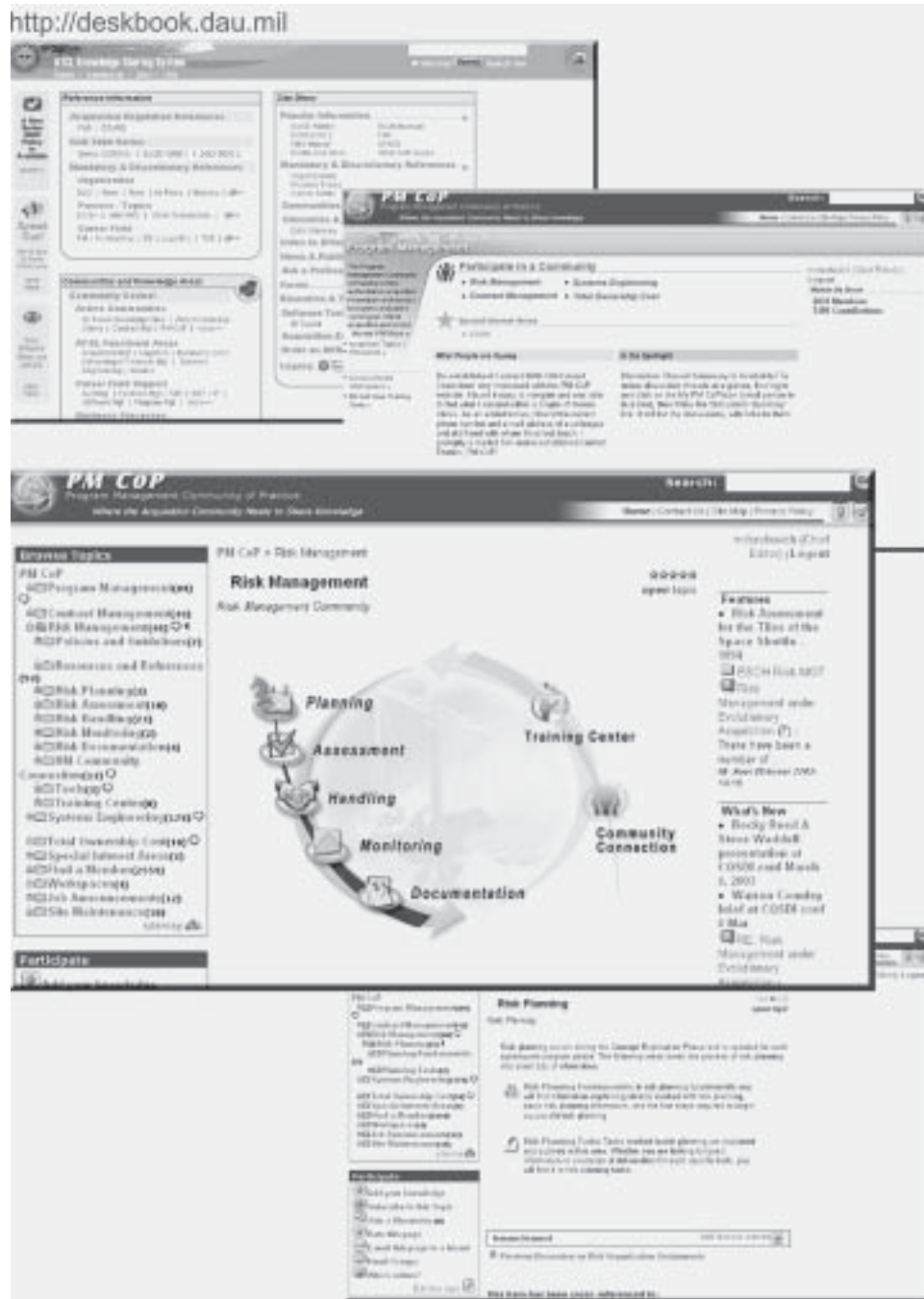


*Spring 2003*

# Risk Management Community Web Site



## **RISK COMMUNITY BUILDING INSIDE THE PROGRAM MANAGEMENT COMMUNITY OF PRACTICE (PM COP)**

***Guest Editors Lt Col John Driessnack, USAF, and  
Noel Dickover, with assistance from Marie Smith***

**T**his edition of the *ARQ* looks at acquisition from a risk management perspective. Risk management has been recognized as a critical process in weapons systems acquisition since the 1960's. Dr. John S. Foster, then the director of the Office of the Director, Defense Research and Engineering, noted in a 1969 speech about defense acquisition that "we learned much about the need for overtly managing program risk — especially the need to achieve certain critical program milestones before we risk volume production...." The techniques for risk management have matured with numerous approaches, and tools are available from government organizations, federally funded research and development centers (FFRDCs), and commercial firms. Over the past ten years, the ability to integrate risk management tools with traditional cost, schedule, and performance monitoring tools has been greatly enhanced.

So, if we have known for at least the past 30 years that risk management is critical, why the need for a special edition of

the *ARQ*? Frankly, we have observed that the implementation of risk management is often shallow and not well integrated with other program management tools. We believe that if we expand and integrate risk management with other program management tools, such as earned value management, we can achieve true transformation in the defense acquisition process.

The current transformation in the defense acquisition workforce will continue, and we predict that shallow implementation of risk management is going to be less and less acceptable to senior leadership. Transparency relative to program status is going to increase as each service expands its information systems, such as the Army Information Management System (AIMS) and the Air Force System Metric and Report Tool (SMART) system. Efforts, such as the Command, Control, Communications and Intelligence (C3I) Rapid Improvement Team (RIT) work on "Risk Balanced Assessments" for "Insight or Enabled Oversight," are moving beyond the pilot stage into implementation.

These efforts are trading cumbersome oversight processes with “Knowledge Based Acquisition” that is going to require the Program Manager (PM) to outline key aspects of their program in terms of risks. This trend is also evident in the new emphasis on risk in the interim acquisition policy guidance that replaced DoDD 5000.1 and DoDI 5000.2 (see <http://dod5000.dau.mil>). The prior version of 5000.1 and 5000.2 had 22 references to the word “risk” in 58 total combined pages, while the new guidance has 32 references to “risk” in 44 total pages. The emphasis on risk, realism, and knowledge-based acquisition has the potential to truly transform the way we view acquisition programs.

Cost realism has been continually stressed in the Bush administration. There is a clear relationship between cost over-

**“If we are to be realistic about costs, then we must expose the risks in our programs and quantify them in so that they are accounted for in our estimates.”**

runs and a program’s inability to identify and handle its risks in a rigorous fashion. If we are to be realistic about costs, then we must expose the risks in our programs and quantify them in so that they are accounted for in our estimates. One way to do this would be to move beyond standard pro-

gram baselines with point estimates such as thresholds set at 10 percent in cost and 6 months in schedule. If we are going to be realistic about costs, our baselines need to provide transparency into the risks in a program by exposing the *range* in the estimate, given the risks involved, and establishing an objective for the PM with a documented confidence level that can

be met, given the strategy and resources provided.

Although a number of topics critical to effective risk management are covered here, this special issue of seven articles is not going to provide all the answers to your questions about risk management. There are numerous topics that could have been covered in more detail, but our goal with this edition is to provide a cross section of research and tutorials, with examples to help you better understand the importance of risk management. Before we run through the great information provided in this issue, we would like to give you some insight into a community of experts and practitioners of risk management that contains all the contributors below and more. It is the Program Management Community of Practice (PM CoP) Risk Management Community.

### **OVERVIEW OF THE PM CoP RISK MANAGEMENT COMMUNITY**

---

The PM CoP Risk Management Community, which currently has over 500 members including many of the top government and industry risk professionals, has developed just-in-time learning, collaboration, and performance support tools to improve overall on-the-job risk management performance. The intent is for government and industry acquisition workforce personnel to access and use the on-line site while performing risk management tasks or addressing risk management problems. Risk community members contribute examples (actual risk management plans, risk identification forms, watch lists, etc.), templates, lessons learned, training materials, references,

policy, and guidance information that are integrated with learning content.

The PM CoP portal that houses the risk management community and three other communities (Contract Management, Systems Engineering, and Total Ownership Cost) were established to help the PM, the program's executive team, and their industry partners to perform their jobs more effectively. The concept is to provide knowledge anytime and anywhere by linking acquisition community members and supporters, horizontally and vertically, to solve problems and learn. Knowledge reuse and creation are the cornerstone attributes aimed at increasing workforce proficiency and decision quality. Knowledge contributions, hereafter referred to as job aids, include acquisition course material, government and industry databases, training and on-line learning resources, best practices and lessons learned, examples and case studies, subject matter experts, Web sites, etc. In short, the PM CoP portal provides a Web-enabled collaborative and sharing environment integrated into Department of Defense (DoD) acquisition processes.

### **COMMUNITY-BASED APPROACH TO SUPPORTING RISK MANAGEMENT PERFORMANCE**

---

The PM CoP support team, made up of Department of Navy (DON) and Defense Acquisition University (DAU) knowledge management professionals and DAU and Industry Risk Experts, is attempting to leverage the expertise of government and industry risk professionals from all areas of the acquisition workforce. The idea behind this is that

most complex problems in any field have already been addressed by risk management practitioners. The challenge is to determine how to use and apply their experiences to aid others. The approach taken by the PM CoP support team is to entice, excite, and engage key risk management professionals to identify the types of problems and concerns that exist, the types of tasks that need more support, and the types of questions that concern most practitioners.

Based on extensive community interaction data from both government and industry risk managers, the PM CoP Risk Management Focus Area has worked with risk management community members to develop a set of risk related problems, questions and tasks that, if addressed, would aid in significantly improving overall risk management performance. Through information collected in face-to-face risk community meetings among novices, practitioners and experts, along with job aids provided by risk management community members, new task guidance has been developed, all community developed risk questions have been answered, and new risk dilemmas and problems have been identified and addressed. In total, these have provided the acquisition workforce better overall guidance and understanding for doing risk management.

The approach taken for delivering the risk related content is an explicit merging of performance centered learning assets developed by instructional designers (then

**“Knowledge reuse and creation are the cornerstone attributes aimed at increasing workforce proficiency and decision quality.”**

validated by community subject matter experts) and job aids developed and submitted by risk management practitioners. Job aids include completed documents (actual risk management plans and risk identification forms, for instance), templates for creating risk management data (including plans and watch lists, for instance), lessons learned associated with all areas of the risk process, learning materials developed and used by community members, on-line discussions, case studies, useful risk tools, etc.

As the risk management community continues to grow, it is hoped that a critical

**“There is a lot of misunderstanding of the availability and use of risk management tools.”**

mass of risk management knowledge will be accumulated and associated in a way that can significantly improve understanding and practice within the overall acquisition community.

While this *ARQ* edition

provides some robust guidance on risk management, if you do not find what you are looking for, chances are you can find it at the PM CoP Risk Management Community Web site (<http://www.pmcop.dau.mil>).

### **TRENDS FROM THE RISK MANAGEMENT COMMUNITY**

---

A number of trends in the Risk Management Community have arisen in the last few years. These have been seen in face-to-face and on-line discussions and well as queries from community members. These trends are so widespread in government and industry that we felt it would be constructive to identify them here:

- **Difficulty in developing a risk management culture:** Many practitioners find this to be the most important thing to do in ensuring a successful risk management program. Risk management cannot be enacted by a single risk manager; it must become an accepted part of everyone’s daily job. Unfortunately, this has proven especially difficult to foster in existing programs. Most often, new start programs or programs that have undergone a recent catastrophe are those most likely to develop a risk management culture.
- **Developing a solid risk management plan:** Most risk management practitioners thought that the development of a solid risk management plan was essential for long term viability of the risk management program. If the risk management plan is poorly executed, the chance of follow-on risk implementation is significantly reduced. This in no way states that the plan itself is enough or a solid risk management plan indicates a good risk management program is in place. One of the most common problems is the notion that “if we have a risk management plan, we don’t need to do anything more.” Follow-through is essential.
- **Misunderstanding over tools:** There is a lot of misunderstanding of the availability and use of risk management tools. Many programs have a hard time choosing the appropriate tool, and then, never seem to know if they picked the right one. The message you will hear from the articles is that it’s the *process* that is most important, not the tool. An area that still needs further elaboration

concerns when and how a certain tool should be used over others. This guidance is still deeply embedded in tacit knowledge that has yet to be shared in any meaningful public fashion.

- **Problems in selecting the proper technique for determining probability of risk events.** There seems to be a lot of confusion among risk novices and practitioners over how to choose the appropriate technique for determining probability. Questions like “How do you know which one to use given your circumstances?” or “How do you know if you’ve implemented it correctly?” are recurring themes among risk novices. Another prevalent problem can be seen with some practitioners who have found a technique that worked for them and then attempt to use it exclusively in all circumstances. The technique chosen must have applicability to the problem presented.
- **Problems with risk management under evolutionary acquisition:** Evolutionary acquisition, one of the key DoD transformation initiatives, has significantly impacted the practice of risk management. To be effective, risk management must have a clear set of requirements from which to derive risk events. Many practitioners are telling us that their programs do not always have a clear set of requirements or, worse, have a continually shifting set of requirements. This makes it very difficult to conduct an effective risk assessment. Risk management in these situations has to almost shift to become an ad hoc action that is taken account of in an unstructured fashion. It is clear that both

PMs and risk professionals still have a lot of learning to do on performing risk management effectively under evolutionary acquisition.

- **Details on “how to do” things:** While there is guidance available both in DoD and industry on risk management, it is not of sufficient detail to give most people the specifics they need to actually develop and implement all the documents necessary for an effective risk management program. This includes the establishment of watch lists, the creation of a risk information form, and determining appropriate risk reporting mechanisms, and development of effective risk monitoring documentation. The PM CoP Risk Management Community has made significant headway on this issue, but is certainly looking for more practitioners to lend their expertise to this problem.
- **Increasing importance on conducting Schedule Risk Assessments:** Many community members have expressed the sentiment that the schedule is becoming more and more “untouchable,” meaning the program will deliver “something” at the prescribed scheduled date, even if it’s not always clear just what will be delivered. This approach, that in effect makes the *schedule* the independent variable, places enormous pressure on identifying and mitigating all schedule-driving risk events.

**“There seems to be a lot of confusion among risk novices and practitioners over how to choose the appropriate technique for determining probability.”**

## INSIDE THIS EDITION

---

This issue starts with research by Coleman, Dameron, and Summerville outlining that even after recognizing the need to “overtly” manage risk over 30 years ago; we still have considerable cost and schedule growth. Risk events are being realized and perturbing program cost and schedule baselines. The author concludes, “there was no correlation found between cost and schedule length. In addition, we did not find the anticipated connection between cost growth and schedule growth...” For the reader, the message is that overruns don’t just happen on programs with long schedules. So let’s be clear: evolutionary acquisition is a risk handling approach, but it does not necessarily eliminate overruns. Research shows shorter programs can be just as likely to cost overrun, and thus a robust risk management process is still required.

**“...[T]he ultimate goal of USAMRMC’s occupational health hazard research is to develop generic injury criteria and assessment methods that apply to a broad range of systems.”**

The rest of the edition is filled with tutorials with examples intended for the PM, the Program Office staff, as well as the Risk Manager expert. Some of them will help answer questions that have been posed in the risk community as outlined earlier, others address new areas not yet addressed in the risk community. We start with an overview article by Shepherd, titled “Managing Risk in a Program Office Environment.” We suggest you start this article by reading the last section, which asks, “Is risk working on your program?”

Are you satisfied with their answers? Then go back and read through the article with your answers to the questions on your mind, and take notes on how you might be able to improve risk management on your program.

The next article by Bolles titled, “Understanding Risk Management in the DoD,” brings together risk management and contract administration. This article walks outside the normal cost, schedule, and performance risk assessments into other management areas on the program. All program areas have risks, and your risk management process should not be limited to the product you are producing, but also include the processes you are using, such as contracts. Everyone on the program team should be involved with risk management. This particular article makes the connection with your procurement staff. Seven specific issues are reviewed relative to contractual issues and the risks of the program.

Our next article by Roberts, Smith, and Frost entitled, “Risk-Based Decision Support Techniques for Programs and Projects,” outlines approaches for both the business (project) side and the performance (product) side of a program. The different approaches for the various concerns in your program are a critical point to remember; one size doesn’t fit all. Various methods have been developed for the different areas in which risks can exist on a program. It might be easier to implement one approach, but will it be effective? The author notes in his closing comments that one of his actual case examples “saved the project more money than the cost of the analysis for the entire project life cycle.” The robust risk management program is neither cheap



nor simple. Are you trying to apply one technique for everything?

Risk management is also growing in non-defense industries. The article titled, "Development of Risk Management Defense Extensions to the PMI Project Management Body of Knowledge," by Conrow, outlines how the Program Management Institute (PMI), an industry PM professional organization, is working with DoD and DAU to develop an extension of their PM Body of Knowledge (PMBOK®) for defense. There is not just only technique or tool to use in risk management, and we can learn from our commercial industry counterparts. The article provides a nice rundown of the differences and similarities between DoD and PMI approaches.

Our next article by Garvey and Cho entitled, "An Index To Measure a System's Performance Risk," lays out a technique to help the PM Office assess Technical Performance Measures (TPMs). If you glance through the article, you might think all those formulas are just too much for you! If so, don't skip the words, just skip the formulas. The engineers and risk professionals you need to have on your program will benefit from the formulas, but every PM will benefit from understanding the important concepts in the article. If you are not a technically inclined PM, it is all that more important that your engineering team use a technique that "identifies risk-driving TPMs, enables monitoring time-history trends, and reveals where management should target strategies to lessen or eliminate the performance risks of the system." Don't just rely on your gut feelings or the gut feelings of your technical staff. Going through a risk process will put discipline

into their assessments and give you some assurance of an objective assessment. Going through this type of a process will enhance the transparency in your program so the whole team understands the risks that need to be integrated into the program's cost and schedule tracking tools.

The issue's last article by Murnyak, Leggieri, and Roberts entitled, "The Risk Assessment Process Used in the Army's Health Hazard Assessment Program," provides a real world example of how risk management techniques are used in a program. While this article focuses on the Army's Health Hazard Assessment Program, it demonstrates how risk management techniques can be used across a wide range of areas within an acquisition program.

**"Don't just rely on your gut feel or the gut feel of your technical staff."**

#### **ITEMS MISSING FROM THIS JOURNAL EDITION**

---

There are numerous topics that could be covered in this journal edition on risk management. Two in particular that we would have liked to cover from the above trends, but were not able to, are issues associated with schedule risk and conducting risk management under evolutionary acquisition. Both of these seem to have sufficient impact to the risk management community that we feel further investigation and critique would be useful. There is some information on these in the Risk Management Community Web site (<http://pmcop.dau.mil>). Additional information on these topics can be found in publications from the International Council on Systems Engineering

(INCOSE) Risk Management Working Group (RMWG) and the Project Management Institute (PMI) Risk Special Interest Group (SIG).

We hope you enjoy and learn from this edition and come join us in the PM CoP

Risk Community. If you would like to be an editor in the community and expand knowledge in an area relating to risk or program management in general, please contact Professor John Driessnack at [john.driessnack@dau.mil](mailto:john.driessnack@dau.mil).



**Lieutenant Colonel John Driessnack, USAF**, has 18 years of experience on Joint (Global Broadcast System, V-22, and Airborne Self Protection Jammer) and Air Force programs. Driessnack is the risk subject matter expert at DAU. He teaches executive PMT-352/250 courses and is the PM CoP Community Editor for the North East Capital Campus. Driessnack holds a Society of Cost Estimating Analysis, and a Project Management Institute (PMI), as well as three DAWIA Level III certificates. Currently, he is pursuing a Ph.D. in economics from George Mason University.

(E-mail address: [john.driessnack@dau.mil](mailto:john.driessnack@dau.mil))



**Noel Dickover**, the president of Communibuild Technologies, is an established human performance technology consultant, with expertise in knowledge management, performance centered learning, usability and interface design, and organizational change. As co-lead of the PM CoP Risk Management Community, Dickover has been the driving force in cultivating the community since its inception. This has included formulating the community building approach and introducing performance-centered learning methodologies with CoP development.

(E-mail address: [noel@communibuild.com](mailto:noel@communibuild.com))



**Marie Smith** is a community facilitation specialist with experience in diverse areas including knowledge management, collaboration, web usability, needs analysis, and organizational change. While working for the Department of the Navy Acquisition Knowledge Management Team, Smith served as the lead community builder for the PM CoP Risk Management Community. She has been crucial in initiating, building and fostering involvement as well as facilitating the continued livelihood of this community.

(E-mail address: [msmith@EDO-Services.com](mailto:msmith@EDO-Services.com))



**William (Bill) W. Bahnmaier, Colonel USMC (Ret)** has been the driving force behind risk management learning activities at the Defense Acquisition University (DAU) over the past 13 years. He recently retired from Federal Service and the DAU faculty, but remains involved with the University, the DAU Alumni Association, and Project Management Institute (PMI) activities on a volunteer basis. Prior to being a DAU instructor, he was a U.S. Marine for 29 years; his last assignment was as a program manager (PM) of the Marine Corps Assault Amphibian Program. Bahnmaier developed and presented numerous course lessons and performance support (consulting) workshops on risk during his 13 years of risk management leadership at DAU. Along with Noel Dickover, he also co-led the development of the Risk Focus Area of the PM Community of Practice (PM CoP), and remains an editor for the risk management tools described on the CoP Web site. More information on the Risk Focus Area is located at [www.pmcop.dau.mil](http://www.pmcop.dau.mil). Bahnmaier was also instrumental in, and actively supported, the development of this special *ARQ* edition devoted entirely to defense acquisition risk management. The *ARQ* editors and staff members acknowledge and applaud his prior leadership of defense acquisition risk management and look forward to continuing to receive his advice and support, albeit on a more limited basis.

(E-mail address: [bill.bahnmaier@dau.mil](mailto:bill.bahnmaier@dau.mil))



**Special Thanks to Our  
Risk Management Community Volunteers for  
Their Contributions to this Special Issue of the *ARQ***

The *Acquisition Review Quarterly (ARQ)* journal owes a special debt of gratitude to the following peer reviewers for their dedication to this edition.

Glen Bowler, EG&G Technical Services

Maj Michael A. Greiner, Ph.D., Dept of Systems and Engineering Mgmt

Robert Houser, RGS Associates

Lt Col David Jacobs, USAF, Air Armament Center

Leesa Lafferre-Thomas, KSolutions, Inc.

Judith Lane, PMP, The MITRE Corporation

CAPT Steven Lucks, USNR, Project Mgmt Program Mgmt- SDLC

Philip Morales, NAVAIR Orlando

George T. Patton, Ph.D., PMP, President of Project Mgmt Service Bureau (PMSB), Inc.

Wilson "Chip" Summers, Defense Acquisition University