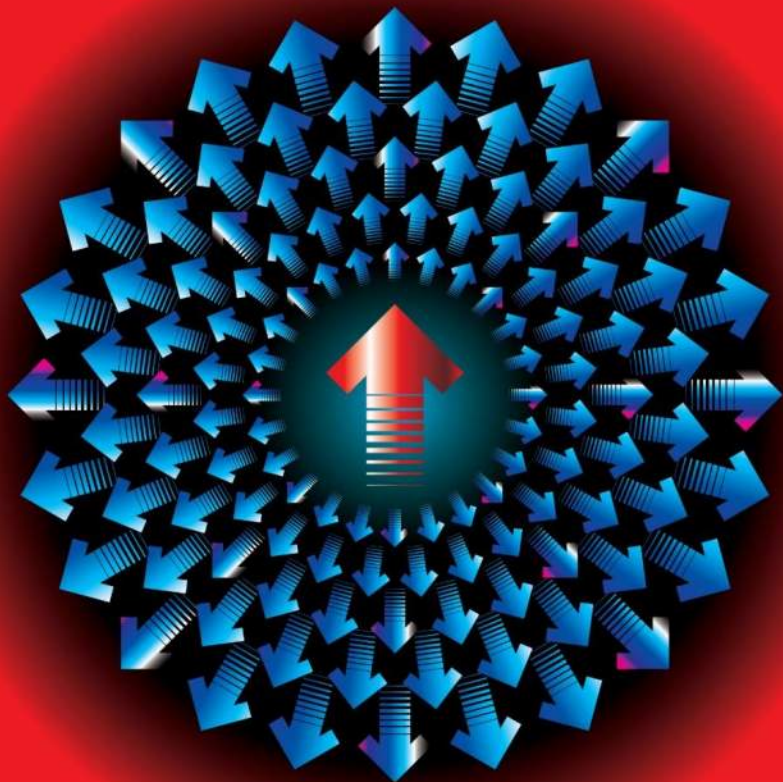# WORK SMART,
WORK SAFE!

Leadership Principles
for Operational Excellence

by Michael J. Vallez, PE

Operational Excellence is a philosophy of leadership, teamwork and problem solving resulting in continuous improvement throughout the organization by focusing on the needs of the customer, empowering employees, and optimizing existing activities in the process.

Operational Excellence stresses the need to continually improve by promoting a stronger teamwork atmosphere. Safety and quality improvements for employees and customers lead towards becoming a better enterprise. The continuous improvement is not only about improving HR quality, but also it is about the processes and standards improvement. You cannot improve if you do not measure.

This groundbreaking book is an easy read primer on the crucial principles for achieving operational excellence in any work group, large or small. In clear, concise and simple language, the reader will gain an understanding of how to achieve high levels of, safety, motivation, productivity through a focus on people and customers. Contrary to common belief, there are new understandings in the fields of physiology, psychology, neuroscience, show that the objectives of safety and productivity do not conflict with each other. The concepts and principles revealed in Work Smart, Work Safe! are found at the intersection of the leading practices of safety and productivity management. For the first time, the prescriptions to eliminate the root causes of poor safety performance, are linked to some of the same management and leadership principles which are effective in producing high levels of motivation and productivity. Rushing, Fatigue, Frustration and Complacency are the root causes of accidents, and the enemies of Operational Excellence. Based on academic research, and a 35 year career of practical applications, Mike Vallez offers some insight into the root cause of root causes – poor leadership.

WORK SMART,
WORK SAFE!

Leadership Principles
for Operational Excellence

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To Rebecca, Michael, David and Anna.

Contents

Preface

It was never my intention to write a book about management. It began to take shape one Saturday afternoon a couple of years ago. I'd been in the engineering, construction and project development fields for 30-plus years, in positions ranging from carpenter and underground miner to company president. More than 500 people would be involved in the complex industrial project on which I was about to start work. With this challenge in front of me, I knew that it would demand everything that I had learned about managing people to get work done.

Sitting on my back porch, I began to jot down notes, drawing from the many projects I'd been involved in over the course of my career: bridges, mines, mills, schools, high-rise hotels, power plants and offices. I thought of what I'd learned about leadership, about motivation, about how to treat people as people and how to increase productivity, improve safety, and what I'd learned NOT to do from some of the terrible leaders I'd been exposed to.

As the afternoon wore on, my first rough jottings began to turn into a comprehensive list of recommendations and principles. By

the end of the day I had a well-thought-out checklist of concepts to apply in my work. One of those principles was to provide training to people. It occurred to me that there was no training program available to teach all of the principles I had learned about from my mentors over the years, so I decided to take the leadership principles that were just scribbles on a pad of paper, and make a powerpoint presentation that I could share with my team. This, in its turn, evolved into a film called Principles of Leadership, which is available for viewing at http://vimeo.com/5465826.

The response from colleagues, family and friends was unanimously positive, and I was encouraged to take the project even further. Ever since I made the film, I've continued to read about, learn and apply new lessons in leadership, including some ideas from the world of sports coaching. The result is *Work Smart, Work Safe!*, the book you are now reading, finally complete after its genesis on my back porch several years ago.

Although my career has been in the engineering, development, construction, mining and energy industries, the principles in this book can be applied to any kind of human endeavor. I hope you'll find it to be a book you'll refer to over and over again, and use the leadership principles it contains to improve and enrich your daily life, both professionally and personally, as they have mine.

Mike Vallez, Salt Lake City, Utah 2011

WORK SMART,
WORK SAFE!

PART ONE

Left Brain Principles

Work Smart

The dynamics of leadership has been a long-standing interest for me. Early in my career, while I was studying for my MBA, I chose "Develop and Implement a Plan to Create High Levels of Motivation and Productivity in the Workplace" as a special school project. At the time, I was working full-time for a subsidiary company of Dravo, who were paying 80% of my tuition. I felt the least I could do for them was to research the factors that I felt would result in a successful venture and put what I discovered into action.

Of course, I learned very quickly that, as a newcomer to the firm, I had no influence to implement very much of anything. All I could do was do my very best at everything I was assigned and keep my eyes and ears open to add to my knowledge. I also learned that one semester was not nearly enough time to discover all there was to know about that special five-credit project I set myself.

Instead, it's taken me a lifetime to amass the knowledge I have now. My degree in engineering did little to prepare me for the management path I chose, and apart from that MBA thesis, almost everything useful I've learned has been from my parents, my mentors and on-the-job experience. I've spent my career searching out and applying different concepts of leadership, focusing on improving the quality of work life and leading to those high levels of motivation and productivity I was originally interested in. My 35 years in construction have given me a "boots on" opportunity to put that thesis into action, experimenting with new ideas as I went along. You'll find many real-life examples in the first part of the book, where I deal with the 'left brain' nitty-gritty of leading a successful project, team or business operation. The basic principles of goal setting, planning, organization, team building and scheduling are covered in detail.

Work Safe

Construction has long been considered one of the more dangerous occupations in the world. As far back as 400 years BC, Hippocrates, the father of contemporary medicine, realized the respiratory problems of Greek stonecutters were linked to the rock dust that surrounded them.

A modern building site presents numerous opportunities for accidents and injury: heavy machinery, open pits, exposed electrical wiring, falling objects, toxic chemicals and ear-shattering noise.

Early attempts at regulation were met with resistance. In 1904, Maryland's attempt to force employers to compensate their employees for on-the-job injuries was overturned by the Supreme Court, which declared the state's workers' compensation law to be unconstitutional.

As the 20th century progressed, a more humanitarian view began to emerge. In 1936, the Secretary of Labor, Frances Perkins, called for a federal occupational safety and health law, although it took until 1970 for President Nixon to sign into law the Occupational Safety and Health Act (OSHA). Still, many employers believed that rules and regulations would inhibit performance and slow down productivity.

By the time I entered the work force in the Seventies, employers' main concern was how to comply with the new regulations and, difficult though it may be to believe now, convey the importance of wearing hard hats on the site. An entire new body of knowledge, including environmental studies, began to accumulate. There was still not much understanding of how occupational health and safety meshed with the other priorities of line supervision.

The prevailing focus in the 1970s was to control unsafe conditions, and unsafe acts. Unsafe conditions were primarily defined as those which were outside of the OSHA and MSHA (Mine Safety and Health Administration) rules and regulations. Unsafe acts included all the

"dumb things people did." During this era, companies responded by implementing work area inspections and issuing worker rules. Many companies are still stuck in that era—some with a fatalistic "accidents happen" mentality.

In the 1980s , occupational safety garnered more attention from psychologists, behavioral scientists and neuroscientists to better understand why "people do dumb things." These principles are now being applied by leading organizations, with dramatic results. One such organization is global mining giant, Rio Tinto, whose workplace is safer than that of a retail store.

On September 18, 1998, the Austrian government issued a highly critical report about a mine disaster at Talc de Luzenac's Lassing mine where ten miners died when the roof collapsed. The report found that the disaster was caused by a management focus on profit over safety. This was a defining event in the history of Rio Tinto, Talc de Luzenac's parent company, and one of the largest and most diversified pure mining companies in the world. Nine years after the Lassing disaster, I had the opportunity to work for Rio Tinto as the project and engineering manager for their underground development at the Bingham Canyon mine in Utah. By that time, Rio Tinto and its worldwide subsidiaries had achieved some of the highest safety records in the mining industry. Through a concerted corporate commitment, Rio Tinto had created a corporate culture where safety was the number one priority, and the safety value was embedded into every business process. In *Work Smart, Work Safe!*, we will look at some of the things that Rio Tinto and other companies do today to maintain their safety focus.

In April, 2010, the Deepwater Horizon drilling rig exploded in the Gulf of Mexico, killing 11 people, injuring 17 others and starting a massive off-shore oil spill. The rig was owned by Transocean

and was drilling for BP. Again, as in the case of Rio Tinto at Lassing, critics held top management responsible. The CEO of BP, Tony Hayward, lost his job over the disaster, and five new board members have been brought in. BP is still working through its internal corporate response to the spill. Time will tell whether or not BP gets it right.

These examples clearly show that the ultimate root cause of accidents is poor leadership, from top to the bottom. We have come a long way in our understanding of workplace health and safety since the construction of the Hoover Dam, Panama Canal and Transcontinental Railroad. The world has little patience for leaders who prevail over teams and organizations which fail to provide a safe and healthy work environment for their workers.

Today, most employers have come to realize that safety, productivity and quality are not mutually exclusive. In fact, productivity can be greatly increased if safety rules are adhered to and workers are encouraged to protect themselves and those they work with.

Of course, every construction site has specific safety requirements, and this book does not pretend to be a handbook on how to create a safety program. Rather, it embodies the common leadership principles which can and will reduce the root causes of accidents AND poor productivity, when applied within a professional, comprehensive safety program.

Another Dimension

So far I've touched only on my professional experience, but there's another aspect of my life I'd like you to know about. In the second part of *Work Smart, Work Safe!* I share with you my personal story, and how it took me the hard way through learning forgiveness and acceptance, and eventually to spiritual surrender. You'll find some concepts of leadership you might be surprised to see in a book with

this name, but which I consider to be just as valuable as those in Part One. These aspects of leadership development are more 'right brain,' and I feel so strongly about them I think I would be doing a disservice to you, the reader, if I neglected to include them.

It is my hope that this book will expand thinking in the industry, support all those entrusted to my leadership, and allow me to continue to engage with my colleagues towards a deeper understanding of the dynamics of leadership and the search for operational excellence.

And if you have a good example or story about a safety plan implementation, I would like to hear about it. Please contact me by phone or email.

Mike Vallez, PE
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Set Goals

Goal setting is the most basic leadership principle for success. If you haven't defined what it is you want to do, your chances of achieving it are slim. There are five fundamental steps involved, and I use this simple device to help me remember them.
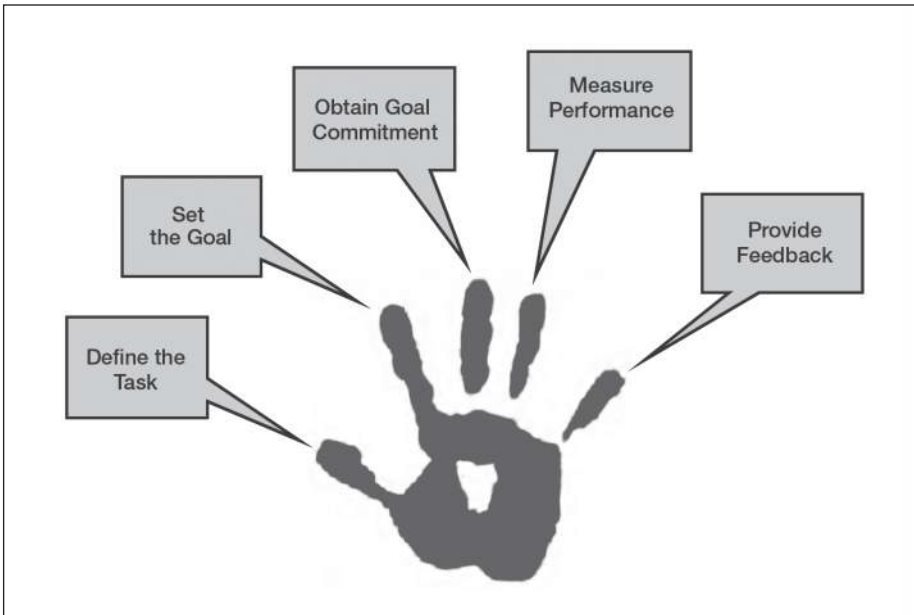
Step 1: Define the Task

What exactly do you intend to achieve? What will each individual or team you are working with need to do to make it happen?

Step 2: Set the Goal

The goal must be specific: it can be the time necessary to accomplish a task, a productivity rate, the amount of work completed in a day or whatever else you choose to set. Make it challenging but achievable.

Remember the acronym SMART. SMART goals are Specific, Measurable, Attainable, Relevant and Time bound.

Step 3: Obtain Goal Commitment

Have the people who will do the work participate in the goal setting, because self-determined goals are usually higher than those a supervisor would assign.

Step 4: Measure Performance

This can take a lot of work, but is crucial for achieving goals.

Here's an example from my time at Dravo/Weyher. We had some process jobs at Kennecott Utah Copper Company's smelter. I wanted to know how our productivity measured up against established standards. To achieve my goal of finding out, I did labor estimates on the jobs, using some national piping standards. Then I followed the jobs into the field and kept a close watch on labor and production. By comparing our actual productivity against the standard rates, I was able to calculate a ratio.

The fancy name for this is benchmarking. If you are dealing with a goal setting program in any environment whatsoever, you can use benchmarking to see where you stand and track your progress. Using standard man-hours estimates, you can calculate man-hours earned versus man-hours spent and come up with an efficiency percentage. This is then graphed for each crew.

Step 5: Provide Feedback

Feedback, the more specific the better, is essential for goal setting to work. Simply telling someone they did a good job is not enough. Reward with some positive recognition, and provide graphical feedback.

Sometimes, feedback alone will have measurable results. Start publicly displaying a graph of some operational metric that you want to improve, and you will see the results climb.

One of my first chances to prove the goal setting concept was on the construction of the Duke Energy Center in Charlotte, North Carolina.

When I set up the labor codes, I broke out each floor so that I could track how much labor it took to complete each operation per floor. Every week, I plotted the results graphically on the wall of the job trailer so everyone could see the improvement. I was surprised to see how interested the foremen and crew became in the numbers. As the work progressed, I could see the crews collaborating to find better, smarter, safer and faster ways to get the job done. I have used this method many times since, and I guarantee you will get at least 25-30 percent better results when you do the same.

Following these five elementary principles will give any endeavor you undertake the very best chance of success.

Duke Energy Center

Case Example—Safety at Rio Tinto

As mentioned in the introduction, Rio Tinto got a wake up call on September 18, 2008, when the Austrian government found the company responsible for the death of ten miners at the Lassing mine there. What has happened within Rio Tinto since then should turn the head of any manager or executive who has the attitude that "accidents just happen". Rio Tinto has turned that notion on its head.

I joined Kennecott Utah Copper, a unit of Rio Tinto, in February 2007 as construction project engineer for the Keystone Project, a long term vision to develop the deeper ore bodies at the Bingham mine. (I later became the engineering manager.) As I was considering a position with Rio Tinto, I came across their 2006 Sustainability Report that was posted on line, *and noticed their report on safety statistics.*

Rio Tinto-Kennecott Keystone Project

Comparison of Safety Performance

Lost Time injury Rate

9.2

3.4   3.6   2.3   2.7   0.62

10
8
6
4
2
0

Construction Couriers Manufacturing Mining Retail Rio Tinto/KUC
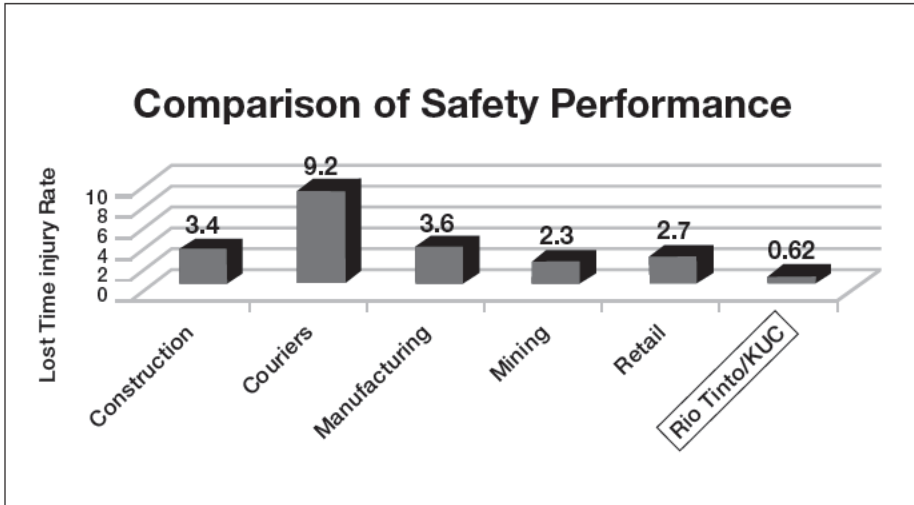
Management at Rio Tinto had turned the tragedy at Lassing into an opportunity, and they used the concepts of goal setting, along with other cutting-edge tactics and strategies in the realm of safety management. Some of these strategies are mentioned later in the book, but the concepts of goal setting as described in this section are an integral part of Rio Tinto's approach to safety. Graphs, like the one you see above, and other charts of safety data, are displayed around the organization so that everyone can track the progress being made. Again, feedback is critical to improving performance in any operational metric, and graphical feedback is the strongest way to communicate data, while praise and recognition are the best way to reward behaviors.

At Rio Tinto's Kennecott Mine in Utah, there is a set of flashing red, yellow, and green lights to alert all employees coming on shift when even a minor safety incident occurs at the 3,500 person operation. Safety consciousness is everywhere.

Involve Everyone

"Without involvement, there is no commitment. Mark it down, asterisk it, circle it, underline it. No involvement, no commitment."

Stephen Covey

To be successful in any mission, you must involve everyone. In the principle Choose the Right Management Style, I mention that participative management was a style to use across all types of employees, regardless of their skill or knowledge level. And in the principle of Plant Motivators and Weed Out Demotivators, we have found that lack of participation in management decisions was a big demotivator. But this principle is so important to success that it deserves its own headline here.

How do you involve everyone? It depends. Here are some examples from my personal experience.

At McDevitt and Street Company, (absorbed by Bovis after Bob Street died of Lou Gehrig's disease, now absorbed by Lend Lease, one of the top ten global general contractors with 2007 revenues at $5.7 billion) all two thousand of its 1988 employees were involved in the annual strategic planning process. Every September, everyone in the company, in all 21 divisions, was asked to complete an internal survey, including a SWOT analysis. These survey results were aggregated by the corporate planning director for each division and distributed back to the employees in that division. This was not a time-consuming thing to do. It required an hour here, an hour there, until the time of the division planning weekend in January. The planning weekend was always held in a resort setting, where every division employee gathered on a Thursday evening, and met all day Friday and Saturday until 2:00 PM, with the rest of the

afternoon reserved for golf. There were optional activities planned for the spouses during the meeting times. Both the region manager and Bob Street attended these meetings, and there was an agenda to cover the main issues, challenges, opportunities, clients of the division.

At Adolfson and Peterson (now number 79 on the ENR 400) every single employee in the company was invited to participate in an "Operational Excellence" campaign. These committees included Human Resources; Safety; Scheduling; Quality; Sales and Marketing; etc. Because the company had multiple offices, there were committees at each division office. Each committee determined its own direction. The Human Resources Committee I chaired met weekly for a short update, and also had a monthly lunch meeting away from the office. The committees were given relatively free reign to recommend and implement various initiatives. Naturally, there was some peer oversight and coordination between committees on a periodic basis.

James Center
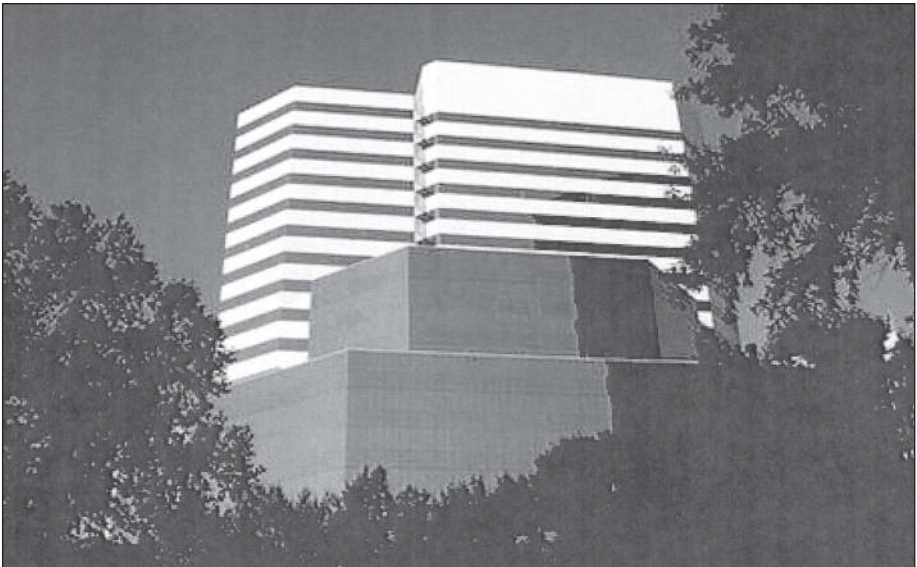
These examples, and the remarkable success of these companies, illustrate the power of participation. They also illustrate the power of leading by example. Every employee at every level saw and felt the power of participation, and was able to see the benefits of applying the principle at their level of the organization.

But if you are working at a company where participation is not yet the norm, no matter what level you are at in your company, you can still use the principle of participation, as the following examples show.

At Al Johnson Construction Company, my first employer out of college, every project had a monthly safety breakfast and meeting on the second Saturday of the month. If the job was scheduled to work that day, it was suspended.

In 2010 I was charged with managing the construction of a geothermal power plant in Hawaii. (A white paper on this project can be found a the end of the book.) One week after the start of the project, the owner, Ormat Technologies, shortened the contract schedule by two months. I basically had to double the manpower and equipment to achieve the completion dates. Being on a remote island in the middle of the Pacific made this a real challenge for everyone, particularly as the skilled welders, fitters and ironworkers we needed had to be brought over from the mainland. It was a scramble, and I quickly saw that the task was above the capabilities of my superintendent responsible for field activities. We had a couple of near miss accidents and started to run out of critical field parts and supplies. There were one or two incidents of insubordination, with the hands becoming increasingly frustrated. Productivity was taking a big hit, and I knew I had to act decisively and quickly before things got worse.

At Rio Tinto, as the engineering manager at their planned underground expansion at Kennecott Utah Copper, I had learned that

safety was a driver in every aspect of operational performance. So when I faced these problems in Hawaii, I started by addressing the safety issues and by utilizing the power of participation. On a Saturday morning, I announced to the entire crew that the following week was going to be dedicated as "Safety Week," and outlined to them some of the structured activities we would have, which would culminate with a banquet on Saturday night.

On Monday morning, I again met with the entire team and asked for their help. I told them that one of the biggest challenges I always faced was how to unite a group of people from different backgrounds and experience levels, and create a cohesive safety culture on a project. This project brought together an extremely diverse mix. We had Navajos, Hispanics, Native Hawaiians, Pacific Islanders, Caucasians, men and women, all from different parts of the US. I shared with them the values I held, including my belief that the one doing a job knew best how to do it. Because of that, I asked them to take on this challenge with me—create a project safety culture as quickly as possible. I called it THE SAFETY CHALLENGE.

I spoke to the team from my heart. I opened up a direct dialogue with them about "Why Safety?", and came up with the following reasons:

> There are loved ones who count on us to come home in the same condition that we left home.

> Americans place a high value on life and limb. We hear stories from American battlefields, where soldiers have risked their lives to rescue a fallen comrade.

> Working in the trades, we rely on our fingers, arms, legs, minds and bodies to earn a living and do the work that we love to do.

It is the law, and our actions are governed by OSHA, MSHA and other regulatory entities.

There are people serving time in prison for failure to do all that they can do to create a safe work environment.

Our clients demand safety of us, and if we do not maintain safety, we will be excluded from many places to provide continued employment opportunities.

The financial cost of accidents is severe, and we want to maintain our company in good financial health.

Then, by handing out a couple decks of cards, I broke the entire workforce down into groups of four and asked each group to collectively answer a survey with the following questions:

1. What can we do to bring people together from various backgrounds, experience levels and attitudes to create a highly committed common safety culture on the job?

2. What are the things that we need to START doing as individuals and as a group to make this a safer project?

3. What are the things we need to STOP doing as individuals and as a group to make this a safer project?

4. What are you missing?

(Remember—keep it simple)

The answers the survey elicited were remarkable, so remarkable we reproduced them and made large posters that we placed around the worksite so the various groups could see how others had responded. I recommend you read them for yourself and see what the power of participation can produce.

SAFETY SURVEY RESULTS

First question: What can we do to bring people together from various backgrounds, experience levels and attitudes to create a highly committed common safety culture on the job?

GROUP 'ACE'	Respect others' background and where they are from. Respect one another in and out of the job. Learn from one another because we learn new things every day. Treat people how you would like to be treated. Always give a helpful hand when needed. Respect their culture, religion and sex. We all come from different backgrounds but we all are here for the same reason, to finish this job safely!
GROUP 2	It's important to obtain a very clear understanding of safety procedures on the job site and be able to comprehend the job that is being performed. It's also critical for those with a diverse ethnic background to have a translator, if they can't speak English well, among the different crews they are working with so that they can have English language translated to have a better understanding of safety protocol and job descriptions. It's also a great asset to the company and employees when highly competent individuals are hired to perform a job as these types of people are very aware, alert and enforce safety for everyone. Enthusiasm. Teach new employees with diligence, be eager to work and learn new tasks each day.
GROUP 3	Be willing to have an open mind, willing to change, like to work with others, willing to be your brother's keeper. Share one's differences and cultures. Be willing to share safety information with others.
GROUP 4	Keep an open mind to learn new things regarding work and safety regardless of background, ethnicity and experience level. Seasoned hands can learn new things every day as well as green helpers. Everyone can and must learn and share different things to keep the industry alive. Keep open communications. Language barriers can be a challenge. Be sure everyone involved in a particular task is clear on what is happening. There are usually enough bilingual people to help translate if necessary.
GROUP 5	Practice what you preach. Try to learn from other people with more experience.
GROUP 6	Communicate the job that's coming up. Discuss amongst yourselves each person's part and how they're going to perform it safely. Offer help to one another without having to be asked. Remember all of us are important to a task whether person or boss. Be willing to listen. Don't take criticism personally. Make sure you understand what the other guy is saying.
GROUP 7	Communication, be open minded, respect. Love. Have a safety program so people that are not knowledgeable about safety can learn safety.
GROUP 8	The whole crew needs to communicate and plan their job. Make sure everyone understands and works together on the plan. Get to know each other. Journeymen should be willing to teach the younger guys and help them become better craftsmen.
GROUP 9	Safety dinners are good and bring people together to visit outside of the work place. Respect others and property on job site. Good communication between all in the workplace.

GROUP 10	Ask questions about traditions and work ethics. Treat co-workers like family. Treat people with respect. Don't make racial comments that might offend others. Keep an open mind and open yourself to constructive criticism. Take time to get to know each other. Don't spread rumors about others.
GROUP JACKS	Effective communication. Learn about safety. Follow instructions and safe practices. Plan job tasks and look for hazards prior to beginning work. List and respect others' ideas and suggestions. Ask for help if you don't know.
GROUP QUEENS	Change helpers to different welders and fitter groups. In this exchange all different crews may have ideas going from one group to another. Show interest in each other's culture.
GROUP KINGS	Have better communication. Have two to three people from various backgrounds walk down the job making sure all the co-workers are working safety and properly once a week. Report back at Monday's safety meeting.

Second question: What are the things that we need to START doing as individuals and as a group to make this a safer project?

GROUP 'ACE'	Good communications. Plan out task the group will be doing so everyone will be on the same page. Get everyone's input. Speak out if you're in doubt. Anyone can stop a job if he/she thinks it's not safe. Use the right tools and materials, PPE for the job. Chain of Command. Respect barricades and other workers within the area. Job Safety Analysis (JSA) is there to do all that. We need everyone's help to fill it out, even with the operators and others working within the area. Take every job seriously even if you've done it a hundred times. Get your rest so you can be 100% everyday. Good housekeeping. If you have a personal problem leave it at the gate 'cause we need your focus. Treat everyone as your family 'cause we spend more time together than back home. Have a positive attitude. Be your brother's keeper. Check tools and material before using.
GROUP 2	Avoid extreme fatigue and get plenty of rest because this really plays a huge role in staying focused at work. Take the job extremely seriously and remain professional. Take pride in our work. Work as a strong team and communicate about everything. Teach new employees hands on what needs to be done with their jobs and make sure they learn the right way to do something at the beginning. Take our time when performing a job. Eliminate hazards when you see them. Laziness should not be tolerated.
GROUP 3	Work this project like it's your own project and also treat coworkers with dignity and respect. Treat co-workers in a professional manner. Challenge yourself to improve quality safety work. Treat co-workers as you want to be treated. Take pride in your work and the company you are working for. Follow safety JSA roles for every task. Start helping co-workers with less experience for less accidents.
GROUP 4	An unsafe act may seem like it's not a big deal, but a serious injury can always result. Think about yourself and your family. Lost work from an injury can translate to lost wages and permanently compromised health. Do not take shortcuts. Shortcuts have the potential to be extremely dangerous. Take the extra time to clean our area and rig properly. The extra time spent preparing could prevent serious injury to yourself and others.

GROUP 5	Inspect equipment and work area. Pre-task your work. Have a good attitude. Fill out your JSA properly. Inspect before you start work. Teach the apprentices the safe and right way. Wear PPE at all times. Eliminate all tripping hazards before, during and after work.Practice what you preach. Try to learn from other people with more experience.
GROUP 6	Discuss your JSAs and have a plan of action. Get with your boss or safety person if you have questions. Don't take short cuts which may lead to injury. If you can't do the task safely with what you have, don't try it. You have no reason to be rushed even if someone is pushing you. If you need help, ask. If you see someone needing help, stop them until they have the help they need.
GROUP 7	Be open for suggestions. Be willing to let no unsafe act go unnoticed. Attempt to know everybody on a personal level. You are your brother's keeper. Safety incentives. Be proactive, not reactive. Start good housekeeping. Use correct tool for the job. Supervisors, know your people and their limitations and their strengths.
GROUP 8	Watch out for other crew members. If someone is doing something unsafe, let them know and assist them in correcting it, if necessary. Be open minded to their crew members' suggestions. Treat people with respect, as if they were family members. Always wear gloves when handling material.
GROUP 9	Better communication. More awareness. Use more plant safety rules, less shortcuts. Better planning of task. More equipment checks and inspections. Remove equipment from service if not in proper working order.
GROUP 10	Be more aware of our surroundings. Think before acting. Use proper tools for the job at hand. Follow all rules, don't take short cuts. Make eye contact with drivers. When working above use a safety harness. When working with forklifts always have two spotters and use tag lines. Inspect all tools. Think of loved ones before performing an unsafe act. Leave bad attitudes at home. Come to work with a clear head. Start getting enough rest before returning to work.
GROUP JACKS	Ask for help! Have all the materials we need to do a job safely. (Jack stands rigging, proper chokers, etc.) Respect and follow red tape areas. Plan tasks prior to beginning work. Discuss possible hazards and eliminate them when possible (trip hazards, etc.). Look out for each other and help. Share equipment and rigging. Get everything you need to do your assigned task safely. Wear earplugs. Rely on more knowledgeable people to help plan tasks safely if you don't know how. Communicate with others in the area about your work that may cause them a safety concern.
GROUP QUEENS	Be humble and accept other people's comments and criticism. Communicate with everyone on the crew before work starts. Think it through and try to anticipate hazards.
GROUP KINGS	Stop unsafe acts and watch out for other people. Use the proper tools. Train green hands on proper used of small power tools.once a week. Report back at Monday's safety meeting.

Third Question: What are the things we need to STOP doing as individuals and as a group to make this a safer project?

GROUP 'ACE'	No more horseplay. Clean up as you go. Do not interrupt people/workers when they are doing their job. Don't get in a rush or use shortcuts. We need to work together between crews. Be your brother's keeper. Use the right materials for the job. Use the forklift and take care. Don't manhandle it. Take every job seriously. Any job can be done safely. Take JSA seriously.
GROUP 2	Stop being irresponsible regarding housekeeping and safety. Stop depending on someone else to do a job we are capable of doing as well. Stop leaving tools on job site and in pipes. Stop running over cords. We need to take good care of equipment & tools that are loaned to us.
GROUP 3	Stop doing a poor clean-up, stop doing short cuts. Stop losing tools. Stop horseplay. Stop using bad language. Stop leaving your work. Stay in your area and ask for more work. Stop following unsafe actions.
GROUP 4	Be sure to use the proper tools for a particular job. Using underrated lifting and hoisting equipment can cause serious injury. Ask for help from someone who has experience with the task at hand. Stop seeing the project with blinders on. Be aware of not only the task in front of you but everything that is happening. Just as driving a car, you can only keep yourself safe by knowing what is going on around you as well as in front of you. Do not turn a blind eye to unsafe acts. If you see an unsafe act, approach and advise a better way.
GROUP 5	Rushing your work. Being complacent about safety. Horseplay. Coming to work not rested.
GROUP 6	Stop rushing, we're on time. Stop being complacent. Every day is a new one. Leave your personal problems at your house, we need you thinking about the job. Stop using the wrong tool. Cut back on horseplay, save it for after work. Stop worrying that the job will come to an end. Be happy we're here now. Stop rushing across location, we're on bad footing.
GROUP 7	Stop being reactive. Stop getting hot headed and be willing to listen. Stop taking chances thinking it won't happen to me.
GROUP 8	Do not be going in red barricades without asking the person responsible for putting it up if it is okay. Stop leaving tools lying around, scattered on the ground. Stop horseplay.
GROUP 9	Be more considerate of others and their task at hand. Watch for and respect all . Do not remove barricades that you don't put up. Use barricades tags. Designate flagmen. Stop running over cords and leads.
GROUP 10	Stop thinking someone else will clean up after you. Stop leaving up useless barricades because it can be confusing.
GROUP JACKS	Don't put work before safety. Always use harness for work above six feet. Use your PPE. Follow the safety practices. Don't ignore them (ear plugs, gloves, harness). Hanging pipe without supports. Stop putting productivity before safety. Pushing people causes accidents.

GROUP QUEENS	No horseplay. Stop thinking you're invincible. Stop using improper tools for projects.
GROUP KINGS	Stop and think about what you're doing. Don't take short cuts. Talk about what you are doing. Be aware of your surroundings. Slow down and think before acting out work.

Fourth Question: What are you missing?

GROUP 'ACE'	Plywood, grinding disc, jack stands, four leg jack stands, Tiger disc. We need to exercise in the morning to loosen our muscles up. Everyone's leadership. Raincoats.
GROUP 2	Tools to work with and equipment to make the job safer and more productive. Eye washing station. Hand washing station. Very Necessary! Dust masks. Raincoats.
GROUP 3	Jack stands, team effort, improve our communication skills, improve working with one another. Raincoats, more guidance towards safety.
GROUP 4	The job as a whole is missing some important tools needed for the job that affect safety and productivity. Large bore pipe on three-legged jack stands is dangerous. We only have so much rigging that can be utilized between everyone. The riggers are short on proper rigging.
GROUP 5	Never being too safe.
GROUP 6	Some minor tools to make things easier, which is safer. Plywood and jack stand. Raincoats for some of the people who get cold would be nice.
GROUP 7	Tools, rigging, steel choker, jack stands, grinders. Someone to listen—a suggestion box. Beer keg. The reality of a safe program.
GROUP 8	Four-legged jack stands. Group cooperation. Supervisor cooperation.
GROUP 9	"RIGGING" certain tools, four-legged jack stands, wire chokers, beam clamps, chain falls, endless chokers. Inspection of tools and rigging. As a group it was agreed that most of our rigging come-alongs would not pass inspection if inspected. More coordination. Bottle racks. Better housekeeping, instead of just being safe and have a good day. Have topic for group safety meetings.
GROUP 10	Proper tools for certain tasks. Chairs—not enough seats for everyone. Raincoats. Communication with co-worker at times. Stretch and flex before work.
GROUP JACKS	Jack stands, rigging supplies, JLG, rain gear, tools. All the materials we need to complete a task. More people. Training for all about safe handling, rigging and moving equipment.
GROUP QUEENS	Miss family (extended) back home! Tools and general.
GROUP KINGS	Proper tools, proper rigging, bottle carts, four-legged jack stands, wood for jack stands.

The aftermath of the survey was even more remarkable. There was a flurry of activity. We purchased some blank requisition books and handed them out to each supervisor and the tool coordinator. I spoke with the team and empowered every single person to fill out a requisition through their supervisor or the tool coordinator and get it up the line for ordering supplies and needed tools which were missing. I committed myself and the line supervisors and project staff to do whatever was necessary to help each person on the job to be successful.

On days following the survey, I had volunteers read parts of the survey results aloud at the morning safety meetings. We decided that the crew had grown large enough to warrant a safety director, and we hired one. We conducted a Foreman Delay Survey to rid the project of frustrations and delays. (See Plant Motivators. Weed Out Demotivators)

We continued to do other activities every day during that safety week, and at the end of it, on Saturday night, we had a Hawaiian Luau at Uncle Roberts, complete with dancers, live music and local foods. Everyone duct taped their playing cards inside their hard hats, so they could remember what group they were in and participate in safety reward programs and other activities with their group.

We started doing crew-level three-week look ahead schedules, getting everyone involved in scheduling their own work, setting their own goals, and daily doing JSAs (Job Safety Analysis) for that day's activities. The overall project priorities came from the top down, but the three week detail task plans came from the bottom up. We solved our supply and material problems.

On a weekly basis, sometimes more often, I spoke with the crews and provided feedback to the project with a report on safety, productivity, schedule and other special topics as they arose. I also used these

opportunities to share some coaching stories and motivation. Let me share with you something that I said at the end of an extremely good week, when everything started to click:

"For the last couple of weeks, we have been talking about and working on many left brain types of things, like safety, planning, schedules, tools, supplies, equipment, productivity. But today I want to start to talk about some of the right brain stuff. They say that the right brain is more involved in creativity, innovation, and spirituality. Today, I want to talk to you about the subject of gratitude.

I came from a large family with nine children. When my father died, I was asked to give a eulogy at his funeral, which was a difficult thing to do. I decided to acknowledge my father for all that he had taught us throughout his life and I would like to share that with you today.

Get a good education.
Pray as though your life depended on God, and work as though your life depended all on you.
If you get knocked down, get yourself right back up.
Make a difference in the world.
Never give up.
Never say never.
Whenever you have the opportunity, forgive and apologize.
If you are blessed, never forget the poor.
Do your best in everything you do.
Love each other.

With a family of nine children, that last one was important for all of us.

Your assignment for your time off this weekend is to take some of your time and make a list like this for yourself. What lessons did you

learn from a parent, teacher, or someone influential in your life? Write them down. If they are not alive today, think about that person, and try to get some feeling of gratitude in your heart. If they are alive, pick up the phone, call them, and thank them for what they have taught you in your life. Literally, pick up the phone and make that call.

This week was a great week. Things were hitting on all cylinders, and I will tell you this- it would be difficult for me to put into words how grateful I am for each of you and the work you have done to get this project moving. I asked for your help, and you have responded admirably. I am grateful to you.

Gratitude is a powerful force when we hold it in our hearts and minds. I will promise you something: If you do what I ask this weekend, make your list, make that call- next week will be an even better week than the one we just had!"

A week after I gave this talk to the crew, one of the hands received a call from home on the mainland. His father had passed quickly and unexpectedly from a stroke. When T.C. came to the job office with a couple of his buddies to tell me about it, his head dropped onto my shoulder as he nearly collapsed in my arms.

During the course of this project, a top executive from our construction company made a site visit to Hawaii. He commented that he did not often see people so involved and happy with the work they were doing. Reports of this came back that he repeated this in the home office.

A month after the end of the project, I was meeting with Ormat, my client on that geothermal project in Hawaii, with a couple of my colleagues. The V.P. of global construction thanked me for the work we did, and told us that he was extremely happy with our performance. Then he looked at me and said:

"I have been doing this for a long time, and I cannot remember

when I have seen such a committed group of people. Thank you for a great job."

I don't mention this to inflate my own ego, but I want to say that employee involvement works. And a focus on safety was the driver. When you combine these two factors with the other principles in this book, you will have a team that will do somersaults for you.

Create a Word Map

As I said, I grew up as one of nine children, and as an adult have worked on many different teams. I have noticed that when people work together over a period of time, they develop ways of communicating commonly shared ideas and concepts in quick and simple ways with each other in a kind of shorthand.

As a leader, it's up to you to jumpstart this process. Recognize that each member on your team comes from a completely different background. You need to create a word map for them so the same words have the same meaning for each person.

Let me explain word maps with an example from my life:

In the 1990s, I had a small construction management firm, and served an Indian Tribe in South Dakota. I became very familiar with the culture and history of the tribe, and I learned that the Dakota Language had something like 30 different words for snow.

This was puzzling to me until I thought about my own experience. As a kid, I had one word in my vocabulary for snow: snow. But when I learned to ski, I heard the terms 'powder snow' and 'corn snow.' These expressions were new to me. I had never heard them before because I had never skied before. As a skier, my vocabulary for snow has continued to grow, with words like crud, crust, grunge, hard pack, fluff, and others. The Lakota and Dakota Sioux were historically nomadic people, and as they moved from place to place there was often snow on the ground. It makes sense that they would need more than one word for it.

A word map is to team communication as a road map is to reaching your destination on the highway. As a leader, you are in the position of chief communication officer for the group you lead, and creating a simple word map can be a key part of communicating with your team.

People are Not Dogs!

I will never forget the day my parents brought home our first pet, a week-old Beagle named Sparky. To house train Sparky, my mother taught me to hold his nose close to his mess when he made one, and then escort him out the back door while saying "Bad dog." Many supervisors use the same tactic when an employee makes a mistake, berating them for their error and holding their nose in it! Sometimes the employee gets fired on the spot!

Good people are already hard enough on themselves when they screw up: they don't need to be constantly reminded of it or cut to pieces for it. It's hard for me to believe, but some companies

have formal processes for putting people's noses into their messes. Some of the most egregious breaches of good management in the employee evaluation process are made by people with no professional training in human resource management. They provide check boxes with a list of infractions or shortcomings in the job, instead of working on a development plan for that person to find ways to enhance their strengths and de-emphasize their weaknesses. Personnel reviews are not the time for fault finding. Think about this as a manager or leader: the way you treat your people might be how they are going to treat their kids when they get home from work.

It may seem like I am too soft by recommending that the reprimand when things go wrong should be replaced with praise when things go right. There are some sound reasons for this recommendation. Let me explain.

Human beings are not well equipped to give or receive negative feedback. I have been around the mining and construction industries, and have seen my fair share of yelling and screaming on the part of supervisors. We refer to this as the "old school" way. Even high level executives, who use a smooth delivery, come across as demeaning and condescending. Regardless of the style, reprimands, constant corrections and negative feedback are destructive.

Negative feedback from a superior, much less yelling and screaming, most often creates a "fight or flight" response in the receiver, regardless of the skills of the giver of negative feedback. A guy by the name of Walter Bradford Cannon, M.D., a physiologist, first popularized his ideas about fight or flight in 1932. It rests on the understanding of our cave man, hunter-gatherer roots as early humans. When early man was faced with certain stresses, his body was equipped to respond and prepare to either fight, or run away

(flight). The physiological responses of fight or flight in the body are frightening:

Acceleration of heart and lung action.

Paling or flushing, or alternating between both.

Inhibition of stomach and upper-intestinal action to the point where digestion slows down or stops.

General effect on the sphincters of the body.

Constriction of blood vessels in many parts of the body.

Liberation of nutrients (particularly fat and glucose) for muscular action.

Dilation of blood vessels for muscles.

Inhibition of the lacrimal gland (responsible for tear production) and salivation.

Dilation of pupils (mydriasis).

Relaxation of the bladder.

Inhibition of erection.

Auditory exclusion. (loss of hearing)

Tunnel vision (loss of peripheral vision).

Acceleration of instantaneous reflexes.

Shaking.

How safe or effective do you think someone is when they are in this condition?

I would say that fewer than ten percent of the people I have met in supervision or management have the skills to deliver negative feedback without causing more harm than good. With these odds, I feel comfortable recommending that it be eliminated from the workplace.

But there are rare exceptions. In 1976, Al Johnson Construction Company assigned me to a multiple mine shaft sinking project in

Alabama at Walter Resources Mine Five and Seven near Tuscaloosa. There I encountered a situation where negative feedback was absolutely necessary. As the shaft engineer, one of my responsibilities on this project was to be available on 24 hour call to come to the job and assure that the shaft forms were properly aligned before concrete was placed. After a few weeks of this, I got pretty good at it, and I basically ended up becoming the concrete forming foreman on all the pours. Because of the multiple crews on rotation and multiple shafts, I was involved in nine times as many pours as each of the foremen, so it made sense.

One night, I was at the shaft bottom, aligning the forms, working under a small flow of water that was leaking into the shaft from a water vein. The water splashed on my miner hat and over my slickers, where I kept dry. All of a sudden, the water seemed to run warm, and had the smell of urine. Yes. One of the miners with the nickname "Nasty" was pulling a prank and pissing on me. I shined my cap light up to see Nasty on the deck above me with a grin on his face. I was not smiling.

After I finished my job setting the forms, I got in the bucket, and rang myself up to the deck where Nasty was. At the time, I was pretty "buff" after four years of lifting weights in college. So I grabbed Nasty by the collar and held him against a post, making a threat that I am not proud of today. Then I got in the bucket, went to the top, and told the project manager that it was either Nasty or me, but I could not work in an environment where the workers had such hostility without some kind of consequence.

This was a job being manned by the UMW union, and it was during an unusually difficult labor-management period in the coal mines. There were strict rules about employee reprimands in the labor contract. We used them. And when we contacted the union

representative about it, they decided not to defend Nasty against our pink slip.

I use this example to show that yes, there are some times where reprimands or corrections are needed, but they are very rare. More often than not, they cause more harm than good. Good people will clean up their mess without being asked, apologize, and make a commitment to avoid the same mistake in the future. Maybe it is the manager's fault for putting the wrong person in the wrong job in the first place, which takes me to . . .
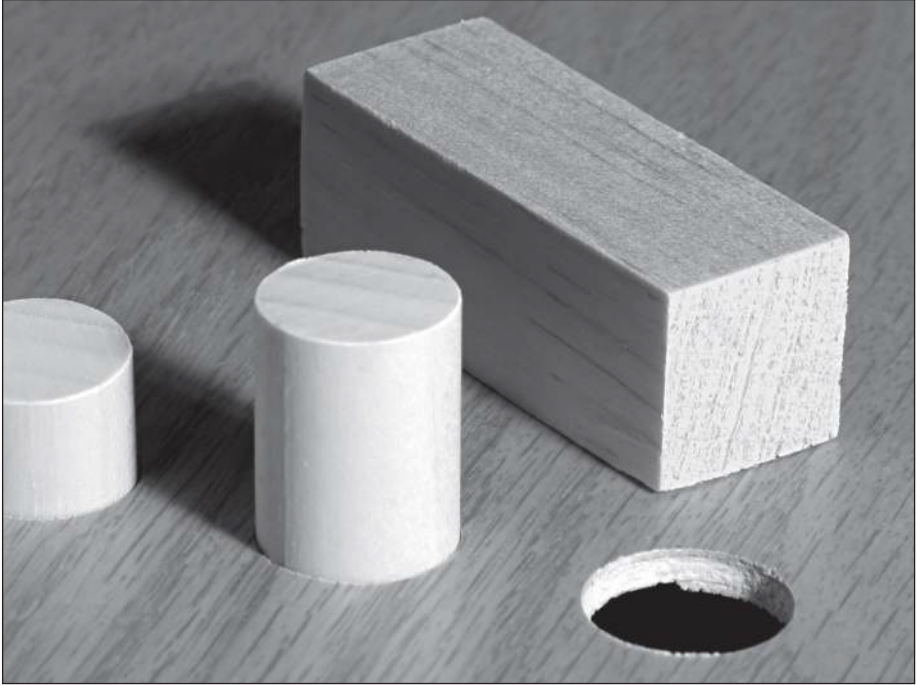
Don't Try to Fit Square Pegs into Round Holes

As a leader, you need to take responsibility if you have the person in the wrong job, and take steps to fix it. Don't just blame the employee right out of the box.

In construction we have project estimators. We also have project managers. These jobs require totally different personalities. Some people would completely stress out if they stepped out from behind a desk, and others would go nuts sitting at one. I started my post college career as a construction estimator in an office in Minneapolis and I hated it. Some days, I felt like my truck would spin off the road while driving home from work. After a year at it, I was ready to quit. I was single and wanted to see the world, and had a job of-

fer in hand to go to Brazil to work for Fiat on power lines for the Itaipu Dam. I went into the office one Monday and gave my boss two weeks notice. A week later, my boss sent me to Alabama for a field engineer's job building underground coal mine shafts. My boss knew what he was doing. I loved my new job in the company! From an outside perspective, it did not make sense. Give up a nice office job to work down a mineshaft and be covered in coal dust? You bet! And I did not have to quit and go to Brazil to find it.

There are all kinds of tests available to help place people correctly. Use them.

Delegate but Don't Abdicate

Delegation of authority is one of the most crucial aspects of leadership. Philip of Macedonia, the father of Alexander the Great, said, "An army of deer led by a lion is more to be feared than an army of lions led by a deer." Delegate effectively, and you will have a motivated and successful team of lions. Delegate ineffectively, or try to micromanage, and you will spend your time putting out fires and dealing with crises..

Here are some basic principles of successful delegation:
Articulate the desired outcome.
Identify constraints and boundaries.
Where possible, include people in the delegation process.
Match the amount of responsibility with the amount of authority.
Delegate to the lowest possible organizational level.

Provide adequate support and be available to answer questions.
Focus on results.

Avoid "upward delegation."
Don't let your subordinates hand you all of their problems to resolve. If you find that things are being handed up to you, then you are either not delegating correctly or are micro-managing your people.

Build motivation and commitment.

Establish and maintain control.

C.P. Street, founder of McDevitt and Street, used to say:

"You don't get what you EXpect, you get what you INspect."

This philosophy of management is a valid approach to a whole range of industries. In the engineering and construction fields, we always have specific inspection and testing requirements for just about every component of a project.

During the OSHA safety era of the 1970s, companies focused largely on conducting site inspections to make sure that there were no jobsite conditions that would draw an OSHA citation. When a condition was found on a site which violated any of the OSHA or MSHA rules, the "safety dude" for the company pointed it out to the site management, corrections were made, and there was usually some kind of chastisement involved. The prevalent safety culture on sites during this era were generally "dependent" cultures, where workers depended on rules, regulations, and company management to provide exclusive safety directions.

Today, we are in the "Human era" of safety, where progressive companies are applying the lessons and insights from psychologists and behavioral scientists to create "interdependent" safety cultures,

where workers rely not only on the rules and regulations, but each other, to create and maintain a safe working environment. Creating an interdependent culture requires a re-thinking of the top down, safety inspection regimen that prevailed in the OSHA era. Although internal safety inspections are still an important part of creating and maintaining a safe work environment, a strong element of peer review and involvement is a hallmark of this new era.

Again, I will use the example of Rio Tinto and their Kennecott Utah Copper group to illustrate how an interdependent culture can be achieved by applying smart delegation concepts.

There's no doubt that Rio Tinto's Kennecott Utah Copper (KUC) has achieved an admirable record in safety performance against its peers and other industry groups. It's remarkable that a mining company has created an environment which is safer than retail!

I cannot tell you about all of the implementation steps Rio Tinto went through to get there, but this was Rio Tinto/Kennecott's safety performance in 2006, seven years after the Lassing mine disaster in Austria. We know that the simplest way to achieve any change is to start and identify the key behaviors of the leaders in any sphere, and follow their example.

Rio Tinto / Kennecott Safety Statistics

Lost Time injury Rate

Year	Rate
2001	1.42
2002	0.86
2003	0.65
2004	0.62
2005	0.48

Series 1
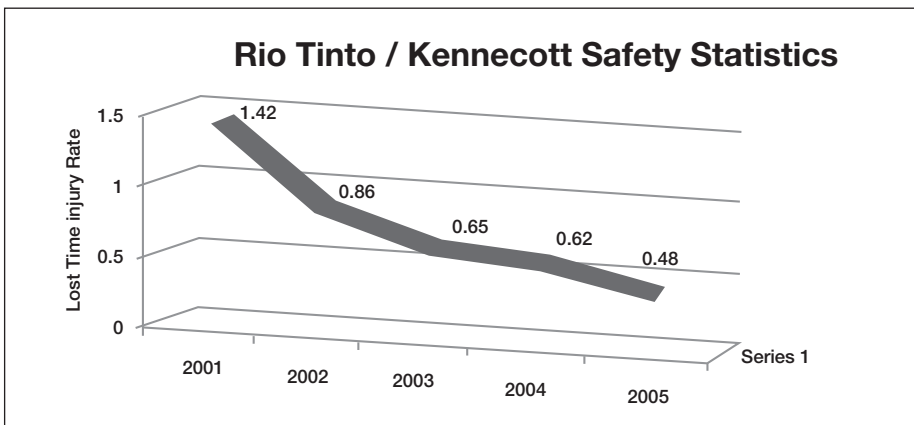
The key strategy that I can identify from my time working in that environment was the implementation of some smart delegation. Rio Tinto/Kennecott inculcated a set of behaviors and practices into its workforce which has led to their safety achievements.

Let me recount what those practices and behaviors are, not in any particular order:

They have implemented what they call the TRACK system. From their website, here is an outline:

TRACK

An important safety element is for employees and contractors to conduct a pre-task risk assessments. A pre-task risk assessment helps identify any hazards or deficiencies, and then allows the correction or mitigation of any issues prior to commencement of work. The following 'TRACK' system has been developed to assist employees and contractors when performing their pre-task risk assessments.

Think Through the Task(s)
Think about each step in the task(s)
Permits and authorizations needed to work
Equipment and tools that are to be used
Area personnel that need to be notified

Recognize the Hazards
Check your work area is safe
Check equipment and tools are safe
Check energies and substances isolation
Check above and below for potential hazards

Assess the Risks
Could an injury or accident be avoided?

What equipment/systems could be damaged?
What are the likelihood and consequences?

Control the Hazards
Eliminate (Remove the hazard)
Substitute (less hazardous chemicals)
Engineering (guards, covers, handrails)
Administration (JSAs, SOPs , permits, signage)
Correct PPE (harness, glasses, gloves)
Keep Safety First in all Tasks
Check for changes in work conditions (e.g., wind)
Monitor safety controls for effectiveness
If the task changes, reassess safety
Continually reassess work progress
Look after yourself and others

Safety interactions: Every management employee is expected to perform a "safety interaction" at least once per week, with a front line worker or workers. This safety interaction is simple. The person conducting the interaction asks a couple of simple questions: What are you working on or doing? What are the risks and hazards involved? What are you doing to control the risks and hazards? This interaction must be recorded on the company intranet by the person conducting the interaction, and then the key to the delegation is this—the system reports back the level of participation and compliance with the weekly interaction mandate—the percent participation is reported for the area manager.

Peer reviews: At periodic intervals, groups of individuals are flown around the world to conduct peer reviews of other operations around the company. These operational reviews invariably focus on

safety as their number one priority.

Peer interactions: At one project, we had the hands perform interactions three times daily. Each worker had a small green card for every day of work that they filled out with a record of their interaction, and the signature of the person or persons they interacted with. Daily, these green cards were handed in with the time, and participation was monitored. Monthly, those who had perfect participation were eligible for a prize drawing.

Safety training: In addition to special training sessions, every employee was expected to complete monthly training refreshers on special topics. Front line supervisors received annual certification in safety management and supervision.

Risk analysis: Each program or project or operating group participated in the development of detailed risk management plans to cover overall project or program risks. Every month, the program or project leader was charged with updating the plan, and reviewing it with his up-line and project team. These risk management plans were "living documents".

Peer observations and reporting: In addition to the peer interactions, every employee was trained, empowered, and encouraged to report on any unsafe acts or conditions when they saw them, regardless of whether or not it was in their work area.

Feedback: At every group and level, there was measurement and broad internal reporting of near misses, incidents, accidents and lost time accidents.

Safety shares: At the beginning of any and every meeting, someone would volunteer to give a "safety share", which could be anything from a personal experience of a safety issue at home, to a safety observation on the job, or a caution about driving home on a snowy road.

Internal and external benchmarking: Within Rio Tinto glob-

ally, and within each operating group, the safety performance of each unit was monitored, measured, and reported across the organization.

Safety inspections: Each week, every superintendent, project or program manager was expected to perform a safety inspection and report the results on the intranet.

These are certainly not all of the safety practices at Rio Tinto/ Kennecott, but they illustrate the level of dedication and commitment required to achieve world class and award-winning safety results.

Again, the success of this program relied on a combination of good management principles:

- Delegate but don't abdicate
- Set goals
- Involve everyone
- People are not dogs
- Train Constantly
- Focus

The key concept to get from this example is that safety management has moved into the Human (behavioral) era. The past practices of the OSHA, and accountability eras are no longer able to compete with the startling results that have been demonstrated by the class leaders who use smart delegation, participation and involvement to create an interdependent safety culture at every organizational level.

In his management classic book, *In Search of Excellence,* Tom Peters describes what he calls "loose-tight" cultures which exist in excellent companies. These companies have strict, ironclad internal reporting requirements, but give their employees wide freedom within their jobs. By identifying safety as a value, and implementing a "tight" regimen of behaviors and internal safety reporting, safety can become the leading "wedge" or driver in transforming a micromanagaging culture into a highly successful "loose-tight" one. Start with safety and follow-up with other goal set operational metrics.

Choose the Right Management Style

Some managers say they have a fixed management style that they believe in. I think that a good leader has to have a flexible style, based on the person he or she is managing. The world is not here to adapt to you. You need to adapt to the people and world around you.

What helps me is to look at a management style continuum. At the left side of this continuum, you will have people with little experience in the job at hand. At the right side, high experience. You need to be directive with the person with low experience, delegate to the person with high experience, and use participative management across the whole range in some circumstances.

Safety Consultant Jimmie Hinze says this about management style:

Question: What are some managerial traits that are associated with good safety performance?

Management Style Continuum

Low Experience	EXPERIENCE LEVEL	High Experience

Directive   Participative   Delegative

MANAGEMENT STYLE CONTINUUM
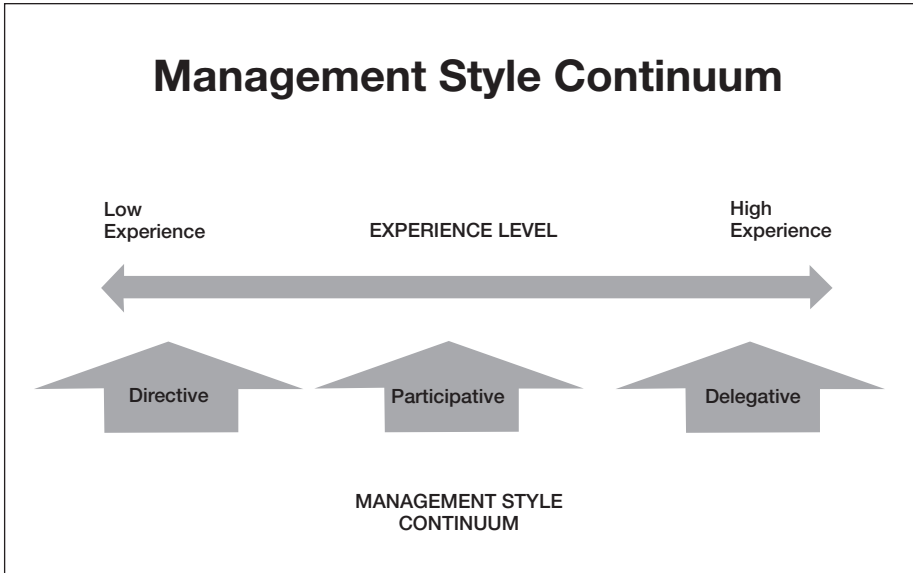
Answer: The good managerial traits associated with good safety performance can be summarized with the following descriptors: leader, planner, organizer, problem solver, approachable, down-to-earth, flexible, and good role model.

Question: What are some managerial traits that are associated with poor safety performance?

Answer: The managerial traits that have been associated with poorer safety performances include the following descriptors: manipulative, aloof, impersonal, insensitive to personal problems, autocratic, dogmatic, and in general lacking those qualities possessed by good managers.

Decide Democratically, Implement Dictatorially

There are times when this one is called for to maintain order and eliminate confusion. Let's look at it.

When someone can do their assigned job without having to coordinate with anyone, let them do it the way they see fit.

More often, though, a project is a team effort and several people are involved. There has to be a common approach to the project, even though each member of the team may have a different idea of the best way to proceed. As their leader, the team needs you to make a call. This is where Decide Democratically, Implement Dictatorially comes in.

Listen intently and get people's input, individually or as a group. Once a plan of action is decided upon, you need to be a dictator in implementing the decision. If there is not 100 percent consensus, you need to let the team know that even though the final decision

may not please everyone, all members are expected to go along with it as it is the way you have chosen to go.

Some people think that simply being 'the boss' makes you a good leader. That's not true. There are some bosses who seem to suck the oxygen out of the air with their egos. That's weakness disguised as strength. Some of the best leaders I have been around were very quiet and unassuming people.

Doug Johnson, of the Al Johnson Construction Company, was one such person I met early in my career. I was working for the company on the mine shafts in Alabama. The United Mine Workers (UMW) Union was staging wildcat strikes; the shaft machines were constantly breaking down; production was down 50 percent.

Doug showed up one day from home office and brainstormed ways to improve the situation with my team. At the end of the meeting, Doug simply said he would be back in a week to see what we could come up with as a fix.

Walter Resources Mine
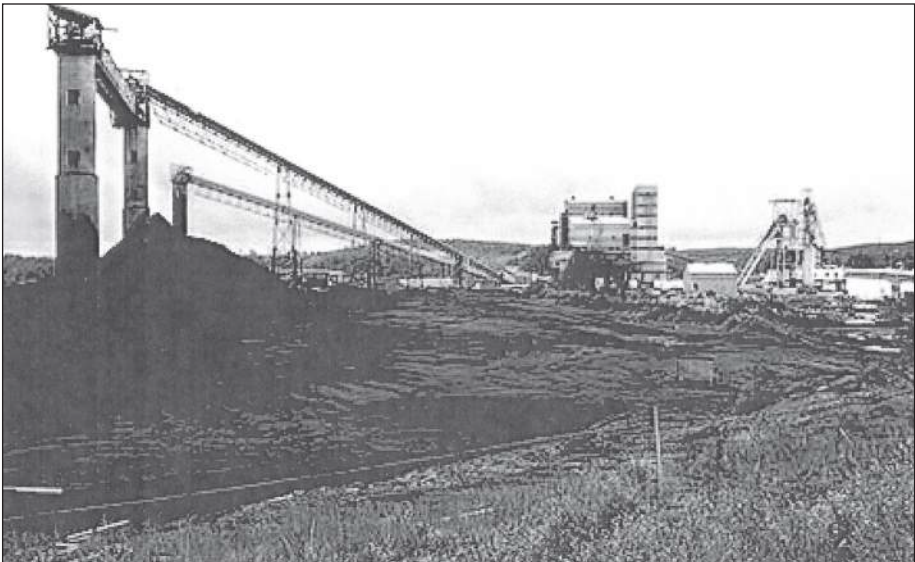
That week was a flurry of activity. I did time and motion studies; we met with the UMW to settle disputes and researched different operating procedures and equipment. When Doug came back a week later, we reviewed our findings with him. He listened quietly and when we were done, he asked the project manager what we wanted to do. After listening, all Doug said was, "Sounds good to me." He showed incredible strength as a leader, holding himself back from trying to solve the problems himself, while empowering and motivating us to come with our own solutions as lions.
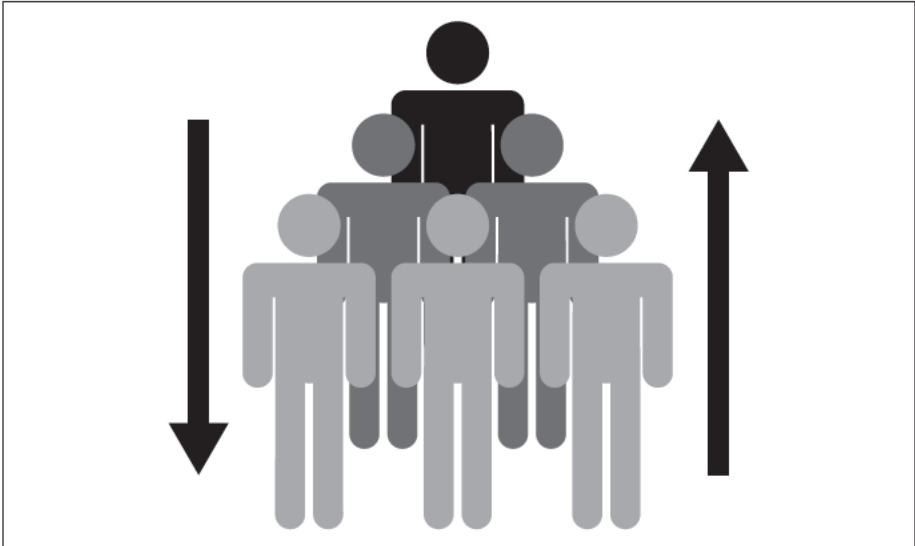
Communicate Top Down if You Want Information to Flow Bottom Up

Bob Street led a billion dollar per year company in the 1980s, with 21 divisions and 2,000 employees. He owned 100 percent of the stock. His philosophy was that one third of net income before tax went to incentive compensation, one third went to pay taxes, and one third went to retained income to help grow the company and provide career growth for his employees. Bonuses were based 50 percent on how well the company did overall and 50 percent on individual performance. Every month, financials were posted at the copy machines for all to see and the executive committee meeting minutes were made available to every single employee.

Every Monday morning at 8:00 sharp, Bob gave a "state of the company" address to the entire home office staff. He covered things like cash position, safety results, new business and financials, often recognizing someone for notable accomplishments.

Boy, if you ever wanted to see a company where every employee went to the mat and worked as hard as they could, McDevitt and Street was it! By having access to financial information and the innermost company meetings, every employee felt and acted like an owner! Revenues grew from $40 million to $850 million in ten years, profitable every step of the way. The employee parking lot was always full of cars way past 7:00 at night. Keep your team informed with open communication, and they will do their very best for you.

Listen

Leadership communication is not just about talking. I knew one leader who always felt he had to maintain a "one up" position over his team members. Problems never got addressed without him first taking the opportunity to show what a great debater he was.

Active listening takes a lot of energy. You also need humility to remember you do not know everything there is to know.

During the Iraq war, I listened to a press conference with Donald Rumsfeld. In reply to one question, he quipped, "Well, think about this. In your mind, there is what you know, there is what you don't know, and there is what you don't know that you don't know".

To me, this was a very profound statement. As a leader, you have to admit that there is a lot that you don't know, and even more that you don't know that you don't know.

Listen carefully to what other people are saying and take it all in, so you can make better decisions and provide good leadership.

Build a Superteam

A group in itself does not automatically constitute a team. The group needs a common purpose to be a team. A well-functioning team needs members with complementary skills who generate synergy through a coordinated effort. This way each member can maximize his or her strengths and minimize his or her weaknesses. Teams are especially appropriate for conducting tasks that are high in complexity and have many interdependent subtasks. A workable team size in a business environment is usually between five and ten people.

A good analogy for a super-team is a supercomputer.

MPP (massively parallel processing) is the coordinated processing of a program by multiple processors that work on different parts of the program, with each processor using its own operating system and memory. Typically, MPP processors communicate using messaging interface. In some implementations, up to 200 or more processors can work on the same application.

A well-functioning team will produce results that are far greater

than the sum of its parts. This is the definition of synergy: the whole is greater than the sum of its parts. This graphic of supercomputer nodes somewhat captures the concept.

When you group your teams up, make sure that you arrange them together in logical groups. You want the dynamics to create open communication, by having the right people on the team.

Building a team also involves you becoming a coach=leader. You have to speak to people's higher aspirations as human beings. You have to lead with your heart.

One Bad Apple Can Spoil the Bunch

You as a leader most definitely cannot indulge in whining and hope to be effective. But because one bad apple can spoil the bunch, you cannot tolerate whining by any members of your team. I am not talking about legitimate concerns by an employee. I am talking about pure whining.

A whiner or complainer on your team can drag down the other members. It's said that 80 percent of your human resource problems will be caused by 20 percent of your people. Whether the attention they get is negative or positive does not matter to the whiners. If they get negative attention, it gives them all the more reason to whine.

You need to establish a team culture that is not going to pay any attention to whiners. Effective teams police themselves to keep out or shut up the whiners.

I cannot tell you what to do with a bad apple because each case is going to be different. But you do need to recognize that one bad apple really can spoil the bunch!

Plan Your Work and Work Your Plan

The project work that I do can involve thousands of activities and requires extensive planning by individuals and teams. This level of planning results in what is known as a 'critical path method' (CPM) schedule.

When I learned how to scuba dive, there was a saying: "Plan your dive, and dive your plan." I now say, "Plan your work and work your plan."

Get everyone involved in the planning process. It's a lot of work but it pays off in spades.

Best practice is for foremen to develop two or three week look-ahead schedules in work areas, identifying the people, materials, tools and equipment they need. This information gets passed up the line for action when needed.

In detailed task planning, the foremen, sometimes with the involvement of the workers, identify the tools, materials, equipment, information and other things needed to perform each task. Task planning and look-ahead scheduling are cornerstones to successful field operations. Planning is part of the job of succeeding, not just a sideline. Get good at planning, and you'll fly with the eagles.

Make Your Company or Team a Learning Organization

My first job after graduating from engineering school was with Al Johnson Construction. I was impressed by the two large bound notebooks I was given when I started that contained job cost histories. There was a full set of narrative reports of their major projects over the prior 25 years, complete with labor and equipment rates. These records were used for budgeting and goal setting for new projects, and the results from those projects become the records for the future. Nowadays, of course, records are stored electronically on computers.

Al Johnson Construction was a learning organization. It used its successful projects from the past as models for those in the future and was in a constant state of transformation for the better. Using the timeless leadership principles in this book, your company will become a learning organization and you will be competitive in business.

Identify Your Values

Organizational values form the foundation for setting goals, strategies and tactics.

On December 10, 1948, the General Assembly of the United Nations adopted and proclaimed the Universal Declaration of Human Rights.

For the first time in human history, the nations of the world have embarked on an ambitious project based on the concepts of goal setting.

At the turn of the millennium, the Community of Nations set a goal to end poverty by the year 2015, and laid out eight major goals. They are SMART goals, and a system is in place and operating to track progress and provide feedback to all the stakeholders in these goals. I believe that every human being on the planet is a stakeholder in this, but unfortunately it does not get much press.

The Millennium Development Goals were no different. In August

2000, a gathering of 1,000 religious leaders representing every major world religion issued an 11-point declaration of their own, helping to form the basis of common values to underpin the UN's Millennium Development Goals.

When setting organizational goals, values matter. So if your organization has not yet identified its values, you have some work to do.

If you are leading a project or team, you do not need to wait for top management of your organization to identify its values. At the Puna Geothermal Project in Hawaii, we established a set of values and communicated them to the team in various ways. Here they are:

Puna Geothermal Project Values Statement

Everyone on the project is responsible for their own safety and implementing the management principles identified in the safety challenge, written by the workers. This is our ultimate and primary responsibilty.

Our number one goal on this project is to please our client, Ormat Technologies. Our second priority is to create an enriching and gratifying work experience for everyone on the team. If we focus on these two things, our shareholders will be rewarded as a byproduct.

No one knows how to do a job better than the one already doing it. The job of a supervisor is not to tell people what to do or to punish them, but to lead. Leading consists of helping people do a better job and of learning by objective methods who is in need of individual help.

People are eager to do a good job and distressed when they can't. Too often, misguided supervisors, faulty equipment and tools, shortages of critical supplies and defective materials stand in the way. These

barriers must be removed. It is management's responsibility to remove these barriers, and therefore management is ultimately responsible for a safe and productive project.

A worker's life does not begin or end at the project gate. Every day on a construction project is filled with incident, and what happens on the job affects every aspect of our team members' lives. We talk openly about things like teamwork, trust, gratitude, forgiveness and love.

Our work plays a vital role in making a better world and what we do makes a difference. Sustainable power for Hawaii is a laudable goal, and what we do to make this a more sustainable world is of lasting importance.

Fear has no place in this workplace. We foster involvement of everyone in decisions which affect their lives, on and off the job. We encourage people to speak up without fear of recrimination. It is necessary for better safety, quality and productivity that people feel secure.

Quality has a moral element to it. No one should be bulldozed by a supervisor to overlook inferior work.

Get in the Flow

*"**Flow** is the mental state of operation in which a person in an activity is fully immersed in a feeling of energized focus, full involvement, and success in the process of the activity. Proposed by Mihaly Csikszentmihalyi the positive psychology concept has been widely referenced across a variety of fields."*—Wikipedia

Mihaly Csikszentmihalyi was a youth in Europe during World War II, and he noticed that adults had varying degrees of capacity to deal with the stresses of war. Later, at the University of Chicago, he led research on discovering what made people happy by placing beepers on 200 subjects in the Chicago area, and calling them randomly during the day, asking a couple of simple questions:

What are you doing right now?

What is your mental and emotional state? (How do you feel?)

From these original field studies, he and others around the world have expanded their sample to include over 30,000 people on several continents and many countries. His work has expanded to the realm of work life, and being in a state of flow has been identified as having a strong influence on self fulfillment and performance.

One of the things Csikszentmihalyi has found is that a small group of people working together to make a worthwhile contribution, where the flow factors are present, are the most happy. Whether it is engaging in a community improvement activity or work team, this is where the greatest fulfillment is found.

This new knowledge has been applied to the workplace, with remarkable results. In any industry, management has both the responsibility and opportunity to serve the employees under their leadership by creating the conditions of flow. By following the principles in this book, you will have a highly motivated, committed, safe and productive team.

Nine Flow Factors

- Clear goals
- Concentrating and focusing
- A loss of the feeling of self consciousness
- Distorted sense of time
- Direct and immediate feedback
- Balance between ability level and challenge
- A sense of personal control
- The activity is intrinsically rewarding
- People become absorbed in their activity

Focus

In his best-selling book *Seven Habits of Highly Effective People*, Stephen Covey presents a model to understand the principle of focus. It's worth paying attention to this proactive focus model. As you see, tasks can be split into four segments.

Quadrant One, the important and urgent, includes putting out fires, managing crises and daily emergencies. Some managers and leaders thrive on putting out fires and consider it a great skill. In my opinion, keeping fires from starting in the first place is a far greater skill.

In Quadrant Two are the not urgent but important things like planning, prevention, values clarification, relationship building, empowerment and recreation.

Quadrant Three, the urgent but not important items, includes interruptions and some meetings, mundane items and some reports.

Items in Quadrant Four, neither urgent nor important things, are a complete waste of time.

As leaders, we want to focus our teams on Quadrant Two. The

FOCUS

1 Urgent Important
- Crises
- Pressing problems
- Deadline-driven projects
- Some meetings
- So...

2 Not Urgent Important
- Prep...
- Prevention
- ...ationship building
- ...ment
- True r...
- ...zing

3 Urgent Not Important
- Interruption...
- Som...
- Som...
- Som...
- Many popular act...
- ...alls

4 Not Urgent Not Important
- Trivia & busy work
- Irrelevant mail
- Some phone calls
- Time wasters
- ...scape" activities
- ...cessive television

symptom · cure · cause · YES · NO

	URGENT	NOT URGENT
IMPORTANT	• crises • pressing problems • deadline-driven • projects, meetings, preparations	• preparation • prevention • values clarification • planning • relationship building • true recreation • empowerment
NOT IMPORTANT	• interruptions, some phone calls • some mail, some reports • some meetings • many proximate, pressing matters • many popular activities	• trivia, busy work • some phone calls • time wasters • "escape" activities • irrelevant mail • excessive TV

Pareto Principle, sometimes referred to as the 80/20 rule, suggests that 20 percent of our efforts contribute to 80 percent of our results. Your role is to identify where your teams' efforts will have the most impact. Combine focus with a super-team and once again you will get super performance.

A number of years ago, a guy by the name of George Odiorne developed the concept of the "Activity Trap." The activity trap is a pitfall too many teams and companies fall into. What happens is that certain activities become institutionalized because they were once beneficial to the desired outcome and their use has been mandated. Time passes, circumstances change, and whatever it was that once enhanced results no longer works as well. New theories of leadership come into play, technology takes great leaps forward, the world changes at a pace no one could ever have anticipated, yet still some of the old ways remain in place.

I have seen this happen first-hand and witnessed how badly it can clog the works and impede progress. The principle of focus demands that we scrutinize every aspect of the way business is being conducted and eliminate whatever activities are no longer useful. That way, we can refine and build on the remaining actions that promote results, We are left with only the actions that promote results.

Odiorne identified "the six most efficacious factors in overcoming the activity trap, thereby revitalizing organizations." These are:

Setting worthy goals at all levels

Getting commitment from people

Accepting responsibility for the results of one's own (and, as leaders, others') behaviors

Supporting and assisting one's subordinates

Imparting a sense of mastery and satisfactory self-image to those who have acted responsibly and met their commitments

Relieving employees from goal pressures by making provision for what, in today's management lexicon, would be referred to as "employee wellbeing" and "work-life balance"

If we lose focus on what is important, it is easy to fall into the trap of spending our time on the 80 percent of things which have little or no impact on results. By focusing your time and your team on the 20 percent, your effectiveness can skyrocket. More work will get done by fewer people, and they won't have to rush or work harder, because they will be working smarter.

Stephen Covey and George Odiorne have made some valuable contributions to the principle of focus. Use their wisdom.

Plant Motivators and Weed Out Demotivators

In any job, there are circumstances which motivate and those which do the opposite. It's up to you as a leader to be aware of which is which.

Here is a list of motivating factors from a survey of 12 construction sites. If you work in construction, make sure that you have these things in place:

Motivators:

Good relationships between all people involved

Good orientation program

Good safety program

Pay

Overtime pay

Recognition

Goals Defined

Open house & project tour

Well planned project

Suggestions solicited

Demotivators:

Disrespectful treatment

Lack of material and tool availability

Having to do work over

Crew discontinuity

Project confusion

Lack of recognition

Ineffective utilization of skills

Incompetent personnel

Lack of cooperation among crafts

Overcrowding

Poor inspection programs

Communication breakdowns

Unsafe conditions

Lack of participation in decision making

In the construction industry, the foreman delay survey is a way to identify and eliminate obstructive factors and demotivators. These are the steps.
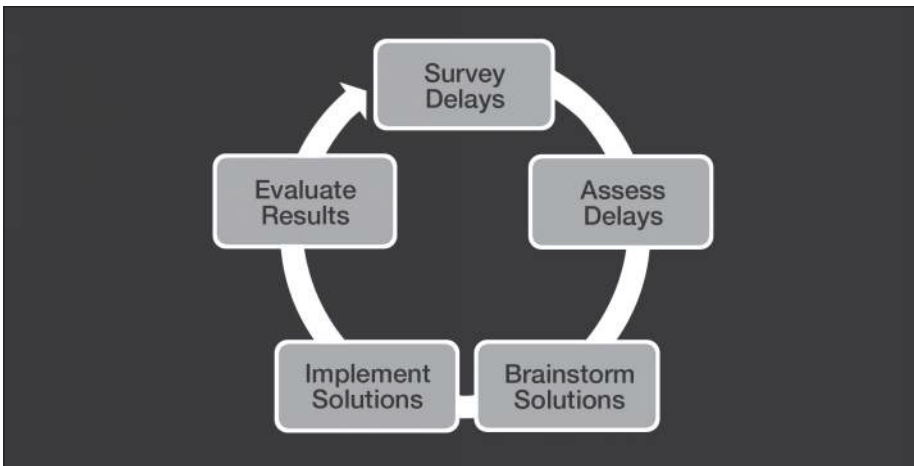
First, the foreman completes a daily survey of project delays for a week, to identify what is causing the holdups.

Second, the delays are evaluated, solutions brainstormed and improved methods of working are implemented.

Finally, the results of the new ways are analyzed and the cycle starts again, if necessary.

You might think that a good supervisor does not need to do this, but I have applied these principles to projects thought to be going smoothly and have always found that the foreman delay survey makes a difference. Even the front line foremen are surprised when they quantify their delays.

For example, on a recent project, I had a superintendent who, for some reason, did not want to hear about problems from the hands or the foreman. People were pulling me aside to tell me, the project manager, about problems they were having in the field. I noticed the superintendent's behavior whenever a problem was raised by someone under his command. He took it as a personal attack, instead of a call for help. This was an ideal situation for the foreman delay survey.

Here are the results from that first week of the delay survey. The total delay was at 9 percent of the time, and we know that these frustration causing delays have a negative multiplier effect on a labor motivation.

Delay Description	Man-Hours Delay
1. Waiting for Materials	21
2. Waiting for Tools	21
3. Rework from Design Errors	18
4. Rework from Field Errors	34
5. Waiting for Instructions	6
6. Waiting for Inspection	0
7. Work Area Not Ready	0
8. Work Area Over-Crowded	4
9. Waiting for Equipment	91
10. Equipment Breakdown	10
11. Delayed by Owner Change	26
12. Interference with Another Crew	39
Total	270
Hours Worked	2923
Delay Percent	9%

As people become more frustrated, they lose focus on safety and their jobs, leading to more frustration and more delays. Most delays are management controlled, so it is absolutely critical that management uses this technique as a listening tool to dig out problems from the root.

Having used this process on multiple projects, I have found that it takes about three weeks to achieve the organizational alignment necessary to eliminate most of the delays. But it should be used frequently as a project moves through various stages.

History

Frederick Irving Herzberg was an American psychologist who became one of the most recognized and influential names in business management. He developed what he called the Motivation-Hygiene Theory of human motivation, or the "Dual Structure Theory." According to this theory, people are motivated by two sets of factors—Motivators and Hygienes (Demotivators)

Herzberg conducted workplace surveys to identify the factors which resulted in increased or decreased motivation. The survey responses identified the factors, how frequently they appeared in the workplace and the strength of their impact on motivation or "demotivation." As it turned out, the factors leading to motivation are not the same as those leading to demotivation, as noted in the following tables.

Motivator Factors	Percent of events leading to extreme satisfaction
Achievement	40%
Recognition	30%
Work itself	21%
Responsibility	10%
Promotion / Advancement	10%
Growth	8%

Hygiene Factors	Percent of events leading to extreme dissatisfaction
Company Policy and Administration	35%
Supervision	20%
Relationship with Supervisor	10%
Working Conditions	10%
Salary	8%
Relationship with co-workers	6%
Personal Life	4%
Status	3%
Job Security	2%

One way to apply the findings of the Motivation-Hygiene Theory in practice is through vertical job loading. Here is a summary table of the steps that Herzberg identified in that concept:

Principle	Motivators involved
A- Removing some controls while retaining accountability.	Responsibility and personal achievement
B—Increasing the accountability of individuals for own work.	Responsibility and recognition
C—Giving a person a complete natural unit of work. (Module, division, area, and so on)	Responsibility, achievement, and recognition
D- Granting additional authority to employees in their activity; job freedom.	Responsibility, achievement, and recognition
E-Making periodic reports directly available to the workers themselves rather than to supervisors.	Internal recognition
F-Introducing new and more difficult tasks not previously handled.	Growth and learning
G-Assigning individuals specific or specialized tasks, enabling them to become experts.	Responsibility, growth and advancement

The Business Roundtable

Following the methodology of Herzberg's work, in 1982 the Business Roundtable Construction Industry Cost Effectiveness Project cited studies where this methodology was applied to the construction environment, as cited on the previous pages in the survey of 12 construction sites.

Plant Motivators, Weed Out Demotivators: This is my word map for the application of the Motivation Hygiene Theory in the workplace.

When combined with goal setting and the other principles of *Work Smart, Work Safe!*, the foreman delay survey is the most simple level and effective application of the principle in construction. It helps remove the problems which lead to frustration and low morale, consequently eliminating one of the root causes of accidents.

Be Generous with Praise and Recognition

In Plant Motivators, Weed-Out Demotivators, we saw that recognition and achievement were the two top motivators in Frederic Herzberg's studies (see page 70.) But recognition is such an important principle in good leadership—including safety leadership—that it deserves its own special treatment with its own principle.

To be effective, I believe that praise and recognition requires that it be given out of true generosity and respect from a leader before it will have a positive effect on safety and motivation. This aspect of mutual respect was studied by Latham in his work on goal setting when he found that the "credibility of the source" of feedback on goals was a factor on whether or not the goal performance feedback was effective in motivation. It has been my personal experience that the credibility of the source is enhanced by mutual respect and the generosity of the leader giving the feedback.

As I am using the term, generosity means giving freely with no

expectation of receiving anything back. As a leader, if you are giving praise and recognition only as a tactic to gain something in return, whether it be motivation, higher productivity or lower cost, then I believe that you will be disappointed. People can see through fakes and recognize gimmicks for what they are.

When you find yourself in a leadership position, you must recognize that whether or not you asked for it, you have a unique role to play. You have to be willing to give of yourself, without asking for anything in return. If you love the people you are leading (see Part Two), and you recognize that you have an important role in your leadership position, you know that your behavior can have an impact on the self-worth and esteem of the people on your team. Your generosity can come only from a feeling of inner abundance—a belief that you have a bottomless well of gratitude and love for self and others upon which to draw.

Armed with a heart and mind full of selfless generosity, there are just a couple more things you need to be able to give the most effective praise and recognition. You need the right setting, and something specific to give praise and recognition for. Here are some examples:

At the 1988 McDevitt and Street Christmas Party, Bob addressed the entire company. This is an example of giving praise to an entire group, team or organization. Here is a paraphrased version of that talk:

"Thank you for coming to celebrate Christmas with me and your fellow employees here tonight. I do not have time to thank eachand every one of you personally for your hard work and commitment, so I have a few comments for all of you. There is great cause for celebration because of what you all have been doing, and what you have achieved with our Company. (Notice he said "our") Despite our

large size, you are growing our company at a 35 percent compounded annual growth rate, and maintaining one of the highest profit margins in the industry at the same time. You are doing it safely, and maintaining excellent control of the work. Our client satisfaction is leading to an 80 percent repeat business level. Our strategy of hiring the right people is really paying off, and it shows in your results. You are winning so big that the entire construction industry is standing up and taking note of what you are doing. I also want to recognize the spouses of those of you who are married. Whether you know it or not, you are a direct part of the celebration here this evening."

Recognition does not have to be complicated, nor does the accomplishment you are recognizing have to be front page news. While directing construction on the geothermal power plant I talk about on page 16, I had the opportunity to recognize one of my employees at an all team safety meeting one morning. Here is a paraphrase of my comments:

"Every now and then, and probably not often enough, I like to recognize people for their outstanding contributions and accomplishments. Now, I realize that there is always a risk in singling out someone to recognize, because there is always the chance that someone else has done something which is more worthy of praise. You might think in your mind: "Why is she being singled out, when I know that I have done something even more important." Despite that risk, we should not let that stop us from recognizing someone. And because of that risk, I want to tell you all how proud I am to be your project director. You can think of this recognition as something for each and every one of you, because of what you are accomplishing. I am sad to say that Tamara is leaving us tomorrow to get back to her

family in the Navajo Nation. So before she leaves, I want to give her the "Service with a Smile" award. (By this time, everyone on the team was smiling too.) You all know as well as I do that she deserves this award for her positive attitude as the tool and supply coordinator. But what you may not know is how Tamara has really been a partner with me in keeping this job flowing, by making sure that you have the tools and supplies to be successful in your work. She has truly made a mark on this project, and on me. So, without any more talking—Tamara, this is a very small token of my appreciation to you for your outstanding work on the project. It is not much, but I hope that you will hang this photo of your smiling self someplace in your home, and remember us here from the Puna project. I am sure that everyone here agrees that it is an award that you deserve."

Presenting the "Service with a Smile" award to Tamara Benally

As you can see, recognizing Tamara did not require a big trophy —just a simple photo of herself at her work station. Before the day was out, people on the team had signed and noted Tamara's photo frame, as they would a high school yearbook.

Praise and recognition is most effective when given for a specific outcome or accomplishment. When combined with a goal setting process and with specific feedback on performance, productivity improvements averaging 25-30 percent have been documented. Some companies are not willing to go through the trouble of measuring performance accurately, but this is penny wise and pound foolish. In my experience, the cost of good production control and measurement can run between 0.5–2 percent of direct labor cost. When you weight this against the improvements in safety and productivity, it is a no-brainer.

The Research

If you are not sure of the benefit of praise and recognition, consider the research of the Gallup organization. They have surveyed over four million employees worldwide including 10,000 business units and 30 different industries. They found that employees who receive regular recognition and praise:

Increase their individual productivity
Increase engagement among their colleagues
Are more likely to stay with their organization
Receive higher loyalty and satisfaction scores from customers
Have better safety records and fewer accidents on the job!

In their 2007 best selling management book *The Carrot Culture— How the Best Managers Use Recognition to Engage Their Employees, Retain Talent, and Drive Performance*, Adrian Gostick and Chester Elton agree

that recognition is a vital part of organizational success. Here is a summary of what they preach:

A solid leadership foundation is essential including:

Goal Setting

Communication

Trust

Accountability

The general circumstances for giving recognition include:

Above and beyond performance

Career recognition (Years of service anniversaries)

Celebration events (Project kick-offs, completions, holidays)

Day to day recognition (pat on the back, team lunches, small gifts) Must be frequent, specific, and timely

Other findings:

65% of Americans were not recognized even once last year

75% of high performers who quit their jobs do so because of lack of recognition

Gostick and Elton cite a study by Healthstream Research which found that companies who *effectively* recognize their employees are three times more profitable than those who don't. The key word is *effectively*.

Note how the leadership principles of *Work Smart, Work Safe!* begin to interact with each other. The five steps to goal setting include regular feedback. When the desired performance metrics of safety, productivity, quality and others are measured, and timely feedback is given on a weekly basis, the opportunities for effective praise and recognition are in place. These same concepts appear in the principle Get in the Flow on page 60.

Impediments

In my experience, there are several impediments to creating a high performance culture with the use of praise, recognition and positive feedback. These are:

Attitude. Some people fear that if they give too much praise, their people will stop trying hard enough to please the boss. Nothing could be further from the truth.

Misplaced focus. Some leaders put their focus on "watching cost" instead of how to create a high performance culture. This results in penny pinching when it comes to even the smallest recognition. When I first read the studies about the performance improvement with goal setting and praise which suggested that performance could be raised by 25-30 percent consistently with goal setting, praise and recognition, I was a skeptic. But after applying this stuff for 30 years, I am a believer. Watching cost has the opposite of the desired effect. When you watch costs by pinching pennies on tools, supplies, equipment, safety luncheons, recognitions and awards, your costs actually go up instead of down while frustration rises and demotivators take effect. Instead, focus on people and creating a high performance team or organization, and the dollars will appear where you once looked for pennies in the bottom line. If it costs you an amount equal to 2 percent of direct labor cost to measure and provide feedback on performance, who cares about the small cost of doing production measurement when the result is a 25-30 percent increase in productivity?

Inadequate managerial accounting and performance measurement systems. To improve anything, you need to measure it. Many organizations have not established the necessary internal discipline to measure performance and provide positive feedback.

Some are unwilling to make the necessary investment in time and attention because, I believe, they are not aware of the benefits.

Short sightedness. Some leaders lack the dedication or foresight to make commitments in the short term which will have both short term and long term benefits. It requires dedication to build a set of internal disciplines whose payback will be measured over years, not the next seven days. While I have been able to design and implement customized project specific systems, this can be a chore when the entire group and chain of command are not aligned.

Earned Value Accounting

In the 1970s the US auto manufacturing industry found itself trailing behind the Japanese in quality, innovation and productivity. Much of the credit for the Japanese manufacturing miracle has been given to William Edwards Deming, who, from the 1950s onward, consulted with top management in Japan to help improve performance, quality, and productivity—largely with the use of statistical measurement and application of the principles of scientific management as developed by Frederick Taylor at the turn of the last century. It is ironic that American production ideas were exported to Japan, improved and modified, and then used to capture market share from the American auto manufacturers.

The productivity measurement techniques adopted by the Japanese utilized an "efficiency" model, where all production could be measured and reported as a percentage of a standard, stated as a percentage efficiency. As performance improved in any process, the reported efficiency percentage rose. A rising graph of efficiency indicated improving performance. Put simply: "up is better than down."

This concept has been adapted to the construction industry in a

particular way, referred to the "Earned Value Managemenr" method. By utilizing earned value methods, the efficiency of an entire project composed of multiple activities and tasks can be stated as a percent.

Here is an example of how the concepts of earned value, goal setting, participation, and feedback with praise and recognition can be effectively applied to improve performance. On a recent project, I noticed that the efficiency on a piping installation had dropped to 60 percent. I met with the crew and showed them the efficiency charts. I thanked them for their work, and asked for their help. I assured them that I knew that they did not directly "hold all the cards" for their performance. Some of the problem was management and organization. But I asked them to work together with their foremen and come up with some ideas for improvement, and we would look at the results again in a week. The following graph shows the results.

Overall Efficiency–Gathering Pipe
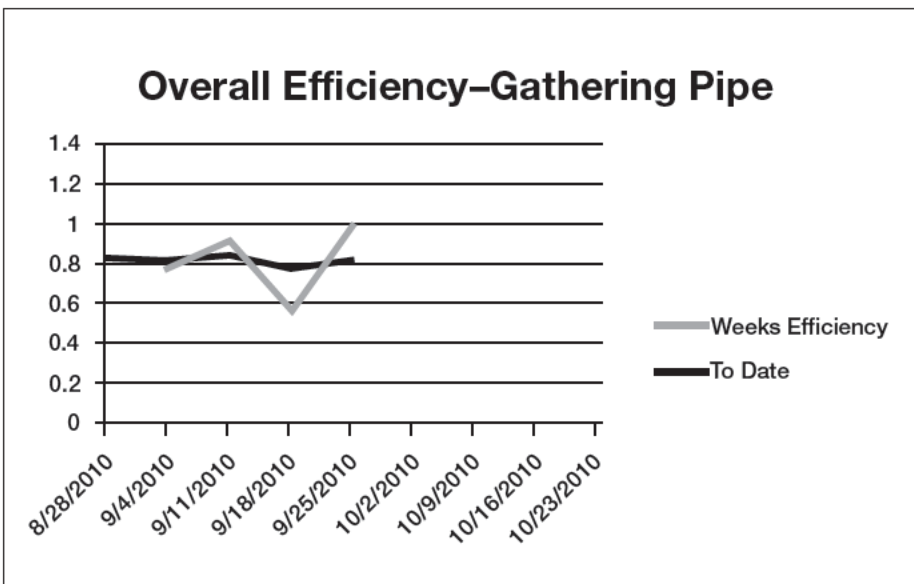
After I collected the production information and saw the improvement, I met with the crew again and showed them the results. We discussed the changes which had been made to improve the job flow. I thanked them as a group and individually. I praised them for their innovation and commitment. I then followed up on a weekly basis with similar feedback and discussion.

We know that rushing, frustration, fatigue, and complacency are root causes of accidents *and* poor motivation.

By planting the motivators of praise, recognition, involvement, goal setting and feedback, and by weeding out the demotivators, all measures of performance improve, including safety performance.

Train Constantly

Here is a training idea for you. When I did a stint with Adolfson and Peterson, they started up an operational excellence effort where they set up teams to work on various parts of the operation. I was the chair of the human resource team, and we discovered that people were interested in training. There was also a scheduling excellence team working on ideas for beefing up the company's performance in that area, so the two committees teamed up and held a scheduling 'Olympics.'

The idea was to get the divisions together and have competing teams present their project scheduling approaches. We filmed the event and put it on the company intranet, so employees not present and future new hires could watch the presentations and take away the best practices. We had a blast. We played the theme from the Olympics, and when one of the teams came out to give their spiel, we played "Who Let the Dogs Out." Everyone broke up.

Give your people a chance to put their best foot forward, have some fun, get some recognition and drive constant improvement within the company. Believe me, if you do not have the best industry practices in house yet, people will find them themselves if you motivate them like this.

Training and advancement is a strong motivation and it improves operational results. Using a progressive approach like the Training Pyramid below is a way to organize it.

There are many ways to implement employee training. Explore and discover what works best for your team and just do it.

TRAINING PYRAMID

Project Manager

Leadership Training
Advanced Planning and Scheduling
Earned Value Concepts
Project Reporting
Construction Accounting Concepts

Delay Surveys, Production Control
Crew Based Look Ahead Planning
Procedures Manual
Safety Manual
Advanced OSHA rules and regulations
Goal Setting
Labor Motivation and Productivity Concepts
Management Style
Supervision Basics

Job Specific JSA
Trade Mentoring
Basic Task Training (For trades)
JSA Training
Basic OSHA Rules and Regulations

Entry Level

Treat Quality as a Virtue

As a leader, it's up to you to instill quality as a core value and a virtue in your team and organization.

In the engineering and construction field, we use quality control and quality assurance. Per Wikipedia:

"**Quality assurance**, or **QA** for short, is the systematic monitoring and evaluation of the various aspects of a project, service or facility to maximize the probability that minimum standards of quality are being attained by the production process. QA cannot absolutely guarantee the production of *quality* products."

"**Quality control** is a process by which entities review the quality of all factors involved in production. This approach places an emphasis on three aspects:

Elements such as controls, job management, defined and well managed processes, performance and integrity criteria, and identification of records are components of quality control

Competence, such as knowledge, skills, experience and qualifications

Soft elements, such as personnel integrity, confidence, organizational culture, motivation, team spirit and quality relationships

The quality of the outputs is at risk if any of these three aspects is deficient in any way."

I first learned about quality assurance in my civil engineering courses at Michigan Technological University, where we used standard industry tests to measure the strength and durability of concrete, steel, soil and other construction materials. In our design courses, I came to understand how the properties of these materials impacted the design performance of engineered structures. As a result, the importance of maintaining quality assurance is a crucial part of my mental model when I carry out my roles in the engineering and construction industry. These quality assurance procedures are well known and used throughout the engineering and construction fields.

On the other hand, quality control requires more of the "soft management skills," and as a leader in any field, it's worth your while to look into this aspect of management.

Some of the many books I have read about quality control were written by Philip B. Crosby, author of *Quality Without Tears—The Art of Hassle Free Management*, and *Quality is Free*. If you are serious about your role as a leader in any industry, I think that Crosby's work, including his 14-step quality improvement process, should be part of your knowledge base. Crosby provided me with material for one of the coaching talks that I give to members of new project teams I have led. I will share it with you as I tell it to my people:

"In Quality Without Tears, *Crosby tells the story of a fictitious character; I will call him John. John worked his whole life on the assembly line of a luggage manufacturer, making suitcases. In the course of John's working life, he was constantly being hurried up to get more suitcases past his station on the line. John complied and rushed, and as a result, many defects passed by his inspection station without being fixed. John's life was changed forever by a vivid dream.*

In this dream, he was walking through an airport and saw dozens of travelers struggling with defective and broken luggage. Again, in his dream, he went to sleep that night, and died in his sleep. When he appeared at Heaven's gate, Saint Peter told him that before he could get into heaven he would have to go back and fix all the defective suitcases which were waiting for him in purgatory.

When John walked through the doors of that warehouse in purgatory, he saw stacks and stacks of defective suitcases that he had let go by him on the assembly line. It was going to take John years to fix all of those suitcases.

Now, this is just a fable. But let me tell you my story. As I look back over my career in this industry, I can vividly recall the few times that I let poor quality pass me by for various reasons. None of them could have any life or death implications, but the quality was not there. In fact, I could hop on a plane today, and fly and drive to three places in the United States and walk right up to places where I left poor quality behind. In one case, I was a young engineer responsible for inspections, and an older superintendent, who outranked me, bulldozed over my decision and I gave in.

So, I want you to know today, that there will be some instances where you alone will know about the quality of work you leave behind. And there will be times when someone with a higer rank than you will try to make you do shoddy work and rush. If this happens, I want you to contact me immediately at the phone number on my hardhat, or come and see me.

And, if you alone are in a position to decide to do a quality job, or rush through things, I want you to choose to do a quality job. Because our client

deserves it, and I do not want to see you in purgatory alongside me, fixing the things I did wrong."

Quality assurance is almost 100 percent technique. Quality control is 20 percent technique, and 80 percent attitude and values. When quality decisions need to be made, you need to be consistent. Somehow, as a leader, you need to instill a culture of quality in your team or organization.

The next principle illustrates a sobering case where quality was not treated as a virtue.

Have Impeccable Integrity

In July 1981, two crowded overhead walkways at the Kansas City Hyatt Regency collapsed without warning and crashed down to the atrium, killing 114 people and injuring 200.

In the forensic investigations of the collapse, the technical cause of the failure was determined to be faulty detailing and construction of the hanging rods for the platforms. The detail on the left here was the original design, but in the course of executing the design the connection was built as shown on the right instead. This changed the loading on the walkway beams, which failed under the stress, as shown in the photo.
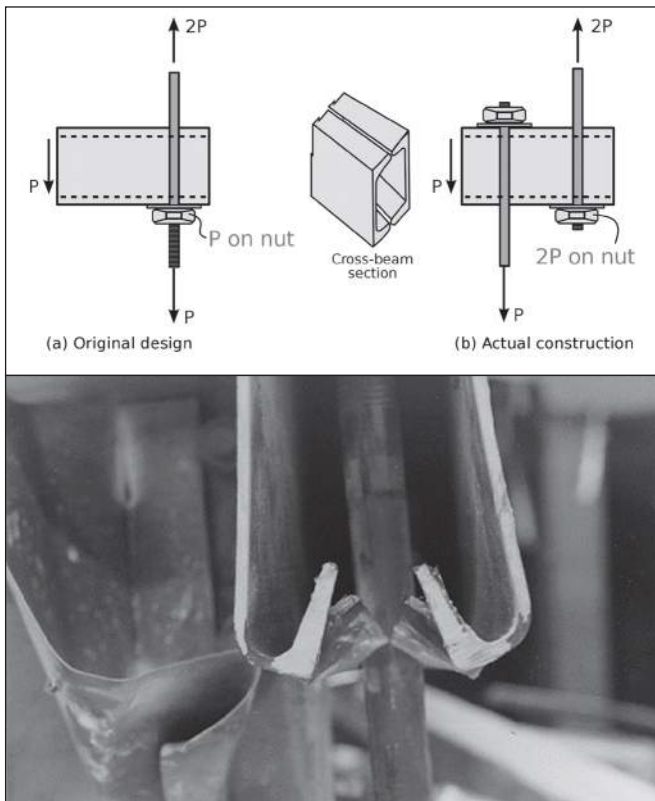
The detailer, architect, fabricator, and technician all testified that during construction they had contacted the project engineer regarding the structural integrity of the connection detail. He assured each of them that the connection was sound, claiming to have checked the detail. In reality he had never performed any calculations for the design at all, showing his complete disregard for the public welfare.

The other thing which came to light in the investigation of the disaster was the problem with compartmentalization in the design and construction process. In his book *To Engineer is Human*, Henry Petroski examines the role of failure in successful design. In *Why Buildings Fall Down*, Matthys Levy and Mario Salvadore explore some of the other more famous engineering failures and why they happen.

If you are in the engineering design and construction industry, these books contain timeless and invaluable lessons.

Most projects, programs, or company initiatives which fail do not receive the kind of investigation given the engineering failures in these books, and the consequences to the public are not so evident. But I believe that there is a common theme among them, which leads me to the next leadership principle.

Break Down Barriers

Within larger organizations one of the biggest obstacles to innovation is poor internal communication. A silo mentality develops so that departments guard information and ideas rather than share them. People work hard, but in isolated groups. Internal politics can compound the problem with rivalry and turf wars. Sometimes the enemy is seen as an internal department, rather than outside competitors.

Every organization has to find ways to promote internal communication and collaboration and to fight internal division and competition.

The corporate or project leader has to tear down internal fences, punish internal politics and reward cooperation. This sometimes calls for drastic and innovative action.

Let me tell you about a case where I was involved in an engineering accident waiting to happen as a result of compartmentalization. I was directly responsible for the design, development and construction of a condominium project: on this chart, I was in the white box.
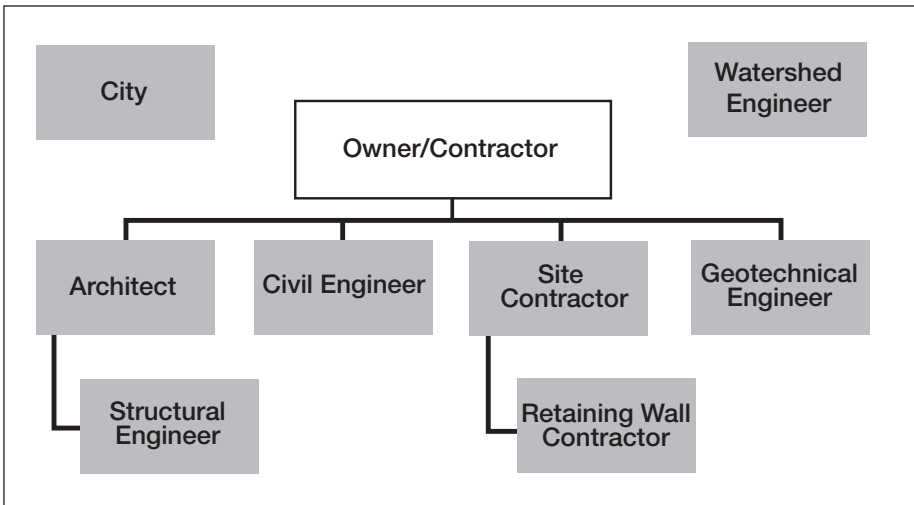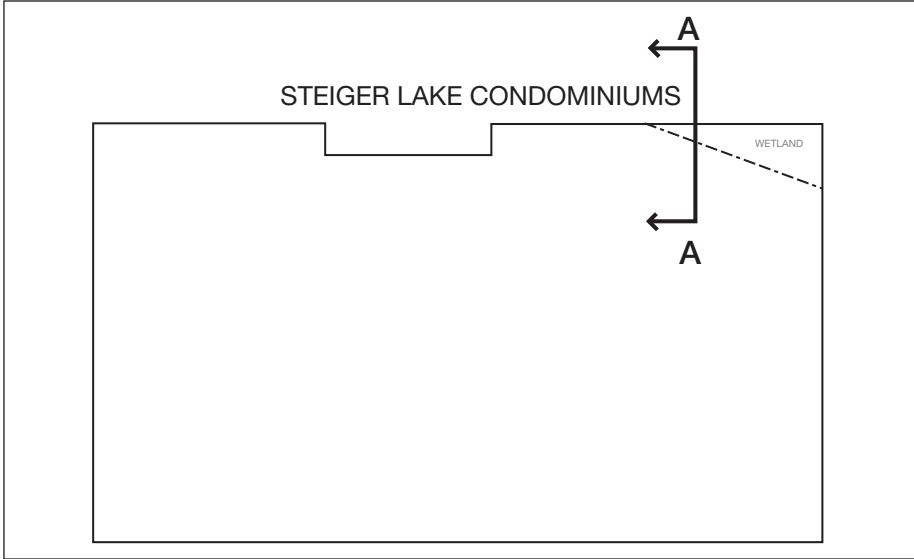
The lot for the project was flat, but it sloped off to the north into a wetland, as shown in the illustration.

While my company was conducting due diligence prior to closing on the property, our land manager hired a geotechnical engineering firm to do a conventional survey and give recommendations for foundation design and construction.

As usual, the structural engineer took the report from the geotechnical engineer and designed the footings according to the recommendations in the report.

The design of the project was completed, but before we could get a building permit, the City required that we get a release from the watershed district's engineer, because the lot encroached onto a wetland. The watershed engineer objected to the plan as it did not offer the wetland protection that he felt was mandated.

From there, the ball was passed on to the site contractor, who then contacted a retaining wall specialist to put in a proprietary ReCon wall system.

The retaining wall company submitted their plans for the wall through the site contractor. The design contained some earth reinforcing mesh as shown here, and it was stamped by a registered engineer. But note that the reinforcing mesh layers extended back to the face of the building foundation. When I pointed this out to the engineer for the retaining wall, he said that it was outside his scope of work to worry about the foundation of the building. He was probably technically correct.
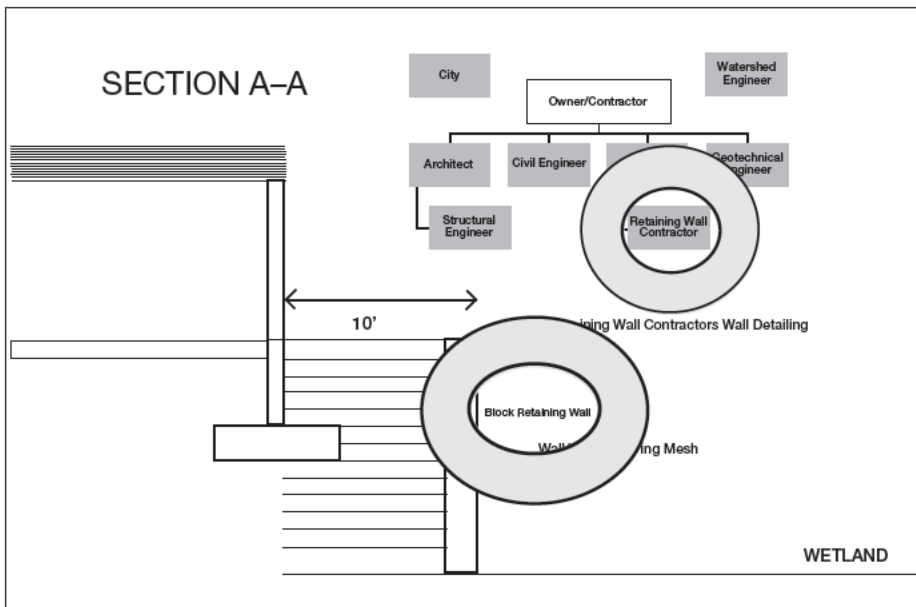
The site contractor's solution was to move the wall out another two feet, but this still did not address the foundation pressure influence that was impinging on the retaining wall system.

Compare the evolved design to the original intent of the foundation design, before the watershed engineer got involved and demanded the retaining wall. The earth pressure influence from the foundation now impinged on the reinforcing mesh for the retaining wall.

SECTION A–A
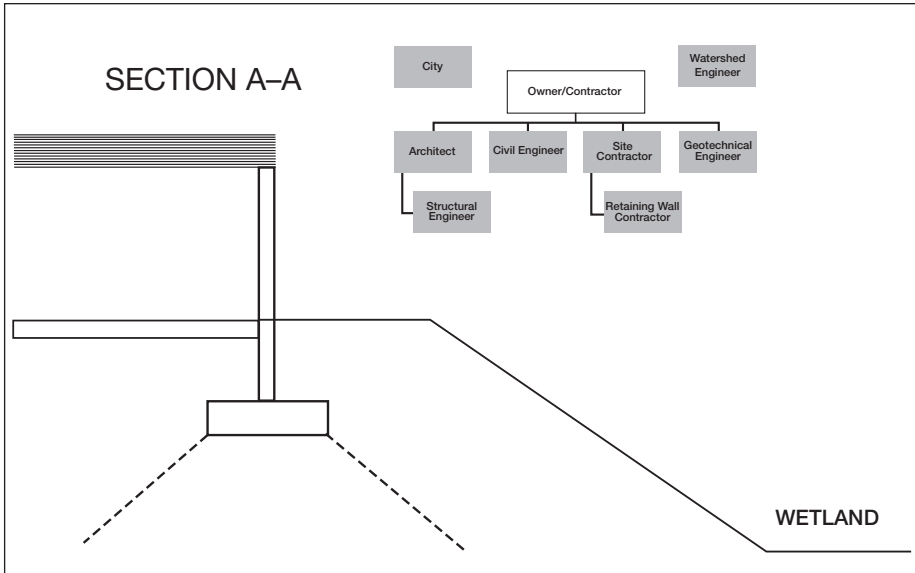
This scenario was an accident waiting to happen, as it set up the potential for a classic slope failure under the building footings because it was a clay soil and could not absorb much water.

We no longer had a slope away from the building to carry the rain water down into the wetland. The way the site was now sloped and graded, standing water in the wetland had a path to seep into the clay under the footing and retaining wall, causing further instability. Another cause for instability was the potential influx of water from the gutters and downspouts in heavy rain, which would contribute to saturation of the clay and a classic slope failure under the foundation. Have you ever seen a $15 million building slide off a hill?

The Solution

Based on teamwork and design integration, the solution was to lower the depth of the foundation, and design it as a hybrid foundation/retaining wall as shown. In other words, the foundation for
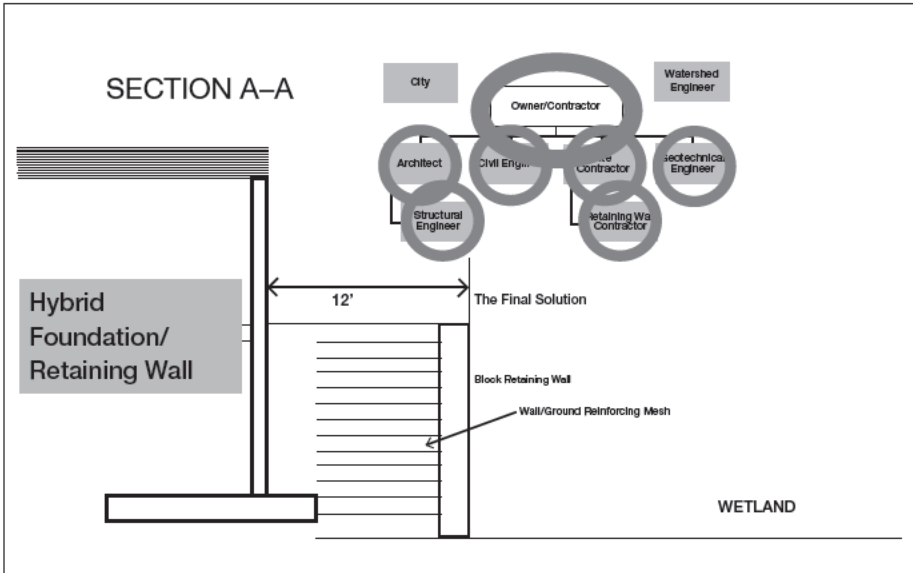
the building was designed to hold back the earth under the building. The retaining wall was there merely to create a walkaround and hold the earth between the building and the wall. The wall could have been removed and the building would still stand.

The science to evaluate the combination of this proprietary retaining wall system and how it would interact with the foundation pressure cone of the building did not exist. As a result, the solution required input from the geotechnical engineer, civil engineer, architect, structural engineer, site contractor, retaining wall contractor and his engineer.

What I thought would be a sequential linear process could not be done sequentially after all. I had to break down some of the traditional barriers here and get a team working on it. Here was a case where all involved could have done their job correctly and it still could have led to a failure!

Engineering failures like the ones we see and know about are good examples, but there are many operational failures which do not

leave the same kind of forensic evidence, because the human communication and interface points are not visible.

I am convinced that many failures in organizations, projects, designs, programs and initiatives occur because of compartmentalization and limitations to our field of vision. So one of your jobs as a leader is to break down barriers. Get people out of their boxes and silos to work together in super-teams. Don't let poor communication lead to operational failures. As a leader, you need to keep your radar up for the details which can derail your organization, team, program or project. Read the foundation design example I just gave you again.
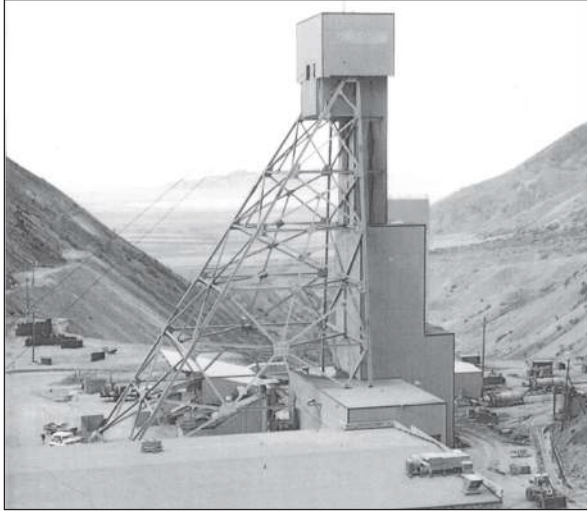
Anaconda Carr Fork Mine, Utah

Practice, Drill, Rehearse

Can you imagine the U.S. military going into battle without practice?

Early in my career, I was placed in charge of a three day mine shut-down during which we had to equip the production shaft with hoist ropes and ore-conveying equipment. I first met with the mine superintendent one-on-one to discuss an overall approach. Then the two of us met with the foremen to work out other details.

Finally, we met with the men who were going to be using tools and equipment to make this difficult project happen and developed a detailed game plan. We did a lot of white-boarding which we turned into detailed charts and diagrams of how we would proceed.

We continued to meet for two weeks before the actual shut-down, as the men assembled the necessary materials, tools, and equipment on the checklists we had made and reviewed the communications plan.

When the shut-down finally came, the new equipment was installed without a hitch because we had practiced, drilled and rehearsed.

You have to get out from behind your desk and get involved . Armchair leadership doesn't work.

Shell Oil is well-known for its adherence to a discipline of scenario analysis. They are corporately ready to act decisively on short notice when and if an anticipated scenario plays out.

Keep your team or organization fit for duty through practice, drill and rehearse, and by examining "what if" scenarios.

To create a world class safety and operational excellence culture, a few critical behaviors need to be adopted by managers and employees. These behaviors are essential to make the shift from a "dependent" safety culture to an "interdependent" one, as discussed on page 39 . Implementing a behavior change may seem simple enough to do, but it turns out that there are a host of reasons why changing human behavior is not as easy as it may appear. Some behaviors are perceived as unpleasant or uncomfortable. And unless there is a connection made between the desired behavior and something pleasurable and good, people are reluctant to adopt behaviors which are not part of their normal way of operating.

One of the behaviors adopted within highly effective safety cultures involves the active intervention by employees when they see a fellow employee enter a hazardous situation or engage in an act which is unsafe. This kind of intervention behavior is not very easy to embed in a workforce, because neither the intervener nor intervenee are very skilled or experienced in this kind of interaction. Construction workers on the receiving end of this kind of peer intervention often have the initial reaction "Get out of my face" or "Mind your own business." Very often, construction teams are ad-hoc organizations, brought together on a project by project basis. Trade workers are often working alongside people with whom they have had little time to build a relationship of trust. They each have different backgrounds

and experiences with respect to safety culture and practices. Many different ethnic cultures are also represented in today's workforce. To create a team atmosphere with a common culture—one which engages in this vital behavior on a regular basis—requires that management quickly implement a step-by-step strategy from the first day of project mobilization. A management edict telling employees to adopt this interdependent behavior is not enough. Education and training alone will not be effective in causing employees to adopt this behavior either. But education and training, coupled with Practice, Drill, and Rehearse, will provide the skills and experience needed by the giver and receiver to put this peer intervention into place.

Another practice which helps facilitate the adoption of this culture is the implementation of regular "safety interactions" between peers and between managers and employees, as described on page 42. Participating in safety interactions on a regular basis, even when there is not an imminent threat of an unsafe act or hazard, gives people the opportunity to further develop the requisite skills needed for safety excellence. Implementing the practice of non-threatening "safety interactions" is the ideal first step in this process, followed by peer employee interventions with the use of report cards to validate the findings of employees in the field.

One company I worked with gave every employee hard hat stickers which said: "I am Responsible for Safety", but never conducted anything more than a conventional safety orientation for new hires. There was no follow-up training to give employees the opportunity to practice this new paradigm of interdependence, so no one actually did it. Alone, empty platitudes like "Safety First" or "I am responsible for safety" have little impact on behavior or results. You have to have a concrete plan of action that will alter behavior. And the critical behavior to achieve safety excellence is the active and frequent occurrence

of peer to peer safety interventions and interactions, with management participation, tracking and monitoring. Safety can and should be delegated to the line organization from top to bottom. But you must follow the proper delegation practices described in the principle Delegate, But Don't Abdicate to make that delegation effective.

On many work sites, the safety advisors have become viewed as the "safety cops". This is a hold-over from the rule-driven OSHA era of safety. But what if every employee were willing to provide management with reports of unsafe behaviors observed in others, making every single employee a safety inspector? One major east coast coal mining company has installed a system of using field report cards filled out by the employees to do just that. There are no "quotas" of cards to be submitted by employees, but on average, the company receives one card per employee per week. The cards are designed to be used by employees to report unsafe behavior, good behavior, or unsafe conditions. The management commitment is to never use the report cards to take disciplinary action against any employee who is reported. Each day, a safety advisor and management review the contents of the cards, and if there is an urgent need to address an unsafe condition, action is taken. On a monthly basis, a safety review committee made up of employees and managers meets and discusses the information submitted on the anonymous cards. Results are then shared with all employees. The willingness to "rat" on a fellow employee is a behavior which is seldom condoned in our culture and workplace – unless it is perceived as something which is good for the person being reported.

Using the principle of Practice, Drill and Rehearse is not only for gaining operational preparedness. It is also a powerful tool in facilitating the rapid adoption of a culture change and new and vital behaviors.

Hire Slow, Fire Fast

Don't take this one the wrong way. Hire slow means to take your time and find the right person for the right job. Don't jump at the first person who walks through the door. You want to hire the best, and you will be living with the decision for a long time to come. Don't be hasty. Recruit constantly, and keep the names of people who want to work for you in your pocket. Then, when you have an unexpected hole to fill and need to hire fast, that list will help you be prepared! Just like a sports team, you need some bench strength.

Fire fast means this: don't agonize over letting someone go. It doesn't mean that if someone is not working out then you pull the trigger without consideration. Maybe the person is just in the wrong job. Of course, if it's a problem with character, attitude or ethics, then that person needs to go, but some companies drag out the decision to fire for months or years. Holding on to people who are not going to work out does them an injustice. Let them go and move on somewhere else where they can succeed.

Value Your Clients (or Customers)

Of all the things I have learned in my business career, I put this one near the top of the list. At McDevitt and Street Company, there was a poster which read:

"Without Our Clients, We Would Not Be Here"

This simple statement summarized a complex subject.

There's a difference between a client and a customer. A customer is someone who makes a purchase from you at retail. A client is someone with whom you have a professional relationship and to whom you provide a service. In engineering and construction, the best companies treat their work as a service to their clients. And the contractors and engineers who treat what they do as a service do the best in business.

I have spent four years out of my career in business development for engineering and construction companies. It was a great lesson because I learned directly how important word of mouth from

clients was in building a successful business

In every organization, there are also internal client relationships. At any one time, the people working in one department may have another department as their *internal* client. If you are a client-driven company, the people who are most in contact with the client become the internal clients within the organization. If the needs of your client service people are met, then it stands to reason that the clients' needs will be met.

Regardless of the business you are in, it's important to make your clients' needs a very high priority. And sometimes you need to look beyond the particular service you are offering to understand what those needs really are. Owners and clients are people, just like everyone else. Sure, they want a facility that gets built on time, safety, and under budget with quality materials. Those are givens. But they have affiliation needs and relationship needs. They have image and esteem needs within their organizations.

Often, the technical types who are best at producing the product or service are not those with the best people skills. Some companies recognize this and structure their client service and project teams accordingly. They will match a technical person, often an introvert, with an extroverted 'people person' to help deal with the client relationship.

To deliver the best of what your client needs, surround yourself with people who have complementary skills and aptitudes.

By placing a high organizational value on client service, you are creating a motivating 'battle cry' for your team to rally around. People want to make a difference in service, and are drawn to corporate cultures where client loyalty is rewarded, which leads to another point . . .

Happy Employees Make Happy Clients

Yes, when you have created a dynamic culture where employees feel as though they are a valued part of the team, where they have a hand in the direction of the company they work for and are motivated to do their best, their positive vibes rub off on the client and how the client feels about your company. You want people in your ranks to sing your company's praises, and they will if you value each of them as an individual and as a valuable part of the enterprise. You can judge the leadership of a company by the demeanor of its lowest level employees.

If you follow the principles in this book, you can create the kind of culture where all the people under your leadership give off positive vibes. As a result, you'll have happy clients.

If you really want to please your clients, set up your internal system to reward your client champions who are able to create repeat customers. When your line people are motivated to gain customers, you have really created a client-focused organization.

The Buck Stops Here

When everyone is passing the buck, it has to stop on the desk of the leader at the top. Harry Truman had a sign on his desk that said "The Buck Stops Here." The sign became famous, ending up in his presidential library.

I think that Colin Powell said it best:

"Harry Truman was right. Whether you're a CEO or the temporary head of a project team, the buck stops here. You can encourage participative management and bottom-up employee involvement but ultimately, the essence of leadership is the willingness to make the tough, unambiguous choices that will have an impact on the fate of the organization. I've seen too many non-leaders flinch from this responsibility."

WORK SMART, WORK SAFE!

PART TWO

Right Brain Principles

Before I get to the leadership principles in part two of WSWS I want to share my personal story with you. I am the product of a Judeo-Christian upbringing, so I will be using this framework to explain the experiences I went through and how they've given me a new understanding of what it means to be a leader. (I understand that Christianity is only one of the major religions in the world, but the principles I'm going to talk about are universal.) My path to where I am today has led me though compassion, forgiveness and acceptance to, finally, spiritual surrender. This is how it happened:

First, a powerful lesson in forgiveness:

In 1985, someone I considered a friend breached my trust in him and embezzled money from me. I tried hard, but I couldn't forgive him because I was holding on to so much anger. One day, a year later, while I was praying, I felt a tug on me, calling me to forgive this man. Two days later I called his home. His wife answered and told me that just two days before, on the very day I felt that tug, my former friend had been in a terrible accident and was now in a hospital bed, paralyzed for life from the waist down. I was horrified.

In my anger at his betrayal I had wished all manner of horrendous things on that guy, and being in a car crash was the least of them. Visiting him and talking with him later that day was a transformational experience for me, and changed forever the way I feel about holding grudges and how I handle forgiveness.

Some people would say that there are no coincidences. But, do I believe that something unseen prompted me to call this guy on the day of his accident? I will never know.

Second, for the lesson of acceptance:

Not long after that, my wife and I found out that our one-year-old son, David, was permanently and severely mentally handicapped. I will never forget that day at the University of Virginia Hospital when we watched David completely fail the IQ test with the little bell, mirror, piece of glass and other props. My wife and I were convinced any kids we had were going to excel in whatever they chose to do, be it academics or athletics. I was a take-charge guy managing a complex construction project with 500 workers. I thought that my personal power and problem solving abilities were boundless.

Surely, I thought, there had to be some kind of treatment, medicine, vitamin or enzyme that would fix David. We just had to find the right doctor to help us. Of course, one of my biggest concerns was what would happen to David when I was no longer in the world to care for him.

One day, I took David up to New York City on Amtrak from Richmond, Virginia, where we lived at the time. I will never forget walking through Grand Central Station with David on my back, then catching a taxi through Manhattan to meet the doctor. We took David to Johns Hopkins Hospital, the University of Minnesota Medical Clinic, The Mayo Clinic in Rochester—always with the same prognosis for his future. I loved David dearly then, and I still do. I

had no problems accepting him, but I could not accept my powerlessness to do anything about his condition.

For eleven years, my wife and I loved and cared for this special-needs child. Finally, as is the case with 80 percent of families in this circumstance, our marriage could not take the strain. Yet, sometime along the way in those difficult years, I learned to accept the reality that David would never be able to leave the nest and fly as my three other kids would. He still requires full time care but now lives in a group home which takes care of all his needs. David is now 21 years old, and I consider him my spiritual mentor when it comes to acceptance.

After the foundations of forgiveness and acceptance were laid, a near death experience in February, 2005, took me to the intensive care unit at Fairview Ridges Hospital and gave me a powerful lesson in spiritual surrender.

My doctor thought I had pneumonia, but my body did not respond to the prescribed medication. I took it for a month but was unable to walk from my office to my car without resting to catch my breath. Something was drastically wrong and my doctor scheduled me for a treadmill stress test. The ultrasound technician preparing me for the test could not believe that I was still on my feet. I was wheeled straight to intensive care.

I was suffering from an enlarged heart, pumping at only a quarter of normal capacity. The doctors speculated that a virus had entered my heart. As I lay there in intensive care, my life hanging by a thread, I felt at peace and accepted that whether I lived or died at this point was something I could accept. I had reached a level of acceptance that Mother Theresa called for in a 1997 address to the United Nations:

"If you go to the cupboard for food, and find it empty, accept. If you go to the well for water and find it dry, accept."

Thanks to the miracle of modern medicine (and my health insurance), I recovered and lived. But as I recovered I thought about the young man in Chimbote, Peru, I'd seen die from AIDS because he could not afford the medication. I thought about the other 6.5 billion people on the planet, the great majority of whom would not survive if found in my circumstances. I became overwhelmed with gratitude and realized how fortunate I was to have been born at the time and place I was. As never before, I realized I am one lucky guy, and began to appreciate every day as the precious gift it is.

I walked out of that hospital a changed man. I felt I had been given a second chance for a reason, and opened my heart to God as completely as I could. I asked Him to take me and use me for His purposes for the rest of my time here on Earth. Now, it was up to me to learn what that purpose was, and stay awake at all times for God's guidance.

That's my personal story, and it's what led me to the following principle of leadership.

Pursue Self Mastery and Transformation

This may seem to have nothing to do with being a leader, but Paul Jerard, a certified Master Yoga teacher, explains it this way:

> *"Self mastery, alone, sounds like a selfish term; but if you cannot help yourself, you will have limited ability to help others. Self mastery is the ability to make the most out of your physical, mental, and spiritual health. In other words, to be the best you can be.*
>
> *As a result of your efforts, you will be able to help everyone around you. In order for you to change the world around you, for the better, you have to change yourself for the better, along the way."*

I am in better shape now than I have been in years. My heart works at full capacity and I swim, hike the mountains, snow ski, and enjoy good health to the utmost. I still make mistakes, and I don't do the right thing one hundred percent of the time. But now that

I have surrendered I feel more alive today than I ever have been. I don't get too concerned about my own ego centered self interest—I know that the Universe will take care of that so long as I stay on purpose.

It's my belief that spiritual surrender is one of the most powerful things you can do to become an effective leader in the world. Through surrender, you can open yourself up to an infinite power and ability to transform yourself and to become a channel for accomplishing some extraordinary things.

Here's an example of what I mean: I am from Minneapolis, where Mary Jo Copeland started out with nothing but surrender in her heart and a wish to help the homeless poor. Twice a day, at Sharing and Caring Hands, the wash bowls come out and Mary and her staff wash the feet of the homeless, who suffer from more problems with their feet than people with a roof over their heads. I'm not saying that you need to get down and wash the feet of the people you lead. Service is a frame of mind and a way of being. Penniless when she began, Mary has created a service with assets of 19 million dollars, and annual revenues of six million. To this day, she accepts no salary from her work with Sharing and Caring Hands.

Stay aware of opportunities to practice compassion, forgiveness, acceptance, and surrender in your life.

Here's Paul Gerard again:

"Where do we start learning the secrets of self mastery? If you accept things around you, without attempting to change them, you already have taken the first step."

1. Once you accept people and situations for what they are, you won't waste time and energy with frustration. This causes inner frustration, emotional turmoil, worries, and depression.

2. Once you change yourself, through positive self mastery, the world around you will change for the better, without much effort on your part."

There is a big difference between acceptance and resignation. When I found that my son David was severely mentally handicapped, there truly was not much I could do about that reality, yet it was difficult for me to accept. But today, rather than enter a state of resignation when I see a challenge or problem that seems insurmountable, my range of options, desire, and motivation to change them for the better has grown laterally.

I have experienced a number of cultures around the world, and in some of them, there exists a sense of fatalism bordering on resignation. I often hear the attitude about safety expressed as: "Accidents will happen".

This attitude is poison on any team, and must be challenged at every opportunity. I know that every accident is avoidable. With focused action, accidents can be virtually eliminated from the workplace. It is a challenge that we all must accept with courage, for the benefit of ourselves, and all who we come in contact with on a daily basis.

In his book *Good to Great*, Jim Collins examined a number of 'no-better-than-average' companies that seemed to make the leap to greatness overnight. As it turned out, each of the good-to-great companies had had for years what Collins called 'Level 5' leadership. The Level 5 executives had several traits in common. They shared a humility with regard to their personal accomplishments and were concerned only with the success of the enterprises they led. They sought no fame for themselves but worked steadily for years to transform for the better the companies they led. The sudden leap to greatness that the

outside world saw was the result of many years of dedicated service on the part of the CEOs, who worked diligently for the good of their companies and had no desire for recognition for their accomplishments. Collins could not give a formula for becoming a Level 5 leader, but noted that several of the executives had been through some kind of transformational experience like active service in war, overcoming cancer or a spiritual rebirth. As Collins puts it:

> *"Whether you prevail or fail depends more on what you do to yourself than on what the world does to you."*

The serenity prayer hung on the kitchen wall in the house where I grew up. As I read it again today, I see the wisdom and truth that it contains.

> *God grant me the serenity*
> *to accept the things I cannot change;*
> *courage to change the things I can;*
> *and wisdom to know the difference.*
> *Living one day at a time;*
> *Enjoying one moment at a time;*
> *Accepting hardships as the pathway to peace;*
> *Taking, as He did, this sinful world*
> *as it is, not as I would have it;*
> *Trusting that He will make all things right*
> *if I surrender to His Will;*
> *That I may be reasonably happy in this life*
> *and supremely happy with Him*
> *Forever in the next.*
> *Amen*

Again, acceptance and spiritual surrender are not the same as resignation. As you can see from my story, nothing comes easy, and I'm not even sure that I could have planned my ongoing path toward self mastery. It is a life long quest worth taking, and those who you lead and love will benefit the most from it.

Here is another way to look at it. When airline flight attendants give instructions for using the oxygen masks, they always tell you to put the oxygen mask on yourself before you put it on a child who might be traveling with you. This makes perfect sense, because if you pass out from lack of oxygen while trying to take care of the child, you are not much good to the child, are you?

Self-mastery is to leadership as oxygen is to breathing. Pursue self-mastery as a lifelong journey.

Be in Service

Dr. Martin Luther King often talked about the principle of service:

> *"We can all be great, because we can all serve and we can all love. You don't have to have a college degree to serve. You don't have to make your subject and your verb agree to serve. You don't have to know the second theory of thermodynamics in physics to serve. You only need a heart full of grace. A soul generated by love."*

Being a servant leader involves much more than going through a certain set of motions. I think that once you have surrendered, you can fully be in service in a transformed way. Why are you here? What is the purpose of your life? Being in service means that your ego has moved out of the way, and you are no longer worried about your own petty concerns.

Jesus Christ was one of best examples of a servant leader the world has ever known. He stooped to wash the feet of his disciples. He surrendered to His Father's will, and sacrificed His life.

To be a great leader, be in service.

See the Greatness in Your Teammembers

It may surprise you to know that the way you look at your team and the people around you has a profound impact on their behavior. If you see the greatness in them, they will be great. If you see them as losers, they will be losers.

This is not only my personal observation—it has been tested in the classroom. In a psychological experiment, teachers were told that the pupils on the left side of their class were the slow learners, and the gifted students were on the right side of the classroom. In actuality, the students were randomly seated without regard to their learning abilities or intelligence. But after a period of time, guess what happened? The average scores of the students on the left were measurably lower than those of the students on the right!

This phenomenon is known as the Rosenthal Effect, after the

researcher who carried out the studies. He theorized that the teachers' subconscious behavior toward the students would impact their actual performance so that they met the expectations of the teachers.

In management practice, Douglas McGregor at the MIT Sloan School of Management created the Theory X and Theory Y suppositions of human motivation to guide managers in the use of the Rosenthal Effect. In Theory X, management sees employees as basically lazy and incompetent, needing structure and direction imposed upon them by the use of fear-based threats. In Theory Y, employees are seen as competent, motivated, trustworthy, creative and interested in making a difference.

Theory X has been found ineffective in application, while Theory Y results in higher team and organizational performance.

To apply these concepts to your calling as a leader, you have to start inside your head. As Rosenthal found, the teachers' subconscious behavior toward the students was what impacted the performance of the students, not the teachers' conscious behavior. If you see people as lazy or incompetent to start with, it will be difficult for you to use conscious strategies to overcome this. But if you have done the internal work and can see the magnificence in all people, then you have already accomplished the heavy lifting. The rest will fall into place almost automatically.

I consider it a privilege to have a son with severe mental handicaps. David has shaped my attitudes on many things in life. Until he was twelve months old, he was not too unlike his healthy older brother and sister during their first year. He played, laughed, ate and slept. I could see the gift of life and spirit that was within him, and I loved him dearly. I could also sense that he had a soul, just like our other children. His behavior on the day after I learned of his handicap was no different than the day before. He expressed feelings

of joy and sadness when he laughed and cried. He liked playing with cars. Regardless of his handicaps, he was still a child of God.

Do you fully comprehend how magnificent we human beings are? Do you appreciate the individual differences between people? Do you view everyone on your team or organization as a winner? How about your spouse, children and family members? Do you view them in a positive light? When you can say yes to these questions, you are on the road to becoming all that you can be as a leader.

I am not saying that you need to throw away common sense and disregard the need to place the right person in the right job, and match their skills with the demands of their position. But look beyond the outer impressions you have of people and try to see their inside beauty. Look beyond skin color and gender. Unfortunately, our schools and workplaces are full of people who are not living up to their full potential because they are not being held up to high expectations.

It may be difficult for you to see the greatness in your team members, associates and family members. The only thing I can suggest is to pray for it. Contemplate the mystery of human life and how truly awesome it is. Pray for the wisdom and understanding to be grateful for every breath you take, and appreciate everyone who crosses your path in life.

To get the best out of your team or organization, see the greatness in them!

Love

Yes, they say that love makes the world go around. But too often we are afraid to talk about love in the workplace or boardroom.

Vince Lombardi, one of the most successful coaches in football history, had no problem using the word.

"Mental toughness is Spartanism with its qualities of sacrifice, self-denial, dedication. It is fearlessness, and it is love."

Vince Lombardi

He transformed the Green Bay Packers into a dominating force in the National Football League in the 1960s, winning five NFL titles and the first two Super Bowl crowns. Off the field, Lombardi became known for his coaching philosophy and motivational skills, demanding dedication and obedience from his team and promising championships in return.

In a statement about the essence of teamwork Lombardi said, "Teamwork is what the Green Bay Packers were all about. They didn't do it for individual glory. They did it because they loved one another."

Being in service is closely linked to being in love with the world. Agape is the word for spiritual love as revealed in Jesus, selfless and a model for humanity. The love of all others is inclusive love, and carried in the hearts of the world servers, the great leaders.

Albert Einstein had this to say:

"A human being is a part of a whole, called by us universe, a part limited in time and space. He experiences himself, his thoughts and feelings as something separated from the rest…a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty."

Albert Einstein

The best way I know of to open your heart to this kind of universal love is to go on a volunteer mission somewhere. Rick Warren, author of *The Purpose Driven Life*, says to "just do it":

"I urge you to save and do whatever it takes to participate in a short-term mission trip overseas as soon as possible. Nearly every mission agency can help you do this. It will enlarge your heart, expand your vision, stretch your faith, deepen your compassion, and fill you with the kind of joy you have never experienced. It could be the turning point in your life."

When I was sixteen years old, I had the rare opportunity to go work for a summer in the rain forest of Venezuela. Living in a mud

hut with two Venezuelan boys my age, in the middle of the jungle, with no electricity or running water, I came to understand how the other half lives.

More recently, I took a month's leave and spent the time traveling the dirt roads of Africa visiting clinics, orphanages, schools, and churches making contacts for a mission organization. I agree with Rick Warren—go on a mission trip to deepen your leadership vision.

Beware of the Seven Deadly Sins

In Catholic Grade School I was taught about the Seven Deadly Sins, a concept to send shivers down any ten-year-old's spine. Of course, none of us fourth-graders had any understanding of what the words meant, but that only made it worse. Perhaps without knowing it we were constantly doing something deadly! Scary!

Seriously, I am not attempting to preach here, but consider these two lists:

Vice	Virtue
Lust	Chastity
Gluttony	Temperance
Greed	Charitry
Sloth	Diligence
Wrath	Patience
Envy	Kindness
Pride	Humility

Which of them would you rather live by?

Give Back

If you are fortunate enough to have a heart filled with Agape, you will automatically want to give back some of your time, talent and treasure. The way you choose to do it is up to you. It could be by tithing at church, getting involved in a professional or civic association, donating to a charity or by any other method that works for you.

During the years when you're raising a family, it can be a challenge to find the time or the money to do this. But get involved in something bigger than yourself, even if it is in a small way.

Every time I have had the opportunity to give of my time, talent or treasure, I have been rewarded many times over. This raises a question—do I give in anticipation of getting something in return? It has been my experience that giving back is something done freely without self interest or for aggrandizement of the ego. Otherwise, the rewards are shallow.

Share Your Story

As you can tell from what you've read so far, I'm a strong believer in the value of sharing our stories. I first learned that it might be important from a work project. In the 1990s I served the Yankton Sioux Tribe in South Dakota, developing and constructing a school on their reservation. Their four primary traditional virtues were wisdom, generosity, courage and respect. Generosity, I learned, did not refer to material goods, but rather to oneself and sharing yourself with your community.

My father showed me the value of sharing stories when, near the end of his life, he put together *The Territory*, a collection of personal photographs and family anecdotes. It's been passed around by family members and friends and has given immense pleasure to all who've read it. And Rick Warren, in his book *The Purpose Driven Life*, urges his readers to share their testimony. As he puts it, to pass on your individual story is "an essential part of your mission on earth because it is unique."

Throughout *Work Smart, Work Safe!*, I have shared with you examples of how I share my own stories with the teams I lead. This may seem uncomfortable for you at first until you try it a few times. When I started doing this, there were times when I could almost feel a lump in my throat. This may not be your style, but it is worth a try because it has helped me build relationships of trust with my people—an essential element of leadership for operational excellence.

It seems there is a universal calling for us to share our story and share ourselves. You don't have to be a Nobel Prize winner or movie star: no one else has exactly the same story as you, and if you don't share it with others it will be lost forever. If my father were alive today, he would use the Internet, with its blogs, personal web pages and YouTube. It's easier than ever for someone to share their story now. Why not do it? I just did.

Conclusion

Leadership for Operational Excellence is something that can be learned, and personal transformation is an integral part of becoming a great leader.

The strategies for removing the root causes of accidents are some of the same strategies used to achieve high motivation and productivity.

ROOT CAUSE OF ACCIDENTS	SOLUTION
Rushing	Multi level planning Eliminate delays with the Delay Survey Supervisory training
Frustration	Empower workers Support workers to be successful Servant leader model Eliminate delays with the Delay Survey Organize work into work packages
Fatigue	Minimize the use of scheduled overtime
Complacency	Engage workers in planning, safety Good leadership Team building Provide feedback on performance Workers set their own high goals

Corporate leaders at all levels can focus on safety as a key driver of operational excellence and expect to see dramatic improvements in all measures of performance.

Regardless of your rank in your organization, you can put most of the principles in this book to work for the people you lead and the customers you serve, which leads me to my closing comments about purpose.

Over my 35 year career and 57 years of living on this planet, I have come to some clear conclusions about the purpose of good

leadership in the world of work and business. What a leader focuses his or her attention on has a direct link to the success of an organization. But how do you define success? Is it measured in financial performance? Customer satisfaction? Market share?

In 1976, when I took up tennis, I read Timothy Gallwey's *Inner Tennis—Playing the Game.* One of Gallwey's contributions to the game of tennis, and, by extension, to life, is the importance of keeping your eye on the ball—the most important object in the game—and letting your mind and body take over to accomplish what's necessary.

I've made use of this concept many times in my working life. As a leader, I constantly ask myself what "ball" I need to focus on most—quality, safety, economy, speed or profit. They are all fundamentally critical to the success of any mission. But when leadership focuses only on them, and ignores the human aspect of the employees expected to achieve the desired results, the motivation to compel their improvement is missing. And in the same way, focusing solely on profit becomes counter-productive, as operational performance will suffer and profits will fall.

In my experience, when leadership shifts its focus to supporting the success, satisfaction and fulfillment of its employees, the satisfaction of its customers and improvement of the environment of which it is a part, then all of the fundamental measurements of organizational performance are enhanced.

This is the ultimate foundation of Operational Excellence—a focus on people and clients.

Keep your eye on the ball!

Epilogue

Being a leader in any role can be much more than just a job or a paycheck. It is a true calling. If you do it right, the rewards of good leadership can be extraordinary. The lives you can touch and influence for the better can reach far beyond your immediate circle.

Let me share a letter with you that I recently received from the wife of a worker on a project I recently led. Their young grandson, Kendon, was struggling with childhood leukemia:

Mike Vallez

Dear Mike,

I don't quite know where to begin. It is with sincerest Aloha that this letter of love and thanks is being written. Our 'ohana (family) can't describe in any language the gratitude and love we feel for the team and employees.

Fist of all, we thank you for hiring Ken. It was a miracle we had been awaiting for 8 long months. To be amongst Godly men was just what God had intended. He has become a new man with enthusiasm, excitement, and a renewed spirit of self worth. He beams with the spirit and had forged life-long family relationships. To be part of a company that promotes people first and allows individuals to share their life and faith, as you have done is more than we could have ever asked for. My husband is a man of honor, integrity, and faith and I thank God he was placed here with you all. When Kendon relapsed and was medivac'd to Oahu, I know Ken wanted and needed to be there. The honor he possesses kept him here at the job when his heart was with Kendon.

Again words cannot describe how much we thank you for supporting him, praying with him, and ultimately your giving hearts when asked to help Kendon financially. To say we have cried with thankfulness is an understatement. I can honestly say, I personally have never met or been in the company of more loving and gracious people.

The project team has indeed succeeded in allowing our family to breathe during this time of trauma and trial. Your support both spiritually and

financially have allowed us to focus on the MIRACLES that have manifested through faith and prayer for Kendon. We are praying that he is able to come home for a brief time this month before he is prepared for his transplant as we would love to bring him to meet the people that kept his "Papa" safe and sound while he was away.

Please know that if there is anything our family can do to assist or make someone else's life a little easier while here in Pahoa or on the Big Island, you can count on us. We have already made lifelong family relationships and thank God for bringinig you all into our lives.

Me Ke Aloha Pumehana,

Donna Walker

The many leadership principles of *Work Smart, Work Safe!* cannot be treated like a menu of options to choose from if you are trying to build a high performance team or organization. You could never have a symphony orchestra with just a violin section. These principles are meant to work in unison and interact with each other.

Being part of a high functioning team or organization is a magnificent experience which fulfills our higher aspirations as human beings. When you apply these principles at your level and within your sphere of influence, large or small, you are truly an instrument in making the world a better place.

Appendix

White Paper on Puna Geothermal Project
described on page 16.

Work Smart, Work Safe!

Proactive Safety and Productivity Management for the Puna Geothermal Project

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Operational Excellence is a philosophy of leadership, teamwork and problem solving resulting in continuous improvement throughout the organization by focusing on the needs of the customer, empowering employees, and optimizing existing activities in the process.

Operational Excellence stresses the need to continually improve by promoting a stronger teamwork atmosphere. Safety and quality improvements for employees and customers lead towards becoming a better enterprise. The continuous improvement is not only about improving HR quality, but also it is about the processes and standards improvement. You cannot improve if you do not measure.

Wikipedia

Recent field experience with construction of the Puna Geothermal Project in Hawaii demonstrated that the objectives of safety and productivity do not conflict with each other.

Root Causes of Accidents

The top root causes of accidents can be summarized in the following broad categories:

Rushing

Frustration

Fatigue

Complacency

Analysis of the best methods of eliminating these root causes of accidents showed that most of those effective methods also contribute to high motivation and productivity. This case study should help dispel the myth that safety and productivity do not go hand in hand.

The Safety Culture Challenge

The Puna Geothermal Project presented unique challenges, most especially its remote island location and fast track schedule. (Two months were cut from the schedule after mobilization, requiring a doubling of the work force and additional equipment and materials.)

The project drew highly skilled specialized workers from diverse cultural backgrounds. The work force included Hawaiians, Navajos, Mexicans and Puerto Ricans, Caucasians from the mainland and Hawaiian Islands and, [UNUSALLY THEN?], some women. Most complex construction projects face the same challenge—how to bring people with different backgrounds, levels of experience and attitudes together to create a highly committed common safety culture on the job. Management consulting practitioners suggest that the time required to implement a culture change in an organization is about seven years. But in this case, a NEW and effective safety culture had to be created immediately.

The least effective safety culture is a "dependent" one, emphasizing only rules and regulations imposed from above. As a safety culture matures, management effort needs to focus on creating an "interdependent" safety culture, where rules and regulations form a solid foundation, but where people work in high-functioning teams looking out for each other, and where "you are your brother's keeper."

Ever since learning about the work culture aspects of safety, I have been searching for methods and tools to use to help foster a strong interdependent safety culture – *quickly* – on a new construction site. Sometimes good leadership is about knowing the right questions to ask, instead of assuming you know all the answers. So at the Puna Geothermal Project we asked the workers some simple questions to get them involved in the safety program, build some ownership, and start fostering an *interdependent* safety culture, in which all employees are responsible for safety and the safety of all employees is considered equally important. This results in the highest possible safety and productivity performance.

Safety Culture Matters

To begin the process of building an interdependent safety culture on the project, we knew that we had to get people involved in a variety of ways, and fast. The first thing we did was create a "safety awareness" week at the beginning of the project. It included structured discussion, learning, and a banquet at the end of the week.

For the structured discussion, we broke the whole project force down into groups of four by using a deck of playing cards. Coincidentally, there were fifty two workers on the project that week, and a deck has fifty two cards. I think the first time I was part of a large group that was broken down into smaller groups was in high school, where our gym teacher had us each count out 1,2,3,4 - 1,2,3,4 – 1,2,3,4 and so forth. But in this case, we used playing cards to make it easier for people to remember what group they were in. We ended up with 13 groups of 4. This seemed to be a good small size to assure that everyone, even the shyer ones, would have some input. (Remember, we had Hispanics, Navajos, Cajuns, cowboys and Hawaiians, men and women.) It worked great!

Here are the questions we asked and the answers, just as they were given by the employees, from the Safety Challenge Survey.

First question: What can we do to bring people together from various backgrounds, experience levels and attitudes to create a highly committed common safety culture on the job?	
GROUP 'ACE'	Respect others' background and where they are from. Respect one another in and out of the job. Learn from one another because we learn new things every day. Treat people how you would like to be treated. Always give a helpful hand when needed. Respect their culture, religion and sex. We all come from different backgrounds but we all are here for the same reason, to finish this job safely!
GROUP 2	It's important to obtain a very clear understanding of safety procedures on the job site and be able to comprehend the job that is being performed. It's also critical for those with a diverse ethic background to have a translator, if they can't speak English well, among the different crews they are working with so that they can have English language translated to have a better understanding of safety protocol and job descriptions. It's also a great asset to the company and employees when highly competent individuals are hired to perform a job as these types of people are very aware, alert and enforce safety for everyone. Enthusiasm. XX teaches new employees with diligence, be eager to work and learn new tasks each day.
GROUP 3	Be willing to have an open mind, willing to change, like to work with others, willing to be your brother's keeper. Share one's differences and cultures. Be willing to share safety information with others.
GROUP 4	Keep an open mind to learn new things regarding work and safety regardless of background, ethnicity and experience level. Seasoned hands can learn new things every day as well as green helpers. Everyone can and must learn and share different things to keep the industry alive. Keep open communications. Language barriers can be a challenge. Be sure everyone involved in a particular task is clear on what is happening. There are usually enough bilingual people to help translate if necessary.
GROUP 5	Practice what you preach. Try to learn from other people with more experience.
GROUP 6	Communicate the job that's coming up. Discuss amongst yourselves each person's part and how they're going to perform it safely. Offer help to one another without having to be asked. Remember all of us are important to a task whether person or boss. Be willing to listen. Don't take criticism personally. Make sure you understand what the other guy is saying.
GROUP 7	Communication, be open minded, respect. Love. Have a safety program so people that are not knowledgeable about safety can learn safety.
GROUP 8	The whole crew needs to communicate and plan their job. Make sure everyone understands and works together on the plan. Get to know each other. Journeymen should be willing to teach the younger guys and help them become better craftsmen.
GROUP 9	Safety dinners are good and bring people together to visit outside of the work place. Respect others and property on job site. Good communication between all in the workplace.
GROUP 10	Ask questions about traditions and work ethics. Treat co-workers like family. Treat people with respect. Don't make racial comments that might offend others. Keep an open mind and open yourself to constructive criticism. Take time to get to know each other. Don't spread rumors about others.
GROUP JACKS	Effective communication. Learn about safety. Follow instructions and safe practices. Plan job tasks and look for hazards prior to beginning work. List and respect others' ideas and suggestions. Ask for help if you don't know.

GROUP QUEENS	Change helpers to different welders and fitter groups. In this exchange all different crews may have ideas going from one group to another. Show interest in each other's culture.
GROUP KINGS	Have better communication. Have two to three people from various backgrounds walk down the job making sure all the co-workers are working safety and properly once a week. Report back at Monday's safety meeting.

Second question: What are the things that we need to START doing as individuals and as a group to make this a safer project?	
GROUP 'ACE'	Good communications. Plan out task the group will be doing so everyone will be on the same page. Get everyone's input. Speak out if you're in doubt. Anyone can stop a job if he/she thinks it's not safe. Use the right tools and materials, PPE for the job. Chain of Command. Respect barricades and other workers within the area. Job Safety Analysis (JSA) is there to do all that. We need everyone's help to fill it out, even with the operators and others working within the area. Take every job seriously even if you've done it a hundred times. Get your rest so you can be 100% everyday. Good housekeeping. If you have a personal problem leave it at the gate 'cause we need your focus. Treat everyone as your family 'cause we spend more time together than back home. Have a positive attitude. Be your brother's keeper. Check tools and material before using.
GROUP 2	Avoid extreme fatigue and get plenty of rest because this really plays a huge role in staying focused at work. Take the job extremely seriously and remain professional. Take pride in our work. Work as a strong team and communicate about everything. Teach new employees hands on what needs to be done with their jobs and make sure they learn the right way to do something at the beginning. Take our time when performing a job. Eliminate hazards when you see them. Laziness should not be tolerated.
GROUP 3	Work this project like it's your own project and also treat coworkers with dignity and respect. Treat co-workers in a professional manner. Challenge yourself to improve quality safety work. Treat co-workers as you want to be treated. Take pride in your work and the company you are working for. Follow safety JSA roles for every task. Start helping co-workers with less experience for less accidents.
GROUP 4	An unsafe act may seem like it's not a big deal, but a serious injury can always result. Think about yourself and your family. Lost work from an injury can translate to lost wages and permanently compromised health. Do not take shortcuts. Shortcuts have the potential to be extremely dangerous. Take the extra time to clean our area and rig properly. The extra time spend preparing could prevent serious injury to yourself and others.
GROUP 5	Inspect equipment and work area. Pre-task your work. Have a good attitude. Fill out your JSA properly. Inspect before you start work. Teach the apprentices the safe and right way. Wear PPE at all times. Eliminate all tripping hazards before, during and after work.
GROUP 6	Discuss your JSAs and have a plan of action. Get with your boss or safety person if you have questions. Don't take short cuts which may lead to injury. If you can't do the task safely with what you have, don't try it. You have no reason to be rushed even if someone is pushing you. If you need help, ask. If you see someone needing help, stop them until they have the help they need.

GROUP 7	Be open for suggestions. Be willing to let no unsafe act go unnoticed. Attempt to know everybody on a personal level. You are your brother's keeper. Safety incentives. Be proactive, not reactive. Start good housekeeping. Use correct tool for the job. Supervisors, know your people and their limitations and their strengths.
GROUP 8	Watch out for other crew members. If someone is doing something unsafe, let them know and assist them in correcting it, if necessary. Be open minded to their crew members' suggestions. Treat people with respect, as if they were family members. Always wear gloves when handling material.
GROUP 9	Better communication. More awareness. Use more plant safety rules, less shortcuts. Better planning of task. More equipment checks and inspections. Remove equipment from service if not in proper working order.
GROUP 10	Be more aware of our surroundings. Think before acting. Use proper tools for the job at hand. Follow all rules, don't take short cuts. Make eye contact with drivers. When working above use a safety harness. When working with forklifts always have two spotters and use tag lines. Inspect all tools. Think of loved ones before performing an unsafe act. Leave bad attitudes at home. Come to work with a clear head. Start getting enough rest before returning to work.
GROUP JACKS	Ask for help! Have all the materials we need to do a job safely. (Jack stands rigging, proper chokers, etc.) Respect and follow red tape areas. Plan tasks prior to beginning work. Discuss possible hazards and eliminate them when possible (trip hazards, etc.). Look out for each other and help. Share equipment and rigging. Get everything you need to do your assigned task safely. Wear earplugs. Rely on more knowledgeable people to help plan tasks safely if you don't know how. Communicate with others in the area about your work that may cause them a safety concern.
GROUP QUEENS	Be humble and accept other people's comments and criticism. Communicate with everyone on the crew before work starts. Think it through and try to anticipate hazards.
GROUP KINGS	Stop unsafe acts and watch out for other people. Use the proper tools. Train green hands on proper used of small power tools.

Third Question: What are the things we need to STOP doing as individuals and as a group to make this a safer project?	
GROUP 'ACE'	No more horseplay. Clean up as you go. Do not interrupt people/workers when they are doing their job. Don't get in a rush or use shortcuts. We need to work together between crews. Be your brother's keeper. Use the right materials for the job. Use the forklift and take care. Don't manhandle it. Take every job seriously. Any job can be done safely. Take JSA seriously.
GROUP 2	Stop being irresponsible regarding housekeeping and safety. Stop depending on someone else to do a job we are capable of doing as well. Stop leaving tools on job site and in pipes. Stop running over cords. We need to take good care of equipment & tools that are loaned to us.

GROUP 3	Stop doing a poor clean-up, stop doing short cuts. Stop losing _____. Stop horseplay. Stop using bad language. Stop leaving your work. Stay in your area and ask for more work. Stop following unsafe actions.
GROUP 4	Be sure to use the proper tools for a particular job. Using underrated lifting and hoisting equipment can cause serious injury. Ask for help from someone who has experience with the task at hand. Stop seeing the project with blinders on. Be aware of not only the task in front of you but everything that is happening. Just as driving a car, you can only keep yourself safe by knowing what is going on around you as well as in front of you. Do not turn a blind eye to unsafe acts. If you see an unsafe act, approach and advise a better way.
GROUP 5	Rushing your work. Being complacent about safety. Horseplay. Coming to work not rested.
GROUP 6	Stop rushing, we're on time. Stop being complacent. Every day is a new one. Leave your personal problems at your house, we need you thinking about the job. Stop using the wrong tool. Cut back on horseplay, save it for after work. Stop worrying that the job will come to an end. Be happy we're here now. Stop rushing across location, we're on bad footing.
GROUP 7	Stop being reactive. Stop getting hot headed and be willing to listen. Stop taking chances thinking it won't happen to me.
GROUP 8	Do not be going in red barricades without asking the person responsible for putting it up if it is okay. Stop leaving tools lying around, scattered on the ground. Stop horseplay.
GROUP 9	Be more considerate of others and their task at hand. Watch for and respect all . Do not remove barricades that you don't put up. Use barricades tags. Designate flagmen. Stop running over cords and leads.
GROUP 10	Stop thinking someone else will clean up after you. Stop leaving up useless barricades because it can be confusing.
GROUP JACKS	Don't put work before safety. Always use harness for work above six feet. Use your PPE. Follow the safety practices. Don't ignore them (ear plugs, gloves, harness). Hanging pipe without supports. Stop putting productivity before safety. Pushing people causes accidents.
GROUP QUEENS	No horseplay. Stop thinking you're invincible. Stop using improper tools for projects.
GROUP KINGS	Stop and think about what you're doing. Don't take short cuts. Talk about what you are doing. Be aware of your surroundings. Slow down and think before acting out work.

Fourth Question: What are you missing?	
GROUP 'ACE'	Plywood, grinding disc, jack stands, four leg jack stands, Tiger disc. We need to exercise in the morning to loosen our muscles up. Everyone's leadership. Raincoats.
GROUP 2	Tools to work with and equipment to make the job safer and more productive. Eye washing station. Hand washing station. Very Necessary! Dust masks. Raincoats
GROUP 3	Jack stands, team effort, improve our communication skills, improve working with one another. Raincoats, more guidance towards safety.

GROUP 4	The job as a whole is missing some important tools needed for the job that affect safety and productivity. Large bore pipe on three-legged jack stands is dangerous. We only have so much rigging that can be utilized between everyone. The riggers are short on proper rigging.
GROUP 5	Never being too safe.
GROUP 6	Some minor tools to make things easier, which is safer. Plywood and jack stand. Raincoats for some of the people who get cold would be nice.
GROUP 7	Tools, rigging, steel choker, jack stands, grinders. Someone to listen - a suggestion box. Beer keg. The reality of a safe program.
GROUP 8	Four-legged jack stands. Group cooperation. Supervisor cooperation.
GROUP 9	"RIGGING" certain tools, four-legged jack stands, wire chokers, beam clamps, chain falls, endless chokers. Inspection of tools and rigging. As a group it was agreed that most of our rigging come-alongs would not pass inspection if inspected. More coordination. Bottle racks. Better housekeeping, instead of just being safe and have a good day. Have topic for group safety meetings.
GROUP 10	Proper tools for certain tasks. Chairs - not enough seats for everyone. Raincoats. Communication with co-worker at times. Stretch and flex before work.
GROUP JACKS	Jack stands, rigging supplies, JLG, rain gear, tools. All the materials we need to complete a task. More people. Training for all about safe handling, rigging and moving equipment.
GROUP QUEENS	Miss family (extended) back home! Tools and general.
GROUP KINGS	Proper tools, proper rigging, bottle carts, four-legged jack stands, wood for jack stands.

Follow Up

The Safety Challenge Survey was followed up by a flurry of actions to demonstrate management's commitment to the employee's concerns.

The Saturday evening after the survey, a safety dinner was held for all employees and their guests. It was an opportunity for everyone to come together in a social setting and get to know each other.

The survey results were made into a poster and placed around the project in prominent locations for everyone to see.

The results were discussed in large and small groups. At random, and with volunteers, the survey results were read aloud by crew members to the entire team to emphasize the work that they had all done.

Other actions were taken to address all issues mentioned in the survey. Some of them directly supported higher productivity, and all related to safety in some way.

Safety Coordinator

Being in the middle of the Pacific Ocean presented many challenges, not the least of which was finding qualified technicians. A safety coordinator position was created as the result of the safety survey, and we tapped one of the local Hawaiians to fill this slot. Thomas demonstrated an interest in safety meetings, always speaking up with legitimate concerns and expressions of care for his fellow employees. We made him a safety coordinator by giving him some rudimentary training, a review of the company safety manual and the OSHA manual, and sending him to OSHA certification classes.

Delay Surveys

Two of the root causes of accidents are worker frustration and complacency. Any effort to address these root causes will have a positive effect on safety and productivity. One such tool is the Foreman Delay Survey, and it follows the model of many organizational improvement processes. One of the biggest factors in low productivity and low motivation in construction is the presence of project delays in the work flow. Any effort to remove delays will have a multiplied effect on motivation and productivity. Our experience at the Puna Geothermal Project proved this theory.

The following chart and table show the delays which were measured in the first week of the Foreman Delay Survey.

Delay Description	Man-Hours Delay
1. Waiting for Materials	21
2. Waiting for Tools	21
3. Rework from Design Errors	18
4. Rework from Field Errors	34
5. Waiting for Instructions	6

6. Waiting for Inspection	0
7. Work Area Not Ready	0
8. Work Area Over-Crowded	4
9. Waiting for Equipment	91
10. Equipment Breakdown	10
11. Delayed by Owner Change	26
12. Interference with Another Crew	39
Total	270
Hours Worked	2923
Delay Percent	9%

During the second week of the process, the foremen and superintendent brainstormed root causes of the delays, and solutions were implemented. By the third week of the process, delays were virtually eliminated and the morale on the project improved dramatically. Experience shows that it takes from one to three weeks to achieve "alignment" on a project team, to get everyone "pulling on the same end of the rope."

Empowerment – Top-Down and Bottom-Up Scheduling

At Puna Geothermal, we implemented an integrated top-down and bottom-up planning and scheduling model which included crew-level look-ahead planning and Job Safety Analysis.

Project Milestones and Completion Dates	Owner / Contractor Agreement
Overall CPM schedule	Project Management
Detailed Project Look Ahead Schedules	Project Supervision
Task Based Look Ahead Schedules	Crew Members

This hierarchy of scheduling engages all levels of project participants. The crew-level task planning allows each crew member to be involved in looking ahead for the immediate task, and staying engaged in the safety planning for upcoming work tasks.

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Equipment, Tools, Materials, Information, JSA's, Lift Plans																					
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Each crew member is empowered to requisition the equipment, tools, materials and information needed to accomplish the task effectively, to participate in the JSA development and to lift plans as needed. This information then travels from the bottom up to the management levels where these needs can be filled.

Good organization and communication are critical to success in construction. It is important to remember that construction management is about getting the right people at the right place, at the right time, with the right tools—information, materials and equipment—with the right motivation for safety. By implementing a cyclical information flow on the project as depicted below, the objectives of safety and productivity are both met.

Work Packages
Project Priorities
CPM Schedules

Task needs
Safety Plans
Task Look Ahead Plans

True Empowerment

Empowerment is a buzzword which too often gets thrown around like a basketball without ever making it into the hoop! True empowerment means that you have to trust people to do the right thing, and then give them the freedom to succeed. When we saw how much time was being lost due to the lack of tools and supplies, we empowered each employee by giving them the authority to write field requisitions for the stuff they needed to be successful. One Thursday morning, after compiling the results of the Foreman Delay Survey, I met with every worker on the project after the morning safety meeting and laid out the new procedure. While holding up a copy of the new material requisition book, I explained to everyone that they were now empowered to take their success into their own hands. As part of their look-ahead task planning, they were to identify the tools, materials, and equipment that they would need to perform their assigned tasks and fill out a requisition for it.

The results were remarkable! There was such pent up frustration over lack of supplies that the onrush of requests was like opening the floodgates. The requests kept me and the rest of the management team busy, but we quickly saw the success of our plan as delays were virtually eliminated.

Of course, before the material or tool was purchased, it had to get final review and approval from the superintendent or me to avoid duplication and excess.

Feedback

It is widely recognized that specific feedback on performance can have a dramatic effect on motivation and productivity. It also helps eliminate complacency and frustration.
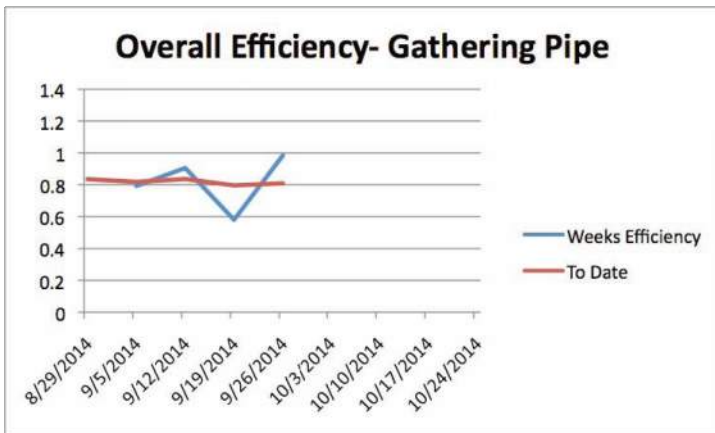
Where possible, we provided the crews with specific feedback on their performance, using earned value management methods to calculate crew efficiency. The above chart is a sample of the kind of feedback which was given directly to the crews.

Studies have shown that this kind of direct and specific feedback can improve productivity by 30 percent or more. It also removes complacency, which is one of the root causes of accidents.
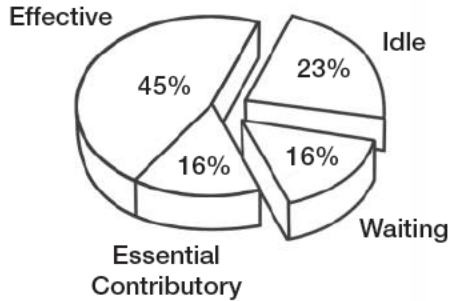
Rushing versus Task Planning

FIG. 2. Basic Time Components Used for Describing Effectiveness of Construction Worker

Source: Effects of Delay Time on Productivity, Journal of Construction Engineering and Management, Vol. 121, March 1995

Some supervisors think that rushing the work is the way to gain productivity. But rushing is no substitute for good planning and execution. Studies have shown that on the average, construction workers are only effective 45 percent of their time on a project. If this is so, and rushing could cut 5 percent from that, then rushing could only improve efficiency by about 2 percent. So the greatest opportunity for efficiency is not with rushing or "working fast". The key to efficiency is eliminating delays by good planning. Eliminating delays and idle time could yield up to 63 percent in efficiency improvement. Yet I have had supervisors tell me that they do not have time to spend on planning!

Fatigue

The other root cause of accidents is fatigue. Here again, there is a reverse correlation between fatigue and productivity, i.e., fatigued workers are nonproductive workers.
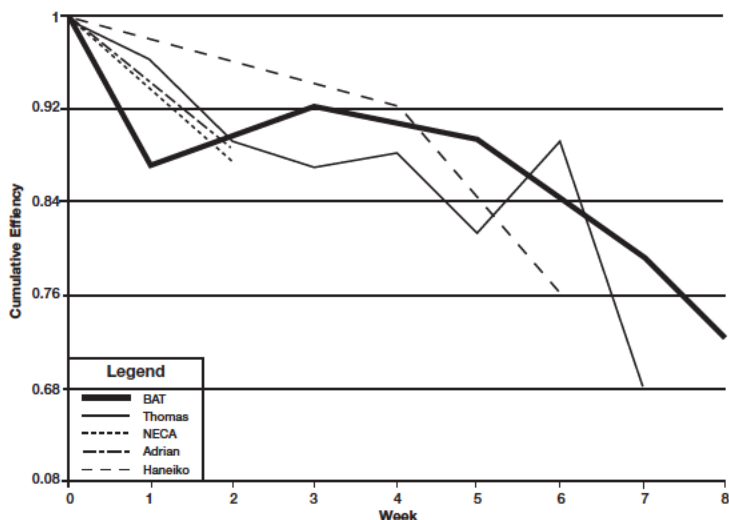
FIG. 3. Average Overtime Efficiency for 50-h per Week Schedule

The following graph depicts the cumulative efficiency effects of scheduled overtime in construction as reported by several independent researchers. The source study appeared in the Journal of the American Society of Civil Engineers. Scheduled overtime may be effective and needed in short bursts, but it is not an effective productivity and safety strategy over the long term.

Of course, there is a practical limit to the number of people that can be placed on a project before the effects of a congested work area have an impact on construction efficiency and cost. So the temptation to add more people to reduce the number of overtime hours could lead down the wrong path.

Unfortunately, the schedule demands of the Puna Geothermal project required the use of scheduled overtime (29 percent overtime hours) to meet the project schedule.

Team Building and Leadership Management Creed

On the Puna Geothermal Project, we incorporated some leadership concepts into the day-to-day operation of the project. Here are some of the operating principles we communicated on a regular basis:

- Our number one purpose on this project is to please our customer, Puna Geothermal Ventures. Our second highest purpose is to create an enriching and gratifying work experience for everyone on the team. If we focus on those two things, our shareholders will be rewarded as a byproduct.

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- No one knows how to do a job better than the one doing the job. The job of a supervisor is not to tell people what to do or to punish them but lead. Leading consists of helping people do a better job and of learning by objective methods who is in need of individual help.
- People are eager to do a good job and distressed when they can't. Too often, misguided supervisors, faulty equipment and tools, shortages of critical supplies and defective materials stand in the way. These barriers must be removed. It is management's responsibility to remove these barriers, and therefore management is ultimately responsible for a safe and productive project.
- A worker's life does not begin or end at the project gate. Every day on a construction project is filled with incident, and what happens on the job affects every aspect of our team members' lives. We talk openly about things like teamwork, trust, gratitude, forgiveness and love.
- Our work plays a vital role in making a better world and what we do makes a difference. Sustainable power for Hawaii is a laudable goal, and what we do to make this a more sustainable world is of lasting importance.
- Fear has no place in this workplace. We foster involvement of everyone in decisions which affect their lives. We encourage people to speak up without fear of recrimination. It is necessary for better safety, quality and productivity that people feel secure.
- Quality has a moral element to it. No one should be bulldozed by a supervisor to overlook inferior work.
- Everyone on the project is responsible for their own safety, and implementing the management principles identified in the safety challenge, written by the workers.

Conclusion

The strategies of removing the root causes of accidents are the same strategies used to achieve high motivation and productivity.

ROOT CAUSE OF ACCIDENTS	SOLUTION
Rushing	Multi level planning Eliminate delays with the Delay Survey Supervisory training
Frustration	Empower workers Support workers to be successful Servant leader model Eliminate delays with the Delay Survey Organize work into work packages
Fatigue	Minimize the use of scheduled overtime
Complacency	Engage workers in planning, safety Good leadership Team building Provide feedback on performance Workers set their own high goals

Work Smart, Work Safe! is a proactive safety plan that works!

<p align="center">*************************</p>

About the Author
Michael J. Vallez, PE

Michael J. Vallez started his career at the age of seven, pounding nails with his father to build the family home. His ensuing experience in the engineering, construction and project development fields has ranged from work as a carpenter and underground miner all the way to company president. This unusually diverse background, along with a BS in engineering from Michigan Technological University in 1975 and an MBA from the University of Utah in 1983, gives Vallez a unique perspective on the qualities of leadership.

The clients he has served have included Union Carbide, Monsanto, IBM, Dravo, Rio Tinto, BP, Duke Energy, Exxon, Berkshire Hathaway, Ormat Technologies, Walter Resources, the University of Minnesota, the Corps of Engineers and others. His extensive technical knowledge, leadership skills and operational expertise are balanced by a demonstrated ability to shape and implement strategies and systems which promote safety, quality, economy, speed and productivity.

The diversity of Vallez's experience is highlighted in the following thumbnails.

Puna Geothermal Expansion
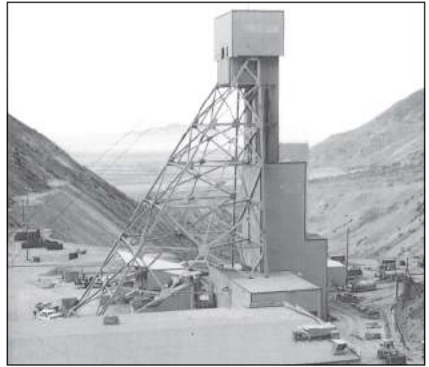

Shutdown for Maintenance, Repairs, Modifications

Shutdown to Convert ESP to Baghouse
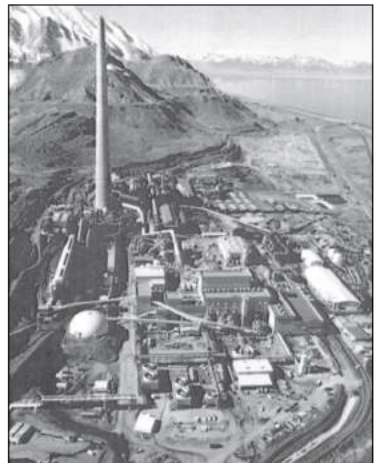

Shutdown to Convert ESP to Baghouse

Keystone Underground Block Cave Mine

Carr Fork Copper Mine
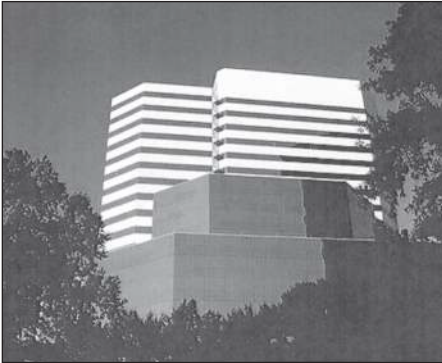

North Ore Shoot Shaft Development

Smelter Modifications

Walter Resources (Coal) Mine No. 5

Duke Energy Office and Systems Operations Center

James Center Mixed Use Project

Ted Mann Concert Hall

Xcel Energy Arena

Natural Gas Compressor Station