Holistic Ergonomics

A case study from ChevronTexaco

By Marie P. Martin

THE SAN JOAQUIN VALLEY BUSINESS UNIT (SJVBU) of ChevronTexaco employs nearly 1,000 people, as well as 250 contractors who work regularly on company computers. Because of technology advances and resulting process changes, employees now spend greater amounts of time behind a keyboard. Many jobs that were previously hands-on operations positions have developed into supervisory or automation positions which require more work on a computer or control panel.

The average age for employees is 48 years. With this aging workforce now spending more time on the computer, the risk of computer-workstation-related repetitive stress injuries (RSIs) increases. In addition, the company is experiencing an influx of younger workers. Within the next five years, through an aggressive hiring strategy, management plans to add many recently graduated technical employees. These young people will arrive with at least 16 years of keyboard use—often at poorly designed workstations—putting them at greater risk for RSIs over the course of their careers than older employees who have been working with computers for only a few years. Since these younger workers are typically more physically fit and, therefore, less conscious of nagging aches and pains, they may not feel the effects of their poor ergonomic habits for several years. Yet, some may already be on the path toward RSIs before they even start their first "real" jobs.

The SJVBU leadership team had taken a proactive approach to ergonomics for several years, but workers continued to experience RSIs. It was time to use a more creative strategy to prevent these injuries. ChevronTexaco management realized that if the company ergonomics program is to reach world-class status, it needed a focused approach to reduce RSIs. The result: A global initiative known as the Repetitive Stress Injury Prevention Program (RSIPP). The program is a company standard accepted by the Corporation Management Committee as a best practice to prevent RSIs. This case study explores the refinements to the program within SJVBU and its evolution into a holistic program.

Marie P. Martin, CSP, ARM, ALCM, *is an industrial hygiene/safety specialist and Repetitive Stress Injury Prevention Program advisor for ChevronTexaco's San Joaquin Valley Business Unit in Bakersfield, CA. She has more than 20 years' experience in the safety and risk management field. During her career, Martin has held various positions, including technical services manager for Aon Risk Services Inc. of Colorado and construction safety coordinator with Texaco Worldwide Exploration and Production Inc. She was also president of Martin Safety Management Inc. A professional member of ASSE's Bakersfield Chapter, she has a B.S. from Louisiana State University.*

Recognizing the Problem

RSIs had begun to emerge with regularity. In 2002, RSIs accounted for 45 percent of OSHA recordables for the business unit. This occurred after RSIPP was already in place. At that time, the program consisted of ergonomic awareness training for all personnel and a computerized self-assessment performed by all employees and contractors with access to company computers. This was followed by an evaluation by a certified workstation evaluator (CWE) or ergonomist. Workers and their supervisors were expected to comply with the recommendations from both assessments.

Ergonomic aids such as keyboard trays or adjustable chairs were available if recommended. Some employees had a computer program that reminded them to stretch regularly. In addition, personnel were encouraged to report any discomfort to their supervisor so they could be reevaluated by the CWE as a rapid response case. These cases were to be handled within two working days when possible. If the discomfort persisted, the employee was sent to the doctor for a medical evaluation. This was a sound workstation ergonomics program. However, the continuing number of RSIs proved that in this business unit RSIPP needed further refinement.

Identifying Solutions

Safety leadership determined that a more holistic approach to RSIs was needed. As a result, RSIPP was modified and now consists of many elements designed to work together to form a holistic approach to ergonomics. Although the program con-

tinues to evolve as lessons are learned, both metrics and employee and management feedback indicate that the program is on the right track for reducing RSI frequency and severity.

The revised program launched in January 2003. Early results indicate that the new approach is effective. Only two diagnosed RSIs were recorded in 2003—with both cases involving individuals who had medical problems predating the new program. The purpose of RSIPP is to prevent RSIs, achieve incident-free operations and position safety as a core value in the business unit. This program's scope encompasses all employees in SJVBU plus contractors who work on company computers. Under RSIPP, the business unit can modify equipment that might lead to RSIs; intervene in the early stages of discomfort—before injuries develop; increase worker awareness of the potential for RSIs; and train employees in preventive measures.

The Elements

RSIPP now consists of six elements:

1) behavior-based safety;
2) training;
3) risk assessment;
4) preventive measures based on risk category;
5) early reporting and rapid response;
6) metrics and process evaluations.

Each element encompasses various tools, some that impact all personnel who work on a company computer; others used only for those in a moderate- or high-risk category for potential RSI.

Behavior-Based Safety

SJVBU's safety program has a behavior-based safety (BBS) philosophy. Ergonomics has long been a part of the observation program, but it is now a more significant component. In 2003, the ergonomics portion of the observation checklist was expanded to include a variety of proper workstation behaviors. Each employee must perform a minimum number of BBS observations. Some teams require at least one workstation BBS observation each month. These observations reinforce good ergonomic behaviors—for both the worker observed and observer/coach. In addition, the BBS Steering Committee produced a training video that demonstrates the proper way to perform a workstation ergonomics BBS observation.

Training

Education and training are essential aspects of RSIPP. A workforce knowledgeable about potential hazards is more likely to avoid such hazards and work safely. Most people readily accept that an oilfield is dangerous, but many people must be reminded that a benign-looking computer workstation located in a modern office can cause a disabling injury if improperly used or incorrectly set up. Therefore, everyone who works on company computers must complete a computer-based training unit on workstation ergonomics.

This training is only the first step, however. Workstation ergonomic awareness training is presented in each area as well, and all new hires and summer interns receive this training as part of their first-day orientation. Everyone with direct reports—including all new supervisors—receives training on their leadership role and expectations under RSIPP. During this training, all supervisors are asked to commit to their role and responsibility in preventing RSIs and to lead the efforts necessary to support all RSIPP elements. The most recent addition in this area is the supervisor's toolkit training, a computer-based module that covers RSIs, their causes, prevention and risk assessment, plus rapid response, work fitness program and RSIPP elements.

Field ergonomic awareness is another topic presented to workers who operate in the field. In addition, an ergonomics program geared specifically toward field work is being rolled out across the business unit to help prevent RSIs that may be caused by job duties not related to keyboards.

Risk Assessment

Each person has unique ergonomic needs. To identify those at greater risk for RSIs, each employee must be evaluated. Two methods are used to accomplish this: a computer-based self-assessment and an assessment by a CWE. All computer users must complete an initial self-assessment. Those who receive a high- or moderate-risk rating must complete another assessment each year, while those who receive a low-risk rating do so biannually.

These assessments often generate recommendations for equipment or behavioral changes. The supervisor is responsible for working with the person to ensure that recommendations are completed, and computer-generated reminders are automatically sent to both parties until the issue is closed out.

In addition, the CWE evaluates everyone who works on a computer. The worker and supervisor are then responsible for complying with recommendations generated by the CWE. Furthermore, when a person is assigned to a new workstation, the CWE performs an assessment for the employee at that new location.

Preventive Measures Based on Risk Category

Once a person's risk level has been identified, appropriate preventive measures are implemented. For example, every computer features a program that reminds the worker to take stretch breaks. These reminders appear on the screen based on a set number of mouse clicks or key strokes.

However, the tech-savvy workforce quickly learned how to reset the program's timing so that the breaks occur less frequently, while others simply ignored the reminders. Review of the data shows that the worst offenders are usually those who eventually develop an RSI or at least report discomfort. To address this, supervisors now track these data monthly and use the information to coach employees as necessary. Some managers have made the breaks mandatory—computers lock-up until the three-minute stretch break has ended.

At SJVBU, these breaks are now considered to be

Photo 1 (right): Workstations with fully adjustable keyboard platforms and monitor stands can be raised to standing height to allow workers to change positions throughout the day.

Photos 2 and 3 (below): The facility also has an ergonomics break room equipped with mats, exercise balls and resistance stations that workers can use for 10-minute ergonomic breaks.

on par with PPE. Overriding, ignoring or working through the breaks is considered as serious as working in the field without the proper safety glasses or hearing protection. Departments that were experiencing the most incidents of RSIs are becoming the most proactive in managing these data to encourage personnel to take stretch breaks. As employees find that they feel better and work better when they take sufficient ergonomic breaks, they have become more open to the concept as well.

A new office building that was completed in 2003 has state-of-the-art workstations with adjustable keyboard platforms and monitor stands that can be raised to standing height to allow workers to change positions throughout the day (Photo 1). Fully adjustable chairs are available at each workstation as well. The facility also has an ergonomics break room equipped with mats, exercise balls and resistance stations that employees can use for 10-minute ergonomic breaks (Photos 2 and 3). Some workgroups have initiated an ergonomics buddies program to encourage participation in RSIPP. The program pairs coworkers who remind each other to take their breaks and often exercise or visit the ergonomic break room together. The facility also has an on-site fitness center where employees can work on overall physical fitness, which in turn reduces their susceptibility to injuries (Photo 4).

Both the self-assessment and CWE evaluation can generate recommendations for additional ergonomic aids such as document holders, a specific chair or a different type of mouse. To ensure timely delivery of these items, the most commonly recommended items are now stocked onsite; in addition, through an agreement with the business unit's primary office supplier, most recommended equipment is delivered the same day.

In addition, twice a week, a free yoga class is held onsite during lunch; it is open to anyone who wants to participate (Photo 5). The instructor helps employees stretch those muscles that become most overworked during computer use. Relaxation exercises at the end of the class further reduce muscle tension. Lunchbreak is usually 30 minutes, but the leadership team extended it to 60 minutes for yoga participants on class days. This not only allows for a more effective workout, it also demonstrates management's commitment to worker safety and health and to reducing RSIs.

Yoga classes are offered at the business unit headquarters where departments with the most intense data input jobs (such as accounting and procurement) are located. The classes were initiated by the office safety and health committee. To date, field area safety committees have not implemented classes, but all have equipped exercise rooms where people can workout or take stretch breaks. The classes are popular among those whose jobs place them at the greatest risk for a workstation-related RSI, while less popular in the field, where this risk is lower and most workers consider stretch breaks to be adequate.

In addition, a massage therapist who specializes in RSI prevention is available at the main office and some area field offices. This benefit is sponsored by the safety and health committees, and the company pays half the cost for these 15-minute massages. Due to demand, the massage therapist now visits headquarters three days a week. In the field offices, where interest in massage has grown more slowly, the therapist visits one day a week. In several areas, the safety and health committees have not made massage therapy available either because of difficulty finding a qualified practitioner in a remote location or lack of employee interest. As with yoga, massage is more popular among those who spend the greatest part of their workday at a computer workstation.

When the CWE evaluation determines that a worker may be at a very high risk, or when a person is experiencing discomfort, his/her work assignments are temporarily changed until s/he can be evaluated by a physician. Based on the physician's recommendations, the person may have temporary work restrictions until the physical issues are resolved. Personnel whose jobs require intense data input are coached to use key-based shortcuts for commands that they would ordinarily perform with

a mouse. If necessary, a work team may implement task rotation to ensure that no one bears an inordinate amount of any one repetitive task.

Early Reporting & Rapid Response

As part of their ergonomics education, employees learn that by the time they feel pain, an injury may already have occurred. People are encouraged to report feelings of discomfort when they first occur. The earlier intervention occurs, the more successful these efforts will be. Although some people were initially hesitant to report pain, the logic of this procedure soon convinced most people of its benefits. Early reporting is now an accepted practice, and supervisors are trained to thank employees for reporting the first signs of discomfort rather than waiting for an injury to occur.

When an employee reports early discomfort, s/he is placed in the Rapid Response Program. The supervisor reassigns duties so that the worker experiencing discomfort is using the computer as little as possible until the CWE can perform an evaluation. The CWE may be able to alleviate the situation by recommending different ergonomic equipment (such as an alternative mouse) or increasing the number of stretch breaks. If the CWE determines that the situation cannot be corrected through basic fixes, the employee is evaluated by a clinical screener. If the clinical screener determines that the problem is more serious, the employee is sent to the doctor for evaluation.

At SJVBU, a rapid response case is considered a near-hit because it is possible that the discomfort will be ignored and develop into an injury. Contractors who report early discomfort are referred to their company management because the situation may become a workers' compensation issue.

If the doctor diagnoses an RSI, the employee must follow all medical restrictions. However, positive diagnoses are rare now that employees report early discomfort. When the medical evaluation produces negative diagnosis for a definitive medical condition (e.g., carpal tunnel, tendinitis), the employee is placed into the Work Fitness Program (WFP). The CWE can also recommend employees to the WFP based on a rapid response assessment for unresolved computer workstation discomfort.

Work Fitness Program

WFP is a holistic approach to mitigate unresolved discomfort identified in the rapid response process. It is monitored by the CWE in conjunction with the supervisor and RSIPP coordinator. The CWE develops a regimen of exercises and services for the employee based on his/her symptoms and condition. A typical program consists of stretching exercises or other light workout activities to be performed in the ergonomics break room. The on-site fitness instructor teaches the employee the proper way to perform the exercises.

The CWE may also recommend a certain number of massage therapy visits, and will instruct the therapist to concentrate on specific areas relating to the person's discomfort. If the person needs extra stretching, the CWE may recommend yoga classes. The company pays for all costs related to massage therapy or use of the fitness center when recommended by the CWE. The supervisor and CWE agree on the employee's time commitment for the exercise regimen, and the fitness trainer may adjust on-site scheduling to accommodate if possible.

Photo 4 (left): Employees can work on overall physical fitness in the on-site fitness center, which in turn reduces their susceptibility to injuries.

Photo 5 (below): The yoga instructor helps employees stretch those muscles that become most overworked during computer use.

The employee communicates his/her status weekly to the supervisor and CWE. The RSIPP coordinator links between supervisor and CWE as needed. The employee is allowed to perform these activities during workhours if s/he coordinates with the supervisor to ensure adequate work coverage.

Initial WFP recommendations are for two weeks. Then, the CWE determines whether the employee has benefited. Although each person is unique and response may vary, indications that the program is effective include subjective signs such as cessation of discomfort, an increased feeling of well-being and the employee's awareness of becoming more physically fit. Objective signs of improvement include feedback from the massage therapist regarding the employee's muscular response to therapy; the yoga instructor's evaluation of the employee's increasing flexibility; and the fitness trainer's comments regarding the employee's improved ability to perform recommended exercises.

Based on these results, along with a follow-up discussion with the employee, the CWE can determine whether the employee is progressing. The CWE can recommend that the employee remain in WFP for up to two months. If the person has not improved in that period of time, then s/he is referred to the clinical

Forty-four percent of participants have lowered their risk level and 49 percent of those who experienced discomfort now report infrequent discomfort or no discomfort.

screener. Most employees who have participated in the program have found it to be beneficial and enjoyable, and have given it favorable reviews. The conditioning routine requires a personal commitment. Positive behaviors such as regularly working out are reinforced while in WFP, and many people continue to use the fitness center or schedule massages after they have rotated out of WFP.

Metrics & Process Evaluations

To determine its effectiveness, RSIPP is evaluated on a regular basis and revised as needed to ensure that it is functioning optimally. Annual reviews of lessons learned and worker and management feedback ensure that the program is revised to best meet employees' needs. Some lessons learned have included a need to better communicate the rapid response program to employees, some of whom were not aware that they can have more than one workstation evaluation if discomfort returns; identification of new supervisors who need to be trained in their RSIPP roles and responsibilities; greater supervision for the WFP "procrastinator"; better communication of the importance of taking computer-generated ergonomic breaks; and a more thorough listing of symptoms that may signal repetitive-stress-related discomfort to help workers and supervisors recognize the need for intervention. In each case, the solution has been better communication, either on an individual basis, business unitwide or through awareness training.

Certain metrics are compiled to monitor RSIPP results. These metrics are used during the annual evaluation to determine which areas need further refining. These include both leading and lagging indicators:

- number of RSIs;
- number of rapid responses (near-hits);
- percent of employees who complete computerized self-assessment;
- percent of employees in low-, medium- or high-risk categories;
- number of employees evaluated by CWE;
- number of employees referred to WFP;
- number of employees referred to clinical screener or doctor for evaluation;
- departmental statistics for computer-generated ergonomic breaks;
- number of ergonomics awareness classes for employees;
- number of supervisors trained in RSIPP;
- number of rapid response evaluations by CWE.

A corporate survey has shown that 44 percent of program participants have lowered their risk level and 49 percent of those who originally experienced constant or frequent discomfort now report infrequent discomfort or have alleviated their discomfort. Across the corporation, the average cost per RSI claim for workers who have participated in RSIPP is at least 40-percent lower than for claims of nonparticipants. Within the business unit, RSIs have been reduced from 45 percent of claims in 2002 to 27 percent of claims in 2003.

In addition to these metrics, feedback is gathered from the RSIPP coordinator, CWE, supervisors, employees, contractors, physician and corporate support personnel. Regular review and improvement keeps the program flexible enough to meet the changing needs of the business unit. Ongoing feedback from all stakeholders serves as a reality check so that efforts are directed at those areas that need attention and refining.

The six RSIPP elements provide an array of tools that contribute to this flexibility. Rather than being a cookie-cutter program, the program's assortment of holistic solutions can be customized to solve the ergonomic needs of each worker. The ability to adapt the elements and personalize the tools as needed is a major contributing factor to the program's success.

Resources, Roles & Responsibilities

No program of this size can be fully managed and implemented by one person. SJVBU management recognizes the seriousness of RSIs and has made a true commitment to reducing the number of injuries to employees and contractors. Management's level of commitment is demonstrated by the resources in personnel, time and money invested in the program. Business unit personnel resources applied to the reduction and prevention of RSIs include:

- building resources department;
- CWE;
- corporate health and medical personnel;
- corporate RSIPP personnel;
- fitness instructor;
- human resources decision review board;
- massage therapist;
- operational excellence team;
- process advisor;
- process owner;
- RSIPP action team;
- RSIPP administrator;
- RSIPP coordinator;
- safety committees;
- supervisors;
- yoga instructor.

Clearly defined roles and responsibilities ensure that all elements of RSIPP are addressed. This also avoids duplication of effort and facilitates seamless delivery. The RSIPP coordinator communicates with all RSIPP resources to ensure that everyone understands their responsibilities and the importance of their role in overall program success.

Building Resources Dept. (BRES)

BRES personnel order and install ergonomic equipment as requested by supervisors per CWE recommendations. They maintain a supply of the most frequently requested ergonomic aids and work with the office supply vendor to ensure fast turnaround

between order and delivery. Economies of scale can be achieved when a single point for ordering and purchasing ergonomic equipment is established across the business unit.

CWE

The CWE is an ergonomics specialist. Since fitting the workstation to the worker is the CWE's most important ergonomic role, this specialist evaluates workers who score in the medium- and high-risk categories, responds to rapid response requests and provides direction on workstation set up. When an employee continues to experience discomfort despite all possible ergonomic adjustments, the CWE develops and monitors an individualized WFP.

Corporate Health & Medical Personnel

This group provides ongoing assistance and advice on RSIs. The medical expertise in this group is a valuable resource when making decisions regarding both individuals and the overall RSIP program.

Corporate RSIPP Personnel & Plan

The corporate plan provides a framework with which to gauge the local business unit's plan development. This plan is used in the annual business unit RSIPP review and analysis. Those who manage this plan are another valuable resource.

Fitness Instructor

This professional, who is trained in various aspects of kinesiology and physical fitness, works under the CWE's direction to develop and helps employees with individualized WFPs. Employees must be taught the proper way to perform exercises to avoid injury.

Human Resources Decision Review Board

This group of top managers from both the human resources department and other business units provides valuable feedback and oversight when considering significant implementations or revisions to RSIPP. This board is the decision-making body relative to major process and program modifications.

Massage Therapist

Working under the CWE's guidance, the massage therapist provides a set number of therapeutic massages targeting the areas of discomfort of employees in WFP. A skilled and licensed massage therapist can provide valuable feedback to the CWE regarding the participant's response to WFP.

Operational Excellence Team

Charged with refining, supporting and monitoring core competencies across the business unit that enables the organization to operate in a safe, clean, efficient and reliable manner, the operational excellence (OE) team is another resource for RSIPP. The OE team also performs program evaluations and provides feedback on RSIPP gap analyses.

Process Advisor

This person is responsible for the management

Ergonomics Resources

OSHA Safety & Health Topics: Ergonomics
www.osha.gov/SLTC/ergonomics

Cornell University: CUErgo
http://ergo.human.cornell.edu

The Ergonomics Society
www.ergonomics.org.uk

Human Factors & Ergonomics Society
www.hfes.org

NIOSH Safety & Health Topic: Ergonomics & Musculoskeletal Disorders
www.cdc.gov/niosh/topics/ergonomics

UCLA Ergonomics
www.ergonomics.ucla.edu

International Ergonomics Assn.
www.iea.cc

University of Louisville Center for Industrial Ergonomics
www.louisville.edu/speed/ergonomics

National Library of Medicine & National Institutes of Health: MedLine Plus: Ergonomics
www.nlm.nih.gov/medlineplus/ergonomics.htm

University of Virginia: Office of Environmental Health & Safety: Ergonomics Program
http://keats.admin.virginia.edu/ergo/home.html

University of Maryland: Occupational Safety & Health: Ergonomics
www.inform.umd.edu/CampusInfo/Departments/EnvirSafety/os/erg

Although significant expenses are associated with RSIPP, management believes in preventing RSIs because safety is a core value within this organization.

system RSIPP process. This is accomplished by putting RSIPP through a continuous improvement process; integrally linking RSIPP to other business management processes; ensuring that program elements are used to assess and manage risks to employees and contractors; and pulling together all stakeholders in the RSIPP process.

Process Owner

A member of senior management who has volunteered to champion RSIPP issues at leadership meetings and to help the process advisor and RSIPP coordinator, the RSIPP process owner removes bureaucratic or institutionalized obstacles that may interfere with full deployment and advancement of initiatives. This person furthers leadership accountability by setting direction for the program and RSIPP action team; providing perspective; aligning accountabilities; showing visible commitment; and continually engaging the workforce in achieving RSIPP objectives.

RSIPP Action Team

Consisting of core stakeholders charged with monitoring the effectiveness of RSIPP, this team develops new ways to further improve ergonomic safety within the business unit.

RSIPP Administrator

Maintaining metrics and other records are important responsibilities of this position. In addition, the RSIPP administrator schedules CWE visits and medical evaluations for employees in the medium- and high-risk categories.

RSIPP Coordinator

This person organizes, directs and coordinates RSIPP. S/he also attends conference calls with the vendor that supplies the computerized self-assessment software and with the corporate RSIPP coordinator to learn about the latest program developments. In addition, the coordinator trains supervisors and workers as needed to deploy the program.

Safety Committees

Each of the seven areas across the business unit has a safety committee that focuses efforts solely in that area. These groups help disseminate ergonomic information, provide feedback on RSIPP and identify potential ergonomic hazards.

Supervisors

Supervisors take the leadership role in reducing RSIs. They attend training and roll out the program to their direct reports. Supervisors also advise the RSIPP coordinator and administrator when an employee scores in the medium- and high-risk categories. They are responsible for ordering ergonomic equipment for direct reports and must follow up to verify that adjustments have been made, equipment has been delivered and discomfort has been eased. The coaching and leadership of supervisors provides a strong base for implementing RSIPP initiatives.

Yoga Instructor

The yoga instructor works under CWE's guidance to help employees complete their individualized WFP. The instructor is trained to identify visual clues that indicate the participant's progress. Often, s/he can tell more about a person's increasing flexibility than the individual worker may be aware of, which is important feedback for the CWE.

By providing these resources, business unit management is not only ensuring the success of the program, it is also clearly demonstrating a genuine commitment to the elimination of RSIs.

Program Costs

For employees listed as resources, activities associated with this program are part of their regular job duties and are, therefore, not calculated outside of their salaries. The company pays 50 percent of the cost for the massage therapist—$8 per person—except in WFP cases, for which the company pays the entire cost of the recommended number of sessions. The yoga instructor charges $60 per class, which is covered by the safety committee's wellness budget.

Costs associated with the CWE average about $25,000 per year for 1,200 employee and business partner workstation users. Several types of fully adjustable chairs are available, and these average $600 each. Workstations that were installed in the new business unit headquarters cost $5,000 each. These expenses are a good value as a corporate-level study of RSI claims costs has revealed that RSI prevention efforts have an immediate impact on average claim costs, even considering the overall rise in workers' compensation claims costs. Post-RSIPP claims on average cost $47,000 less than pre-RSIPP claims. At the corporate level, direct and indirect workers' compensation costs dropped $12.75 million since 2000—largely attributable to ergonomics initiatives.

Although expenses are associated with RSIPP, management believes in preventing RSIs because safety is a core value at ChevronTexaco. This program decreases worker risk levels; reduces the number, severity and cost of claims and lost workdays; and by reducing worker discomfort increases productivity.

Links to Other Processes

Ergonomics is a factor in many other processes. By linking to these, RSIPP supports their goals and is enhanced in return. The unit has 15 core processes and RSIPP is linked to half of them: BBS; business partner safety management; incident investigation; management of change; operations ergonomics; road safety management; records and document management; and risk assessment and management. These core processes are interrelated and work together to achieve the business unit's goals of operational excellence and world-class safety.

BBS. Analysis of incidents and near-hits within the business unit shows that the root causes of these mishaps are overwhelmingly behavior-based. Even

RSIs are usually rooted in poor ergonomic behaviors, so proper ergonomic behaviors are a focal point in the BBS observation process.

Business partner safety management. Almost 250 contractors use company computers on company property. They are included in RSIPP to ensure that their work environment is ergonomically safe.

Incident investigation. A root-cause analysis is performed for every RSI just as for injuries or damage resulting from other causes. Lessons learned are shared to help reduce future potential hazards.

Management of change. Whenever a worker or contractor moves to another workstation or receives new equipment or a new employee arrives, his/her supervisor must inform the RSIPP administrator, who will schedule a CWE workstation evaluation.

Operations ergonomics. Most operations positions include job duties that involve keyboard work; however, potential ergonomic hazards of traditional oilfield work also need to be addressed. An operations ergonomics program is currently being deployed in the field.

Road safety management. Many people view this area simply as defensive driving and journey management. Ergonomic issues such as proper arm positioning for holding a steering wheel and proper seat adjustment are also important aspects of road safety and have been integrated into the commentary drive training and observation procedure.

Records and document management. Like any other process within the business unit, RSIPP generates records and documents. Training records, assessment and evaluation records, reports on stretch breaks, physician reports, WFP records and documentation of these plans are just a few of the items created. The RSIPP coordinator and administrator work with the records and document management process to ensure that all statutory requirements regarding recordkeeping are followed.

Risk assessment and management. Risk assessment is an integral part of the RSIPP approach. The computer-generated self-assessment and CWE workstation evaluation are the two main components of RSIPP-related risk assessments. Preventive measures based on risk category, including WFP, comprise the risk management aspect of RSIPP.

Continual Improvement

Even one RSI is too many. Given the unit's goal of zero RSIs, RSIPP is a focused effort to eliminate ergonomic-related injuries. To remain a viable, useful tool in achieving this goal, the program must continually grow and change with the needs of the business unit. As lessons learned are analyzed and the program is reviewed, RSIPP is continually refined.

Several action items have been identified and are being addressed. For example:

1) Increase the number of employees and contractors who complete the self-assessment with a goal of 100-percent completion rate for the year.

2) Train new supervisors and employees in their RSIPP roles and responsibilities.

3) Increase the acceptance of computer-generated ergonomic breaks.

Most employees understand that they must complete a workstation self-assessment. However, some are distracted while completing it and forget to return to the website to complete the program. To address this, a quarterly report now shows those who have not completed the assessment. Supervisors use these reports to remind and coach workers, as well as to identify those contractors who must complete the assessment. The reports have greatly reduced the number of incomplete assessments, and the results are expected to improve this year as the program matures and personnel become more familiar with their ergonomic responsibilities.

Training new supervisors and new employees is an ongoing effort. All personnel must understand the potential hazards posed by workstations and the processes in place to mitigate these hazards. An informed workforce is more likely to practice safe behaviors that help them avoid RSIs.

Computer-generated ergonomic breaks are not new to the business unit; however, some people continue to ignore these reminders. To counter this, supervisors now receive monthly reports on computer use and break compliance within their teams. Supervisors can then identify workers who need additional ergonomic coaching and education. By placing the avoidance of breaks on a par with failure to use PPE, management has further emphasized the importance of this program. Over time, some doubters have realized that they truly feel better and can work more effectively as a result of taking regular breaks from the keyboard.

Conclusion

Recognizing the seriousness of RSIs, SJVBU management committed itself to reducing these injuries. The original RSIPP was a good start, but it needed further development to help the business unit reach its goal of zero RSIs. With an aging workforce now spending more time at a keyboard and an influx of young workers with a history of working at poorly designed workstations, it was determined that a more focused, holistic approach to ergonomics was needed. Today's RSIPP is a well-rounded program with many options.

By taking a creative holistic approach to ergonomics and remaining flexible, SJVBU is taking a proactive stand against RSIs. With strong, visible support from management and the collective efforts of many dedicated people, ergonomic injuries within the business unit may fade into oilfield history along with wooden pump jacks and wildcatting. ■

Your Feedback
Did you find this article interesting and useful? Circle the corresponding number on the reader service card.

RSC#	Feedback
25	Yes
26	Somewhat
27	No