Wisconsin Electric Fleet Services Improves Safety with a Creative
Behavior-Based Safety Process

E. Scott Geller, Bryan Krueger, Anne French, and Josh Williams

Background
Fleet Services employees of Wisconsin Electric have experienced significant safety improvements since 1997 after implementing their behavior-based safety process. In fact, these employees who repair vehicles and equipment (i.e., articulated arms/backhoes) used to build and maintain an extensive electric and natural gas infrastructure, have the best safety record at Wisconsin Electric. This is consistent with their safety mission statement: “Fleet /Services, working together by actively caring for each other, will strive for a Total Safety Culture to create a safe working environment.”

The central shop for Fleet Services is located in Milwaukee, with a series of surrounding remote satellite locations. Overall, Fleet Services includes 74 employees of which 70 are union members, the largest union being the International Brotherhood of Electrical Workers Local 2150.

Total Safety Culture
Achieving safety excellence requires going beyond the traditional safety focus of engineering and regulation. Because human behavior is a contributing cause to most incidents and injuries, safety excellence can only be achieved by addressing the human dimensions of safety. Reducing at-risk behavior and increasing safe behavior requires understanding how such behaviors are motivated by system and cultural influences. Developing and sustaining a supportive safety culture hinges on understanding and applying the principles of behavioral science and person-based psychology to build tools and methods which encourage personal responsibility and interpersonal interaction about safety. We call this actively caring and it is an integral part of a Total Safety Culture.

In a Total Safety Culture, employees not only feel responsible for their own safety, they feel responsible for their peers’ safety, and the organizational culture supports them acting on that responsibility. Individuals have the necessary tools and methods, as well as appropriate person states (e.g., self-esteem, group belonging, personal control) to actively care for the safety of co-workers. Additionally, the organization’s formal management systems and leaders’ informal management practices facilitate actively caring by encouraging, recognizing, and reinforcing appropriate behaviors. So, achieving a Total Safety Culture involves the development and implementation of a behavior-based observation and feedback process, the assessment and refinement of existing safety
management systems, and the improvement of management and employee practices influencing the safety culture.

Behavior-Based Safety (BBS) Observation and Feedback
To achieve a Total Safety Culture, where employees feel as strong a sense of responsibility for the safety of their coworkers as they do for themselves, it is necessary to increase the openness and frequency of safety communication. A critical observation checklist encourages interpersonal behavioral observation and feedback, which improves this communication. The checklist has categories of relevant safety behaviors with corresponding columns to mark behaviors as either safe or at risk. The checklist also has a Comments Section to provide specific information about an observation. Employees provide one-on-one feedback regarding the safe and at-risk behaviors observed. To ensure anonymity, the observee’s name is never recorded.

The feedback which follows the observation provides positive social support for doing a task safely even when at-risk alternatives are easier, faster, and more convenient. Information about at-risk behaviors is given to avoid potential injury. The data from the observation cards are collected, compiled, and then shared with the employees as group feedback. This provides specific information and enables the DO IT process to improve safety performance.

The DO IT process involves four sequential steps: a) Define relevant target behaviors to increase or decrease in frequency, b) Observe target behaviors during a baseline phase and set specific goals for achievement, c) Intervene to improve the target behaviors, and d) Test the impact of the intervention by continuing to observe the target behaviors. If the desired results are not achieved, other interventions are implemented. When improvement goals are met, other target behaviors are selected for improvement.

Self-Observations
The Wisconsin Electric Fleet Services chose a unique, creative approach to provide observation and feedback. In addition to peer observations, Fleet Services employees also conduct self-observations for safety. Self-observations are performed because many of the Fleet Services employees often work alone at a remote repair center or in the field at a job site.
Not surprisingly, the average number of self-observations per month with Fleet Services personnel is 50 versus 30 per month with peer observations. Also, the self-observations are usually of very high quality (i.e., numerous comments and suggestions for improvement).

Self-observations are an important safety improvement process whereby individuals: a) identify target behaviors for improvement; b) establish a behavioral baseline of those target behaviors using self-observation; c) select a self-management strategy to promote desired behavior change and chart progress; d) select a goal which is specific, motivational, attainable, recordable, and trackable; e) record self-observation with target behaviors to measure progress toward the goal; and f) administer self-rewards that are accessible, immediate, individualized, and valued. Identification of target behaviors is accomplished by reviewing injury data, analyzing “near misses”, and evaluating previous behavioral observations to identify individual problem areas.

Social cognitive theory suggests that self-observations are one of the primary components of the self-regulation of behavior change. Generally,
when employees conduct self-observations, they are more likely to perform their jobs safely. This is explained by the principle of consistency. When our behaviors are different from our beliefs, feelings of discomfort are produced. So, performing a job at risk when safety beliefs are triggered (using a self-observation form) causes internal conflict. To eliminate this discomfort, individuals using a checklist are much more likely to perform a task safely.

**Fleet Services BBS Process**
The Fleet Safety Solutions Team (FSST) is facilitated by Bryan Krueger, the lead technician for the night shift. In 1997, the FSST team (both salary and hourly employees) developed the observation checklist (Figure 1) which Fleet Services employees still use to observe one another and themselves. All Fleet Services employees received an eight-hour training course on how to use the observation checklist to provide co-workers with one-on-one feedback to improve safety. Typically, an observation and feedback session lasts between 10 and 15 minutes and may, or may not, be scheduled in advance.

Every month, the FSST team analyzes the data from the observation forms, documents trends in at-risk behaviors, and communicates the results to the remaining workforce. Also, the FSST team meets monthly to discuss the process and follow up on action items resulting from the “Comments” and “Suggestions” sections of the observation forms. Although a formal incentive process is not in place, periodic rewards (e.g., polo shirts, pens) are presented to employees for their participation in the BBS process and for actively caring (going beyond the normal routine for the safety of someone else).

While not directly involved in the observation and feedback process, front-line supervisors (who also received BBS education and training and are members of the FSST team) are actively involved in the process. Although supervisors don’t conduct observations, they regularly attend team
meetings and provide the time and resources needed by hourly employees to effectively implement the new safety process. In order to foster employee ownership of the process, participation is encouraged (not mandated). Each employee is expected to perform two observations per month.

**BBS Success**

Not only have safety attitudes and beliefs improved following BBS implementation, more than 70% of all Fleet Services employees regularly perform both peer and self-observations. Since BBS implementation, there has been a steady increase in the number of: interpersonal behavioral observations, at-risk behaviors identified, quick fixes turned in, and comments and suggestions on the observation forms. In fact, the number of reported incidents has actually increased. Bryan, the FSST team facilitator, attributes this increase to employees feeling more comfortable discussing safety concerns openly and without fear of reprimand. He believes the *actual* number of incidents hasn’t increased, but employees are more willing to report injuries because they trust their BBS process.

Overall, the number of *disabling* injuries has significantly dropped following BBS implementation. Despite two injuries near the end of 1999, employees were praised for their continued efforts in making safety a value.

*Bryan Krueger is the Night Lead Technician for Wisconsin Electric Fleet Services. Drs. E. Scott Geller, Anne French, and Josh Williams are consultants with Safety Performance Solutions, a Blacksburg, Virginia-based consulting firm specializing in helping organizations implement behavior-based safety processes. Dr. Geller will be a keynote speaker at the upcoming Utility Safety Conference in Louisville, Kentucky, May 9 and 10, 2000.*