O n Nov. 14, 2000, OSHA published the final Ergonomics Standard in the Federal Register. (The regulatory text of the standard is also available at www.osha.gov.) The rule requires U.S. firms to establish comprehensive ergonomics programs if two or more of their employees claim to have experienced a sign or symptom of a musculoskeletal disorder (MSD) such as carpal tunnel syndrome or low back pain. The standard defines an MSD as “a disorder of the muscles, nerves, tendons, ligaments, joints, cartilage, blood vessels or spinal discs”; it covers disorders other than “slips, trips, falls, vehicle accidents or similar accidents.”

In the author’s opinion, safety professionals, OSHA inspectors and even ergonomists may have difficulty applying the rule’s complex bureaucratic processes and undefined terms to the diverse workplaces, jobs and work activities found across the country. The final rule, completed just 12 months after publication of the proposed rule, is significantly broader than the proposal, and includes numerous provisions never subjected to public review.

These new provisions include 12 “action triggers” that determine whether an employer must establish an ergonomics program, and nine “hazard identification tools” that determine whether an employer is in compliance with the standard’s hazard control requirements.

In addition, the final rule includes up to 90 days of wage replacement for workers who suffer from MSDs; this provision conflicts with state workers’ compensation (WC) systems and appears to exceed OSHA’s rulemaking authority. Section 4(b)(4) of the OSH Act provides that “[n]othing in this chapter shall be construed to supersede or in any manner affect any workmen’s compensation law” (29 U.S.C. *653(b)(4)).

The Ergonomics Standard’s work restriction provision (WRP) interferes with such laws in that it creates a new monetary remedy (WC laws are designed to be the exclusive remedy for workplace injuries); provides a higher percentage of wage replacement; eliminates the waiting period; reduces the causation threshold for compensability; and eliminates consideration of the degree of impairment.

The agency predicts that the rule will cost $4.5 billion annually (based on an average cost of $250 to fix a workstation), but business community estimates range from $18 billion to $125 billion.

OSHA is issuing the standard in the midst of debate in the U.S. Congress over legislation to postpone publication of the standard until next October. The standard will take effect Jan. 16, 2001, only a few days before President-Elect Bush will take office (although employers need not comply until Oct. 14, 2001). Business groups have mounted legal challenges to both the hasty process used by OSHA as well as the rule’s complicated substantive provisions. The following discussion provides a summary of the standard’s provisions.

SCENE

The standard applies to all U.S. employers except those in construction, maritime and agriculture.

INITIAL ACTION

The standard requires covered employers to provide information in written or electronic form to every employee about MSDs; how to report them; risk factors, jobs and work activities associated with MSD hazards; and requirements of OSHA’s standard.

FURTHER ACTION

The standard imposes a host of complex requirements on employers to determine whether they have further obligations. First, employers must determine whether an “MSD incident” has occurred. If so, employers must then determine whether the employee experiencing an MSD incident has a job that “routinely involves, on one or more days a week, exposure to one or more relevant risk factors” at or above one or more of 12 defined action triggers.

MSD INCIDENT

An “MSD incident” occurs when an employer determines that one employee has experienced a) a work-related MSD that requires a day away from work, restricted work or medical treatment; or b) an MSD sign (e.g., decreased range of motion or grip strength) or MSD symptom (e.g., pain, numbness or tingling) that persists for seven consecutive days.

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According to the standard, “work-related” means that working conditions “caused or contributed to an MSD or significantly aggravated a pre-existing MSD.”

The standard allows an employer to obtain an opinion from a healthcare professional (HCP) to help determine work-relatedness and whether any work restrictions are appropriate. At the same time, the standard prohibits an HCP from disclosing to the employer information about non-work-related factors that may have caused or contributed to the employee’s condition. This limitation will preclude an employer from making fully informed decisions as to the causes of a worker’s condition and the appropriate remedial measures.

**ACTION TRIGGERS**

If an employee experiences an MSD incident, the employer must determine whether the employee’s job “routinely” (on one or more days per week) exceeds one or more of 12 action triggers, which involve issues such as repetition, force, awkward postures, contact stress and vibration. These triggers include using a keyboard for more than four hours a day; kneeling or squatting for two hours per day; and numerous lifting thresholds.

This analysis will consume substantial time and resources (e.g., measuring the duration and frequency of various activities for each individual worker), and pose some difficulties to employers who lack a full-time ergonomist. In addition, safety professionals may struggle to define when a job involves “the same motions every few seconds”; a “cycle of motions” more than twice per minute; use of a keyboard in a “steady” manner; lifting “at arm’s length”; pushing/pulling “with more than 20 lbs. of initial force”; “pinching”; “gripping force” equivalent to 10 lbs.; “high” vibration levels; or working with the back, neck or wrists “bent or twisted.”

**ADDITIONAL OBLIGATIONS**

If an employer determines that an employee has experienced an MSD incident, and that the employee’s job routinely exceeds one or more of the action triggers, the employer must either follow the standard’s “quick fix” provisions, or develop and implement a comprehensive ergonomics program.

**Quick Fix**

If within the previous 18 months an employer has had only one MSD incident in a given job category, and no more than two incidents overall, the employer may elect to provide a “quick fix” instead of implementing a comprehensive program. However, this option entails most of the actions required as part of a comprehensive ergonomics program. These obligations include providing the employee who experienced an MSD incident with a) a medical evaluation, follow-up and medical management; b) access to HCPs; c) temporary work restrictions (if recommended by the HCP); and d) wage replacement for up to 90 days.

In addition, the employer must consult with employees in the same job category; ask them to recommend remedial measures; observe them performing their jobs; and implement controls that reduce MSD hazards to levels below those in the standard’s hazard identification tools within 90 days. Listed (but not printed) in Appendix D-1 of the standard, these tools include the job strain index; revised NIOSH lifting equation; Snook push/pull hazard tables; rapid upper limb assessment; rapid entire body assessment; ACGIH hand/arm (segmental) vibration TLV; GM-UAW risk factor checklist; and Washington State Appendix B; Appendix D-2 includes an additional tool, a VDT workstation checklist.

The employer must also train employees in the use of these controls; review the jobs within 30 days after implementing the controls to assess whether MSD hazards have been sufficiently reduced; and document the quick-fix process for each job to which it is applied. If MSD hazard levels are not sufficiently reduced, the employer must implement a comprehensive ergonomics program.

**Comprehensive Ergonomics Program**

Employers who experience an MSD incident and find that one or more action triggers has been met, yet who are not eligible for the quick-fix option, must PREPARING FOR THE ERGONOMICS PROGRAM STANDARD

With OSHA’s Ergonomics Program Standard in effect (as of Jan. 16), with activities scheduled to begin in Oct. 2001, the following steps can help companies prepare for compliance.

**Read the summary provided by OSHA.**

The standard is more than 25 pages long (with appendices) and requires multiple readings to fully comprehend. The best starting point is the two-page summary provided in Appendix B—it’s clear, concise and provides OSHA’s interpretation of the key requirements.

**Review the firm’s MSD history to better understand the implications.**

Beyond informing all employees of several specific issues, OSHA requirements begin with employee reports of MSD signs and symptoms. The standard’s impact on a business will depend on how often these reports are received. In some cases, a company may be eligible for the “quick-fix option,” which greatly simplifies compliance. Thus, review of the company’s MSD history will indicate whether the standard will have major implications.

**Inform the management team of these implications.**

The management team’s support will be needed to put mechanisms in place to comply with the standard. Begin to inform managers now about the requirements and how they will affect the business. This will help them respond constructively if it becomes necessary to seek additional resources to ensure that the company’s ergonomics program is effective, efficient and compliant.

**Identify gaps in the current program and determine how to close them.**

The standard contains very specific requirements for ergonomics initiatives, which must be met by Oct. 2001. Therefore, it’s best to begin the planning process now to ensure compliance by the deadline.

**Train supervisors and technical staff in ergonomics problem solving.**

This is a key element of an effective ergonomics program, regardless of regulatory requirements. With the new standard in place, a company should expect an increase in employee reports related to MSD signs and symptoms, so preparing the management team to solve issues is prudent. In addition, this training will facilitate hazard reduction before MSDs occur, which eliminates the need to worry about dealing with any OSHA requirements.

**Perform a risk map to identify ergonomic risks and control hazards in high-risk jobs.**

Risk management is the hallmark of an effective ergonomics process. By deploying the recognition-evaluation-control approach, a business can ensure that the new OSHA requirements will have minimal impact.

Information provided by Humantech Inc., an Ann Arbor, MI-based consulting firm that specializes in occupational ergonomics.
implement a comprehensive ergonomics program. According to the standard, this program must include:

- Management leadership, including assignment of program responsibilities; provision of necessary authority and resources; encouragement of early reporting of signs and symptoms; employee participation; and periodic communication with employees about the program.
- Employee participation, including a system for employees to report MSD signs, symptoms and hazards, and receive responses; provision of information to employees regarding the standard, MSD hazards, signs and symptoms, and the employer’s program; and employee involvement in program development, implementation and evaluation.
- Job hazard analysis of all job categories in which an MSD incident has occurred 1) using either one of the hazard identification tools referenced in the standard, a trained ergonomist or “any other reasonable method that is appropriate to the job and relevant to the risk factors being addressed”; and 2) including consultation with affected employees; observation of employees performing affected jobs; and evaluation of the magnitude, frequency and duration of exposure to MSD risk factors.
- Reduction of MSD hazards either below the levels set forth in one of nine hazard identification tools (which were neither drafted by OSHA, nor intended to impose mandatory obligations, and which may require an ergonomist to decipher and apply); or, if such a reduction is not possible, use of engineering controls (e.g., redesigning workstations, equipment or processes), work practice controls (changing the way work is performed) or administrative controls (e.g., job rotation or changing the pace of work) to the extent feasible; implementation of “initial” controls that “substantially reduce” the exposures within 90 days of determining that an action trigger has been met; implementation of “permanent” controls within two years of such determination (or Jan. 16, 2005, whichever is later); and tracking progress toward MSD hazard reduction goals (including consultation with affected employees).
- MSD management for employees who experience an MSD incident, including access to HCPs; use of a tie-breaking procedure in the event that two HCP’s reach different conclusions; and a written medical evaluation, follow-up and adherence to any work restrictions or time off recommended by an HCP.
- Wage replacement under the standard’s WRP obligation to workers unable to work due to an MSD incident by “allowing” them to take sick leave or other similar paid leave (e.g., short-term disability leave). It remains unclear, however, whether employers can require workers to use such leave, and if so, whether employers can require them to take annual or vacation leave.
- Training for employees in jobs covered by the program, on an initial basis as well as at least every three years thereafter; such training should cover the standard; the employer’s program; MSD signs and symptoms; the reporting system; MSD hazards and risk factors in each employee’s job; the employer’s hazard abatement plan and timetable; MSD hazard controls; and employee involvement in evaluating control effectiveness.
- Program evaluation “when you have reason to believe that the program is not functioning properly” and at least every three years, including consultation with employees, review of each program element, a determination as to whether the program is achieving positive results and prompt correction of any deficiencies.
- Recordkeeping, including employee reports, employer responses, job hazard analyses, hazard control measures, quick-fix programs, program evaluations and HCP opinions.

GRANDFATHER CLAUSE

The standard includes a grandfather clause for ergonomics programs that were implemented before Nov. 14, 2000. Qualifying programs are exempt from some requirements.

To qualify, however, a program must include management leadership; an MSD reporting system; prompt responses to MSD reports; regular communication with employees; employee participation in program implementation, evaluation and future development; job hazard identification and analysis; feasible engineering, work practice and administrative controls for job hazards; reduction of job hazards below the levels in the standard’s hazard identification tools or to the extent feasible; evaluation of controls; employee training; program evaluation (with at least one review by Jan. 16, 2001); and correction of identified program deficiencies.

In short, to qualify for the grandfather clause exemption from some requirements, employers must have ergonomics programs that comply with virtually all of the very same requirements. Even programs that qualify must include, by Jan. 16, 2002, extensive medical management procedures, temporary work restrictions and up to 90 days of wage replacement for workers who experience MSDs.

COMPLIANCE DEADLINES

The standard’s provisions (other than the program evaluation requirement in the grandfather clause provision) become effective on Oct. 14, 2001. Most of the standard’s obligations are required within certain subsequent time periods, ranging from seven days to two years after an employer determines that an action trigger has been met. The standard provides a separate deadline for implementing permanent MSD hazard controls (Jan. 16, 2005).

ENFORCEMENT

OSHA inspectors may have as much trouble as employers in attempting to apply the standard’s bureaucratic processes and undefined terms to the diverse workplaces found in the U.S. Although the agency will distribute a compliance directive to its compliance officers, employers can expect significant variations in enforcement. Many inspectors may well assume that if MSDs are occurring at a workplace, the employer’s program must be deficient, despite the agency’s statement that “the occurrence of an MSD in a problem job is not in itself a violation of this standard.”

Although OSHA is known for its complex regulations, the Ergonomics Standard may well cause more confusion in U.S. workplaces than any previous OSHA rule, given its breadth and bureaucratic complexity, and the inherently difficult issues of MSD work-relatedness (causation) and identification of effective remedial measures. Although the standard may force some employers to devote needed attention to MSDs, in many workplaces, employers may find themselves diverting their focus from making jobs safer to deciphering and complying with the standard’s tangled regulatory maze.

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