GE's Crash Course
in Culture Change

Why did some GE service centers have outstanding safety performance while others were totally unacceptable? Using an intensive facility-by-facility approach, GE and its consultant drilled down into the safety culture to find the answers.

by Harvey J. Liss, Ph.D. and Robert J. Wagner

The GE Energy business maintains a worldwide network of service centers, which they refer to as Inspection and Repair Services(I&RS), for the servicing of a variety of power plant equipment, including switching gear, transformers, rotors and other turbine parts. It is a billion-dollar business, employing 3,400 people at 67 facilities. The largest service center, in Houston, employs 180 skilled trades people and the smallest, in Appleton, Wis., employs 14.

In 2000, a safety audit of the business revealed a health and safety record that was average for the industry, but did not measure up to GE standards. As a consequence, all service centers were subject to an intense health and safety program, which was duplicated across the board. After 1 year, there was some initial progress. Total accident and injury numbers were down significantly (30 percent reduction in injury and illness rate and 40 percent reduction in lost time injury rate). Despite this effort, there was marked discrepancy between results at some service centers and at others.

Pat Cowher, head of EHS for I&RS, headed up the initiative. "We treated every service center the same – the same manual, the same training, the same hours. The idea was to create a consistent program everywhere, and leave no one behind. But the results were contradictory. The service centers got much better, but there was still large variance across the network. We had 22 facilities with zero injuries. At the same time, we had some with I&I rates as high as 22, which was totally unacceptable."

The EHS team attempted to account for all the variables. Basically, they were dealing with service centers that all did the same kind of work on the same kind of equipment, with the same policies and procedures, and the same safety technologies. And, recently, they had all been involved in driving the same safety program. So what was different? What could account for such dramatically different results and such divergent trajectories? The conclusion was unavoidable: if it wasn't the technology or the training, then it had to be the culture.

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Understanding Culture

Trades people are among the most frequently injured of all industrial workers. Every hour, they make numerous decisions regarding their craft. In service centers with a positive safety culture, workers are more inclined to take the time and care to work safely, i.e.

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adhering to good housekeeping practices, wearing personal protective equipment, taking the time to set up jobs safely and encouraging their co-workers to proceed safely. Service centers with positive safety cultures are also far more likely to respond to and benefit from safety training and supervision. Conversely, in service centers with poor safety cultures, work is often done quickly and haphazardly. In spite of the best-intentioned training programs, workers will neglect to use safety equipment, take hazardous shortcuts and ignore clear-cut policies and procedures.

What accounts for this difference in culture? It could be any number of factors. The two most often observed are leadership and trust. Both have to be present to support a positive safety culture. If either is absent, it can be a formula for disaster. You can have leaders – both in management and union – who care deeply about safety, but if their efforts are not understood or appreciated, workers may not perform at their best. If they perceive that all management cares about are production numbers, they will not only be resentful, they will take unwarranted and unwanted risks. It can be, quite literally, a case of cutting off one's nose to spite one's face.

In recent years, this connection between safety culture and safety performance has come to be well documented and understood. Members of the EHS team of the GE I&RS business not only had a theoretical knowledge of the subject, they had direct experience with the culture change process. Based on successful past partnership, they brought in Culture Change Consultants (CCC) to join the team on this project.

Village by Village: A Unique Approach

Customarily, the culture change process is implemented at large manufacturing facilities, with hundreds of workers and an ailing safety culture. It may take months to assess the problems at the service center and introduce the program. Safety teams need to be established, trained and given responsibility for worker safety. It may be a year or more before any results are gleaned and as many as 5 to 7 years before the culture is transformed into a healthy one that will sustain itself indefinitely.

Clearly, that approach would not be suitable for the I&RS business, with its dozens of relatively small facilities. For one thing, there was not enough staff to go around; and it would be impossible to justify the type of commitment necessary for a culture transformation at a 600-person plant at one with only 60. Instead, the team decided to go service center by service center, "village by village" and conduct an intensive intervention. After which, they would essentially hand over responsibility for carrying out change to local union and management personnel. EHS staff would go back for periodic review and follow-up, but they did not have the luxury of maintaining a constant presence, as was done at larger facilities.

There were a number of practical considerations, principally how to cram months of development into one short visit. It was decided to go off-site for 2 full days, with all of the service center personnel from both shifts attending wherever possible. Only in the case of the largest service centers would multiple sessions be scheduled. This approach also provided an unusual benefit: Instead of being limited to working with representative groups at a large manufacturing facility over many months, they had the opportunity to gather all employees – management and hourly workers – in one room, at one time, for a crash course in safety culture.

Operations Comes on Board

This approach promised to be very intense. It also promised to be expensive. To do what the EHS managers planned to do meant that most of the service centers would have to be shut down completely for 2 work days, with the consequent loss of business. The costs would be substantial, in some cases more than $100,000 per site. EHS would pick up the tab for the sessions themselves – the hotel, travel and the consultant – but only operations could sign off on such a big hit to their bottom line.
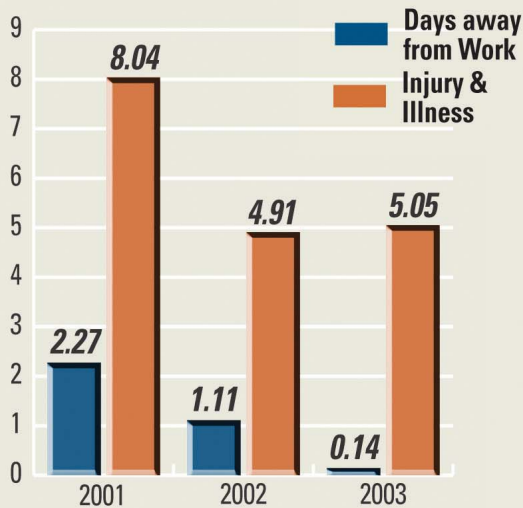
Safety is a relatively easy sell at GE. Cowher made the pitch to the three general managers from the Americas and won almost instant approval. "I thought it would be harder," Cowher admits. Ernest Gault, vice president in charge of the business, confesses to some initial skepticism. "I must admit, I was a little dubious, but our safety numbers were not that great and though we had been making some incremental progress, I knew if we wanted to make a real breakthrough, we had to try something new, perhaps even a little radical. But what really sold me was the enthusiasm of our EHS managers. I figured that if they were so passionate about it, I had to give them a chance."

Into the Breach

An ambitious schedule was set up, with the goal of doing 21 service centers between June and the end of the year or approximately one a week. The plan was rolled out to service center management at the annual management meeting. Tyrone Slayton, Chicago service center manager, who knew something about the culture change process from previous experience, volunteered to have his service center become the guinea pig.

According to Slayton, who had only been in Chicago for a couple of years, "I had actually been thinking that what we needed in Chicago was some type of culture change." Certainly something was needed. The service center's safety record was below average even for the I&RS division and relations between labor and management were not particularly cordial. George Sagel, an hourly employee in Chicago, a union representative and a 10-year member of the service center safety committee, also saw the need. "Our culture was deeply ingrained. We are a shop of very experienced technicians, many in their 50s with 30 or more years of experience. It takes a lot of work to make a change in that type of environment."

Charting Culture Change

The chart shows data from service centers with at least 6 months since rollout of culture change process.

Among those present at the rollout in Chicago was Colleen Repplier, GE's general manager for the Central Region, who began by reinforcing GE values, encouraging everyone to participate openly and to share their opinions. She said they were there to get at the truth about what was going on. She then put her business cards on the table and invited anybody who did encounter a problem to get in touch with her directly. That turned out to be so successful in getting people to speak their minds that it has been done at every session since, with the respective general manager playing his or her role.

Union rep Sagel was initially skeptical. "When they first told us about the program, I remember wondering if this was going to be another flavor of the month. But it was a safety program, and we owed it to our membership to give it a try." He was impressed to see the GM, the head of EHS, local management and the consultant work through two complete sessions with Chicago's two shifts. "They flew in and were putting in 16-hour days to get us going. Management was there the whole time. It was hard to doubt their energy and commitment."

The format of the 2-day session worked so well in Chicago that it became the prototype for what would follow at all of the other I&RS Service Centers. During the roll-out session, the consultant administered a validated 52-question perception survey, one question at a time, to all participants. The results of each question were tabulated and fed immediately back to participants. The impact was powerful and immediate.

In Chicago, not surprisingly, the survey clearly showed that beneath an unsafe work environment lived an unsafe culture. Only 13 percent of respondents indicated that they trusted management with respect to their health and safety. By contrast, in Dallas, where they had worked on safety culture back in 1992, 75 percent of hourly employees indicated a high level of trust.

Cowher believes trust is fundamental to the entire work environment. "My feeling is that if they don't trust you with respect to health and safety, we can make a real short list of what they actually trust you on."

Although there was the usual surprise and dismay at some of the results, with 100 percent participation and unbiased tabulation, it was impossible to ignore or deny the results. According to Steve Simon, Ph.D., president of Culture Change Consultants Inc. and designer of the survey: "It was the standard SARAH response, with participants moving from shock and anger, through to recognition, acceptance and, ultimately, hope."

Slayton, Chicago service center manager, experienced a range of emotions. "First, you are a little shocked at how bad the results are, how negative are the perceptions. Your first impulse is to take it personally and get angry, but that is not what it's about. When workers say they don't trust management, it's not like they're calling you a liar. It's more that they question your priorities. You say that safety is number one, then quality and then schedule, but there is a perception that when push comes to shove, you bow down to schedule. They are also saying that conditions that they may have complained about previously have not been fixed, that management has not been responsive enough."

Even hourly employees were taken aback. "I had no idea things were so bad," said Sagel. "You are so close to things that you don't have any real perspective, so it helps to stand back once in a while and view the bigger picture."

Table focus groups helped fill in the picture of a less than positive safety culture. Small groups worked to identify key issues. These were all posted on a 16-foot-long "mindmap" where, once again, everyone could see the results at the same time. To further refine the process, these dozens of key issues were given priority valuations with the application of color-coded stickers. Watching the mindmap take shape was like watching a sheet of exposed photographic paper in developing solution. First it is white, then some outline forms and then there is definition. At the end, a complete picture is revealed and participants are able to see which issues are most important to the most people with one sweeping glance.

Typically, there are between three and six issues selected for immediate attention. Since more than 80 percent of participants are hourly employees and everyone gets the same number of stickers, it is ultimately the hourly workers who are prioritizing the issues.

Of course, identifying problem areas is only half the battle; the "larger" half is working out solutions. Much of the second day was spent creating an action plan and having individuals sign up to work on those issues with which they personally identified. The result was the formation of a number of very highly motivated teams working on

tasks to which they are deeply committed. Typically, there is a guidance team and a number of grassroots teams.

Not every issue requires creation of a team. At one site, many of the workers brought up the issue of unsafe cranes. Before the two-day session was over, these were all inspected and tagged out for maintenance. Quick response and practical solutions are expected of the grassroots teams. It is a way to gather all the knowledge and resourcefulness of the hourly work force and direct it toward correcting unsafe conditions and behaviors. As one supervisor put it, "All the wisdom that we need to fix things is right here on the shop floor. We only have to get folks thinking and talking about it."

Paul Armstrong is now the general manager of the Central Region – in addition to his leadership of the Western and Southeast Regions and Latin America. "This effort has really opened the lines of communication. Whenever you get everyone in a room talking honestly and openly, you are going to come out a winner. Whether they are talking about cranes or issues apparently unrelated to safety, it always helps to get them on the table."

This was true in Chicago as well. According to union rep Sagel, "Many of our issues were of a physical or technical nature and, as a result of the 2-day meeting, these were corrected almost immediately. And some of the fixes were not cheap. Clearly, management was willing to commit the resources."

Not everything responds to a "quick fix." Most teams will come across an issue or two with which they really have to struggle. It tends to put things in perspective for workers who once had trouble understanding why problems were not corrected by management and EHS just as soon as they were identified. Putting yourself in somebody else's moccasins can be another way to build understanding and trust. As one hourly worker in Chicago put it, "Hey, some of these things just aren't easy."

The intensive, 2-day session was emotional and energizing, but the key to success was maintaining all this positive momentum. Because there was a limited amount of follow-up consultant

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time budgeted for each facility, EHS and service center management were trained to take on a leadership role. Most of them "caught the wave," as one manager put it, and kept riding it. Following the workshop, one facility had zero recordables for 10 months. All facilities made significant improvement in the year following their workshops. In Chicago, gains were significant, with recordables going from 8 to 5 in the first year following the intervention and I&I rates dropped from 7 to 4 – in spite of a 10 percent increase in the number of hours worked.

"You can see that they really get it in Chicago," says Cowher. "Workers are concerned and speaking up, and management is responsive. Now, when workers raise an important safety issue, management will put together a grassroots team to address it."

"There are mostly hourly workers on the teams," says Sagel. "It's our safety and it's largely up to us to protect it. We raise the issue, management gives us the resources and then we work together to solve it. For instance, our grassroots welding team lobbied for better and safer welding machines. Team members went out and did the research, picked the kind they wanted, reported back, and management bought them."

GM Armstrong agrees. "You can see now how the teams have come to own the process. Essentially, they have taken charge of safety at the shop level and management is more in a support role."

Safety has also become a worker-to-worker concern. "You are much less likely now to see workers let a co-worker do something unsafe," says Sagel. "We have a lot of safety champions among us, like the guy who went to get a grinding shield for someone rather than see him risk his sight."

Safety performance and anecdotal information support the belief that safety culture change is working in Chicago. But is the improvement coincidental or due to other factors? One advantage of this multiple-site project was the opportunity to test the results, by comparing those service centers that had undergone the culture change training and those that had not. The difference between the base year and the following year on I&I rates for the culture change sites was significant, down 43 percent and for DAFW rates, even more impressive, down 70 percent. Those service centers that had not participated in the first year of the program showed no statistically significant change.

VP Gault was impressed by the rapid turnaround of some of his service centers. "We made our money back in months, not years, in terms of worker availability and lowered workers' compensation costs. And that does not even take into account the incidental benefits. All you have to do is go into one of these service centers today and you can see that morale is much higher. Union/management relations are better. Customers are happier. They come in to our service centers at certain inspection points and they know they are getting a quality job in a safe facility. That is invaluable."

Long-Term Prospects

Everyone now agrees that the 2-day sessions are a great way to jump-start the safety culture change process, but how do you sustain this initial progress? In order to do that, the culture has to change to the point where the positive becomes the norm and the negative behavior or response is aberrant. "We are definitely on the right track," says Slayton, "but we still have a ways to go. The consultant says that

culture change is a 5-to-7 year process, but this is GE, after all, and we tend to do things faster."

Not unexpectedly, GE is committed to rolling out the program at all of their 67 inspection and repair facilities. They also plan to continue the 90-day visits to service centers to monitor their progress. This has required the commitment of additional staff. One of the business' EHS managers has become dedicated full-time to supporting the safety culture change and another full-time manager has recently been hired. They will be doing a lot of travelling in the next few years, but that is how you have to manage a decentralized organization such as I&RS. Plans are also underway to introduce the program worldwide.

The culture change process has obvious synergies with GE's Lean Manufacturing initiative, which looks for better ways to design and work in the manufacturing environment. The lean manufacturing transformation requires some of the same elements culture change helps build, especially trust and leadership. Both seek to empower employees, relying on their ideas, participation and grassroots leadership to drive change. Employee buy-in is likewise essential. "You can have the most elegant shop layouts in the world," Gault says, "but if it doesn't suit the way employees really work, it's bound to fail."

In the other direction, EHS culture change benefits from lean manufacturing's emphasis on housekeeping, maintenance and shop layout, because clean, orderly and well-organized workplaces tend to be safer and less prone to environmental mishaps. Minimizing material handling is another way lean manufacturing reduces the risk of injuries and spills.

Gault see lots of potential for the culture change process. "We are currently discussing integrating it with GE's quality program, which is one of the cornerstones of the company. The process is so effective in getting workers involved and communicating that all we have to do is add the content. It's definitely a recipe for success."

Harvey J. Liss, Ph.D., senior associate with Culture Change Consultants, Inc., specializes in survey feedback, organizational analysis, grassroots safety leadership training and implementing culture change processes. His recent clients and long-term safety culture transformation projects include GE, General Mills, Owens Corning and Toyota. *Robert J. Wagner* has worked at GE for 15 years in numerous roles, including sourcing, quality control, quality assurance and, for the past 8 years in environment, health and safety. He is currently the GE Inspection & Repair Services' culture change program manager, where he oversees the implementation and continuity of the business' culture change process. **OH**