



The Great Crew Change: Managing Generational Differences in Oil, Gas, Mining and Construction Workforces

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EXECUTIVE SUMMARY

A recently released study from the National Academies of Science¹ warned that we are facing the “Great Crew Change” in most, if not all, of our skilled labor industries, and that all of the industries included in the study are facing labor shortages in the future. The challenge to companies wishing to stay competitive and productive will be to attract competent workers, to retain them as long-term employees, and to keep them safe and healthy throughout their careers. Mining, oil and gas extraction, construction and others are all facing a dramatic change in the makeup of the workforce as the aging Traditionals and the huge Baby Boomer generations retire, making way for Generations X and Y (commonly referred to as the Millennials). As this change occurs, the workforce cultures are also changing to reflect the attitudes, goals and beliefs of these younger workers. The transition brings with it much that is positive, but it also brings challenges. The workforce of the future will be much more diverse than it has been, presenting challenges that must be faced if we are going to be successful in keeping workers safe and healthy throughout their careers. This paper will examine generational differences and share recommendations from the National Academy study and other sources to address the Great Crew Change.

¹ Cullen, E.T., C. Fairhurst et al. 2013. *Emerging Workforce Trends in the U.S. Energy and Mining Industries: A Call to Action*. National Research Council of the National Academies. Washington, DC: The National Academies Press.

INTRODUCTION

This white paper discusses the Great Crew Change faced by most, if not all, of our skilled labor industries. Construction and extractive industries, such as mining, and oil and gas extraction and production are losing their veteran workers to retirement, and with them, they are losing the skills and wisdom these people have earned over their careers. The workforce of the future will be much more diverse in terms of gender, national origin and generation, and will bring with it many changes. Workforce cultures in these industries must also change, and while that will bring many positive things to the workplace, it will also be a challenge as companies struggle to find enough workers with the skills necessary to do the work, and to retain them over their careers. This paper identifies differences that can be a source of conflict and presents options for mitigating some of them.

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THE PROBLEM

The current workforce includes four recognized generations. While there are some differences in how different researchers describe or identify them, they are generally defined as:

- The Traditionals (sometimes known as the World War II Generation): Born before 1945
- The Baby Boomers: Born between 1946 and 1964
- Generation X (known as Gen Xers): Born between 1965 and 1980
- Generation Y (known as Gen Yers or Millennials): Born between 1981 and 2000²



Members of these generations have very different ways of looking at the world and, consequently, how they approach work. It is a natural assumption to believe that others know what we know or learn the way we learn. Neither of these is true, however. There is an Arab proverb that says, “People resemble their times more than they resemble their parents.”³ The old ways of working with or training workers are simply not going to work for younger generations because of how these workers learn, understand information or relate to the world of work differently from their predecessors. For safety professionals, it is imperative that these differences be recognized in order for training to be effective.

² American Association of Retired Persons (AARP). 2007. Leading a Multigenerational Workforce. Washington, DC: AARP.

³ American Association of Retired Persons (AARP). 2007. Leading a Multigenerational Workforce. Washington, DC: AARP, p.6.

A report published in 2007 by the AARP⁴ identified three trends that were shaping the world of work.

- Competition for talent is escalating:
 - “Finding skilled employees” is the top concern of companies included in an AARP survey.
 - The cost of replacing retiring workers is 50 to 150 percent of the annual salary of the person replaced.
 - The workforce is aging.
- There are more generations in the workplace than ever before:
 - Over a third of the current workforce is over 50 years of age, with both Baby Boomers and Traditionals included in this demographic.
 - While Baby Boomers are speeding toward retirement age, 80 percent of them expect to either remain on the job or work part time.
 - Millennials (born between 1981 and 2000) are the fastest-growing generation.
- Productivity and work results are strongly linked to the work environment:
 - Workers need to be engaged in order to be successful.
 - Generational differences are common and lead to conflict and frustration.
 - Organizations with highly engaged workers outperform their competitors.

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“Culture” has been very simply defined as “The way we do things around here.” Cultures provide the information needed by members to make sense of the world, and this is certainly true for generational cultures. These cultures include values, expectations and preferences that are quite different from each other. Looking across the expectations and preferences that each generation brings to the workplace, it is easy to see why conflict and miscommunication can arise.

Traditionalists

- Conservative in dress and language
- Strong work ethic focused on the common good
- Loyal to organizations, disciplined and stable
- Not computer savvy
- Don’t like profanity/slang
- Want experience to be valued
- Rewards include plaques, certificates
- Expect leaders to be fair, consistent, logical, organized

⁴ American Association of Retired Persons (AARP). 2007. Leading a Multigenerational Workforce. Washington, DC: AARP.

Baby Boomers

- Work well with others
- Strong desire to change the world
- Optimistic and confident
- Want to be included in decisions
- Want their opinions, contributions to be valued
- Prefer personal interaction with supervisors
- Dislike bureaucratic, micro-managing bosses
- Rewards include promotion, appreciation, recognition
- Expect leaders to be democratic, personal, open to input

Generation X

- Self-reliant, independent, creative, tolerant of chaos and change
- Skeptical, distrustful of authority ... heroes don't exist
- Expect as much flexibility as possible from supervisors
- Love technology and not afraid of it
- Keep rules to a minimum
- Rewards include free time, new experiences, high-tech toys
- Expect leaders not to be micro-managers or too bureaucratic
- Leaders must walk the talk, focus on results, not process

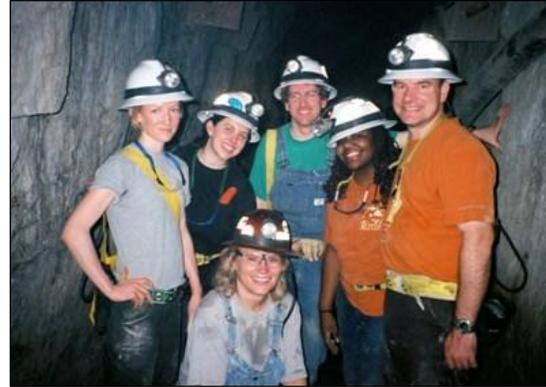
Millennials

- Have grown up in a multicultural world
- Goal and achievement oriented
- Concerned about social responsibility
- Need mentors, coaches, supervisors who will teach (especially Boomers)
- Like to multitask
- Use ability to work with high tech
- Need to work on interpersonal skills
- Rewards include awards, certificates, other evidence of ability/credibility
- Expect leaders to be consistent, organized, value their technical savvy
- Won't respond to leaders who are condescending, cynical, sarcastic or who treat them as if they are too young to be valuable⁵

⁵ American Association of Retired Persons (AARP). 2007. Leading a Multigenerational Workforce. Washington, DC: AARP.

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Because our collective workforce has become much more global, it is important to consider whether or not the global nature of many of our high-risk industries changes the equation when it comes to dealing with generational differences in the workplace. Prior to WWII, national cultures most likely had a stronger influence on people than generational ones. As information, and access to it, became more readily available, however, those differences began to shrink. It is generally believed by researchers in this field that the younger the person, the more likely it is that he or she will fit a global model of his or her generation. For people who grow up in rural or impoverished areas with little access to the Internet or television, the model is less applicable.



Education, and access to it, is another source of differences among today’s workers. Because each generation has been taught differently, their expectations and abilities differ. For example, Traditionalists and Baby Boomers tend to be more proficient in such “old” skills as working with hand tools or shop tools, or in fixing machines themselves. They have been characterized as having a “get ’er done” mentality and are more tolerant of a classroom, traditional approach to training. Gen Xers and Millennials tend to be much more comfortable with high tech and with using computers to find or communicate information. Many have had no experience at all with using hand tools or shop tools, and this rather basic skill must be taught to them before they begin work in mines, drill rigs or construction sites.

A major challenge for new workers coming into the workplace concerns their competence in what has become known as STEM skills (Science, Technology, Engineering and Math). The NAS workforce study⁶ revealed that jobs in the energy and extractive industries are among the higher paid for skilled blue-collar workers, but that they require an ability to understand and work with math, science and technology. (An example would be miners who drive the huge haul trucks in surface mines. These trucks have on-board computers that control such things as scheduling, routes, engine load and speed, and drivers must be able to work effectively with them in order to handle the job.)

⁶ Cullen, E.T., C. Fairhurst et al. 2013. *Emerging Workforce Trends in the U.S. Energy and Mining Industries: A Call to Action*. National Research Council of the National Academies. Washington, DC: The National Academies Press.

“The question, then, is how do we keep people safe until they have time to learn their fields and earn the occupational wisdom necessary to spend their careers safely and successfully?”

Unfortunately, U.S. students score far behind their counterparts in other countries and are losing ground every year. A recent ACT report⁷ showed that only 25 percent of graduating U.S. seniors could meet or surpass College Readiness Benchmarks in science, math, reading and English.

Additionally, according to the Alliance for Excellent Education report,⁸ 7,000 U.S. students drop out of high school every day, and about 1.3 million students do not graduate each year.



We have a dilemma. Industries are desperate for qualified workers and willing to pay a premium to attract them, but students are not being trained to meet basic qualifications. We are faced with unacceptable unemployment rates at the same time we are desperate for workers. This makes the need to keep qualified employees even more imperative.

High-risk blue-collar industries generally agree that the highest injury and fatality rates are found in workers either under 21 or over 55.⁹ A study done by Texas Mutual Insurance and Texas Oil and Gas Association¹⁰ showed that of fatalities suffered by O&G workers in Texas over the 10-year period from 2001 to 2010, 34 percent had less than three months' experience, 65 percent had less than a year and 89 percent had less than five years in the industry.

Most people in these industries agree that it takes eight to 10 years to become an expert in fields such as these.

The question, then, is how do we keep people safe until they have time to learn their fields and earn the occupational wisdom necessary to spend their careers safely and successfully?

⁷ ACT, Inc. 2011. Condition of College and Career Readiness. <http://www.act.org/research/policymakers/cccr11/pdf/ConditionofCollegeandCareerReadiness2011.pdf>

⁸ Alliance for Excellent Education. 2010. Fact Sheet, “High School Dropouts in America.” http://www.all4ed.org/files/GraduationRates_FactSheet.pdf

⁹ Ismail, N. and J. Haight. 2010. Older Workers: Asset or Liability for Your Company? The Case Study: Metal and Nonmetal Mines. Proceedings of American Society of Safety Engineers Professional Development Conference, June 13-16, Baltimore, MD, Session #731.

¹⁰ Stephens, J. 2011. Protect Your New Workers. Presentation from the Texas Oil and Gas Association (TxOGA) Worker's Comp Purchasing Group to the Permian Basin STEPS Network, August, Midland, TX.

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The problem is compounded by the fact that none of the industries included in the NAS study¹¹ have enough qualified job applicants. Many are begging for workers and trying to fill their needs by competing with other industries or bringing people in from other areas of the country or even other countries. This is creating a new workforce that is demographically diverse in terms of generation, gender, national origin, geography, religion, ethnicity and family values. Is it any wonder that safety trainers are having difficulty reaching people or teaching them how to be safe on the job?

Work-Life Balance

Younger workers, and Gen Xers in particular, expect to have a strong balance between work and life. Unlike the Traditionals and Baby Boomers, these workers are not willing to sacrifice their free time and “do whatever it takes” to succeed in their jobs. In an area like the Bakken Basin, where housing is at a premium and many workers struggle to find a safe place to sleep or something nourishing to eat when their shifts are over, Gen Xers are much more likely to quit than to put up with substandard housing or meals. In a meeting of the North Dakota Sheriff’s and Deputies Association in January 2012, North Dakota law enforcement speakers reported the following:

- Williams County (Williston area) allows no more than three campers per farmstead. Almost every farmer has three campers on their properties, and they are charging oilfield workers \$800 per month per camper just to park. Obviously, no amenities are included.
- There are no more hookups available in regulated campsites anywhere in the area.
- On January 1, 2012, there were 148 campers and trailers parked overnight in the Williston Wal-Mart parking lot. (Wal-Mart subsequently has prevented customers from spending the night due to fights, drinking, littering and blocking of parking spaces for other customers.)
- The Williston McDonald’s offers no inside seating, and the line at the drive-through window is often over a quarter-mile long.
- Restaurants in Williston that do provide inside seating report a minimum wait of at least an hour at any time of the day or night.¹²

During this author’s visit to Williston, informal conversations with local residents revealed that locally owned restaurants have closed because of the difficulty in hiring staff, and that the Take-and-Bake Pizza store in the city was the highest-volume franchise in the country.

¹¹ Cullen, E.T., C. Fairhurst et al. 2013. *Emerging Workforce Trends in the U.S. Energy and Mining Industries: A Call to Action*. National Research Council of the National Academies. Washington, DC: The National Academies Press.

¹² Informal notes provided by the Williams County Sherriff’s Department. January 2012.

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Rather than taking orders for custom-made pizzas, they only made three to four varieties of pizza, which were all purchased as fast as they could be produced.

Workers getting off shift had few other options for fast, nourishing meals, and if they were lucky enough to get one of the unbaked pizzas, they still had to find a place to cook it.

Some workers didn't even have this luxury, as can be seen in the photo of the worker living in the tractor of his truck (see photo). He had covered the windows with cardboard to help retain heat and had a small car parked next to his truck for transportation, but his living situation can only be described as less than optimal. It is clear that a company wishing to retain its workers (especially the Gen Xers) must find a way to alleviate these types of room and board issues.



Workforce Diversity

Extractive industries' worker populations have historically been quite homogeneous. A NIOSH report¹³ suggests that these populations have benefitted from common values “often because of the geographic locations of mines and the adjacent communities and also because families included generations of workers: a grandfather, an uncle, a father, a son, a cousin.

Career choice was relatively predictable ... but this is not true today.” Today's companies are facing a workforce that no longer expects to stay with one company or even one industry for a lifetime, that has little or no experience in doing the work required, and that has no strong connection to a work culture that provides a roadmap of how to do the job. Considering the cost to find or replace skilled workers, it is more critical than ever before that companies understand employees in order to keep them.

Demographics data show that the workforce is becoming much more diverse. Industries that have been historically homogeneous must now find ways to deal with workers from different generations, different national origins, different genders and different parts of the country.

¹³ Kowalski-Trakofler, K., et al. 2004. *Safety and Health Training for an Evolving Workforce: An Overview from the Mining Industry*. Dept. of Health and Human Services, NIOSH. Information Circular 9474, July 2004. Pittsburgh, PA.

“... The NAS study concludes that high-quality training is needed to address safety and health issues faced by workers at both ends of their careers, so that these employees can be successful.”

In regions of the country that are experiencing worker shortages, companies have tried many strategies to attract sufficient numbers of workers, such as “cannibalizing their neighbors” by offering higher wages, training new young workers to fill needed positions, importing workers from other parts of the country, or bringing in workers from other countries. While these may work in the short term, many companies have learned the hard way that they are not a long-term solution unless paired with additional efforts.



Workers who are imported from cultures very different from their own (this could be a national culture or simply bringing inner-city people out to work in the wide-open plains of Wyoming or North Dakota) find themselves in situations that are unfamiliar, frightening, uncomfortable or lonely. When faced with these emotions, many, if not most, workers become discouraged and choose to leave. This situation can be remedied by guaranteeing that these workers have a stronger support structure, accomplished by ensuring they have a cohort, a group of people who have similar backgrounds and experiences, with whom they can share concerns, work through problems or just plain socialize. If hiring young workers from inner cities, for example (see photo), connect them to others like themselves.

Safety and Health

So what does this all have to do with worker safety? Statistics show that workplace injuries are on the rise, particularly in these types of trades.¹⁴ As workers age, they are more susceptible to sprains and strains, or cumulative trauma injuries. Also, chronic illnesses related to long-term exposures on the work site will start to manifest. Younger workers, on the other hand, are more at risk for traumatic injury. They have often been described as “ten feet tall and bulletproof,” and may take risks that more experienced workers avoid, simply because they don’t know any better.

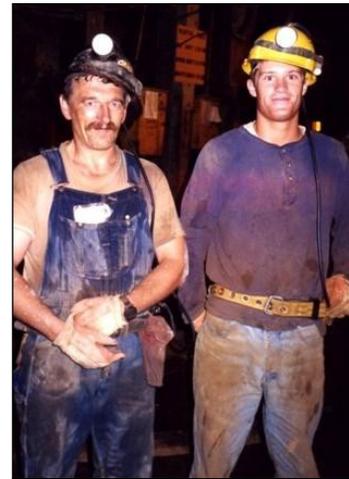
Training is an obvious answer, and the NAS study concludes that high-quality training is needed to address safety and health issues faced by workers at both ends of their careers, so that these employees can be successful. Training is legally required in industries such as mining and nuclear power, and an argument could be made that it is morally required for all of these industries.

¹⁴ Bureau of Labor Statistics (BLS), U.S. Department of Labor. 2013. CFOI Chartbook, Preliminary 2012 Data. Washington, DC.

This paper, however, will not include either the findings or the recommendations related to training, simply because this is a topic that should stand on its own. Rather, we will look at other H&S aspects that may be addressed.

“Rather than policing the workforce and testing on a daily basis, controlling behaviors while workers are off-site is less intrusive and much less expensive.”

Many of the thousands of workers involved in resource extraction or construction projects are required to travel long distances to their work sites and to live there while they are working. Angel provides a definition: “Mobile workers – also known as the ‘shadow population’ or Fly-In Fly-Out (FIFO) workers – are those individuals who commute to and from resource development projects and who live temporarily in work camps, lodges or other short-term accommodations.”¹⁵



In her paper, she discusses the health challenges faced by these workers and cites a study from Australia that finds that these workers are prone to “a number of negative health issues, including substance abuse, poor diet and physical inactivity, mental health issues (e.g., depression, anxiety) and fatigue-related injury.” All of these can lead to negative H&S consequences or to workers getting discouraged and simply quitting and heading home.

Substance abuse is one of the biggest challenges in areas such as the Bakken and Permian Basins. The Williston County Sheriff’s and Deputies Association reported in 2012 that the drug problem was immense and that law enforcement officers were seeing drugs that had never before been seen in the area, such as black tar heroin. In addition, they reported that they make as many DUI arrests at 10 AM as they do at midnight.¹⁶

Responsible companies have a zero-tolerance policy for substance abuse, but ensuring it after entry physicals and drug tests is far from easy. Workers who are far from home, and who may find themselves with more money in their pockets than ever previously imagined, will find ways to alleviate their loneliness. Rather than policing the workforce and testing on a daily basis, controlling behaviors while workers are off-site is less intrusive and much less expensive. This, however, is difficult when workers are living in campers and spread out across a wide geographic area.

¹⁵ Angel, Angela. Beyond the “Roughneck” Stereotype: Revealing the Actual Face of Mobile Workers in the Alberta Oil Sands and North Dakota’s Bakken Oil Region and Why It Matters to Health. 2014. Target Hospitality.

¹⁶ Informal notes provided by the Williams County Sheriff’s Department. January 2012.

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NIOSH, the National Institute for Occupational Safety and Health, has recognized the importance of dealing with the challenge of keeping workers safe and healthy, and as a result, has recently developed and funded a program known as TWH or Total Worker Health, which is defined by NIOSH as follows: “Total Worker Health™ is a strategy integrating occupational safety and health protection with health promotion to prevent worker injury and illness and to advance health and well-being”.¹⁷ NIOSH provides a wealth of information and resources designed to assist employers in creating their own TWH programs, which can be found on the NIOSH website. The basic tenet of this program is that it is equally as important to keep a worker safe and healthy at work as it is off work. Nutrition, physical activity, healthy sleep patterns and work-life balance are all included as building blocks for a healthy workforce.

SOLUTIONS

It is obvious that the skilled labor industries are facing significant workforce challenges. Workers from different generations and different cultures have different expectations for how work and life interact, and younger workers are much more inclined to move on if these are out of balance. Workplace safety is impacted when workers are tired, lonely, unhappy and unhealthy.

Target Hospitality operates under the Economics of Comfort™ model. This model simply states that “keeping your workers safe, comfortable, relaxed and well-fed is what keeps them from missing a shift, getting injured on the job, jumping to a competitor, or just packing their bags and heading home.”¹⁸ Target Hospitality and the housing options it provides is an obvious solution to the problems identified. Not only are safe, comfortable beds provided, nourishing meals are available at any hour, removing the workers’ need to waste precious time foraging for food.

The variety of food that is available at Target Hospitality facilities meets the needs and expectations of workers with different nutritional requirements from different generations and different cultures. In addition, leisure time activities are available, such as big-screen TVs, access to the Internet (very important to the technically connected Gen X and Gen Y generations), pool tables, exercise equipment and luxuries such as sauna and steam rooms. These would all be considered necessities to younger workers and could change their decisions to stay in their jobs.

¹⁷ National Institute for Occupational Health and Safety (NIOSH). 2015. <http://www.cdc.gov/niosh/twh/totalhealth.html>

¹⁸ http://www.targetlogistics.net/economics_of_comfort.php

“Lodges have zero tolerance for public intoxication or alcohol on the premises, and guests who are in possession of illegal substances will be expelled.”

Target Hospitality lodges provide the opportunities for workers to meet and mix with others who have common interests or backgrounds. People from different generations can meet over meals or when taking advantage of leisure time activities, such as playing pool, working out, playing cards, or watching TV or movies. This reduces the feelings of isolation and “not belonging” that many new workers must deal with and can improve retention rates for companies struggling to keep trained employees.

During a week-long stay at a Target Hospitality Lodge in Tioga, North Dakota, the author observed small groups of workers gathered throughout the facility, talking, watching games on TV, enjoying snacks from one of the 24-hour “cafes,” playing pool in the rec room, or taking care of such tasks as getting a haircut at the barbershop, shopping at the small store on the premises, doing laundry or checking email in the computer lab provided to guests.

Lodges also provide the controls necessary to manage alcohol and drug use. All guests must check in to the facility at an outside gate and also at the security office inside the building, and unless working a late shift, generally will not be admitted past 10 PM. Lodges have zero tolerance for public intoxication or alcohol on the premises, and guests who are in possession of illegal substances will be expelled. In an environment where other housing options are either not available, or are extremely expensive or limited, and where the weather is not amenable to “living rough,” this is a severe penalty.

THE LONG-TERM FOCUS

The ancient Greek philosopher Heraclitus taught that the only thing that is constant in life is change itself. Change is inevitable and unavoidable. While we have no control over whether things change, we do have a choice in what we do about it, however.

W. Edwards Deming summed it up rather well. He said, “It is not necessary to change. Survival is not mandatory.”¹⁹ When we are dealing with the health and safety of workers, however, survival *is* mandatory. It makes good business sense to protect workers from both injuries and long-term work-related health effects.

The NAS study has identified the many workforce challenges faced by extractive industries. If we are going to adapt to the coming changes in the workforce, we must understand those challenges and deal with the people who are entering the world of work, regardless of age, gender, culture or natural origin. Companies that wish to retain their workers over the long term must not only keep them safe but also must provide a work-life balance that is acceptable to employees.

¹⁹ Deming, W.E. <http://knowledgecompass.wordpress.com/2010/09/17/w-edwards->

deming-quotes-quality-knowledge-productivity-change-and-leadership/

Younger workers, in particular do not expect to continually sacrifice leisure time for their jobs. Having a balance between work and life is a strong value for them and could be a “deal breaker” if that value is habitually violated. Companies willing to provide safe, comfortable lodging, as well as opportunities for socializing and leisure time such as those offered by Target Hospitality, could well have a competitive advantage in the future.

About the Author

Elaine Cullen spent her career as a researcher for the federal government, first with the U.S. Bureau of Mines and then with NIOSH. She specialized in looking at occupational cultures, particularly in high-risk industries, such as mining, oil and gas extraction, and commercial fishing. She left federal service in 2008 and started her own company, Prima Consulting Services, where she is the President. From 2012 through 2014, she was the Vice President for NW Operations for Safety Solutions International and still works for this company as a consultant. Dr. Cullen holds a BA in English Literature, an MBA in management and a PhD in Leadership Studies, all from Gonzaga University. She is also a graduate of the U.S. Office of Personnel Management's Women's Executive Leadership program. From 2008 through 2014, she served as a member of the Committee on Earth Resources for the National Research Council of the National Academies of Science. During that time, she also co-chaired a two-year study on workforce issues in energy and extractive industries. Elaine is a member of ASSE, NSC, ISMSP and SME, among others, and has numerous publications and over 200 presentations to her credit. She makes her home in Spokane, Washington, and can be reached at elainec@primaconsultingservices.com or at (509) 238-6963.

About Target Hospitality

Target Hospitality, an Algeco Scotsman company, is a global provider of workforce housing and one of the largest operators of turnkey solutions in North America. It operates in some of the world's most remote environments, supporting oil, gas, mining and construction operations, government agencies, disaster relief and large-scale events with temporary workforce lodging, mobile crew camps and extended-stay hotels. Target Hospitality was named by *Inc.* magazine in 2012 and 2013 as one of "America's Fastest Growing Private Companies." Visit www.TargetLogistics.net, or call (800) 832-4242.