Academy Sharing Knowledge

The NASA source for project management

ASK

ASK Magazine • Volume Ten
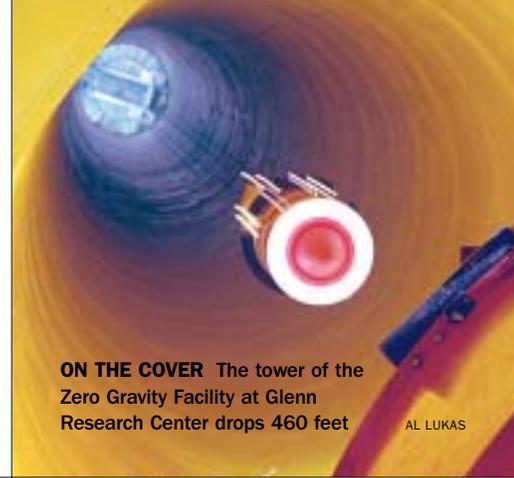
JANUARY 2003

APPL

appl.nasa.gov

On projects requiring that people exhibit
resourcefulness and innovation,
they need to be given not only the responsibility
but also authority to spread their wings.

Table of Contents

APPL

appl.nasa.gov

NASA

WELCOME TO THE ACADEMY OF PROGRAM AND PROJECT Leadership (APPL) and *ASK Magazine*. APPL is a research-based organization that serves NASA program and project managers, as well as project teams, at every level of development. In 1997, APPL was created from an earlier program to underscore the importance that NASA places on project management and project teams through a wide variety of products and services, including knowledge sharing, classroom and online courses, career development guidance, performance support, university partnerships, and advanced technology tools.

ASK Magazine grew out of our Knowledge Sharing Initiative. The stories that appear in *ASK* are written by the 'best of the best' project managers, primarily from NASA, but also from other government agencies and industry. These stories contain genuine nuggets of knowledge and wisdom that are transferable across projects. Who better than a project manager to help another project manager address a critical issue on a project? Big projects, small projects—they're all here in *ASK*.

I hope you enjoy this edition of *ASK* and will become a regular reader of what I think is one of our most exciting publications about project management.
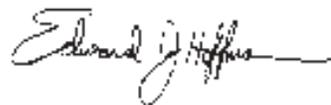
Dr. Edward J. Hoffman
Director, Academy of Program and
Project Leadership

Who Do You *ASK?*

When we started publishing ASK *two years ago, we envisioned our readers, largely project managers, learning things from these stories and giving them a try on their own projects*

GLENN RESEARCH CENTER PROJECT MANAGER SUSAN Motil's story, "So This is Knowledge Sharing," emerged out of a phone conversation she had with Marty Davis of Goddard Space Flight Center after reading his story in *ASK* 4 about tailoring reviews. Motil, who was working on a microscope experiment scheduled to fly on the International Space Station, was preparing for a preliminary design review when she ran into the Davis story. I met Sue on a visit I made to Glenn. When I heard how she'd read the story and then called Marty and how he helped her, I asked her to write about it. Fortune shined on me that day. She agreed.

When we started publishing *ASK* two years ago, we envisioned our readers, largely project managers, learning things from these stories and giving them a try on their own projects. Not surprisingly, some of our enterprising readers have sought out the authors to pursue a story further. We know this has been happening, and in this issue we bring you a story by Sue Motil that describes one such case.

When Sue picked up the phone and called Marty, she might not have realized that she was tapping someone with 40+ years of experience at NASA. Marty is truly one of the NASA "gray beards," although the earring he wears he says is no ruse to convince us otherwise. We were delighted when Marty agreed to tell his story. That Sue was able to use *ASK* to learn from Marty is a great example of knowledge sharing in action, and it's an important thing to share with our readers who've wanted to know the impact of *ASK*. This knowledge sharing business isn't just academic. Sue estimates what she learned from Marty saved her approximately $500,000 on the project. In future issues,

we plan to publish other stories about knowledge sharing, and we'd love to hear from you if you've learned something in *ASK* that you've applied on your projects.

Like Marty Davis, Alex McCool, the subject of our Interview this issue, has over 40 years of experience with NASA. Let me tell you, few interviews I've done for *ASK* have been as enjoyable for me as this one with Alex. It was wonderful sitting in Alex's office at Marshall Space Flight Center and listening to stories stretching the breadth of his career. How often do you get to learn from someone who has personally worked with Werner von Braun? Alex's warmth and generosity are truly as plentiful as his knowledge. We have only mined a fraction of it here, but I'm sure you'll enjoy hearing what he has to say about leading projects and teams.

There are other fine examples of knowledge sharing and knowledge shared this issue, but at the risk of doing anything more than whetting your appetite for what's inside, I trust you'll take my word and plunge in at your own speed. Enjoy the issue, and keep in touch. •

CONTRIBUTORS

W. SCOTT CAMERON is Capital Systems Manager for the Food & Beverage Global Business Unit of Procter & Gamble. He has been managing capital projects and mentoring other capital management practitioners for the past 20 years at Procter & Gamble within its Beauty Care, Health Care, Food & Beverage and Fabric & Home Care Businesses.

ALLAN FRANDSEN retired from NASA after a 36-year career, most of it at the Jet Propulsion Laboratory in Pasadena, California, working on space science programs. His last assignment was as Science Payload Manager for the Advanced Composition Explorer mission. During the 1980s he spent four years at the Office of Space Science at NASA Headquarters, where he managed a number of successful programs.

DR. EDWARD HOFFMAN is Director of the NASA Academy of Program and Project Leadership. He is responsible for the development of program and project leaders and teams within NASA. Dr. Hoffman develops training curricula, consulting services, research projects and special studies in program and project management. You can contact him at ehoffman@hq.nasa.gov.

KIMBERLY R. JENKINS began working for NASA at the Kennedy Space Center in 1982 as a Summer Intern. Most of her career with NASA, she has worked in the Payload Processing organizations at KSC, where she served as an experiment test engineer, integration engineer and the electrical systems lead for the Utilization Program of the International Space Station.

DR. ALEXANDER LAUFER is the Editor-in-Chief of *ASK Magazine* and a member of the Advisory Board of the NASA Academy of Program and Project Leadership. He is also a visiting scholar in the Civil Engineering Department at the University of Maryland at College Park and Dean of Civil and Environmental Engineering at Technion-Israel Institute of Technology. You may contact him at allaufer@askmagazine.org.

TERRY LITTLE is currently the Director of the Kinetic Energy Boost Office of the Missile Defense Agency. Before that he was the head of the Air Force's Center for Acquisition Excellence. He is one of the Air Force's most seasoned program managers. He entered the Air Force in 1967 and served on active duty until 1975. In 1997 he was promoted to the grade of SES.

SUSAN MOTIL has been at NASA Glenn Research Center for 13 years, with 9 years in Project Management. Her management experience has primarily been with flight experiments under the Microgravity Science Division at Glenn. She is currently working on the Critical Viscosity Xenon 2 experiment, scheduled to fly in January 2003, and the Light Microscopy Module, an International Space Station payload.

TODD POST is editor of *ASK Magazine* and works for EduTech Ltd. in Silver Spring, Maryland. He has written about *ASK* for *KM Review* and *Knowledge Management Magazine*. Contact Todd at tpost@edutechltd.com, and tell him what you think about this issue of *ASK*.

HARVEY SCHABES is currently assigned to the Systems Management Office at the Glenn Research Center. He started his career with NASA in Icing Research, and since then has served in numerous organizations in support of the Space Station Program.

DOUGLAS R. TEANY is an independent consultant working out of Indianapolis, Indiana. Before launching his own practice, he served as manager of the Program Management Office for Abbott Laboratories' Pharmaceutical Products Division. Prior to joining Abbott Laboratories, Teany worked as a management consultant for Praxis Management International, a firm specializing in large-scale program and project management.

CHRISTIAN ZAZZALI is a project manager with HITT Corporate Interiors, where he has worked since 1999. He has worked on numerous renovations and build-out projects for a variety of corporate, hi-tech and retail clients. He has received Associated Builders & Contractor's "Excellence in Construction" award.

My Son's Requirements

Despite nearly twenty years experience speaking in public, I am still amazed at the amount of time I spend going over what to say

GIVING A TALK IS ALWAYS A CHALLENGE FOR ME. RECENTLY, I was reminded of this when I needed to prepare some brief comments in honor of my son Daniel's upcoming Bar Mitzvah. My wife, Dianne, had been active in most of the other aspects of the preparations, and we agreed that I would tackle the talk. The time was getting close, and I was feeling anxious. Despite nearly twenty years experience speaking in public, I am still amazed at the amount of time I spend going over what to say, even when I know what I want to say.

After a while I decided to rely on my NASA project experience. That is, I decided to ask the customer. I asked Daniel what he wanted from my talk. Specifically, I asked what his requirements were for a successful speech. He surprised me by responding without hesitation. "Dad," he said, "first of all, be brief; second, don't humiliate me; and third, don't make mom cry."

As I thought about Daniel's requirements, they also provided me with some simple yet powerful messages of learning.

Be brief ~ It is all too easy to get lost in the message. Project requirement documents mimic the tendency for overload in their attempt to capture the details. Why are we doing the project? You need to be able to briefly and quickly answer this question and communicate to the larger team. For this project, I needed to be clear about what I wanted to get across and avoid the surrounding fluff. I recalled a speech delivered by Winston Churchill at a university graduation. He said to the graduates, "Never give up, never give up, never give up." Then he sat down to thunderous applause. Churchill could certainly get to

Be clear about the goal, but don't get excessive. Trust the process.

the point of a talk. (For other lessons in leadership, just read Lincoln's Gettysburg Address—again, the power of focused communication.)

Don't humiliate me ~ This made me think of my tendency to occasionally use humor to liven up a presentation. In retrospect, I realized there have been times where my humor may have been at the expense of another. In the book *Lives of Moral Leadership* by Robert Coles, a true leader is one who is concerned about relationships with people from a stand of integrity and respect for the person. Okay, I told myself, don't go for an easy laugh that makes Daniel want to jump into a hole.

Don't make mom cry ~ I have thought much about this one. I have always valued the importance of bringing screaming passion to any assignment or task. In context, there are times where passion and a will to win can become excessive and blur the basic goals and outcomes desired. Wanting to demonstrate too much emotion can make others uncomfortable, like being around an over exuberant salesperson, or the discomfort that comes from watching an Academy Award recipient just go on and on. Fairly quickly the message gets lost and people start searching for an exit. Be clear about the goal, but don't get excessive. Trust the process. I certainly understood where Daniel was coming from. Too much emotional connection and Mom will cry.

When I asked Daniel for his criteria for a successful talk, I was hoping for an idea about the presentation. As it turned out, I learned several lessons about leadership and about myself. Asking the customer opened up a path of possibilities. •
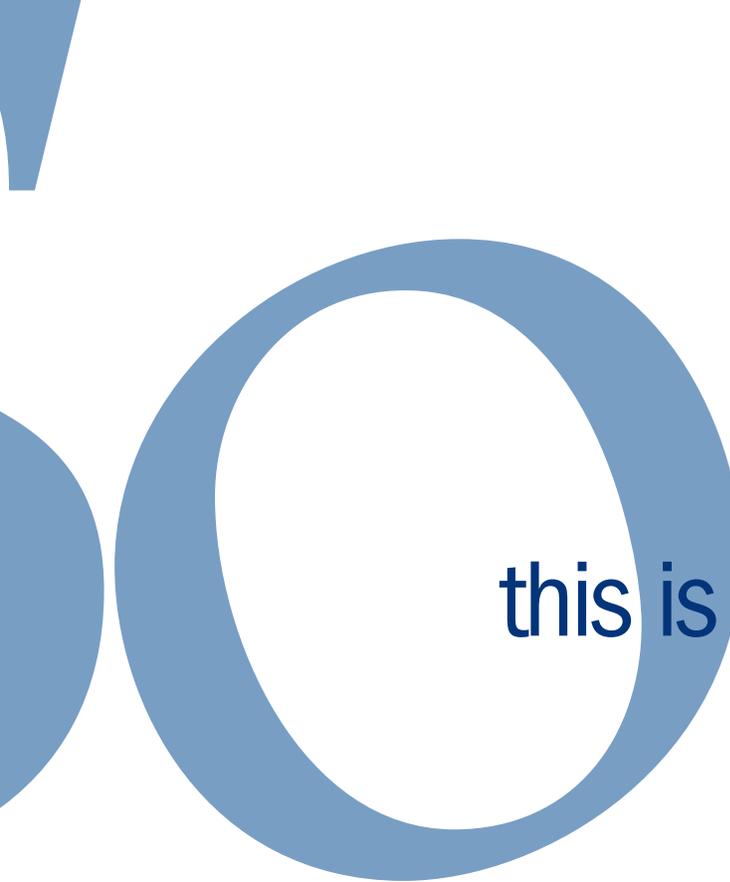
this is knowledge sharing

by Susan Motil

The Concept Review had not gone well, and my entire team was in the dumps. It took months for them to stop feeling lousy about their work and themselves. Not exactly a fun place to be in for me, the project manager, as we headed into the next review.

At the heart of the problem was the review itself. We had tried to cram too much information into only three days. The review panel was inundated with so much information that by the end of the process, anyone—no matter how well they understood the project—would be cross-eyed. Detailed follow-up questions during the presentation pushed the review into overtime, and no one ever had the opportunity to talk with the expert engineers about the particulars of the project.

I told my supervisor that I would like to have some control over how the next review was done. She was supportive. She saw how poorly the Concept Review had gone, and the impact it had on the team's morale. We all wanted to make our Preliminary Design Review better for everybody, both project team and reviewers.

OPPOSITE The Russian-built Zarya nears the Space Shuttle Endeavour during the carefully choreographed dance before their rendezvous.

ASKing the right person for help

A couple of weeks later, my supervisor came to me and said, "Read this article and let me know what you think." It was a story in ASK Magazine about reviews by Marty Davis, a project manager at Goddard Space Flight Center. I read the article and thought I could apply his concepts to my project, so I gave him a call to get more information and to discuss my ideas with him.

I got hold of Marty in his office and told him what had happened with our review. "Well, you don't want that," he said, laughing. I pitched some ideas, and he listened and told me what he had done to improve the

> " I firmly believe that a review should be beneficial for both the panel and, more importantly, the project. "

reviews on his project. He affirmed my own feeling that the project manager has to be involved in the selection of the review board. This doesn't mean that the panel is going to be less independent, or that you're trying to hide a problem. It means that you're looking for particular expertise. He encouraged me to be forceful. "This can best be handled by presenting the benefits to making this change," Marty told me. And so that is what I did.

Taking charge

Following Marty's lead, I asked for input before assembling the new review board. I called around, and I got wonderful support from management. My supervisor began looking around for potential reviewers, as did my program manager.

My program manager identified the person who ended up being chair of the review board. I called and spoke with him to find out if he was interested in working on the board. He had more than 25 years of experience with hardware similar to my project. He understood what it took to take a flight project from concept to design and through development. I told him how much this would mean to our team to have him as the chair, and he said he would be delighted.

I went back to my division chief and said, "Here's the charge to the review panel. This is what they are going to review, and here are the reviewers." He looked

at my review plan and was pleased with the results. I wanted a panel with handpicked expertise and management approval, and that's what I got.

Taking another page out of Marty Davis's playbook, I decided to be flexible and try to think of new ways to streamline things. I didn't plan to do things exactly like Marty had. His project was orders of magnitude larger than mine. Mine was a microscope, and his an entire satellite. What I liked about his approach, and what I thought I could adapt to my own project, was what he did at the system level. He kept the system level review focused on the higher order issues. If the review panel had subsystem questions, sure they could ask them, but if the questions started to get too detailed, then Marty stepped in and said, "Let's have a one-on-one about this tomorrow."

I tailored my review similarly in that I had two sets of reviews, one for each subsystem, and then one for the system. It was amazing how well it worked. At the subsystem level, I blocked out two weeks of time and tried to keep it as informal as possible. It was formal from the standpoint that there was an attendance sheet, a written report, and a presentation at the system level, but it was informal once the reviewers got into the room. They would come in and sit around a table and have a dialogue with the engineers. The engineers could show the reviewers hardware, show them test data, and the reviewers could ask anything they wanted. At the system level, the reviewers stayed focused during the presentation, and had the subsystem review reports as additional data. The second day was reserved for reviewers to discuss detailed questions with the technical experts.

Reviewing the reviews

I firmly believe that a review should be beneficial for both the panel and, more importantly, the project. A crucially important aspect of the project life cycle is the independent evaluation of a project's readiness to proceed to the next phase. Reviews should be looked upon as an opportunity, not a dreadful experience.

Having the right reviewers on the panel is important, but I can't emphasize enough the importance of one-on-one communication. It was Marty's experience that Requests for Action (RFAs) are often written because of a basic misunderstanding on the part of the reviewer. One-on-one communication can reduce that risk. If we can get reviewers to understand our position and if they still disagree with our

Astronaut Mae Jemison is shown here in 1992 using a microscope onboard the Space Station.

Knowledge sharing goes orbital: The U.S.-built Unity module and the Russian-built Zarya were joined during a December 1998 shuttle mission.

approach, then fine, write the RFA, but first let both parties come to an understanding of the issues. Additionally, if there is an issue, reviewers' recommendations can be discussed and understood by the project team at the time of the review.

Addressing an inappropriate RFA is a waste of my time, a waste of the engineer's time, and a waste of the reviewer's time. The review board did write RFAs, but many others were not written because of

> " Saving half a million dollars is
> hardly something to shrug off. "

the one-on-one sessions with the technical people on the project. With every comment that the review panel made, they gave us valuable suggestions. The whole board, by the way, recommended that we go forward with the design.

We spent a significant amount of time and effort dealing with the RFAs from the first review. The second review, by comparison, was much more streamlined and effective.

I estimate that the first review cost the project

$700,000. The second review about $200,000. Reviews are expensive and time consuming—but they should also be beneficial. If you can refine the process and tailor it to best serve your system, your project will reap benefits. Saving half a million dollars, after all, is hardly something to shrug off. •

LESSONS
• People within large organizations have probably already dealt with problems similar to the problems that you face; you can save time and money by taking advantage of that experience and knowledge.
• Knowledge sharing by mentors can empower less experienced managers who would otherwise not challenge the status quo.
• Reviews should encourage joint problem solving rather than just reporting. To accomplish this, ensure that the review process is viewed as feedback from independent and supportive experts.

QUESTION
The review process has two objectives: control for external stakeholders and internal sponsors; and learning by providing real-time feedback to the team. How can you share this learning with the rest of your organization and not intrude on the intimacy that exists between the reviewers and the project team?

DRESSING DOWN

by Harvey Schabes

IT WAS EARLY IN MY CAREER AT NASA, and I was a relatively junior engineer. I hadn't interfaced much with teams from NASA centers other than my own, Lewis, or what is now called the Glenn Research Center. I was part of a team working on the development of the architectural control documents (ACDs) for Space Station, and we had to do quite a bit of work with the Marshall Space Flight Center. There were several contentious issues between the Lewis delegation and the Marshall delegation on how these documents should be developed. There was a lot of "do it my way; no, do it my way."

At one long and intense meeting, we reached some small agreements that needed to be documented. I was taking the notes and so it fell on me to capture everything that was said. As the meeting ground on, some people from Marshall worried that their points of view wouldn't be documented accurately. They started to wonder out loud, "Is Harvey going to get it right?"

"Trust me, I will get it right," I said, and so it became a running joke. Every time the Marshall group worried out loud about being quoted accurately, I had to look them in the eye and say, "Trust me." Probably the last word anyone said at that meeting was, "Well, I guess we will have to trust Harvey then."

"Don't worry, he'll get it right," the other people on the Lewis team reassured them.

After the meeting I went back to my office to try to pull it all together and to honor the "trust me" promises I had made.

At the next meeting with the same contingent from Marshall, the head of their delegation, the project manager, started things off by saying, "In honor of Harvey's trustworthiness, we want to present him with this small token of our appreciation." She stood up and held up an oversized tee shirt with "Trust Me" printed on the front. I wore the tee shirt for the rest of the day, which got quite a laugh, and I would like to think the Marshall-Lewis relationship took a turn for the better.

I have to give a lot of credit to that project manager for bringing in the tee shirt. In the heat of difficult and sometimes painful negotiations, a little bit of comedy can go a long way towards saying, "let's see if we can't remember that we're all on this project together." I think, as a result, we did trust each other a little more. It also gave me confidence in my ability to deal with other organizations, and that was something I certainly needed as time went on.

A different time, a different style

A couple of years later, I was again working on Space Station ACDs. I put together a proposal that some people liked and some people didn't. During a series of meetings, I remember at times feeling as though I was the only one on my side of the table. There was one senior manager who felt that I was sticking my nose in places it didn't belong. He liked the status quo and made no secret of his distaste for what I was trying to do.

Still a relatively junior engineer at the time, I began to question my own convictions about what I was proposing. Did I have what it takes to see this through to the end? This all came to a head one night when I was checking into a hotel in the Washington, D.C., area for a meeting at NASA Headquarters. Lo and behold the senior manager

with whom I had clashed was checking into the same hotel at the same time. I am a person of relatively small stature, i.e. short. This person was easily a foot taller, or at least he seemed to be a foot taller, and easily a hundred pounds heavier. He heard my name at the check-in counter, and he turned to me and, huffing and puffing, or at least that's my memory of it, put his hand on my shoulder and said, "You're that guy messing around with the ACDs."

"Hello," I said, meekly. "Yes, that's me." I think I was expecting him to put his hand on my head and squash me down into the floor. We chatted for a half-minute maybe, and then we each went our separate ways.

A couple of weeks later, we had the meeting where I was going to roll out my plan to a group of senior managers. I worried that this guy was going to be sitting around the table and, since he hadn't succeeded in crushing me the last time we met, he was going to lose no time in getting to it now.

The night before the meeting I recalled the "Trust Me" tee shirt, and how we were able to defuse tensions with a little bit of humor. Next morning, just hours before the meeting, I went out and got a red tee shirt with bold black letters on the front that said, "Yeah, I'm the guy messing around with the ACDs." Before showing my first slide, I held up this tee shirt in front of all the senior managers. Everyone laughed and for me it created a comfort zone to get into my presentation and speak with confidence.

Whenever I do public speaking, I always aim to make people smile. I've always found it easy to crack jokes and be funny. I never imagined it would pay off so importantly in my professional life.   •

They started to wonder out loud, "Is Harvey going to get it right?"

QUESTION
Do you have examples of how you learned from experience, especially examples that challenged the status quo?

Tranquility is probably an overstatement, but in running a project, I have always tried to anticipate problems and take appropriate action to head them off

Learning the ABCs
(of Project Management)

by ALLAN FRANDSEN

To LEAD A PROJECT EFFECTIVELY, ONE HAS TO ESTABLISH AND maintain the flexibility to take appropriate actions when needed. Overconstrained situations should be avoided. To get on top of matters and stay there, a manager needs to anticipate what it will take to successfully complete the job. Physical and financial resources, personnel, and management structure are all important considerations. Carving out the necessary turf up front can make a world of difference to the project's outcome. After the "what," "where," and "when" of a project are nailed down, the next question is "how" to do the job.

When I first interviewed for the job of Science Payload Manager on the Advanced Composition (ACE) Explorer mission, Dr. Edward Stone (ACE Principal Investigator) asked, "Al, give me an idea of your management style."

It was a question I had not considered before. I thought about it for a few seconds and then answered, "Well, the first descriptive term that comes to mind is the word 'tranquility'."

That seemed to startle him. So I added, "I guess what I mean is, that if the situation is tranquil and the project is running smoothly, then I've anticipated all the problems and taken necessary actions to head them off."

He then asked: "Have you ever reached this state?"

"No," I admitted, "but I strive for it." That seemed to satisfy him because I got the job.

Tranquility is probably an overstatement, but in running a project, I have always tried to anticipate problems and take appropriate action to head them off.

I once told Dr. Stone that if I had to write down the ABCs of project management, "A" would signify Anticipation. But it is not just a planning activity that needs to take place at the beginning. It is an ongoing thought process that reviews plans over various time intervals. A manager needs to work all the time to avoid losing control of events and operating only in the reactive mode. Putting out forest fires, being under the gun or behind the 8-ball—these are expressions we are all familiar with. To avoid being in one of these situations, there needs to be a frequent assessment of the current status, and reflective thinking about what could happen next. Of course a good project manager already knows, at least in general terms, what is supposed to happen next. But all too often it doesn't happen that way. So what are the alternatives? Are there sensible work-arounds? What can I do now to lay the groundwork or facilitate matters should something go wrong? These and other questions make up the ongoing process of anticipation. And because it is an ongoing process, the "A" in the ABCs of project management could just as well stand for Anticipate, Anticipate, Anticipate, ...

Of course a good project manager already knows, at least in general terms, what is supposed to happen next.

One of the important activities at the start of any project is identifying and recruiting the staff necessary to do the job. One should always try to sign up the best, mutually compatible talent available. In this process, and until charisma transplants become available, it helps if the manager is inherently excited about the project. Exuding enthusiasm can become contagious, and it goes a long way toward recruiting the best people. With the right team in place, the manager's job is likely to have fewer day-to-day problems, as well as being less stressful than it otherwise would have been. Hence, it is well worth the effort up front to carve out the time, and generate the enthusiasm, to Build a Good Team, the "B" in the ABCs of project management.

Once a project is up and running, a manager needs to establish and monitor channels of information flow. The manager needs to foster communications between and among participants. You cetainly don't want to hear of a problem being excused by such statements as "I didn't know I was supposed to . . .," or "I didn't know that what he was doing was incompatible with . . .," etc. And of course there are always peers as well as upper management who need to be apprised of what is going on. In the absence of sufficient information, they could well form a wrong opinion of the current state of affairs. Or worse yet, undertake counter-productive actions based on invalid conclusions. A busy manager doesn't need any counter-productive "help" by well-intended colleagues. So the best defense is a good offense. Take the time to communicate upwards, downwards, and sideways. Communicating is the "C" in the ABCs of project management.

Now there is also an "s" at the end of the ABCs of project management. Does that have any significance? Well I would say that despite your best laid plans and ongoing attention to the job, the situation can turn to manure in a hurry if a personnel matter arises. So Sustaining this prized team you have recruited has to be an important part of a manager's job as well. Sustaining the team includes recognizing their accomplishments, and arranging the job so they find it satisfying. Conversely, a heavy handed management style can be the death knell to a team member's feeling of personal responsibility for success. On projects requiring that people exhibit resourcefulness and innovation, they need to be given not only the responsibility but also authority to spread their wings. Constructive criticism may be called for at times. But that is different from punishment. For research & development in particular, ongoing attention needs to be paid to supporting the team. Sustain the Team concludes the ABCs of project management. •
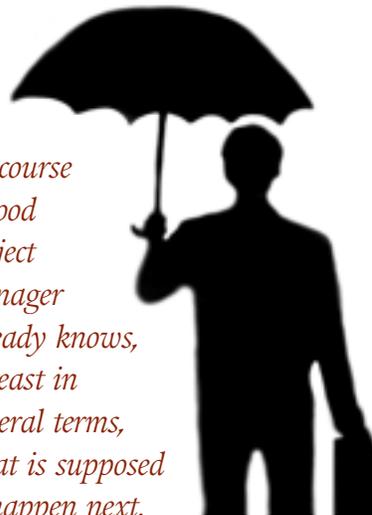
A Little Goes a
LONG WAY

by **Kimberly R. Jenkins**

As the new team lead, I came in from outside the group. Rather than just assuming that I knew what was needed, I decided to ask them. Who should know better, right?

TO ME, LEADING A TEAM MEANT PROVIDING THEM WITH what they needed. I didn't want to come into the group demanding this is what we're going to do and this is how we're going to do it. I wanted them to know that I was really interested in what they thought needed to be done.

I was fortunate to have had a lead that used this approach. She led by serving her team, and I admired her for that. I remember thinking: This is somebody I can enjoy working for. As I worked my way up to being a lead, I recalled the good qualities of the managers who I respected. I tried to develop my own style around what I learned from them.

We were a team of five engineers responsible for the command and data systems used during experiment integration and testing of Spacelab payloads. For the most part, we performed component level testing for the experiments, the first phase of testing for Spacelab Program payloads. In the beginning, the members of my team didn't know what to think of me, but as time went by they realized that I was sincere. A relationship based on trust developed.

Sometimes it's the details that give you a better view of what the big picture is all about.

I made several observations as we worked together more, but the most obvious one to me was the simple fact that no attention had been paid to the control room where we worked. The systems we used at that time were large mainframe computers with magnetic tape devices, which made the control room very noisy and did nothing for the décor. I'm talking ancient looking. Picture this: bare walls, drab paint, and not one shuttle or payload photo in sight.

down which also helped suppress the noise. It was much easier for us to communicate with each other and with the rest of the test team. We had the walls covered with gray and blue carpet paneling. We had graphics create commemoratives of each mission, and we hung them on the walls. The guys teased me because I posted inspirational sayings around the room, as well, and I gave them buttons that said, "You're the best!" or "You did a great job today!"

...when I came in I think that they were skeptical.
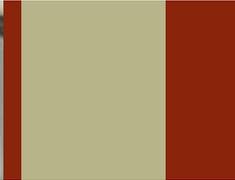
I know I may be making a big deal out of this, but when you're sitting at a console all day supporting a test, your environment does start to weigh on your mind. We worked twelve-hour days for weeks at a time. The only time we took a break was to go to the bathroom or grab lunch or a snack. Those were long grueling days for all of us. We were shut away in a depressing room, and no one had done anything to improve it.

I'm not sure why things were this way. Perhaps, the engineers on my team were simply oblivious to the appearance of their surroundings. They worked quite well together, and they didn't have any problems among themselves. But it became obvious to me that they were "out of sight, out of mind." The group was overshadowed by another group of engineers who seemed to get more of management's attention. I don't think this was done intentionally; it just happened.

I also learned of other difficulties they'd had before I joined them. The previous lead was also a female, and apparently she felt it necessary to project a tough exterior. It didn't sound as though she had ever expressed her appreciation for the work they had done, so when I came in I think that they were skeptical. To their credit, when I brought up the idea of improving the look of the control room, everyone immediately pitched in by sharing ideas about what we could do. Before you knew it, the remodeling had begun.

We had a door installed to separate the mainframe computers from the consoles. When we sat at the consoles, the room was now quiet. We had carpet put

I know this may sound corny, but those little things, done with sincerity, showed them that I cared about them and wanted to make our environment a better place for us to work.

We started using the control room as our office and often brought work there to complete. We supported several missions at a time so while things were running smoothly with the systems during one test, we could review procedures or documents in preparation for upcoming tests. The control room became our home away from home.

Since then, we've all moved on to other projects, but every now and then we run into each other and the bond that we have is still strong. This experience reminds me that we often overlook the simple things. Every good manager wants to do well by the people working on a project. One way to achieve this is simple: Pay attention to the environment in which your employees work. People warn you not to get mired in the details; they say you might miss the big picture. But sometimes it's the details that give you a better view of what the big picture is all about. •

Lessons
• Leaders lead by serving their people.
• Encourage people to define and create their own workspace. Small details are important.

Question
Can you think of a time when something in your workspace prevented you from doing your best work? A time when a change to your environment made things easier?

Thanksgiving
hocus pocus

by **Christian Zazzali**

THE CLIENT WAS TAKING A HUGE RISK OPENING A NEW STORE IN WASHINGTON, D.C. ONE OF THE MOST SUCCESSFUL RETAIL MAIL ORDER BUSINESSES IN THE U.S. HAD CONTRACTED WITH MY COMPANY TO BUILD THE FIRST FLAGSHIP STORE OUTSIDE OF NEW ENGLAND. IT WAS RISKY—NOT ONLY BECAUSE OF THE CONSTRUCTION OF A STORE, BUT DUE TO THE MASSIVE AMOUNT OF MERCHANDISE BEING MOVED AND THE GRAND-SCALE RELOCATION OF EMPLOYEES.

First order of business, help the client

SURVIVE THE SH

THE CLIENT HAD A HANDFUL OF OUTLET STORES AROUND the country in malls, but this new store was going to be something entirely different, with unusual features like a waterfall, a trout pond and a "heavy weather" room to verify the seam stitching on all Gore Tex products. And these were only the cosmetic considerations. The more expensive and time consuming work involved reengineering the space structurally, environmentally and more importantly for fire safety. My client was into this thing for millions.

I was managing the construction project, and I thought my biggest challenge was simply finishing the work in time for start of the holiday shopping season. The store opened three weeks before Thanksgiving. Everything looked great. Business picked up steadily as the serious spending season approached. Then, two days before Thanksgiving, disaster struck.

The fire protection system was designed to prevent smoke and fire from reaching the merchandise. If a fire alarm went off anywhere in the building, the system went into a massive pressurization mode. Dampers would open and the system would pump in hundreds of cubic feet of air from outside into the store, pressurizing every square foot, preventing fire or smoke from spreading into the store. That night an unknown event tripped the alarm—and it sounded for six hours. The air conditioning system was still operational as the outside air temperatures had been warm all month. That night, however, temperatures plummeted to 20 degrees. With an alarm sounding in a building complex that covers many millions of square feet, no one paid attention to the cold air flowing into the space. Pipes froze and burst. Hundreds of gallons of water came down through the drywall, soaking merchandise, the carpet and the hardwood racks. This state of the art system, which had been designed to protect, was now responsible for unthinkable damage.

The CEO himself came down from New England. Not looking yet to blame anyone—yet!—all he wanted to know was one thing: what was going to be done to get the store open for the day after Thanksgiving?

I told him this: "Mr. CEO, we are going to fix this. We are going to make this right, and we will worry about how it happened later. If it turns out it was something we did, don't worry about it, we will fix it all the way to the end. If it turns out it was something somebody else did, then we will work with you and figure out what went wrong and make it right." First order of business, help the client survive the shock. Done. That was enough for then.

Before the roof came down

The odds of what happened were remote, said the project engineer. Three things had to happen simultaneously. The air conditioning system was not drained yet, it was really cold out, and the fire alarm went off for a long time. No alarm, no problem. System drained, no problem. Just cold outside, not a problem. But the three of them together, that's a big problem.

Even if the chances were small, there was still a chance, and that's exactly what I had said months earlier when we hashed out the engineer's plans in a conference call. If the engineer says the system is fine and the client is inclined to believe the engineer, all I can do is go on record with my professional opinion. The client was using an engineer from Seattle who, I felt, did not understand what an East Coast transitional climate is like. What that means is we can have freezing cold days in September and scorching hot days in October. As the project manager for the general contractor, I went on record as saying, "We feel the system is not the best one for this area. There is a potential for a disaster to occur."

Some people will say I should have been more forceful in stating my position. Should I sit in a conference and tell the engineer that something he designed stinks? The client had used this engineer on other projects. We, the general contractor, had no relationship with this client, or with the engineer. I may have had more control over what happened on the project than anyone else—but, ironically, I was lowest on the food chain.

I WAS LOWEST ON THE FOOD CHAIN

I may have had more control over what happened on the project than anyone—but, ironically,

Thanksgiving Day...and counting

Nobody on our team said anything about "we told you so." We didn't even consider bringing it up. We knew that taking the high road at that point would serve us well in the weeks to come when we sat down to discuss what happened, but for now our next order of business was to get to work.

We immediately restored one of the three HVAC systems so we could at least have some heat. Once the heat was working we could start drying things out. We mobilized all available manpower, including project managers from other projects and at one point we had a Vice President operating a wet/dry vacuum. There were some 100 people doing whatever they could. The day before Thanksgiving we were cutting out drywall, as fast as we could, everywhere we could. We brought in 400 sheets of dry wall, taped it all up, kept going, and had the painters working right behind. All that was just to make it look good for the day after Thanksgiving, because it all had to come down again. Eventually, we had to go in there and get the duct work out. The ducts were wet and a bacterial fungus was going to start growing. The only way we could change the duct work was to tear the ceilings back out.

It came down to the wire, but when we were done it looked presentable. None of the customers knew what happened. The client was ecstatic. And guess what? He exceeded sales goals on the order of 200%. Lines at every register. He just could not believe how busy the store was.

My company could have come out of this thing looking bad. Instead the client loves us. We continue to do work with him, and he's said to us, "That HVAC design stunk. You were right. Next time, please tell us what we need."

The engineer, still to this day, feels that somehow he was not responsible. He recognizes that he could have been mistaken, but he stands by his decision that it was a good system, it was designed for the area and what happened was a one-in-a-million chance. It happened, but so do asteroids fall out of the sky. I just privately rolled my eyes.

You could be the among greatest project managers in world, but if you have an attitude and you give the client heartburn, unnecessary heartburn, you're not going to do more work with him. If you have a disaster like this one, and you manage to make everybody feel good and believe that you are going to take care of them, then everybody looks back on it and says, "You know what, this is a good project team; we work well together, so let's do another one."   •

LESSONS

• Emotional intelligence is critical for effective project leadership, especially during a crisis.

• A crisis demands immediate attention. Set aside blame, and get down to work. Worrying about accountability at this point is a counterproductive distraction. Remember, people are recognized for how they perform in a crisis.

• Improvisation and responsiveness are critical for meeting a blitz schedule.

QUESTION

Recall two crisis situations. In one your leader panicked, while in the other one he/she remained calm. Do you remember how their reaction impacted the team's effectiveness?

As I talk to people

either pursuing a career

in project management,

or broadening their

assignment to include

project management,

I encourage them

to consider

what tools they need

to be successful.

THIEN-KIM PHAM

The
PROJECT MANAGER'S
Tool Kit

by W. Scott Cameron

PROJECT MANAGERS ARE RARELY DESCRIBED AS BEING funny. Moreover, a good sense of humor rarely seems to be one of the deciding factors in choosing someone to be a project manager, or something that pops up as a major discussion point at an annual performance review. Perhaps this is because people think you aren't serious about your work if you laugh. I disagree with this assessment, but that's not really my point. As I talk to people either pursuing a career in project management, or broadening their assignment to include project management, I encourage them to consider what tools they need to be successful. I suggest that they consider any strength they have to be part of their Project Management (PM) Tool Kit, and being funny could be one of the tools they need.

There are conventional tools all project managers must learn to wield…

On one project earlier in my career, my being considered funny by my boss was the main reason I was asked to be the project manager of a unique project, or as some called it, an "opportunity."

The scope of the work entailed:
- Produce a 15-20 minute video presentation, which would take a "biting, irreverent, humorous" look at all facets of our organization
- Insure we met our budget constraints
- Complete the project within 5 weeks
- Use any resources available

The project sponsor indicated this presentation was going to be shown to all the company's executives just prior to a closing speech by our chief executive officer at an upcoming meeting. I would introduce it.

The challenge seemed to me to be how to approach this task. The answer was fairly straightforward when

I looked inside my PM Tool Kit and chose the "tools" I felt I needed to execute this project:

- Proposal writing with defined success criteria
- Cost management
- Schedule preparation
- Staffing plan
- Risk reduction plan
- Sense of humor

I wrote a proposal reiterating what I had heard the sponsor state as his requirements, and began defining the scope of the presentation. I also hired a contractor to assist in writing and producing the video. Since the schedule's end point was set, the main schedule activity was scheduling intermediate reviews.

I reviewed the proposal with the sponsor and obtained his agreement. At that point, I set out to execute the project. This is when I encountered my first obstacle. No one else within the company wanted to work on this project with me. In fact, most people told me I was crazy to take on such an assignment. They indicated that if I were successful, however, they would be more than happy to say they had helped. I felt like I was living the children's story of the Little Red Hen: Everyone declined to help make the bread but everyone was willing to eat it. My reaction was one of amazement and the stark realization that this project would be executed with only the contractor and me. I would see if being funny was really a moniker I deserved.

I now finalized the project's two success criteria:

- The sponsor laughed when he saw the video
- I still had a job at the end of the project

My risk reduction plan called for early testing to allow sufficient time for refining my humor and changing the course of action, if required. We prepared drafts of 15-20 "skits" and reviewed them with the sponsor. He liked a few of the concepts but felt they were not "biting" enough. I also indicated I was not getting much "biting" inspiration from the people I had discussed the project with so far. He then personally asked two of the more outspoken members of his leadership team to offer their thoughts about potential concepts. We took their input and prepared another 10-15 draft "skits." The next review resulted in a green light to move forward and produce the video.

The moment of truth came the day before the event when we reviewed the final production. He laughed, I still had a job, and then I laughed. Project accomplished. Success criteria met. By evaluating, deciding on, and using specific tools in my PM Tool Kit, which I have collected throughout my career, I was able to tackle what I considered a very high-risk project and meet my/its success criteria.

Humor was an important tool on this project. The use of it on this project showed how important it is to use the right tools. The important thing to remember is everything the project manager has at his/her disposal belongs in their tool kit. If they don't have the necessary tool, they need to either borrow one or go buy a new tool. There are conventional tools all project managers must learn to wield (proposal writing, cost estimating, schedule planning, etc.) as well as specialized tools like a sense of humor. If we know how to use them adroitly, we can consistently bring these to bear on our projects and be successful no matter what the project criteria or scope. •

as well as specialized tools like a sense of humor.

In our business we have all kinds of reviews: financial reviews, strategy reviews, technical reviews, test reviews, design reviews, baseline reviews, etc., etc. I hate them all— every last one. It's not because they aren't necessary, but because of how we do them. None is more often bollixed-up than those that involve the government and contractors. Here are some ways to avoid the most common pitfalls that I find specifically in these kinds of reviews.

I hate reviews!

Make sure the right people are there

Take care to avoid those people who come to reviews regardless of how little they have to contribute or how little they have to do with the project. I think there are out there a host of donut-eaters and coffee-drinkers that are professional reviewers. It's like a big social occasion for them. They get to offer a snide comment here, add a little humor there, extend the breaks and, for sure, make

by Terry Little

certain everyone understands how clever they are. Long ago I learned that the first thing for me to do at a review is to ask each government person who they are and why they are here. If I don't get a satisfactory answer, out that person goes before we ever start. Sometimes I do have someone give me an OK answer, but I find out during the review that the person is just being disruptive. Out. I know that sounds harsh, but the truth is I usually only have to do it once and the word gets out that reviews on my programs are serious, intense and not for the curious bystander.

Being adversarial is not what it's all about

The purpose of reviews is to exchange information freely, openly and completely. It is a dialogue among team members— members who share a common goal. It cannot be an "us-versus-them," or else the information flow will cease. Nothing cuts off communication faster than having an environment where people feel defensive or threatened. I think of government-contractor reviews as peer reviews. To emphasize the team nature of reviews, I make it a practice that government people give roughly half the presentations in any review. I also do not allow any government-only caucuses. These create suspicion and encourage "behind-the-back" assertions. In my reviews anything worth saying is said in open forum.

This is not the time for big surprises

I have been dismayed by how many formal reviews I have attended where government people actually working on the project are surprised by what they are hearing from the contractor. This should never be. Formal reviews are for people outside the project, not for those working on it. People working on the project should be getting continuous, real-time information from their counterparts as the project progresses. If they are depending on formal reviews to get their information, then they are not doing their jobs. Formal reviews should be old news to the people actually working the project.

Separate the real issues from apparent ones

I wonder how many reviews fit the pattern of "nothing came out of the review but the people who went in." Reviews should be action oriented. Where issues arise, someone needs to be accountable for resolving them. Part of that accountability stems from meeting a deadline.

The project manager should decide what issues or concerns merit follow-up. Just because someone has an unanswered question or a concern, it doesn't necessarily follow that there needs to be an action item. There are a lot of "nervous Nellies" out there who want everything tidy and complete. In this business they will often be disappointed. The project manager must weigh the criti-

> **Nothing cuts off communication faster than having an environment where people feel defensive or threatened.**

cality of the issue or question against the cost of resolving it. At times, we have to accept some risk and move forward, leaving time and events to resolve certain issues or questions.

Boring does not make for a good review

Nothing is worse than reviews that are too long and too boring. I frequently see excessive detail that most of the people present don't care about or need to know. This is the project manager's fault. Every agenda item in a review and every view graph on that topic should be of interest to and comprehensible by 80% of those in attendance. The way I accomplish this is to discuss beforehand the purpose of the review with my contractor counterpart and to carefully review the agenda to see that it fulfills the purpose. I also go over with my counterpart the attendee list to make sure that what's presented is what the attendees are looking for. My view is that a formal review should not last more than a day. Anything beyond that tends to get into weeds. One can better communicate weed-like detail in an informal setting to a small group, where there is an opportunity for back-and-forth discussion without disrupting others and where time is not lost by preparing some formal presentation.

REVIEWS ARE A NECESSARY EVIL. THEY CAN BE VERY PAINFUL, but they don't have to be. It just takes a little planning, some courage and an abiding belief that there are better approaches than just letting them happen like they always have. •

ASK Talks with

Alex McCool

Alex McCool began his career in 1954 at Redstone Arsenal in Huntsville, Alabama, working on the design of the Redstone and Jupiter rockets. In 1960, he joined NASA to continue working with Dr. Wernher von Braun, Marshall Space Flight Center's first director and a leader in America's race to space

AS A CHARTER MEMBER AT MARSHALL, MCCOOL WAS instrumental in the design of the propulsion systems for the Saturn launch vehicles that propelled Apollo to the Moon and directed project engineering for Skylab, the first space science laboratory. Alex McCool's 48-year career includes exceptional contributions to the vehicles that launched America into orbit and carried human beings to the moon. Presently, he is the manager of the Space Shuttle Projects Office at Marshall. Among his many honors he recently received the National Space Club's 2002 Astronautics Engineer Award. The award recognizes those who have made outstanding contributions in engineering management to the national space program.

Many people at Marshall say you are the best mentor they've known. What does mentoring mean to you?
I love being around people, particularly young people. I love helping them, mentoring them, and I love to see them do a good job no matter what it is. You give them a job and they will stub their toe, and that's all right. I want them to learn, but I try to guide them and help them to learn, grow and develop. It makes my day when they do a good job and get recognition, or by just seeing how they have developed over the years.

If you had to pass on one thing to a young project manager, someone who thinks it would be great to be as active and productive for as long as you have, what would that be?
Live a balanced life. What I mean by balanced life is the three "F's": Faith, Family, and Friends. What I've found is that you have to do it by action; you can't just say it, you've got to live that way.

Do you recall a time in your career when you had to rely on the three F's to help you through some difficulty?

Oh, absolutely. No question. I was there for Challenger. I saw Challenger. I was not involved in that launch. I had gone down the day before. The Launch Director, Gene Thomas, was a very good friend. His spiritual life got him through that, and it taught me something too. He and I got very close.

What did you learn from that?

Well, you'll have to allow me to digress here for a moment. Around that same time, my wife had a

Weren't you involved in a post-Challenger project to investigate the accident?

Yes, that's right. I worked closely with the Navy on recovery at KSC. We were looking for our hardware—and they wanted somebody who was familiar with propulsion. I took a group down there with me, and I guess I was the leader of that group. I remember getting the phone call at 7 o'clock on a Sunday morning. "Hey, we believe we found something." So I called Kennedy [Space Center] and said, "Can you get us out to the ship?" The Navy had a big salvage ship, probably a hundred miles away. So we got out there on a Coast

> *I love being around people, particularly young people. I love helping them, mentoring them, and I love to see them do a good job, no matter what it is.*

malignant ovarian tumor, you see, and she had to take chemotherapy. The whole thing just really wiped me out for a period. My spiritual life, my faith, helped me through that and I think knowing Gene Thomas and all he was going through, we got to sharing between us, and we got real close spiritually. Finally, Gene prior to the launch of Challenger knew each of the crew and had spent time with them before their flight. He has been one of my heroes and inspired me.

Guard Cutter and we were told it was going to be rough seas, and sure enough it was. Let me tell you I was scared. They put life jackets and slickers on us. So we get over there to this big ship, and sure enough there was a piece of it where it had burned through. We got back to land about 1:30 in the morning at Port Canaveral, and I said, "Well, we are going to have to get out there the first thing in the morning, six or seven o'clock, because the NASA brass will want to see what we found out." Sure

enough they were waiting on us, all the NASA leadership, and that was just the beginning. We had taken photographs and measurements and were able to describe it. They directed us to radio the salvage ship and had them bring the piece to the port.

Was there anything special you had to do to prepare the team emotionally for a project like that?
Well, the big thing was, we had the attitude that this was a job we had to go do. In the early days after the accident, we didn't know what had caused the explosion, so ours was a mission to try and understand what happened. That gave us a sense of purpose and was a powerful motivator.

What is your role after you've brought the team together?
It's a matter of organizing and providing the leadership and the vision. Where are we going? First, though, it starts with people—finding the right people, putting the right team together and making sure they are motivated.

How do you continue to keep people motivated through the life of the project?
What's important is to recognize when somebody does a good job. And don't wait, do it first thing. Reinforcement, that helps team building—and that's leadership when you do that—whether it's a pat on the back, whether it's a note, whether it's handing them a

If you don't get anything else out of this discussion, make sure you print this. Leaders need to be sensitive to recognition of their key people who have really performed. It's very important.

How do you approach trying to solve a problem like finding out what caused a catastrophic failure?
It's a little bit like detective work. You ask, "What are the things that could have caused this?" You put them all down and you try to work them off. Could it be this? Could it be that? Could it be just a lack of this? Did something go wrong with the equipment? So it is a lot of detective work. To me, it is fascinating. We use what is called a "fault tree," which is a disciplined methodical approach.

Is there a difference in your preparations to try to figure out what went wrong with something as opposed to trying to build something?
It's still primarily about getting the right team of people, getting the right skills to help you. I'm just the leader and I've got to have them to help me because I can't do it alone. I'm just the coach, in other words, and I want to pick the good people with certain talents to compliment my background and make it work in the different areas. So you try to organize around people and get out of their way, because they know it better than you do.

check or just saying the words, "Thank you." It's very important to show that kind of positive reinforcement, because they build on that. Young people need that recognition, it's very important. And I think if you don't get anything else out of this discussion, make sure you print this: "Leaders need to be sensitive to recognition of their key people who have really performed." It's very important. So that's positive reinforcement. There can be the other thing called negative reinforcement, and you have to be very careful how you deal with that.

What do you mean by "careful"?
Well, I mean you just need to be careful. You may have to do it because somebody messed up, but it is how you do it, how you approach it. Let me give you an example. We have a guy in the factory, and he says, "I know I messed up." He confesses that he made a mistake, recognizing he may be fired. You would like to make a case that this is not acceptable, but do you fire him? That sends a very dangerous message to the other guys. Integrity is not valued. See what I'm saying? You don't want them to mess up, but you also
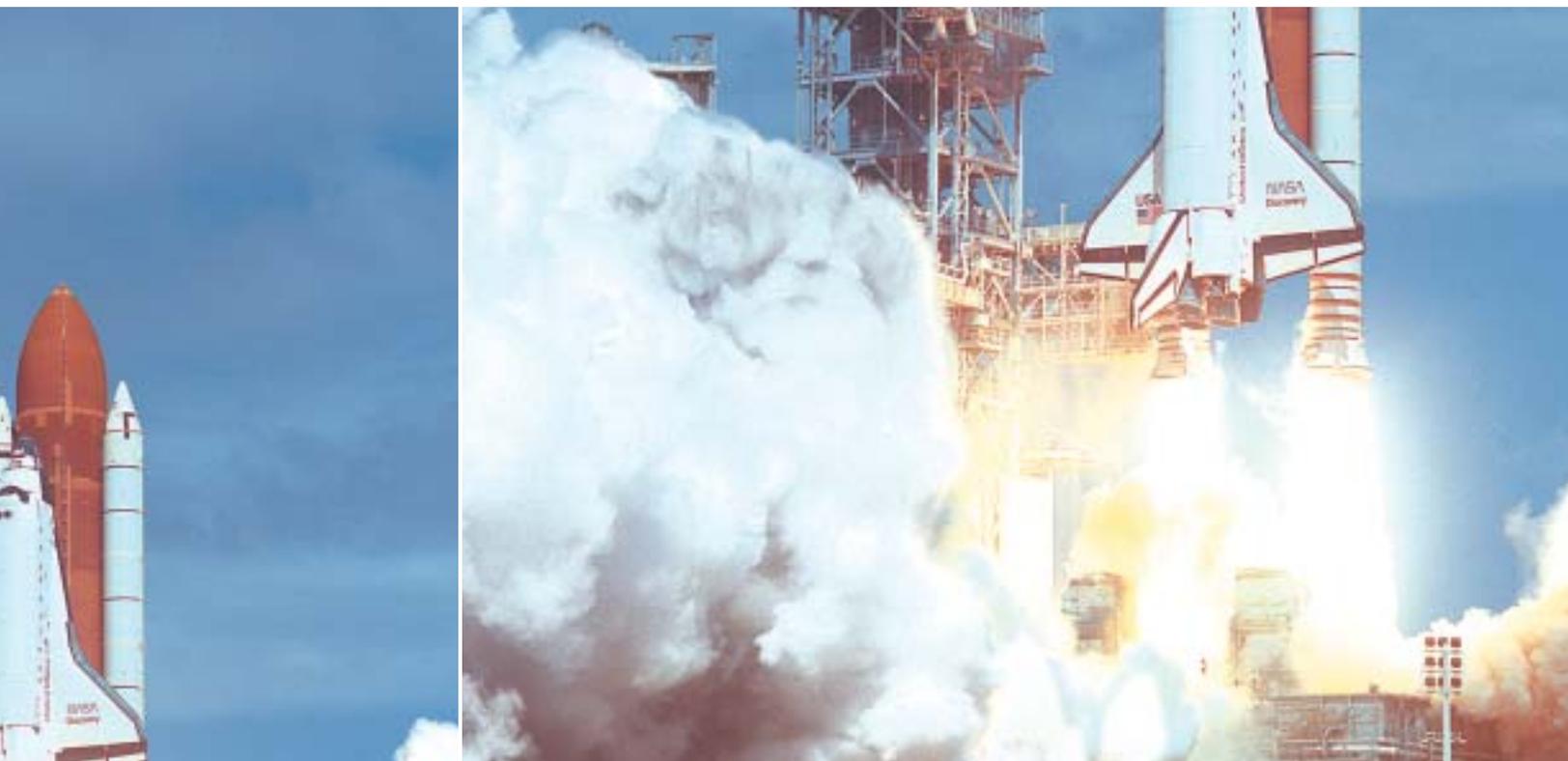
want them to come forward. You want them to be honest. I learned that one by the way from von Braun. Now he was very charismatic. An interesting person, too, one of the most interesting persons I've known. The guy had a balanced life, and I come back to what I said originally about balance. He would go scuba diving, big game hunting up in Canada and he did a lot of things with his family. But the thing I was saying is, we had this guy who didn't hook up some wires like he should have, and he confessed to that. I remember how von Braun bought him a bottle of booze. He did that to reward him for being honest—and he helped him to drink it too! Think about it, do you really want to punish the person for doing the right thing by coming forward. Why dampen his spirit? That makes him less motivated to succeed. We are talking about integrity and honesty.

I'm curious about what motivates you. You're 78 now. You could have retired many years ago. You spoke about what a downer that period was when your wife had cancer and then the Challenger accident. Did you ever consider retirement then, or have you since?
When I was around 55, one evening I got home and I guess I was feeling glum. I said, "I wonder if it is time for me to hang it up?" I'm talking to my wife, and I never forgot this, I said, "What do you think?" She said, "Let me ask you this question? Are you happy in your job?" Boy, she didn't crack a smile or say anything, and so I looked her in the eye and I said, "Yeah." And she said, "You need to stay right where you are, then."

Would she say the same thing today?
Oh yes, absolutely! Until this day she says, "You keep working." Because she knows I love it. Life should be fun; we should have our work as a passion and try to make a difference in everything we do.   •

PRAGMATIC LEADERSHIP ADVICE FROM DONALD RUMSFELD

WHEN PRESIDENT GERALD FORD APPOINTED DONALD Rumsfeld as his Secretary of Defense in 1975, Rumsfeld became the youngest defense secretary in U.S. history. Today, as defense secretary for President George W. Bush, Rumsfeld is the most senior appointee to hold that post. Between political assignments, he became an expert at turning around troubled corporations. His work at G.D. Searle—now a subsidiary of Pharmacia—earned him awards as an outstanding chief executive officer in the pharmaceutical industry.

Rumsfeld's management philosophy is unique and direct, and the best part is he's written it down. While serving in the Ford administration, Rumsfeld wrote a white paper titled Rumsfeld's Rules. These rules were written as guiding principles for White House staff. First published in 1980, the rules were revised and expanded in 2001 to include broader insights on management, work and leadership. They reflect more than 40 years of Rumsfeld's wisdom and experience. A while back, I received a copy of the updated rules. After several months, I picked it up and started reading. I couldn't believe how applicable Rumsfeld's Rules are to project management and leadership.

RUMSFELD'S RULE #50: *Don't be a bottleneck. If the matter is not a decision for the President or you, delegate it. Force responsibility down and out. Find problems areas, add structure and delegate. The pressure is to do the reverse. Resist it.*

Application for the project manager—High-perform-ance work teams are comprised of competent, empowered individuals who have a solid understanding of roles, responsibilities and structure. When team members participate in the decision-making process, they gain a broader understanding of how their work affects others. This understanding enables individuals to make sound decisions within defined boundaries. Project managers should continually assess their decision-making style, use a participative approach and delegate decisions whenever possible. Consider defining roles and responsibilities to include accountabilities. Each individual's accountabilities will set decision-making boundaries.

RUMSFELD'S RULE #94: *Reserve the right to get into anything and exercise it. Make your deputies and staff realize that although many responsibilities are delegated, no one should be surprised when the Secretary engages an issue.*

Application for the project manager—Effective application of Rule #50 will create faster, more efficient work. Unfortunately, the faster work is done, the more opportunity there will be for mistakes and issues. When issues arise, the project manager should lean towards action. If you have an opportunity to do something about an issue, take appropriate actions immediately. Pick up the phone—don't wait for the next scheduled meeting. Roles and responsibilities are delegated on projects; leadership is not.

RUMSFELD'S RULE #57: *Control your time. If you're working off your in-box, you're working off the priorities of others. Be sure the staff is working on what you move to them from the President, or the President will be reacting, not leading.*

Application for the project manager—For project managers, the top priority should be setting and communicating direction. Regularly communicate team priorities, linking priorities to the specific work of individual team members. A manager should determine how frequently communications should occur and what method (e.g., email, meeting) works best for the team. Whatever the frequency and method, be explicit about who is to complete what by when. A disciplined approach to this process will enable the project manager to proactively remove obstacles that may interfere with achieving project objectives.

RUMSFELD'S RULE #38: *If you are lost—"climb, conserve, and confess." (U.S. Navy Flight Manual).*

Application for the project manager—Project managers must learn that it is completely acceptable to say, "I don't know." Once they become comfortable with this, they typically find themselves saying these words quite often. Many issues require time, patience and perception. It is easy for project teams to develop a narrow focus, one that is directed towards work activities, deliverables and milestones. This makes it difficult to step back and gain the perspective needed to make sound decisions. When you feel lost, pull out of day-to-

day project tasks, slow work if necessary and seek advice. Collect feedback from colleagues and subject matter experts. The downstream work required to undo bad decisions ranges from 10 to 100 times the cost of doing it right the first time.

RUMSFELD'S RULE #48: *Don't allow people to be excluded from a meeting or denied an opportunity to express their views because their views differ from the President's, the person who calls the meeting, or your views. The staff system must have integrity and discipline.*

Application for the project manager—Project managers must be responsible for applying discipline to the participative decision-making process. Not every decision requires consensus, but every decision requires a strong sense of ownership. People support what they own. Individuals with differing viewpoints should be included, not excluded. Engaging the right people on the right topics is key to project success.

RUMSFELD'S RULES #34 & 35: *Know that the amount of criticism you receive may correlate somewhat to the amount of publicity you receive. And, if you are not criticized, you may not be doing much.*

Application for the project manager—Complex projects often draw the spotlight because they affect many people. Any time that happens, criticism follows. When leading a project, you quickly make allies and enemies. Effective leaders keep their emotions in check, even when those around them do not. Anger and frustration should be expected. It is how these emotions are managed that is important. Aristotle once remarked, "Anyone can get angry, that is easy. But to be angry with the right person, to the right degree, at the right time, for the right purpose and in the right way—that is not so easy." Don't allow criticism to derail project progress. Instead, maintain composure, remain focused on achieving project goals and learn to recognize and manage the emotions of critical stakeholders.

RUMSFELD'S RULE #58: *Look for what's missing. Many advisors can tell a President how to improve what's proposed or what's gone amiss. Few are able to see what isn't there.*

Application for the project manager—Leading projects requires you to think outside the box…to think differently and to revisit questions and problems. In *How to Think Like Leonardo da Vinci,* Michael Gelb notes that da Vinci's creativity was due, in part, to his ability to reframe difficult questions. Reframing questions—approaching the question in different ways, from different angles—will dramatically increase your ability to identify unique solutions. As a project manager, think about questions from your sponsor's perspective, your team's perspective, the controller's or accountant's perspective and your client's perspective; think beyond the project to the process and quality implications. Make it a habit to consider, think and rethink potential solutions to difficult project questions, taking the time to look for what may be missing.

RUMSFELD'S RULE #14: *Amidst all the clutter, beyond all the obstacles, aside from all the static, are the goals set? Put your head down, do the best job possible, let the flak pass, and work towards those goals.*

Application for the project manager—All projects should begin and end with a focus on goals, a clear definition of what it means to be "done" with the initiative. This completion criterion should become "true north" for the team. It is the project manager's responsibility to establish and maintain that focus. During planning, define project goals as a team. During execution, continually revisit those goals. Team members often operate on different assumptions without realizing it. Failure to focus on goals will lead to a disconnect between what a project should be doing and what it is actually doing.

THE PROJECT MANAGER MUST THINK LIKE A MANAGER AND act as mentor and coach. As anyone who has tried will tell you, that is not a simple role. Drawing on Rumsfeld's experience and counsel can help leaders achieve focus and results. Keep these rules handy, review them often, and don't be afraid to exercise Rule 38. •

Curious about the rest of Donald Rumsfeld's rules? Read them all in his new book, Rumsfeld's Rules, *published by Simon & Schuster.*

Book Reviews
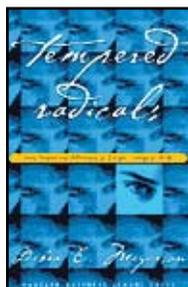
Tempered Radicals:
How People Use Difference
to Inspire Change at Work
Debra E. Meyerson
(2001) Harvard Business School Press

Reviewed by Dr. Michelle Collins

DEBRA MEYERSON DRAWS ON HER EXPERIENCE WITH THREE companies as she reviews organizational culture and norms to identify how changes occur and who causes those changes. It may surprise you to see who pushes for change and to see how visible are their actions. In every organization, Meyerson tells us, a number of individuals rely on their unique perspectives to act on opportunities that arise and initiate small changes.

For "radicals" who don't want to leave NASA but would like to make changes, this book may help you learn how to "temper" your actions to an effective level. For the majority of employees, you may discover that you're already doing more to effect change than you realized. Or, if you currently feel powerless to alter situations you encounter, you'll learn effective techniques that won't put you at risk.

Though I would have preferred to see more technical, organizational, and managerial issues addressed, Meyerson does speak to issues likely to be important in many work environments. If you are considered a minority of any sort (i.e., single father, woman, Asian-American, etc.), you will find useful advice on handling issues specific to your minority concerns.

Although the author provides some interesting "stories" to develop her points, the book plods through the material. I think the same information could have been conveyed in half the pages. But when I attempted to skip ahead, I found that later points referred back to "stories" in previous chapters. You'll have to read the entire book to get the most from it.

Dr. Collins is a member of the ASK Review Board. See her bio with the rest of the Review Board on p.35.

The Attention Economy:
Understanding the New Currency of Business
Thomas H. Davenport and John C. Beck
(2001) Boston: Harvard Business School Press

Reviewed by Dr. Gerald Mulenburg
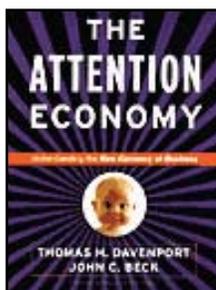
THIS IS A FRIGHTENING BOOK. Thomas Davenport and John Beck assert that our most pressing problem today is not a lack of resources, but a lack of attention. To pay attention to the demands of business and society, the authors assert, is to attend to those needs, to take care of them. They impose a causal chain of awareness-attention-action: No attention means no action.

When we want to accomplish something, it's not just finding time to be better managers—we must understand where and how we focus our attention on a project. Davenport and Beck begin by comparing attention to time; both are non-renewable resources that others seek from us. In our information age, the authors conclude, "Telecommunication bandwidth is not a problem, but human bandwidth is . . . a wealth of information creates a poverty of attention."

Not simply a philosophical discussion, Attention Economy offers much to practicing managers. An "Attention Scape" enables readers to evaluate their use of attention by charting the quantity and direction of attention. It's an easy and effective way to consider whether you are focusing on what you believe to be important, or spending much of your attention elsewhere. The authors include a table of common attention imbalances and ways to bring them back into balance.

As both producers and consumers of attention, we are pulled by the demands of others for our attention at the same time that we seek their attention. This can lead to Attention Deficit Disorder (ADD) in organizations

just as it does in individuals. But there is no Ritalin for organizations to take (yet, anyway). And what are the consequences of this ADD? "Info-stress," say the authors. With not enough attention to go around, or going to the wrong topics, problems crop up and then don't get solved effectively. This quickly leads to mediocrity, with slipped schedules, reduced content and higher costs—and leads to outright project failure in a worst-case scenario.

Davenport and Beck identify several attention critical business domains: electronic commerce, project and process management, organizational leadership, strategy and information and knowledge management. The book helps to put attention in perspective from both an historical and an anthropological point of view, and the authors provide an attention hierarchy that follows Maslow's classic needs hierarchy (survival, safety, love, esteem, actualization).

This book synthesizes what several other books (*Simplicity, Out of Control, Relax: It's Only Uncertainty*) have also expressed: The demands on our time are constant and relentless. At work, the number of emails, voice-mails, snail-mails, meetings, and interruptions continue to rise. At home, it is similar—with web sites, email spam, answering machine messages and junk mail. And even when trying to relax, the increasing minutes-per-hour of radio and television commercials fills our leisure time with messages demanding (and often getting) our attention.

In thinking about attention scarcity and managing projects, working long hours often becomes a way of life. But Davenport and Beck contend that "the most important function of attention isn't taking information in, but screening it out." How often do we allocate our scarce attention resources on things that others should be spending their attention on? Or spend it on things that are easy or fun or urgent, rather than important? As the authors state, "It's unlikely that any project can get the concerted, long-term attention it needs if everyone is so busy responding to incoming e-mails and flashing voice mail lights." As project managers, our primary asset to manage is our attention, but have any of us ever created a project attention schedule with the essential activities, events, milestones, critical path, etc? I don't think so.

This book isn't an on-the-edge-of-your-seat thriller, but it is well written and smartly formatted, with useful tips and tidbits. If nothing else, *The Attention Economy* provides insight on the demands that others place on our attention, and suggests ways to deflect those demands while appropriately placing our own demands on others. •

Dr. Mulenburg is also a member of the ASK Review Board. See his bio with the rest of the Review Board on p.35.

CONFERENCE REPORT

To see what happened at the
August 2002 APPL Masters Forum
of Project Managers in Washington, D.C.,
please go to the *ASK* website at
http://appl.nasa.gov/knowledge/ask_home.htm
and click on the link for the
Conference Report.

Communicating By Walking Around

*Lance, a successful project manager of large
engineering projects, writes only if he has good reason*

HE CONSIDERS THE FOLLOWING TO BE GOOD REASONS: confirming understanding, articulating a complex issue, recording for future reference and covering (in some cases) his butt. Nor does he spend much time reading written reports. He believes that verbal communication is more effective than written. Lance claims that information gathering is the basis for all his other managerial work, which is the reason he chooses to spend so much of his time doing it.

He holds weekly two-hour status meetings with his team, composed of discipline leaders and major vendors' representatives. At these meetings, items being tracked week-to-week are monitored and new concerns are raised. The information exchange is not merely a show-and-tell; Lance wants to get the problems out in the open. He does not want to hear only good news. In fact, he says there would be no need for his job if there were only good things to report. Lance fosters an environment where there is no penalty for saying you are behind schedule or beyond budget. While it is safe to report trouble, it is unforgivable to withhold bad news.

Lance talks, at least weekly, to all major stakeholders, primarily on the telephone, but sometimes face-to-face. He does not simply transmit and receive information. Rather, he actively pushes and pulls information. He keeps these people informed of the project status, persuades them to support his team's decisions, negotiates for resources and finds out which of the company's other activities may affect his project. Lance also maintains an open-door policy, and he backs this up by being available every morning before 8:30. No appointments are scheduled then.

But Lance believes that he cannot just wait for information to come to him. He moves about and exchanges information with the 60 engineers working on his project. After doing some homework on the technical aspects of each one's work, Lance gets on their playing fields by knowing something about their areas of expertise. This way, he can stop in on them and chat about their day-to-day work with credibility, obtain a true picture of how the project is going and at the same time let each individual feel that he or she is important because the project leader knows what he or she is doing. The fact that he spends at least a half hour daily talking with the engineers is outstanding, but even more so is that he listens. In his office hangs a poster that says,

MARTIN HOOPS
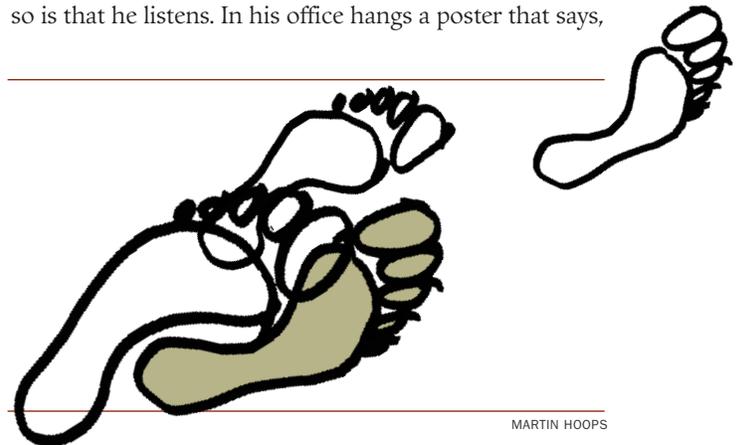
"Listen. Let others talk." Clearly, he believes it.

Beyond collecting and sharing information, Lance's communication style has two crucial byproducts. First, it motivates people. By talking and listening to the engineers on a one-to-one basis, Lance is able to enhance their commitment, loyalty, and esprit de corps. Second, it allows him a natural and subtle but timely influence on project activities. This informal, communicating-by-walking-around style is probably the most effective control system. •

ASK