget of \$23 billion, and employs a work force of approximately 10,000 people located at Wright-Patterson AFB and 38 other locations worldwide.

General Owen entered the Air Force in 1978 as a graduate of the U.S. Air Force Academy. Early in his career he worked on B-52 Stratofortress, KC-135 Stratotanker and F-15 Eagle aircraft. The general has commanded an aircraft generation squadron maintaining F-16 Fighting Falcon and OA-10 Thunderbolt II aircraft; a maintenance squadron performing intermediate level aircraft and munitions maintenance; and a combat logistics support squadron providing F-16 and F-4 Phantom aircraft battle damage repair, supply and transportation support. He's been assigned to Headquarters U.S. Air Force in the Pentagon two times.

General Owen was the first logistics group commander for the first and only wing operating E-8C Joint STARS aircraft. For more than three years, he was Director of the C-5 System Program Office at San Antonio and Warner Robins Air Logistics Centers. He has also served as Director for the C-17 and F-22A System Program Offices at the Aeronautical Systems Center, and Director of Logistics, Installations and Mission Support at Headquarters Air Education and Training Command. He was Commander of the Warner Robins ALC. Prior to assuming his current duties, he was Director of Logistics and Sustainment, Headquarters Air Force Materiel Command. General Owen holds Department of Defense Acquisition Corps Level III certifications in Program Management and Life Cycle Logistics.

Featured Speaker (9:15 am)



Walter (Wally) Massenburg
Senior Director of Business
Execution in the Mission
Assurance, Quality and Raytheon
Six Sigma™, Raytheon Integrated
Defense Systems (IDS)

Walter (Wally) Massenburg is Senior Director of Business Execution in the Mission Assurance, Quality and Raytheon Six Sigma™ organization within Raytheon Integrated Defense Systems (IDS). In this role, he is responsible for aligning employees, business systems and processes to maximize the value delivered to war fighters across all IDS programs and supporting functions.

Before joining IDS, Massenburg was vice president and general manager for Readiness and Sustainment in the Support Solutions line of business at BAE Systems. He was also president of LeadByEx, Inc., an aerospace and defense consulting firm.

In 2007, Massenburg retired at the rank of vice admiral after 38 years in the U.S. Navy. His last assignment in the Navy was commander, Naval Air Systems Command (NAVAIR) and chief operating officer of the Naval Aviation Enterprise. He utilized Lean Six Sigma (AIRSpeed) and other tools to increase productivity, maintain readiness, and reduce the cost of Naval Aviation by over \$2 billion against an Annual Operating Budget of \$8.2 billion during the period, 2003 – 2007.

Massenburg is president of the Association of Naval Aviation and is the Navy Executive Fellow with the Institute for Defense and Business, University of North Carolina. He has numerous personal military decorations, including the Navy Distinguished Service Medal and three awards of the Legion of Merit. In addition, he was inducted into the Baltimore City College High School Hall of Fame; he received the Society of Logistics Engineers' Founders Medal and was a Washington and Jefferson College Alumni Achievement Award recipient.

Massenburg earned a bachelor's degree in physics from Washington and Jefferson College, a master's degree in systems management from the University of Southern California, and a master's degree in national security and strategic studies from the Naval War College.

► First Panelist

Stephen Arms

Quality and Mission Success Director
Air and Missile Defense, Lockheed Martin

Steve Arms is the Quality and Mission Success Director for the Air and Missile Defense Line of Business that includes PAC-3, MEADS, EAPS and other development programs. The Air and Missile Defense Line of Business has approximately \$2.5 – \$3 billion in yearly Orders/Sales. Steve began his career with Lockheed Martin (then LTV) in 1981 as a QA Project Engineer where he supported numerous programs including the Space Shuttle, HVM/LOSAT and proposal activities leading to the Army TACMS program with increasing responsibilities for each new assignment. From 1993 to 2003, he was a member of the ERINT/PAC-3 Management Team that lead the Program's successful transition from Development through EMD to Production. Over 1000 production PAC-3 missiles have been delivered to date that are protecting our troops, citizens and allies worldwide. PAC-3 was the 1st Missile System to demonstrate and field Hit to Kill technology against an incoming missile. In 2003 Steve was promoted to his current assignment. Steve reports to John Varley, Vice President, Quality and Mission Success, and Mike Trotsky, Vice President, Air and Missile Defense Systems.

Steve holds a Bachelor's degree in Engineering/Business from the University of Texas at Austin, and a Master's degree in Engineering Management from the University of Dallas. He is also an American Society for Quality - Certified Quality Engineer and on the Board of Directors of the Quality Texas Foundation.

Steve's wife is a Retired High School Teacher and they have 2 lovely girls. The older daughter is a University of Texas graduate with a degree in Chemical Engineering working for Chevron, and the younger daughter following the family tradition also graduated from the University of Texas and is now at LSU working on a Doctorate in Audiology.

The U.S. Army conducted a flight test of the Terminal High Altitude Area Defense (THAAD) weapon system.

Technology as a Multiplier

Abstract: Quality as a Profit center??? Historically Quality has been viewed as an “overhead” function or traffic cop... Using the mass data capabilities of SAP and Enterprise Resource Planning (ERP) systems where production, procurement, finance and quality support systems are integrated in related data bases “QUALITY SYSTEMS INTELLIGENCE” (QSI) is now possible in “real” time. QSI performs the complete spectrum of structured Quality Engineering (QE) task in seconds with real time data. This effort is growing with a goal of providing all answers to all QE related questions with a point and click methodology. This approach provides actionable information with cost impact to the value stream. This information was previously the missing side of the cost benefit equation. This information is used to determine if Design, Production or Procurement changes support “a good business solution” to improve yield/Cpk. I will give you snap shots and describe the background of this QSI and how it is used at Lockheed Martin Missiles and Fire Control. Our corrective action decision process is driven by QSI, and Quality is now viewed as cost effective and an organization that adds value to the overall business plan.



▶ Second Panelist

Col. Vincent J. Feck

USAF, Commander, Defense, Contract Management Agency, DCMA Lockheed Martin, Fort Worth

Colonel Vincent J. Feck is the Commander of the Defense Contract Management Agency, Lockheed Martin Fort Worth. He leads 115 military and civilian experts performing acquisition life cycle contract management and oversight of Lockheed Martin's aircraft production facility. He oversees a portfolio of over 1,300 contracts, valued over \$112B, including the F-35 (Joint Strike Fighter), F-22, and the F-16 aircraft for the USAF, Department of Defense, and foreign Governments.

Colonel Feck entered the US Air Force in 1986 as a graduate of the United States Air Force Academy. He has served in a broad range of acquisition positions at both the operational and systems program levels. He has commanded at the squadron level and has held positions on the staffs of the Office of the Secretary of Defense and Air Force Materiel Command. Prior to his current assignment, Colonel Feck served as the Chief of Air Education and Training Command's Joint Basing Implementation Office and was responsible for establishing Joint Base San Antonio to provide installation support to Lackland Air Force Base, Randolph Air Force Base, and Fort Sam Houston and their approximately 80,000 personnel.

Abstract: Col Vincent Feck will discuss from a Government customer perspective the need to provide quality products with greater efficiency. Due to the importance of Supply Chain Management on the quality and cost of an item, he will also provide insight into how DCMA will accomplish Government surveillance of a prime contractor's supply chain management.



F-35 Joint Strike Fighter

▶ Third Panelist

Carol Armstrong

Corporate Director of Quality
Northrop Grumman

Carol Armstrong is the Corporate Director of Quality for Northrop Grumman. As corporate director, Armstrong is responsible for establishing and maintaining a focus on quality as a major corporate priority. This includes assessing the effectiveness of the corporation's quality program, including the identification of enterprise level improvement opportunities and best practices companywide.

In her most recent assignment, Armstrong was director of Mission Assurance for the company's Electronic Systems sector, Navigation Systems Division. Her responsibilities included product/supplier quality assurance, continuous improvement, process assurance and risk management.

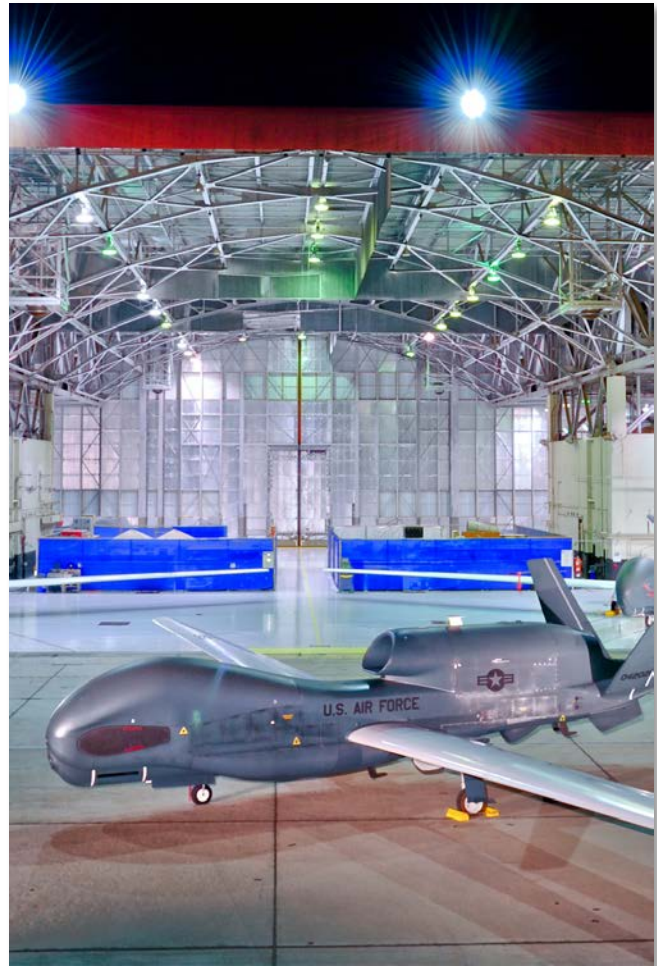
Prior to her assignment at the company's Navigation Systems Division, Armstrong was site director for Electronic Systems Marine Systems campus, located in Sunnyvale, Calif. In this capacity, Armstrong was responsible for the overall operation of the Sunnyvale campus.

She earned her bachelor's degree in civil engineering from Ohio State University and a master's degree in business administration from the University of Pittsburgh. In 2004, she attended The General Managers Program at Harvard University.

Armstrong is a 33-year Northrop Grumman employee and began her career with the company (formerly known as the Westinghouse Electric Corporation) as a structural designer, and subsequently program manager, supporting commercial nuclear power plant design, construction, and test worldwide. She has broad leadership experience with Northrop Grumman Electronic Systems Sector in Quality, Engineering, Program Management, Operations, Marketing, Strategy and Business Management.

Doing More without More

Abstract: As Quality professionals, we embrace the challenge of "Doing More without More", knowing that Mission Success is still our imperative, despite budget pressures. In our current environment, efficiency means more than, "do the same things faster" – it requires innovation and a focus on quality across the value chain and program life cycle. In this topic, we'll explore how innovative approaches to Supply Chain leadership, Opportunity Management, and Employee Engagement, for example, can reduce risk and improve efficiency. We'll discuss steps we as quality professionals can take, coupled with a fundamental focus on performance, to drive quality outcomes while improving affordability in our cost-constrained environment.



Block 30 Global Hawk

► Fourth Panelist

Michael Wadzinski

QA Deputy Director BMDS, Chief Engineer
Missile Defense Agency

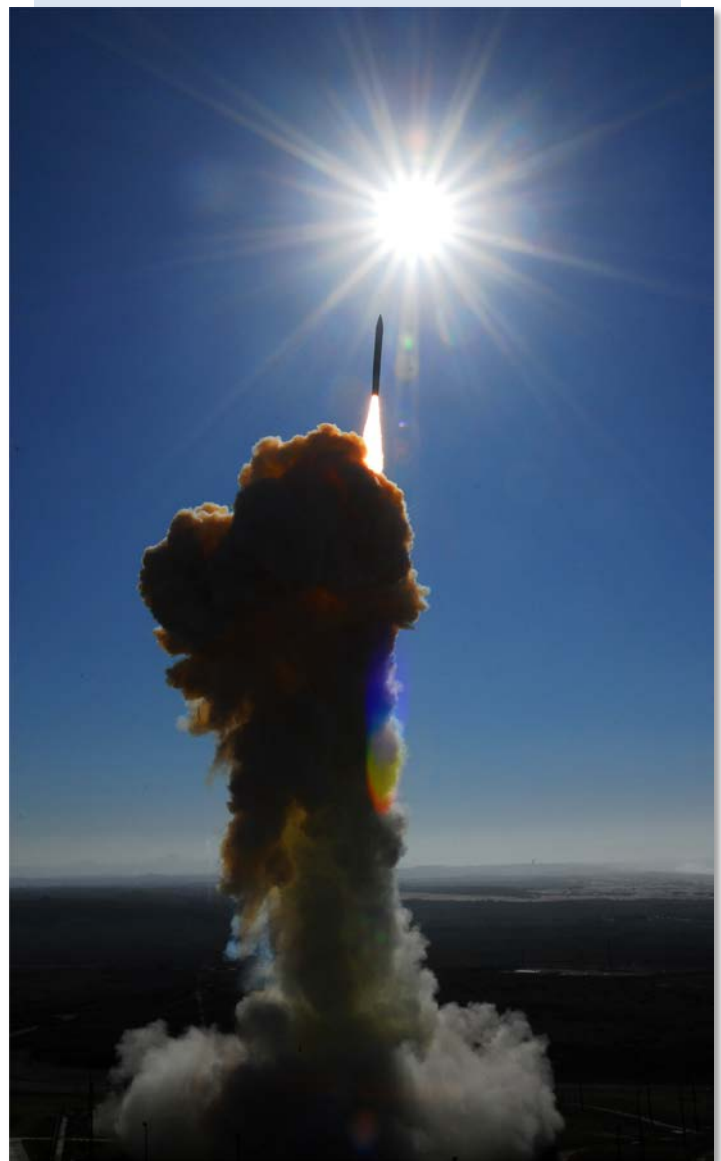
Mr. Wadzinski is the MDA/QS Deputy Director for the Ballistic Missile Defense System and the QS Chief Engineer, responsible for ensuring and providing independent assessments and oversight for safety, quality and mission assurance (SQMA) for the BMDS and programs. He is responsible for developing SQMA policy, and requirements, as well as SQMA for BMDS level tests.

Mr. Wadzinski served as the QS Functional Manager for Safety Quality and Mission Assurance for the Ground Missile Defense (GMD) Program from 2007-2010, providing independent assessments and oversight for SQMA. He served as the first MDA Deputy Director for Safety from 2003-2007, responsible for ensuring the safety of MDA personnel and resources at all locations. He led the development of MDA safety requirements and policies, ensured residual safety risks were accepted at the proper level of management and provided independent safety assessments and oversight of the BMDS and each of the MDA programs.

From 1985 until 2003 Mr. Wadzinski worked for the 45th Space Wing Range Safety Office at Cape Canaveral Air Force Station/Patrick Air Force Base (the Eastern Range) in various positions overseeing numerous payloads and launch vehicle programs as well as undertaking the task of combining the range safety requirements of the Eastern Range and Western Range into a common document known as Eastern and Western Range (EWR 127-1) Range Safety Requirements. EWR 127-1 became the basis for Range Safety requirements and law developed by the Federal Aviation Authority Office of Commercial Space Transportation and other domestic and foreign launch ranges.

Mr. Wadzinski earned a Bachelor of Science in Chemical Engineering from the Ohio State University, a Master of Science Degree in Systems Management from the Florida Institute of Technology, and a Master of Science in Management as a Sloan Fellow from The Leland Stanford Junior University. He is a graduate of Air Command and Staff College and is member of the Defense Acquisition Corps.

Abstract: The Missile Defense Agency office of Quality, Safety, and Mission Assurance (MDA/QS) is a relatively small organization. As such, MDA/QS has developed an efficient organization, processes and policies. None of these activities are groundbreaking or complicated but have achieved results. This panel presentation will discuss gains in efficiency that have been realized via effective personnel management, development and implementation of standard requirements, aggressive verification of requirements across the supply chain, and partnering with other agencies and industry.



The Ground-based Midcourse Defense (GMD) element of the Ballistic Missile Defense System provides Combatant Commanders the capability to engage and destroy limited intermediate- and long-range ballistic missile threats in the midcourse battle space to protect the United States.

Luncheon Featured Speaker (1:30 pm)

To Be Announced

A CH-47 Chinook helicopter kicks up snow at a remote landing zone in the Shah Joy district in Afghanistan's Zabol province, Feb. 8, 2012.



FEATURED TOPICS

COMMERCIAL SPACE PANEL

Session Manager/Panel Moderator:

Brian Hughitt

Technical Fellow, Quality Engineering, and Manager of Quality Assurance

NASA Office of Safety and Mission Assurance

Brian Hughitt serves as Technical Fellow, Quality Engineering, and Manager of Quality Assurance within NASA's Office of Safety and Mission Assurance. Brian is responsible for Agency Quality Program policy and requirements; chairs NASA's Quality Leadership Forum and Joint Audit Planning Committee; and manages the Agency's Supplier Assessment System.

Prior to joining NASA in January 2004, Brian served over 20 years in various Government and industry Quality Assurance capacities, including: Inspection Department Supervisor for Corning Glass Works; Quality Assurance Group Leader for Newport News Shipbuilding; Quality Assurance & Submarine Safety Branch Head for Naval Sea Systems Command; and Material Control Manager for NAVSEA's Quality Programs Office.

Brian earned a Bachelor's degree in Chemistry from the University of Virginia and is a graduate of George Washington University's Executive Development Program.

Abstract: At last year's conference one of the most attended sessions was the one on "Commercial Space". As a result of that interest and the continuing expansion of commercial space programs this year's conference will again focus on Commercial Space. Current plans indicate at least one private company could make the first delivery of supplies to the International Space Station in 2012.

As stated in public law: "The goal of safely opening space to the American people and their private commercial, scientific, and cultural enterprises should guide Federal space investments, policies, and regulations; ...private industry has begun to develop commercial launch vehicles capable of carrying human beings into space and greater private investment in these efforts will stimulate the Nation's commercial space transportation industry as a whole; ...space transportation is inherently risky, and the future of the commercial human space flight industry will depend on its ability to continually improve its safety performance..." For this special topic, we have selected a panel of experts in this area to discuss their approach to achieving that goal with a focus on the quality and safety aspects of accomplishing successful commercial cargo and commercial crew space transportation. Panelists will address methods on managing the quality and safety pendulum as it relates to this new business opportunity. You will also have an opportunity to put your questions to them. This promises to be a very interesting panel.



Virgin Galactic has unveiled a SpaceShipTwo (SS2) design, created by Scaled Composites, that harks back to the NASA/USAF Boeing X-20 Dyna-Soar glider of the 1960s, while Scaled's carrier aircraft, White Knight II (WK2) has been given a twin-fuselage configuration.

► First Panelist

Steve Bouley

Vice President, Launch Vehicle and Hypersonic Systems, Pratt and Whitney Rocketdyne

Steve Bouley has responsibility for managing programs related to liquid rocket engine design, manufacturing, and launch support as well as technology and development of rocket and hypersonic propulsion systems for multiple commercial and government customers. These programs include the RS-68, RL10, RS-27, RD-180, X-51, LRASM, and others. Various facets of these programs operate at many of PWR's 5 geographic sites. Applications for these systems include the Atlas V, Delta IV, and various technology development activities for the USAF, DARPA, and other DoD customers as well as systems in development or contemplated for use in NASA's human spaceflight and exploration programs. Additionally, Steve is the Chairman of the Board of Directors for RD AMROSS, the joint venture between Russia's NPO Energomash and PWR that provides the RD-180 booster engine for the Atlas V launch vehicle.

A native of Rhode Island, Bouley joined Rockwell International in 1980 as a development engineer on the Peacekeeper Program at the company's Rocketdyne Division. He held increasingly responsible positions in engineering and program management since then on engine programs for the Peacekeeper, Delta and Atlas launch vehicles, as well as in advanced propulsion and technology programs including the X-33 Aerospike. In late 2003, Bouley became Division Director of Expendable Propulsion Programs, including the RS-68, RS-27 and MA-5A engine programs. He was named General Manager of PWR's California Operations in 2005, where he was responsible for the company's operations at the Canoga Park and De Soto facilities and had a leadership role in the acquisition of Rocketdyne by UTC, and its integration with Pratt & Whitney's space business to form Pratt & Whitney Rocketdyne. Steve managed the UTC/PWR West Palm Beach Florida site from late 2008 until early 2011. He became VP of Launch Vehicle & Hypersonic Systems in February of 2009.

Bouley graduated with a BS degree in mechanical engineering and applied mechanics from the University of Rhode Island in Kingston, RI. He studied for an MS degree in mechanical engineering at California State University at Northridge, has a certificate in program management from West Coast University, and in August 1999 received his MBA from Pepperdine University in Malibu, California. Bouley is also a registered Professional Engineer in Mechanical Engineering in California.

► Second Panelist

Frank Culbertson

Senior Vice President and Deputy General Manager, Orbital Sciences Corp, Advanced Programs Group

Frank Culbertson is Senior Vice President for Orbital Sciences Corporation, Dulles, Virginia, and Deputy General Manager of their Advanced Programs Group. In this capacity, Mr. Culbertson's responsibilities include the execution and performance of all Orbital programs related to human space flight including the Commercial Orbital Transportation System Program and the Launch Abort System Program for the Orion spacecraft. Prior to this position at Orbital, Mr. Culbertson was a Senior Vice President at SAIC, following an eighteen-year career as a NASA Astronaut. He has flown three space missions and logged over 144 days in space as shuttle commander, pilot, and station crewmember. His last mission launched on the Shuttle Endeavour and lasted for 129 days, from August 10 until December 17, 2001. During that mission, he lived and worked aboard the International Space Station for 125 days and was in command of the Station for 117 days. Mr. Culbertson also held several key management positions within the NASA Shuttle and ISS programs and was Program Manager of the Shuttle-Mir Program. Mr. Culbertson is a 1971 graduate of the US Naval Academy at Annapolis. He was a naval aviator, a fighter pilot, and a test pilot, and he retired from the Navy as a Captain in 1997. Mr. Culbertson has received numerous honors, including the Legion of Merit, the Navy Flying Cross, the Defense Superior Service Medal, the NAA/FAI Gagarin Gold Medal, and the NASA Distinguished Service Medal.

Third Panelist

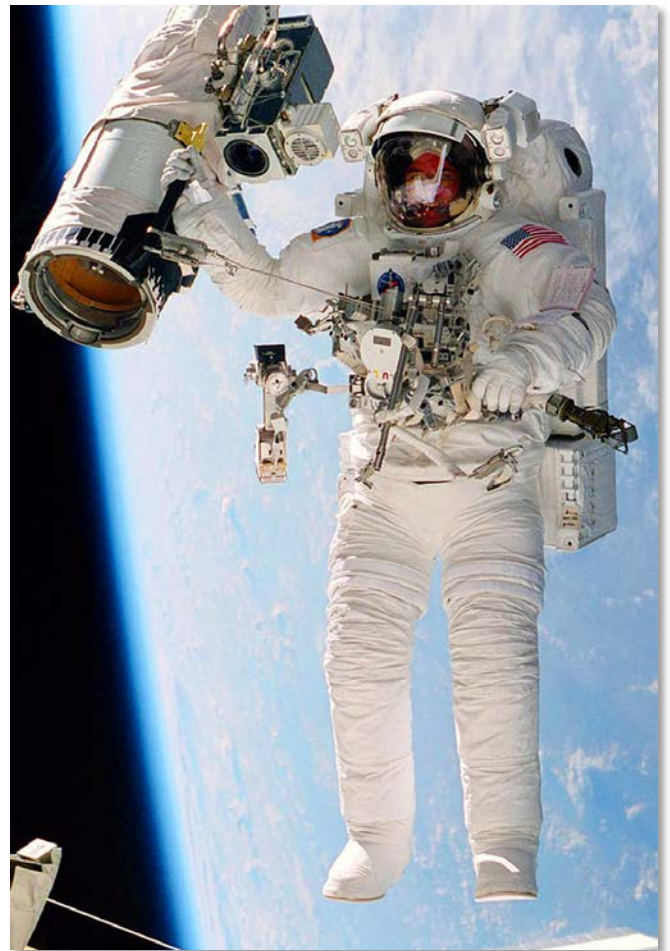
William Surlis "Bill" McArthur, Jr.
Director, Safety and Mission Assurance
NASA Johnson Space Center

William McArthur, Jr. graduated from West Point in June 1973 and was commissioned as a Second Lieutenant in the U.S. Army. Following a tour with the 82nd Airborne Division at Fort Bragg, North Carolina, he entered the U.S. Army Aviation School in 1975. He was the top graduate of his flight class and was designated an Army aviator in June 1976. He subsequently served as an aeroscout team leader and brigade aviation section commander with the 2nd Infantry Division in the Republic of Korea. In 1978, he was assigned to the 24th Combat Aviation Battalion in Savannah, Georgia, where he served as a company commander, platoon leader and operations officer. After completing studies at Georgia Tech, he was assigned to the Department of Mechanics at West Point as an assistant professor. In June 1987, he graduated from the U.S. Naval Test Pilot School and was designated an experimental test pilot. Other military schools completed include the Army Parachutist Course, the Jumpmaster Course and the Command and General Staff Officers' Course. McArthur retired from the Army in 2001. A Master Army Aviator, he has logged more than 9,000 flight hours in 41 different air/spacecraft.

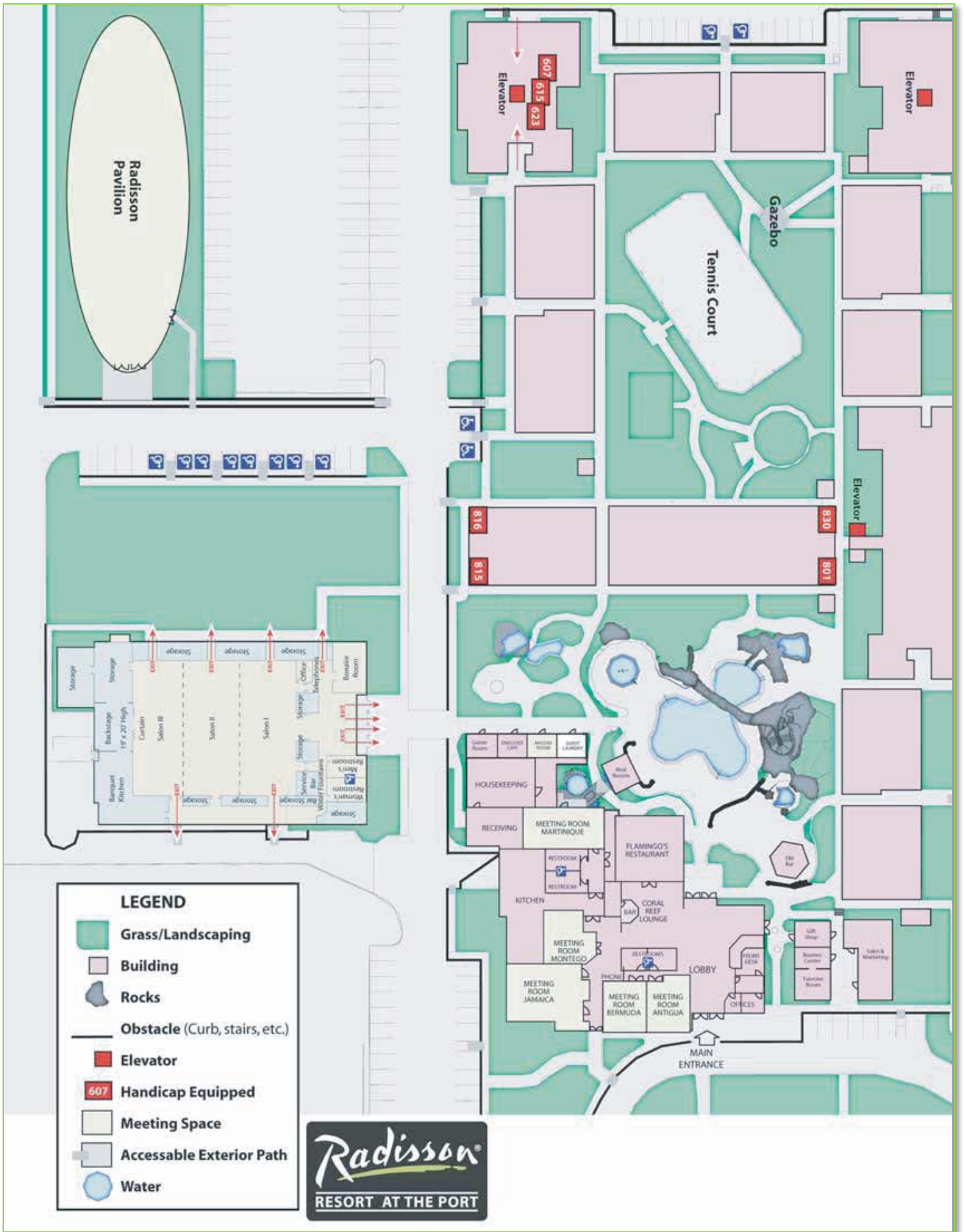
McArthur was assigned to NASA at the Johnson Space Center in August 1987 as a Space Shuttle vehicle integration test engineer. Duties involved serving as the engineering liaison for launch and landing operations of the space shuttle. He was actively involved in the integrated test of the flight control system for each orbiter for its return to flight and was a member of the Emergency Escape and Rescue Working Group.

Selected by NASA in January 1990, McArthur became an astronaut in July 1991. Since then, McArthur has held various assignments within the Astronaut Office, including working issues relating to the solid rocket booster, redesigned solid rocket motor and the advanced solid rocket motor. He served as Chief of the Astronaut Office Flight Support Branch, supervising astronaut support of the Mission Control Center, prelaunch space shuttle processing and launch and landing operations.

McArthur also served as Director of Operations, Russia, overseeing training activities for astronauts in Star City and, later, as Chief of the Astronaut Office Space Station Branch. McArthur served as Commander on the Expedition-8 and 10 backup crews. A veteran of four space flights, McArthur has logged 224 days, 22 hours, 28 minutes and 10 seconds in space, including 24 hours and 21 minutes of Extravehicular Activity (EVA) time in four spacewalks. Subsequent assignments included Manager of the Space Shuttle Safety and Mission Assurance Office and as the Space Shuttle Orbiter Project Manager. McArthur currently serves as the Director of Safety and Mission Assurance for the Johnson Space Center.



Astronaut Bill McArthur during flight STS-092, where he brought Billings' ring, 11-26 Oct 2000.





20th Annual Conference on Quality in the Space and Defense Industries



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