Testimony and Comments of the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) on the Occupational Safety and Health Administration's Proposed Rule on Ergonomic Programs
Docket S - 777

Submitted March 2, 2000

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I. INTRODUCTION

The AFL-CIO, a federation of 68 national and international unions representing 13 million working men and women and their families, appreciates the opportunity to present testimony and submit comments on the Occupational Safety and Health Administration's Proposed Rule on Ergonomics Programs.

The AFL-CIO has a long and deep interest and involvement in the ergonomics issue. Musculoskeletal disorders (MSDs) caused by exposure to ergonomic hazards are a major safety and health problem for our members and for all workers. In all economic sectors and in most industries, musculoskeletal disorders are the major source of workplace injury and illness. Workers in meatpacking, poultry, auto assembly, nursing homes, transportation, warehousing, construction and data entry are among those at risk.

For more than two decades, unions have been working hard to prevent these injuries through research, joint efforts with employers, union training programs, and by requesting OSHA enforcement actions under the general duty clause.

Since the late 1980's, we have been seeking an OSHA standard to prevent unnecessary musculoskeletal disorders and to control ergonomic hazards. It has been ten years since former Secretary of Labor Elizabeth Dole committed the agency to developing an ergonomics standard. But, as the agency is well aware, the efforts to develop and issue an ergonomics rule have been thwarted and delayed for years by fierce industry and political opposition. As a result, hundreds of thousands of workers have needlessly suffered illness, injury and disability.

This past November, OSHA finally issued its proposed ergonomics rule. The AFL-CIO and its affiliated unions welcome and support the proposed standard. The proposed rule will reduce MSDs and spare workers from these devastating injuries and illnesses, and, save employers the high costs associated with these disorders.

In our view, the proposed rule includes the key elements of a good and effective ergonomics program — Management Leadership and Employee Participation, Hazard Identification and Reporting, Job Hazard Analysis and Control, Training, MSD Management, Recordkeeping and Program Evaluation. The rule is supported by an extensive body of scientific evidence that demonstrates that musculoskeletal disorders are caused by exposure to workplace hazards, and that these exposures pose a significant risk of injury to workers. These injuries are serious, painful, costly and disabling. There is substantial evidence and extensive real world experience demonstrating that there are effective and feasible measures to reduce these exposures and to prevent musculoskeletal disorders.

Under the Occupational Safety and Health Act, standards issued by the agency must address and reduce a significant risk of harm to employees. They must be reasonably necessary to provide safe and healthy employment, and for toxic materials or harmful physical agents, standards must place a premium on worker protection, limited only by technological and economical feasibility.

In order for OSHA's ergonomics standard to be sufficiently protective and to meet these legal tests, we believe several guiding principles apply. The standard should codify and reflect the good industry practices and programs implemented by employers who have effectively addressed ergonomic hazards. It should build on the agency's enforcement actions and settlement agreements on ergonomic hazards under the general duty clause. The standard also should be consistent with the measures used in other agency standards on toxic substances and physical agents such as the lead and formaldehyde standards and those which follow a programmatic approach, such as the Process Safety Management and Hazard Communication Standards.

Applying these principles, the AFL-CIO believes that the proposed standard can and should be strengthened and clarified to make it more protective and effective. In particular, we believe that the scope of coverage should be expanded to other industries, the triggers for coverage expanded to provide for action before injuries occur, and the provisions on training and medical management strengthened to promote early reporting of injuries and hazards and full worker participation in the ergonomics program.

A final ergonomics standard, with the adoption of these strengthening changes, will protect workers against unnecessary exposures to ergonomic hazards and will significantly reduce the toll of musculoskeletal disorders on this nation's workers.

Our position on why an ergonomics standard is needed and supported by available evidence and comments on OSHA's proposed ergonomics standard are set forth below.

II. THE URGENT NEED FOR AN ERGONOMICS STANDARD

A. Work-Related Musculoskeletal Disorders are a Serious Problem Affecting Millions of Workers Each Year

Work-related musculoskeletal disorders — injuries and illnesses affecting the muscles, tendons, nerves and soft tissues — are the biggest job safety problem in the workplace today. According to the Bureau of Labor Statistics Annual Survey on Injuries and Illnesses, which is based upon employers' injury records, in 1996, there were 679,865 lost-time injuries and illnesses that resulted from overexertion, repetitive motion and other bodily reactions. Based on an examination of the nature of these injuries and illnesses, OSHA has determined that 647,344 of these injuries and illnesses were work-related musculoskeletal disorders (MSDs) (64 FR 65931).

These MSDs were the major source of all workplace injury and illness, accounting for 34 percent of the total reported lost workday injuries and illnesses that year (BLS, 1996).

This large number of injuries, however, does not represent the total scope of the problem. These 647,344 cases represent only those injuries and illnesses which result in lost time or restricted activity. There is no comparable data for MSDs that do not result in time off the job. Based upon the ratio of non-lost work-time injuries to lost work-time injuries in the overall survey (3 to 1), OSHA has estimated that more than two million work-related musculoskeletal disorders occur each year (64 FR 65776).

But even this number understates the magnitude of the problem. The BLS survey only reports injury and illness data for the private sector. The injury experience of the more than 16 million state, county and local public sector workers, and 2.8 million federal sector workers, including postal workers, is not reflected in the survey (Employment and Wage Annual Averages, 1997, BLS, 1998). While comprehensive and detailed injury data for these groups of workers is not collected, the data that is available shows that MSDs are a major problem for these workers as well. For the 25 states where injury and illness data is collected for state and local public employees, in 1997, the BLS reported 82,995 cases of lost work time injuries and illnesses caused by overexertion, repetitive motion and bodily reaction (Occupational Injuries and Illnesses in the U.S. Profiles Data 1992-1997, CDRom, U.S. DOL, BLS). This represents 38 percent of the total lost workday injuries for public sector workers in these states (Appendix A).

There is also evidence that the BLS survey understates the extent of the MSD problem for private sector workers. The BLS survey is based upon employer reports of work-related injuries and illnesses that are recorded on the Log of Injury and Illness (OSHA 200). As OSHA has acknowledged in the preamble to the proposed rule, there is an extensive body of literature demonstrating that there is significant under reporting of injuries on employers' logs (64 FR 65980-81).

A comparison of data from the BLS survey, workers' compensation data and surveillance data for several states provides further evidence that the BLS data under-represents the extent of work-related MSDs.

The AFL-CIO reviewed available BLS data and state workers' compensation data on musculoskeletal disorders for three states — Massachusetts, Oregon and Washington — for a several year period in the 1990's (Appendix B). In each of these states the number of cases reported by the BLS was significantly less than the number of cases reported by the state workers' compensation system. For example, in the state of Massachusetts, there were 915 cases of carpal tunnel syndrome reported by the state compensation system, and an additional 104 cases reported by physicians, compared to 431 carpal tunnel syndrome cases reported by BLS for the same year (Massachusetts Department of Public Health, 2000).

It should be noted that the carpal tunnel syndrome cases reported by the compensation system in Massachusetts were compensated cases that resulted in more than five days off the job. The BLS definition of lost-time cases is less restrictive, requiring restricted duty or more than one-half day off the job.

Data from Oregon and Washington show similar results. In 1994, in Oregon, there were 13,218 musculoskeletal disorders reported by the compensation system (defined as four or more days away from work), compared to only 8,471 reported by BLS (Oregon Department of Consumer and Business Services, June 1997 and BLS 1994). In Washington, there were 19,768 time-loss claims for overexertion (defined as four or more days away from work), compared to 14,345 cases of overexertion reported by BLS (Washington Department of Labor and Industries, 1996).

Recent studies have demonstrated that only a small percentage of workers suffering from work-related back injuries, carpal tunnel syndrome and other musculoskeletal disorders are filing workers' compensation claims for these injuries. A study published in the January 2000 Journal of Occupational and Environmental Medicine found that only 25 percent of the group of Michigan auto workers studied with diagnosed work-related musculoskeletal disorders filed for workers' compensation (Rosenman et al, 2000). A similar study of Connecticut workers found that only 10 percent of workers with musculoskeletal disorders filed workers' compensation claims (Morse et al, 1999).

Thus, OSHA's finding that the BLS survey understates the true magnitude of the MSD problem by a factor of two is no doubt a conservative estimate.

B. Musculoskeletal Disorders are a Serious Problem in All Economic Sectors and in Many Industries and Occupations

The 1997 BLS data shows that MSDs affect workers in all sectors of the economy. Among the different industry groups (e.g., agriculture, construction, manufacturing, services), injuries and illnesses caused by overexertion and repetitive motion account for 19 to 35 percent of reported lost-time injuries and illnesses.

According to BLS, transportation, health services, manufacture of transportation equipment, food processing industries, such as meatpacking and poultry processing, and grocery are among the industries with the highest rates of MSDs.

Occupations at greatest risk include nurses aides, machine operators, laborers, assemblers, truck drivers, meat cutters and stock handlers and baggers. The heavy lifting, awkward postures, repetitive motion and forceful exertions involved with all of these jobs put workers at high risk of musculoskeletal disorders.

BLS data show that for many types of MSDs involving the upper extremities, including carpal tunnel syndrome and tendinitis, women workers suffer a disproportionate number of injuries. In 1997, women suffered 70 percent of reported carpal tunnel syndrome cases (20,584) and 62 percent of reported tendinitis cases (11,054) even though women comprised just 46 percent of the workforce and accounted for 33 percent of total workplace injuries (BLS, 1997). As with other WMSDs, the number of cases of carpal tunnel syndrome, tendinitis and other repetitive motion injuries reported by BLS understates the extent of the problem found among these workers.

C. Musculoskeletal Disorders are Serious and Disabling Injuries and Illnesses

One of the arguments used by opponents of an ergonomics standard is that musculoskeletal disorders such as carpal tunnel syndrome are not serious enough to be subject to an OSHA standard. These opponents seem to imply that these injuries are not real and that workers who report these injuries are simply complaining about everyday aches and pains and are just looking for a way to get time off their jobs.

This sentiment was clearly expressed in the first Congressional debate on the ergonomics standard in 1995 by Rep. Cass Ballenger (R-NC), who argued against OSHA's ergonomics standard, stating: "no one ever died of ergonomics." (Congressional Record, March 15, 1995, p.H3252).

But Rep. Ballenger and his allies miss the fundamental point: Musculoskeletal disorders are serious injuries that cause pain, significant lost-work time and in many cases permanent disability. Workers affected by these injuries often lose their jobs and have their lives turned upside down:

> Shirley Mack is a single mother from Spring Lake, N.C. Several couple of years ago, she took a job at a poultry processing factory. One day, her hand started going numb. She reported it to her supervisor, but was ordered to go back to work or else she would be fired. Shirley was diagnosed with carpal tunnel syndrome and nerve damage. She takes lots of pain pills and wears a device on her belt that provides stimulation to her arm and wrist. After a few days of restricted work activity, she was fired from her job. Shirley wakes up every morning in wrenching pain. She can't fix a big meal like she use to, hang clothes or do yard work. She can't go to the grocery store by herself because she can't push the cart. Shirley Mack is disabled. She has had her life taken away by carpal tunnel syndrome. She's been forced on to public assistance in order to feed her kids. Her life will never be the same. (Stop the Pain, Repetitive Strain Injuries Report, AFL-CIO, 1997).

Data from the BLS survey, state workers' compensation and the insurance industry confirm that MSDs are among the most serious injuries and illnesses faced by workers. In 1997,

the median time away from work for a carpal tunnel syndrome case was 25 days, the highest of any type of workplace injury or illness. This compares to a median of 18 days off the job for amputations (BLS, 1997).

An analysis of lost-time workers' compensation claims by the North Carolina Department of Labor found that the average number of days lost because of MSDs was 104 days (Waldorf and Snow, 1996). The study also found that at least 19.4 percent of claims were for people who were permanently disabled. The same study found that at least 22.9 percent of workers who file workers' compensation claims for MSDs do not return to work. The number of those who do not return to work may be much greater since the study was unable to determine the return to work status of 62.4 percent of the claimants.

A 1994 Pennsylvania study found that a substantial number of applicants for Social Security disability insurance benefits in the state were "likely to be suffering from an impairment caused or exacerbated by prior workplace exposures." In the study, musculoskeletal cases were the most prevalent type of injury. Forty percent of the cases judged to have a work-related component were musculoskeletal in nature (Bresnitz et al, 1994).

Data from the Social Security Administration shows that in 1998, 23.4 percent of disabled-worker beneficiaries were disabled due to diseases of the musculoskeletal system (Social Security Administration, 1999). Musculoskeletal diseases represented the largest category of disabled-worker recipients, 141,847 out of 608,382 disabled-worker beneficiaries receiving first time awards in 1998.

Data maintained by the National Council on Compensation Insurance (NCCI) showed that the duration of workers' compensation benefits for back claims was almost 50 percent higher than for all other claims (NCCI, 1992). Similarly, an NCCI study on workers' compensation claims filed between 1991 and 1994 found that carpal tunnel syndrome claimants took approximately 144 percent more time to return to work than those with other injuries — an average of 143 days (Kish and Dobrila, 1996).

D. Musculoskeletal Disorders are Costly to Employers, Workers and Society

The key finding motivating Congress to enact the Occupational Safety and Health Act in 1970 was the fact that "personal injuries and illnesses arising out of work situations impose a substantial burden upon, and are a hindrance to, interstate commerce in terms of lost production, wage loss, medical expenses, and disability compensation payments," 29 U.S.C. 651(a).

Thirty years later, Congress' "finding" still applies, perhaps most acutely to musculoskeletal disorders, which impose a major cost on employers, workers, their families and society as a whole. These costs include lost wages and productivity, medical costs, and other expenses, such as retraining and hiring new workers.

Studies which have evaluated the costs of work-related musculoskeletal disorders have produced a range of estimates, all of them demonstrating that the cost of these injuries and illnesses are substantial.

A study by the National Council on Compensation Insurance reported an average cost of $24,080 per case for workers' compensation indemnity back injury claims from 1990 based on claims from 13 states (NCCI, 1992).

A 1994 study of the cost of 1989 Workers' Compensation Low Back Claims processed by the Liberty Mutual Insurance Company reported an average cost per case of $8,321, more than twice the amount for the average workers' compensation claim (Webster and Snook, 1994). This study included both medical only (no lost time) claims and indemnity claims. Fifty-five percent of these cases received medical payment only. But indemnity cases and lost wage payments accounted for the majority of the total costs.

The total cost for these back claim cases paid by Liberty Mutual was reported to be $991 million (Webster and Snook, 1994). Based upon the company's market share, the authors estimated the total workers's compensation costs for low back pain cases in the United States in 1989 at $11.4 billion.

A similar study on the costs of work-related upper extremity cumulative trauma disorders, based on 1989 compensation claims paid by Liberty Mutual, reported the cost of an average case at $8,070 (Webster and Snook, 1994). Total compensation costs for these disorders in the United States were estimated to be $563 million, but the authors acknowledged that the real incidence of compensable upper extremity CTD's was likely to be higher than the study found.

Several studies have found that fewer than half of workers with musculoskeletal disorders file for workers' compensation (Ex. 26-920, 26-1258; Morse, 1999; and Rosenman, 2000). Thus, the Liberty Mutual estimates for total costs of compensable upper extremity disorders and back injuries greatly understate the true cost of these disorders.

More recent data have reported higher costs for these injuries. Data from the NCCI from 1996-1997 report an average cost of $9,856 for cumulative trauma claims, $12,611 for carpal tunnel syndrome claims and $10,8933 for lower back claims (National Safety Council, 1999). Data on 1998 workers' compensation costs from the state of California report an average cost of $34,798 for back injuries and an average cost of $27,346 for carpal tunnel syndrome (Workers' Compensation Insurance Rating Bureau of California, June 1999).

All of these reported and estimated costs only reflect the medical and wage replacement costs covered by workers' compensation. They do not reflect losses in productivity, which are likely to be considerable, given that many of these injuries and illnesses result in a significant

amount of lost work time. Nor do these estimates reflect costs associated with hiring or training replacement workers. As importantly, they do not reflect costs borne by workers.

There are no estimates of the costs to workers and their families associated with pain and suffering, lost wages and disability. But the data that is available suggests that these costs are significant. Even where workers receive compensation, in most states there is a "waiting period" before an injured worker who is off the job receives payment for lost wages. This period ranges from three days to seven days (U.S. DOL, ESA, 1999). In most states, compensation for these lost workdays is received only if the disability continues for some length of time, ranging from five days to six weeks (U.S. DOL, ESA, 1999). Thus, in many cases, workers' compensation benefits do not cover these initial days off the job. Absent paid sick leave or vacation benefits, this cost is borne by the injured worker.

Similarly, in many states, workers' compensation benefits fail to provide for adequate wage replacement. For example, a 1997 Report on California's Permanent Partial Disability System by the RAND Institute for Civil Justice found that injured workers' wage losses for workers injured between 1991 and 1994 were "profound." This study found that benefits fell substantially short of meeting the objective of compensating workers for two-thirds of wage loss. Benefits actually totaled less than 40 percent of the losses experienced by workers (Stern, Peterson, Reville, Stern and Vaiana, 1997).

Spieler and Burton recently detailed a number of significant developments in workers' compensation that have negatively impacted on the adequacy of benefits in the 1990's. These included serious cutbacks in benefits and tougher eligibility standards. Cash benefits to injured workers declined at double-digit rates from 1991-92 to 1993-94 (Spieler and Burton, 1998). This means that many injured workers suffer significant economic losses as a result of their injuries.

But the biggest impact is on those workers who are disabled by their injuries and unable to work. A study by the North Carolina Department of Labor of workers' compensation claims for ergonomic injuries found that 19.4 percent of the injuries resulted in permanent partial disability; 22 percent of the claimants were unable to return to work (Waldorf and Snow, 1996).

In most states, benefits for permanent partial disability are capped, and terminate after a certain period of time, ranging from 250 to 500 weeks (U.S. DOL, ESA, 1999). After this time, even though the disability continues, no workers' compensation benefits are received.

Some of these workers do qualify for disability insurance. Data from the Social Security Administration shows that in 1998, 141,847 worker beneficiaries disabled due to diseases of the musculoskeletal system qualified for Social Security Disability Insurance (SSDI) payments (Social Security Administration, 1999). Workers disabled by musculoskeletal diseases accounted for 23.4 percent of workers (141,847 out of 608,382 beneficiaries) receiving initial SSDI benefits in 1998 (Social Security Administration, 1999). In 1998, the average monthly benefit for all disabled workers receiving SSDI payments (4,698,000 workers) was $733. These disability payments fall

far short of making up workers' lost wages and many workers disabled by work-related MSDs suffer great financial loss.

The social consequences of these injuries on workers are significant (Dembe, 1999). Financial burdens created by these injuries result in workers losing their homes, cars and health insurance (Morse et al, 1999). Injured workers are often unable to lead a normal life experiencing great difficulty performing routine activities such as writing, cleaning, caring for children, bathing and driving a car (Morse et al, 1999). The effects of these injuries on injured workers' well-being is also significant. Workers suffering MSDs report higher levels of depression, anxiety and stress at home (Dembe, 1999).

Just as the Congress acted in 1970 and passed the Occupational Safety and Health Act to address the high toll and cost of workplace injuries and illnesses, it is imperative that OSHA promulgate an ergonomics standard to address the toll and cost of musculoskeletal disorders.

E. Proven Effective Interventions to Control Ergonomic Hazards and to Prevent Musculoskeletal Disorders Exist and are in Use Today

OSHA is not working from a clean slate in promulgating an ergonomics standard. There is extensive experience demonstrating that effective measures to control ergonomic hazards are available and in use today.

In response to high rates of musculoskeletal disorders, high workers' compensation costs, union efforts and OSHA enforcement actions, many employers have already taken steps to address ergonomic hazards and have established ergonomic programs at their worksites. These programs generally have incorporated a core set of elements that are similar to the elements included in OSHA's proposed rule: (a) management responsibilities and commitment; (b) employee involvement; (c) training and education; (d) identification of problem jobs and hazards; (e) analysis of hazards in problem jobs and developing control measures; (f) medical management and early detection; and (g) program evaluation.

There is extensive evidence that ergonomic programs with these elements have significantly reduced the rates and severity of injuries and illnesses and associated workers' compensation costs. At the same time, many of those programs have the added benefit of reducing employee turnover and improving productivity. The OSHA docket and Preamble to the rule include extensive evidence documenting the proven effectiveness of ergonomic programs (64 FR 65943-65975). The NAS report on work-related musculoskeletal disorders (Ex. 26-37), the GAO report on five private sector ergonomics programs (Ex. 26-5), a NIOSH summary on effectiveness of ergonomic interventions (Grant and Habes, 1996), and an AFL-CIO background report on repetitive strain injuries (AFL-CIO, 1997) all provide further evidence that ergonomics programs are effective in protecting workers and benefitting employers.

In addition, there are a number of other studies, not referenced in the preamble to the proposal, that provide further evidence that these interventions can be very effective in reducing the incidence, severity and costs associated with MSDs.

Johns Hopkins Hospital and University initiated a comprehensive program which, over a seven year period, significantly reduced the rate of upper extremity MSDs from 6.5 per 1,000 to 1.3 per 1,000 employees, a drop of 80 percent (Bernice, 1999). A poultry processor's program lowered the incidence of workers' compensation claims for upper extremity MSDs by 46 percent and the severity of the claim by 20 percent (Jones, 1997). At the Intel Corporation, their ergonomics program resulted in a decrease in lost work time from 14.67 to 4.1 days per M.D. case, and savings of more than $10 million in direct and indirect costs (Intel Corporation, 1999).

Effectiveness evaluations have also shown that small employers and their employees can benefit from ergonomics interventions as can large employers. These reports demonstrate that feasible control measures are available for use by the small employer community that can assist in reducing exposure to M.D. hazards and protect workers. For example, a small cable manufacturing facility significantly reduced the average musculoskeletal sick leave and turnover in its labor force following the initiation of ergonomics interventions (Westgaard, 1985). The ergonomics program at a van and truck window manufacturing plant lowered its carpal tunnel surgeries from an average of 22 per year to one per year and saved the employer as much as 75 percent in medical costs by intervening early (Strakal, 1994). A small employer assembling engines and transmissions instituted ergonomics interventions which resulted in a 29 percent decrease in the incidence of total musculoskeletal disorders, an 82 percent decrease in the severity rate, and favorable responses from the workers about the interventions (Moore, 1994).

Detailed summaries of these effectiveness studies, along with a number of other reports on the positive impact of ergonomics interventions, are contained in Appendix C. A full copy of each of the reports is attached to this submission as documentary evidence.

F. A Large Body of Scientific Evidence Demonstrates that Musculoskeletal Disorders are Caused by Exposure to Workplace Factors

The primary argument put forward by opponents of an ergonomics rule is that there is insufficient scientific evidence to support a rule. They argue that the science does not establish a relationship between workplace exposures and the development of musculoskeletal disorders; that non-workplace factors also contribute to MSDs; and that the exact number of repetitions or amount of force that will result in injury is not known.

These arguments are without merit.

Indeed, contrary to opponents' claims, there is an extensive body of scientific evidence demonstrating that exposure to workplace ergonomic risk factors causes or contributes to the development of musculoskeletal disorders; and that reduction of exposures reduces the risk of

injury and illness. The preamble to the proposed rule cites numerous scientific studies which have demonstrated a causal relationship between risk factors in the workplace and the development of musculoskeletal disorders among workers (64 FR 65865-65926). Likewise, the preamble includes studies which have shown positive dose-response relationships between exposure to these risk factors and musculoskeletal responses and disorders and that MSDs generally result from simultaneous exposure to multiple workplace risk factors.

In 1997, NIOSH published a comprehensive review of the epidemiologic scientific literature on work-related musculoskeletal disorders (Ex. 26-1). That review identified over 2,000 studies in the scientific literature of which 600 met NIOSH's screening criteria and were critically reviewed. The review found evidence for a causal relationship between repetition, force, posture, vibration and a combination of these factors and the development of MSDs.

The NIOSH review concluded:

"A substantial body of credible epidemiologic research provides strong evidence of an association between MSDs and certain work-related physical factors when there are high levels of exposure and especially in combination with exposure to more than one physical factor (e.g., repetitive lifting of heavy objects in extreme or awkward postures).

"This critical review of the epidemiologic literature identified a number of specific physical exposures strongly associated with specific MSDs when exposures are intense, prolonged, and particularly when workers are exposed to several risk factors simultaneously. This scientific knowledge is being applied in preventive programs in a number of diverse work settings" (Ex. 26-1).

In 1998, in response to a Congressional request from Representatives Livingston (R-LA) and Bonilla (R-TX), the National Academy of Sciences also conducted a review on the scientific research base on work-related musculoskeletal disorders (Ex. 26-37)). The review was conducted by a panel of scientific experts supplemented by commissioned papers on key issues and a workshop attended by leading experts in the field.

The NAS panel reviewed the epidemiological evidence, as well as evidence on the biological response of tissues, stresses, biomechanics of work stressors; non-biomechanical factors; and interventions to control musculoskeletal disorders. The panel also addressed seven questions posed by Representatives Livingston and Bonilla:

1. What are the conditions affecting humans that are considered to be work-related musculoskeletal disorders?

2. What is the status of medical science with respect to the diagnosis and classification of such disorders?

3. What is the state of scientific knowledge, characterized by the degree of certainty or lack thereof, with regard to occupational and nonoccupational activities causing such conditions.

4. What is the relative contribution of any causal factors identified in the literature to the development of such conditions in (a) the general population; (b) specific industries; and (c) specific occupational groups?

5. What is the incidence of such conditions in (a) the general population; (b) specific industries; and (c) specific occupational groups?

6. Does the literature reveal any specific guidance to prevent the development of such conditions in (a) the general population; (b) specific industries; and (c) specific occupational groups?

7. What scientific questions remain unanswered, and may require further research, to determine which occupational activities in which specific industries cause or contribute to work-related musculoskeletal disorders?

The NAS panel reached the following conclusions (Ex. 26-37):

"Restricting our focus to those studies involving the highest levels of exposure to biomechanical stressors of the upper extremity, neck, and back and those with the sharpest contrast in exposure among the study groups, the positive relationship between the occurrence of musculoskeletal disorders and the conduct of work is clear.

"There is a higher incidence of reported pain, injury, loss of work, and disability among individuals who are employed in occupations where there is a high level of exposure to physical loading than for those employed in occupations with lower levels of exposure.

"There is a strong biological plausibility to the relationship between the incidence of musculoskeletal disorders and the causative exposure factors in high-exposure occupational settings.

"Research clearly demonstrates that specific interventions can reduced the reported rate of musculoskeletal disorders for workers who perform high-risk tasks. No known single intervention is universally effective. Successful interventions require attention to individual, organizational, and job characteristics, tailoring the corrective actions to those characteristics."

Unfortunately, opponents of OSHA's ergonomics regulation were not satisfied with the results of either the NIOSH or NAS reviews, and pushed for yet another NAS review of the

literature. Funds for that review were included in the FY 1999 Labor-HHS Appropriations measure with the explicit agreement and understanding that the review would not delay OSHA's ergonomics standard (Livingston and Obey, 1998).

That NAS review, which is currently underway, is considering the same issues and the same seven questions and the same scientific literature considered during the first NAS review. The majority of the individuals on the panel for the current review participated in the first review. The only thing that is different is the format and length of time for the review (two years). There is no reason to believe that the bottom line conclusion of this second NAS review will be any different than the conclusions of the first: Exposure to workplace risk factors causes musculoskeletal disorders and interventions can reduce exposures and the risk of these disorders.

G. Ergonomic Protections for Workers Have Been Delayed For Too Long

Workers in the United States have been waiting for more than a decade for an OSHA ergonomics standard to protect them from musculoskeletal disorders. (See Appendix D, Chronology of OSHA's Ergonomics Standard.) Following major enforcement actions in the meatpacking, auto and garment industries, in August 1990, then Secretary of Labor Elizabeth Dole committed the Department of Labor to "taking the most effective steps necessary to address the problem of ergonomic hazards on an industry-wide basis" and to begin rulemaking on an ergonomic standard (DOL Press Release, August 1990).

When action stalled after the departure of Secretary Dole, in July 1991, the AFL-CIO and 30 affiliated unions petitioned OSHA to issue an emergency temporary standard (ETS) on ergonomics. Secretary of Labor Lynn Martin declined to issue an ETS, but again committed DOL to initiate rulemaking (Letter of Lynn Martin, 1992). On June 1992, OSHA issued an Advance Notice of Proposed Rulemaking seeking information for the development of a proposed ergonomics standard.

The Clinton Administration took office in January 1993 and made the promulgation of an ergonomics standard a top regulatory priority. Work on developing a proposed standard began in earnest and OSHA committed to issuing a proposed rule for public comment by fall of 1994.

Unfortunately, the business community began to organize to oppose an ergonomics standard, forming the National Coalition on Ergonomics. With the election of Republican majorities in both the House and Senate in November 1994, political attacks on the standard quickly escalated. Since 1995, there have been ongoing efforts to stop the standard, through budget cuts, appropriations riders and most recently free standing legislation.

When an agreement was reached during negotiations on the FY 98 Appropriations Bill to refrain from further attempts to delay the ergonomics rule, the AFL-CIO was hopeful that rulemaking would proceed. But opponents launched a new avenue of attack — they sought an National Academy of Sciences (NAS) study on work-related musculoskeletal disorders to delay

the rule (Ex. 26-37). When that NAS review was conducted on a fast track — finding that MSDs were caused by workplace factors and that interventions could prevent these disorders — opponents sought yet another NAS study to evaluate the same data (FY 1999 Labor, Health and Human Services and Related Educational and Related Agencies Appropriations Act). This second NAS study was agreed to with the stated understanding by the Chair and Ranking Member of the House Appropriations Committee, Rep. Livingston (R-LA), and Rep. Obey (D-WI) that the study would not delay OSHA's ergonomic rule (Livingston and Obey, 1998). Undeterred in their efforts to block the rule, opponents disavowed the agreement and pushed to pass legislation to stop the proposed or final OSHA ergonomics rule (H.R. 987 and S.1070). As the rulemaking on the proposed ergonomics rule proceeds, efforts to stop this important worker protection standard continue.

The cruel reality is that workers have suffered while OSHA's ergonomics standard has been delayed. Since 1990, when a standard was first promised, based upon the results of BLS annual surveys, more than six million workers have suffered lost work time injuries as a result of overexertion and repetitive motion injuries and illnesses.

While OSHA's rule has been delayed, however, other efforts at the state level and in other countries to protect workers against musculoskeletal disorders have proceeded. In 1997, despite industry opposition and a hostile administration, an ergonomics standard was promulgated in the state of California (State of California, 1997). Ergonomics standards have been proposed in North Carolina and Washington State (State of North Carolina, 1999, State of Washington, 1999).

The American National Standards Institute Z-365 committee draft standard on ergonomics was approved (Ex. 26-1264).

Around the globe, efforts to protect workers in other countries from musculoskeletal disorders also proceeded. In 1998, British Columbia issued a final ergonomics standard (British Columbia, 1998). In 1990, the European Community adopted a directive on manual handling (Council Directive 90/269/EEC, May 29, 1990) and a directive on video display terminal use (Council Directive 90/270/EEC, May 29, 1990) and since then member states have adopted regulations on these hazards.

After more than a decade of delay, it is high time that OSHA move forward and issue a final ergonomics standard to protect workers from MSDs.

III. COMMENTS ON THE SPECIFIC PROVISIONS OF OSHA' S PROPOSED ERGONOMICS STANDARD

A. Overview

The AFL-CIO strongly supports the issuance of a programmatic and performance-based ergonomics standard centered around the six general elements contained in OSHA's proposed rule (Management Leadership and Employee Participation, Hazard Information and Reporting; Job Hazard Analysis and Control; Training; M.D. Management; and Program Evaluation). These core elements interrelate and form the basis of an effective ergonomics program. Each of the core elements is a key part of the overall program, and each is necessary for the program to reach its full effectiveness in reducing MSDs.

At the same time, the AFL-CIO believes that several aspects of the proposed standard should be clarified or strengthened to ensure the standard's protectiveness and effectiveness.

In particular, we believe that the scope of the standard should be expanded, the triggers for coverage expanded to provide for action before injuries occur, and the provisions on training and medical management strengthened to promote early reporting of injuries and hazards and full worker participation in the ergonomics program.

It is beyond dispute that the proposed ergonomics standard, which is designed to address hazards that cause MDS, is a standard dealing with a "harmful physical agent" as that term has consistently been defined by OSHA with approval of the courts. Thus, as a 6(b)(5) standard, OSHA must promulgate the standard which most adequately assures that no employee will suffer material impairment of health or functional capacity and meet the other legal tests applicable to 6(b)(5) standards.

OSHA notes in the Preamble to the proposed rule, at pages 64 FR 66056-57, that Congress intended section 6(b)(5) and its higher threshold of protection to apply to "latent" hazards such as M.D. hazards. As the U.S. Court of Appeals for the D.C. Circuit recognized in UAW v. OSHA, 938 F.2d 1310, 1313 (D.C. Cir. 1991), "OSHA interprets section 6(b)(5) as applicable only to 'health' standards. It views these as coextensive with standards governing latent hazards . . ., and contrasts them with 'safety' standards, . . . which address hazards that cause immediately visible physical harm." MSDs stem from just such a "latent" hazard, in that the injury generally is not immediately obvious and develops over time, i.e., after repetitive exposures to the same work activity. Similarly, noise is a "harmful physical agent" that poses a latent hazard, because hearing loss develops over time. OSHA and the reviewing court agreed that Section 6(b)(5) governs noise regulations. Forging Industry Ass'n v. Secretary of Labor, 773 F.2d 1436, 1444 (4th Cir. 1985) (en banc).

OSHA has long recognized the sorts of hazards associated with MSDs as "harmful physical agents," confirming the appropriateness of regulating ergonomics under section 6(b)(5). In its regulations governing access to employee exposure and medical records, the agency defined "harmful physical agent" to include "physical stress (noise, heat, cold, vibration, repetitive motion.) 29 C.F.R. 1910.1020(c)(13). Similarly, MSDs other than back injuries are recorded as illnesses on the OSHA 200 log (Meatpacking Guidelines, 1993). OSHA's Meatpacking Guidelines reinforce this point stating "[m]ost conditions classified as [MSDs] will be recorded on

the OSHA-200 form as an occupational illness under the '7f' column, which are 'disorders associated with repeated trauma.'" Meatpacking Guidelines, page 14. (The guidelines further explain that "[t]o keep recordkeeping determinations as simple and equitable as possible, back cases are classified as injuries even though some back conditions may be triggered by an instantaneous event and others develop as a result of repeated trauma." Id.)

Thus, the agency is correct to treat the ergonomics standard as a standard addressing a "harmful physical agent" which is governed by Section 6(b)(5). This is consistent with the legislative history, case law, and OSHA's longstanding treatment of MSDs and hazards leading to MSDs. As such, the standard must meet the test of reducing MSD hazards and protecting workers to the extent economically and technologically feasible.

In order for OSHA's ergonomics standard to be sufficiently protective and to meet the legal tests of Section 6(b)(5), we believe certain fundamental principles apply. The standard must:

1. Be preventive and protective and reduce worker exposure to MSD hazards.

2. Provide for early detection of MSDs and early intervention.

3. Encourage reporting and participation by workers and their representatives.

4. Be as protective as, and consistent with, existing effective employer ergonomic programs, OSHA 5(a)(1) settlement agreements on ergonomic hazards, and OSHA and NIOSH recommended practice.

5. Be consistent with the measures in OSHA's other 6(b)(5) standards such as those on lead and formaldehyde and those which follow a programmatic approach, such as process safety management.

Using these benchmarks, the AFL-CIO has reviewed the proposed standard and developed detailed comments on the specific provisions of the rule.

What follows is a discussion of each section of the proposed rule, in the order the sections appear in the proposed standard, along with our recommendations for clarification or improvement.

B. Coverage (Sections 1910.901, 1910.904)

The AFL-CIO supports the coverage of general industry. OSHA must either cover excluded sectors in the final rule or issue a definitive timetable for covering these workers when the final standard is promulgated.

OSHA has proposed to limit the scope of its ergonomics standard to general industry and to exclude workers in the construction, maritime and agriculture industries. While the AFL-CIO understands that tackling the problem of workplace ergonomic hazards is a major undertaking, we are deeply concerned that the agency has excluded workers outside of general industry from the protections of this standard.

Without question, ergonomic hazards are a significant problem for workers in construction, maritime and agriculture. According to the BLS survey, in 1997 there were 58,015 reported cases of lost-time injuries resulting from overexertion and repetitive motion in these sectors. These types of injuries accounted for 25 percent of all reported lost work-time injuries in construction, 22 percent of reported lost time injuries in maritime (SIC Codes 44 and 373), and 19 percent of reported lost work-time injuries in agriculture.

At the same time all of these industries reported injury and lost-time injury rates well above the national average. Thus, workers in these sectors are at high risk of injury, including injury as a result of exposure to ergonomic hazards.

OSHA has stated that it is focusing its initial phase of the ergonomics rule on those industries and jobs where workers are exposed to hazards and there are demonstrated solutions to control these hazards. But OSHA's proposed standard does not mandate specific control measures, it mandates a programmatic approach to identifying and controlling hazards that is generally applicable to employers across all economic sectors. Further evidence of the feasibility of such an approach is the fact that the Cal/OSHA ergonomics standard promulgated in 1997 and the ergonomic standards proposed by the states of Washington and North Carolina cover all sectors of the economy (State of California, 1997; State of Washington, 1999; State of North Carolina, 1999).

OSHA's standard setting history during the past 30 years raises serious doubt that the workers excluded from this standard will ever have legal protection from MSD hazards. OSHA's track record of expanding standards to groups of workers excluded from promulgated standards is dismal. For example, 20 years after the promulgation of OSHA's Hearing Conservation Standard, construction workers still are not covered. Thirteen years after the promulgation of the final Hazard Communication Standard, OSHA and EPA still have not reached agreement for protection for agriculture workers. Seven years after the promulgation of the confined space entry standard, promises to extend these protections to construction workers have not been translated into action.

In fact, the only standards that have been expanded beyond their original scope of coverage — Hazard Communication and Lead — were as a result of a court decision and order (hazard communication) (United Steelworkers v. Auchter, 763 F. 2d (3rd Cir. 1985) and USWA v. Pendergrass, 819 F. 2nd 1263 (3rd Cir. 1987)) or legislative mandate by Congress (lead) (Title X, Resident and Lead-Based Paint Hazard Reduction Act of 1992).

The AFL-CIO believes that the agency should act now, and in consultation with the Construction Advisory Committee extend the scope of coverage to the construction industry or develop a separate standard for this industry.

It is our understanding that in the maritime industry, there is currently a study on ergonomic hazards and effective control measures being conducted by NIOSH in conjunction with management and labor. We urge OSHA to work expeditiously with these parties and with the Maritime Advisory Committee on Safety and Health (MACOSH) to construct a rule that protects workers in this sector, and to issue a proposed standard as quickly as possible. Finally, workers in agriculture should be covered by the final rule as is the case in the California, Washington and North Carolina rules.

In any event, for any workers not covered by the final ergonomics standard, we believe that the agency must develop a plan of action for providing coverage to these workers, and publish a timetable for action along with the final standard.

C. Basic Elements of an Ergonomics Program (Section 1910.905)

All of the basic elements in the proposed rule - Management Leadership and Employee Participation, Hazard Identification and Reporting, Job Hazard Analysis and Control, Training, MSD Management and Evaluation -- are important and necessary for an effective ergonomics program.

As stated earlier, the AFL-CIO believes that the proposed rule includes the key elements of a good ergonomics program — Management Leadership and Employee Participation, Hazard Identification and Reporting, Job Hazard Analysis and Control, Training, MSD Management and Program Evaluation. These are the elements set forth in OSHA's Ergonomics Program Management Guidelines for Meatpacking Plants (Ex. 26-3) and NIOSH's Elements of Ergonomics Programs (Ex. 26-2). They are also the core elements that are included in the ergonomics programs implemented by many employers. A 1997 GAO Study on Worker Protection: Private Sector Ergonomics Programs Yield Positive Results (Ex. 26-5) also provides evidence to support the elements of the proposed standard:

"Experts, available literature and officials at our case study facilities generally agreed that, to be effective, an ergonomics program should include a core set of elements to ensure management commitment, employee involvement, identification of problem jobs, development of controls for problem jobs, training and education for employees and appropriate medical management." (Ex. 26-5).

Other evidence that supports including these general core elements in a programmatic standard includes: ANSI's ASC Z-365 draft standard (Ex. 26-1264), the Department of Defense's ergonomics program requirement (Department of Defense, 1998), the U.S. Army Corps of Engineers ergonomics standard (Schneider, 1997), the State of Washington's ergonomics program guideline (State of Washington, 1994), and the recommendations of ergonomics researchers (Armstrong, 1996) and employers (Mansfield and Armstrong, 1997; Lutz and Hansford, 1987; Dow Chemical Company, 1992). In addition, the 1989 OSHA voluntary guidelines for safety and health program management and a number of the OSHA corporate-wide settlement agreements pertaining to ergonomic hazards incorporate these essential core elements as well (ConAgra Poultry Company, 1992; J.C. Penney Company, 1992; Cargill, Inc. 1991; Delta Catfish Processors, Inc. 1991; General Motors Corporation, 1991; Ford Electronics and Refrigeration Corp., 1990).

Clearly, there will be a difference in the way the basic elements of an ergonomics program are implemented in different workplaces depending upon the nature, extent and severity of the hazards. We believe that the standard is sufficiently flexible to allow for such differences, particularly since it is a job-based rather than a workplace-based rule. However, in our view, except in those cases where there are isolated problems which may be dealt with immediately by a "quick fix," the basic elements of the rule are appropriate and should be required for all employers subject to the standard.

D. Triggers For Action (Sections 1910.901, 1910.902, 1910.906, 1910.907)

The standard should be preventive, and require action not only after workers are injured. The triggers should be expanded to include, in addition to recordable MSDs, persistent symptoms and signs and information/ knowledge on MSD hazards. These triggers should lead to a preliminary evaluation of the job with further action required if exposures to risk factors are identified. The definition of "recordable" MSD needs to be modified to include MSDs that are classified as injuries in addition to MSDs that are classified as illnesses.

The proposed standard is a job-based standard that requires action to reduce exposures to MSD hazards after an injury or illness has occurred. There is no requirement for employers to take action to address exposure to recognized hazards that are known to cause or likely to cause MSDs under the standard as proposed. We believe that the requirements in the proposed standard are underinclusive, and that the final rule should contain broader triggers, as discussed more fully below.

1. OSHA'S Proposed Injury-Based Triggers

The proposed standard has two sets of criteria for action — one set for manual handling jobs and production jobs in manufacturing, and a second set of criteria for other jobs in general industry.

For manual handling and manufacturing production jobs the proposed standard contains a baseline obligation to implement two program elements — Management Leadership and Employee Participation and Hazard Information and Reporting — even if no covered MSD has occurred. In these high risk jobs, the other program elements are initiated after a covered MSD occurs. For production and manual handling jobs, a covered MSD is defined as: (1) a recordable MSD case that occurs in a job that meets certain screening criteria, or (2) a case where persistent symptoms are reported and the employer has knowledge that MSD hazards exist in the job, and the job meets the screening criteria. The screening criteria that must be met are: (1) the physical work activities and conditions in the job must be reasonably likely to cause or to contribute to the type of MSD (or symptoms) reported, and, (2) the activities and conditions must be a core element of the job and/or make up a significant amount of the employee's worktime.

In other words, in manual handling and production jobs, action is triggered when there is a recordable MSD case and exposure to ergonomic risk factors, or when there are reported persistent symptoms and employer knowledge of a hazard and exposure to ergonomic risk factors.

For all other jobs in general industry, there are no baseline obligations. Action is triggered only after a covered MSD occurs. For these jobs, a covered MSD, however, is limited to recordable MSD cases in jobs that meet the two screening criteria described above. Reports of persistent symptoms or employer knowledge of hazards do not trigger any obligations under the rule to protect workers in these jobs.

The proposed rule's definition in Section 1910.945 for what constitutes a recordable MSD under the recordkeeping requirements (29 CFR 1904) is incomplete. The definition is limited to MSDs that are classified as illnesses. The MSDs that are classified as injuries (e.g., back injuries) — which represent the majority of recordable MSDs — are not included. Section 1910.945 must be changed to cover MSD injuries that involve medical treatment, loss of consciousness, restriction of work or motion, or to transfer to another job.

2. Triggers for Action Must Be Expanded for the Ergonomics Standard to be a Proactive, Preventive, and Protective Rule

This injury/illness-based trigger in the proposed rule represents a major departure from all other OSHA 6(b)(5) standards, such as lead, cotton dust, asbestos, benzene and hearing conservation which are triggered by exposure to hazards. These comprehensive health standards require an initial determination to be made about employee exposure. If exposures to these

hazards are found to exceed an action level, certain elements of the standards, such as periodic exposure monitoring and medical surveillance, are required. If the permissible exposure limit is exceeded, control measures must be put in place.

While the AFL-CIO supports the requirement for employers to take action to respond to a recordable MSD, the triggers in the ergonomics standard need to be modified and expanded to prevent MSDs and to be consistent with other 6(b)(5) standards. Specifically, we propose that the triggers be expanded so that obligations are triggered by: (1) a recordable MSD case (as already proposed by OSHA, but without the "screening criteria" as defined by OSHA); (2) persistent symptoms, such as numbness and pain or objective signs of an MSD; and, (3) information/knowledge of MSD hazards. These three triggers should apply to all jobs, not just to manual handling and production jobs. A flow chart setting forth these "triggers" and an employer's resulting obligations is attached in Appendix E.

The occurrence or presence of any one of these should "trigger" a requirement for the employer to conduct a preliminary evaluation of the job to determine if the screening criteria are met (i.e., there is exposure to ergonomic risk factors). These screening criteria are the same as those in OSHA's proposed standard for determining whether an MSD is a "covered MSD." However, we recommend that the agency de-link the preliminary exposure evaluation from the question of whether a "covered" MSD has occurred and to include a preliminary exposure evaluation as a separate step in the ergonomics process.

If the preliminary evaluation shows that the screening criteria are not met, no further action by the employer would be required. However, if this preliminary evaluation shows that the screening criteria of the rule are met, the provisions of the standard for job hazard analysis, medical management, training and recordkeeping would trigger. For non-manual handling and non-production jobs, requirements for management leadership and employee participation and hazard information and reporting would also be triggered. If the job analysis identifies MSD hazards, the requirement for control measures would then be triggered, along with job-specific training.

This recommended approach considers the same factors as the OSHA proposed standard, but is structured and sequenced so the ergonomics standard will function more like OSHA's other 6(b)(5) standards. It would require an initial determination when any of three triggers is present, and include an action level (i.e., screening criteria) which would trigger certain elements of the standard, including a more detailed exposure assessment (i.e., job hazard analysis). Control requirements would trigger when exposure is determined to pose an ergonomic hazard. Triggering basic obligations such as monitoring and initial training, based on the likelihood of exposure to hazards, with more comprehensive requirements to implement controls put in place when hazards are found, is consistent with OSHA's general approach to section 6(b)(5) standards and is supported by ample legal authority. Cf. National Cottonseed Prod. Assn. V. Brock, 825 F. 2d 482 (D.C. Cir. 1987).

In addition, this approach is consistent with the process set forth in NIOSH's Essential Elements of Ergonomics Programs (Ex. 26-2), OSHA's Meatpacking Guidelines (Ex. 26-3) and the ergonomic programs implemented by many employers.(Ex. 26-5).

The AFL-CIO believes that the expansion of triggers to include persistent symptoms and objective signs and recognized hazards is necessary for the standard to be preventive and protective. Symptoms of MSDs, such as numbness, pain, cramping, and stiffness are all important indicators that a worker may be developing or may have an MSD. The agency, correctly in our view, places considerable emphasis on the recognition of symptoms and signs of MSDs by workers and their employers for the purpose of detecting problems early and initiating interventions before the condition of a worker becomes more severe. Many sources of guidance on establishing effective ergonomics programs also place significant emphasis on the importance and value of identifying symptoms of MSDs and intervening early where those symptoms are the result of exposures to MSD hazards and risk factors. This guidance includes NIOSH (Ex. 26-2), GAO (Ex. 26-5), ANSI ASC Z-365 (Ex. 26-1264), State of Washington (1994), and OSHA's red meat guidelines (Ex. 26-3) and corporate-wide ergonomics settlement agreements (Ex. 26-921), among others.

Studies in the rulemaking docket confirm that early reporting and detection are important for improving the health outcomes of injured workers. Oxenburgh (Ex. 26-1405, 26-1367) examined two groups of VDU operators, and compared one group which did not report symptoms early or receive medical management with another group of operators where early reporting of symptoms was encouraged and medical management was provided. Compared to the group which did not report symptoms or receive medical management, the group reporting symptoms had fewer mean days absent from work (3.4 days per person vs. 33.9 days per person), fewer mean days working alternative work (31.5 days per person vs. 91.0 days per person), and a greater proportion of operators who fully recovered from their injury (63 percent fully recovered in three months vs. 40 percent fully recovered by 15 months). The study further found that early reporting (within three weeks of first pains being noticed) was "optimum" for recovery.

Expanding the triggers in the rule to require employers to respond to persistent symptoms and objective signs will allow employers to identify MSD hazards and reduce exposures before injuries become serious or disabling. This early intervention will not only provide greater protection to workers, but will result in cost savings to employers by reducing the high number of lost workdays, medical costs and productivity losses that are associated with the more serious and disabling MSDs.

To be truly preventive, the standard must also require action to respond to recognized hazards that are causing or likely to cause musculoskeletal disorders. Therefore, we recommend that the agency include a third criteria — information/knowledge on MSD hazards — that would trigger a preliminary evaluation of the job. The types of information on MSD hazards that should constitute knowledge and require action include peer reviewed scientific literature and

reports, consultant's findings and recommendations, insurance company reports, and manufacturers' or vendors' warnings and recommendations.

This "trigger" is essentially a restatement of an employer's general duty obligation to protect workers from recognized hazards. It would make the ergonomics standard more consistent with other OSHA 6(b)(5) standards by requiring preventive action in response to exposure to hazards, not just after symptoms or injuries occur. If an employer has knowledge of an MSD hazard, and workers are exposed to this hazard, as determined by a preliminary exposure evaluation, the standard's obligations should be triggerd.

3. Screening Criteria for Preliminary Evaluation of MSD Hazards (Section 1910.902)

As discussed above, the AFL-CIO believes that any of our proposed "triggers" (MSDs, persistent symptoms or objective signs and employer knowledge of a recognized hazard) would require an employer to conduct a preliminary evaluation to determine if the screening criteria are met. Various tools are available to help employers conduct this evaluation, such as the General Ergonomics Risk Analysis Checklist and the Ergonomic Hazard Identification Checklist in Trays 5-A and 5-B, respectively, of NIOSH's "Elements of Ergonomics Programs" (Ex. 26-2).

The AFL-CIO believes that the “Caution Zone Job” definitions proposed by the state of Washington in its proposed ergonomics standard are a particularly useful tool to help employers determine if the screening criteria are met. These “Caution Zone Job” definitions outline risk factors and exposure durations which represent a potential risk (State of Washington, 1999). They are based on a number of scientific studies that show a dose-response relationship between physical risk factors and MSDs, including high hand force; awkward postures; highly repetitive motion; heavy frequent or awkward lifting; repeated impact; and moderate to high vibration (State of Washington Supplement to CR-102 Submission, 1999). The state of Washington’s evidence in support of this dose-response relationship includes numerous exhibits in the OSHA docket (e.g., Ex. 26-33, 26-38, 26-251, 26-1008, 26-39, 26-1, 26-1404 26-34, 26-53, 26-624, 26-1421 and 26-102) and other published studies as well (Viikari-Juntura and Silverstein, 1999; Frost and Anderson, 1999).

The “Caution Zone Job” definitions would provide employers an easy to understand, straightforward way to determine whether or not the screening criteria of the proposed standard are met, and whether or not further action is required. We recommend that the final standard permit employers to rely upon the “caution zone job” definitions as one way to assess OSHA’s screening criteria, and that OSHA include the Washington State “Caution Zone Job” list as a non-mandatory appendix in the final standard.

E. Baseline Obligations in Manufacturing and Manual Handling (Section 1910.906)

Baseline obligations for Management Leadership and Employee Participation and Hazard Information and Reporting are appropriate for manufacturing and manual handling jobs which have high rates of MSDs. These obligations should be expanded in to include a review of injury and illness records for the preceding two years.

The proposed standard requires that employers with production jobs in manufacturing and manual handling jobs implement the Management Leadership and Employee Participation and Hazard Information and Reporting provisions even where no musculoskeletal disorders have occurred. The baseline obligations are intended to provide at-risk employees important information about MSD hazards, signs and symptoms, and to establish a system for employees to report MSDs without fear of reprisal.

Given the high rate of MSDs reported in these jobs, it is certainly appropriate for OSHA to impose these baseline obligations even in the absence of MSDs in a particular workplace. These provisions are particularly important since there is no requirement for these employers to conduct any preliminary evaluation of jobs to determine if workers are exposed to MSD hazards. Such an initial determination is required by most OSHA 6(b)(5) standards for toxic substances and harmful physical agents such as lead (1910.1025), asbestos (1910.1001) and hearing conservation (1910.95). For these hazards the presence of the toxic substance and hazard and potential for exposure triggers the requirement for a initial exposure assessment as well as the training requirements for these rules.

In our view, the baseline obligations for manufacturing and manual handling jobs need to be expanded to include a requirement to review injury and illness logs and records and workers' compensation claims for the preceding two years. This information is critical to identifying problem jobs that should be included in the employer's ergonomic program. The OSHA meatpacking guidelines (Ex. 26-3), and NIOSH's Elements of Ergonomic Programs (Ex. 26-2) both recommend that these records be reviewed to determine if there are problem jobs. Many employer programs include such a review in their programs (Cohen, 1997; Jones, 1997; Mansfield and Armstrong, 1997; Fernberg, 1997; Dow Chemical Company, 1992; UAW-GM Ergonomics Process Planning Guide, 1990).

Manufacturing and manual handling are known to be high risk operations for MSDs. Individual employers should be required to use the information on MSD development in these jobs during the past two years to identify and control MSD hazards and not wait for additional injuries to occur. This information should also trigger the standard's other requirements, including job analysis and control, medical management and training.

F. **Treatment of Existing Ergonomics Programs (Section 1910.908)**

Employers with existing programs should be permitted to continue with these programs if they are comprehensive, provide workers and their representatives full information and rights of participation and are effectively reducing MSDs and exposures to hazards. However, the basic obligation and the evaluation provisions of the standard must be expanded and strengthened to ensure that existing programs "grandfathered" by the standard are protective and effective.

The proposed standard includes provisions to recognize employers' existing ergonomics programs. Under the proposal, existing programs that meet the basic obligation section of the program elements and recordkeeping and control requirements are deemed to be in compliance.

The AFL-CIO believes that employers with existing programs should be permitted to continue with these programs if they are comprehensive, provide workers and their representatives full information and rights of participation, and are effectively reducing MSDs and exposure to hazards. However, as proposed, the "grandfather" provisions are deficient in a number of respects and will permit employers to continue programs that do not provide adequate protection.

First, the basic obligation requirements which all programs must meet, exclude a number of elements that in our view are essential for an effective program. For example:

- The basic obligation section for Hazard Information and Reporting (1910.914) does not inlcude any requirement to provide employees information about MSD hazards.

- The basic obligation on training (1910.923) excludes any requirement for training supervisors or individuals responsible for the ergonomics program, thus permitting programs to be "grandfathered" even if persons responsible for the program do not have the necessary training. The basic obligation for training also fails to provide for job specific training on MSD hazards and control measures.

- The basic obligation for Medical Management (1910.929) does not require that medical evaluations be conducted by a health care provider.

- The basic obligation for Program Evaluation (1910.936) does not require consultation with employees in problem jobs or their designated representatives to determine their views on the effectiveness of the program.

The basic obligation requirements of the rule should be expanded to provide for these elements and perhaps additional elements, if existing programs are going to be "grandfathered" under the standard.

Section 1910.908 of the proposal only requires that an employer evaluate the program and controls before the effective date, and that the evaluation indicate that the program elements are functioning properly and that the employer is in compliance with the control requirements in Section 1910.921. Section 1910.936, the basic obligation for program evaluation, requires that employers evaluate their ergonomics program periodically, and at least every three years, to ensure that it is in compliance with this standard.

Neither of these provisions provides clear criteria for what constitutes a properly functioning ergonomics program or for what constitutes an effective program. Consequently, under the proposed rule, programs may be grandfathered without any solid demonstration that they are effective.

The AFL-CIO believes that OSHA should develop and publish checklists and evaluation tools to assist employers with the evaluation of their programs. Employers who want to take advantage of the "grandfather" provisions should be required to use this checklist or some other equivalent objective set of criteria to demonstrate that their program is effectively reducing exposures to ergonomic risk factors, reducing the incidence and severity of musculoskeletal disorders, and complies with the standard's basic obligations.

Some in the employer community have argued for a "grandfather" clause that would deem any ergonomics program that is reducing or eliminating musculoskeletal disorders "effective" and in compliance with the standard, even if it does not include all the core elements. The AFL-CIO opposes such an approach. As stated above, the elements that OSHA has included in the proposed standard are widely recognized as the basic elements of an effective ergonomics program. None of these elements is extraneous or unnecessary.

Employers who have implemented ergonomics programs or taken steps to control ergonomic hazards should be given credit for those activities. For example, employers should not have to repeat training or job hazard analyses that have already been conducted, and that are in conformance with the standard. However, absent a showing that these initiatives meet an expanded set of basic obligations and are demonstrated to be effective, they should not be deemed to be in compliance with the rule.

G. "Quick Fix" Provision for Problem Jobs (Sections 1910.909, 1910.910)

While a quick fix maybe appropriate in certain circumstances, the standard should better differentiate between workplaces where there are isolated problems where a quick fix may be appropriate and high risk workplaces where a full ergonomics program should be required.

Section 1910.909 allows employers to do a "quick fix" of a problem job (i.e., one with exposure to MSD hazards) to eliminate MSD hazards, instead of implementing a full ergonomics program. The quick fix must be put in within 90 days after the identification of a covered MSD, and checked after 30 days to determine if the hazard is eliminated. The employer must also provide medical management, consult with employees and provide hazard information to employees.

The AFL-CIO is not opposed to allowing a "quick fix" of problem jobs. However, we believe that the "quick fix" should better differentiate between workplaces where there are isolated problems and those workplaces where there are numerous jobs with exposure to MSD hazards and a large number of workers at risk.

In our view, the quick fix provisions proposed by OSHA are more properly suited to those workplaces where the number of jobs with MSD hazards is limited and where there are few MSDs. In those situations, focused efforts to identify and correct hazards quickly may be the best solution, and a full ergonomics program may not be needed. In those instances, however, we believe that employers should still be required to conduct not only hazard awareness training as proposed, but also training on job specific hazards and controls so that employees know how to avoid exposures and problems in the future.

The AFL-CIO does not believe, however, that the quick fix provisions as proposed are appropriate for workplaces where there are numerous jobs with MSD hazards, such as meatpacking, auto assembly, nursing homes, etc. For these workplaces, a systematic, programmatic approach to assuring employer commitment and employee participation, identifying and correctimg hazards, training workers, providing medical management and evaluation, is needed. As proposed, however, the standard would allow employers with widespread problems to institute a series of a "quick fixes" instead of a full program.

For these higher risk workplaces, the AFL-CIO believes that the "quick fix" provisions should operate in the context of an overall program and not be a substitute for the program. For these workplaces, where employers have identified control measures and want to move directly to control and eliminate hazards, the standard could permit employers to bypass the requirement

for a full job hazard analysis. However, these employers should still be required to comply with the other elements of the standard.

H. Management Leadership and Employee Participation (Sections 1910.912, 1910.913)

The management leadership and employee participation provisions are prerequisites for an effective ergonomics program and do not violate Section 8(a)(2) of the National Labor Relations Act. The standard should make clear that employees and their representatives are full participants in all aspects of the ergonomics program. The prohibition on employer policies or programs that discourage participation or reporting of injuries is necessary to eliminate barriers and disincentives to full employee participation.

1. Management Leadership and Employee Participation are Essential to an Effective Ergonomics Program

The AFL-CIO supports the inclusion of the management leadership and employee participation provisions as one of the basic elements of the ergonomics program standard. As OSHA has pointed out in the preamble management leadership and employee participation are well recognized as integral components of an effective ergonomics program (64 FR 65793-95). OSHA's Meatpacking Guidelines and NIOSH's Elements of Ergonomics Programs all support the inclusion of these provisions in ergonomics program (Ex. 26-3, 26-2).

Management leadership and employee participation are core elements of many employers' ergonomic programs (Ex. 26-3; 26-1264; Jones, 1997; Cohen, 1997; Mansfield and Armstrong, 1997; Dow Chemical Company, 1992). Active and informed employee participation in the ergonomics program is particularly important for an effective program. Employees have the greatest knowledge about their jobs, the risk factors that are causing problems and possible means to change the job so exposures and problems are reduced or eliminated.

OSHA's proposal to trigger action based on MSDs makes worker participation even more critical. Under the standard as proposed, absent employee reports of MSDs and potential problems, preventive action by employers will not occur.

2. Employees and Their Representatives Should Be Involved in the Ergonomics Program

The proposed standard provides for employee participation in a number of ways. The proposed standard requires employers to provide employees and their designated representatives with (a) a way to report MSD signs and symptoms; (b) prompt responses to their reports; (c) access to the standard and to information about the ergonomics program; and (d) ways to be involved in developing, implementing and evaluating each element of the ergonomics program (1910.913). When analyzing problem jobs, employers are required to consult with employees about physical difficulties presented by the job (1910.918(b)). Employers are further required to ask employees for their recommendations about ways to eliminate or reduce MSD hazards from problem jobs (1910.919(a)). The proposed standard further requires employers to consult with employees in problem jobs when evaluating the effectiveness of their ergonomics programs (1910.937(a)).

While we support the inclusion of each of these employee participation components, we believe the standard should be clarified to provide that employees and their designated representatives have each of the enumerated rights. Thus, for example, section 1910.918(b) should provide that employees and their designated representatives should be consulted about difficulties presented by problem jobs. Similarly, section 1910.919(a) should require employers to ask both employees and their designated representatives for their recommendations about ways to eliminate or reduce MSD hazards. Clarifying the standard in this manner will make the ergonomics standard more consistent with the rights of employees and their representatives under other OSHA standards. For example, the Process Safety Management Standard requires employers to consult with both employees and their representatives on the conduct and development of process hazard analyses and other aspects of the employer's program (29 CFR 1910.119(c)).

We further recommend that section 1910.918 be clarified to ensure that workers and their representatives are permitted to observe job hazard analyses. This is consistent with other OSHA health standards, which permit workers and their representatives to observe monitoring and section 8(b)(3) of the Act which requires that standards provide employees or their representatives an opportunity to observe monitoring or measuring of hazards.

3. Employee Participation Can Be Accomplished Consistent with the National Labor Relations Act

While the standard appropriately requires employers to involve employees in all aspects of their ergonomics programs, the standard does not dictate how this participation is to occur. Rather, the specific means of employee participation will vary from workplace to workplace depending on what employers, employees, and employees' representatives believe will be most effective and appropriate.

Contrary to the claims of some employer opponents of OSHA's ergonomics proposal, the proposed employee participation provisions of the standard can unquestionably be satisfied without violating Section 8(a)(2) of the National Labor Relations Act. Section 8(a)(2) makes it unlawful for an employer to "dominate or interfere with the formation or administration of any labor organization or contribute financial or other support to it." 29 U.S.C. 158(a)(2). A labor organization is an entity "in which employees participate and which exists for the purpose, in whole or in part, of dealing with employers concerning grievances, labor disputes, wages, rates of pay, hours of employment, or conditions of work." 29 U.S.C. 152(5). Thus, in order to violate Section 8(a)(2), three conditions must be met: (1) there must be a "labor organization" as that term has been developed under NLRB law; (2) the labor organization must "deal with" the employer over wages, hours, or working conditions; and (3) the employer must dominate or interfere in the formation or administration of the labor organization, or lend it unlawful support or assistance. All three of these elements must be present, and if one is not, there is no Section 8(a)(2) issue.

Decisions by the National Labor Relations Board and the courts have made clear that myriad forms of employee participation are permissible in union and non-union workplaces alike without running afoul of Section 8(a)(2), either because the form of participation does not involve a labor organization, the organization does not "deal with" the employer, or because the employer's involvement with the form of participation does not rise to the level of domination, interference, or assistance. For example, an employer may set up an employee participation structure that involves all employees, or where employees do not serve in a representative capacity. Such approaches are fully consistent both with the proposed ergonomics standard and Section 8(a)(2).

This is not to suggest that any and every employee participation scheme is insulated from Section 8(a)(2). It is conceivable that an employer could establish an ergonomics program in such a way to create, dominate, or unlawfully assist a statutory labor organization. Our point is that the employee participation provisions of the proposed standard are flexible, allow for many forms of employee participation, and in no way impose obligations that require employers to violate the National Labor Relations Act.

4. A Prohibition on Policies that Discourage Employee Participation is an Important and Necessary Element of the Standard

The issue of whether mandatory employee participation in OSHA standards violates Section 8(a)(2) was considered at a May 1999 oversight hearing of the House of Representatives' Committee on Education and the Workforce. The issue at that hearing was OSHA's draft safety and health program standard. We have submitted the testimony of Solicitor of Labor Henry Solano (Solano, 1999), and UFCW Assistant General Counsel Peter Ford (Ford, 1999) on this subject for OSHA's consideration, because the cases cited and general analysis presented are applicable to the issue of employee involvement in ergonomics.

In sum, we strongly support the employee participation provisions of OSHA's proposed standard. We urge OSHA to clarify the provisions in accordance with our recommendations, and to reject any claim that the employee participation components set up a Catch-22 for employers with respect to Section 8(a)(2) of the National Labor Relations Act.

The AFL-CIO welcomes and supports the standard's prohibition on employer policies or practices that discourage employees from participating in the ergonomics program or from reporting signs or symptoms. There is widespread evidence demonstrating vast under reporting of MSDs (Ex. 2-2, 26-1255, 26-1212, 26-1186, 26-1257, 26-28, 26-1258, 26-920, 26-922, 26-1261, 26-1259, and 26-1260). At the same time, we see increasing actions by employers to implement incentive programs, such as cash or prize awards for an "injury free" workplace, discipline programs and drug testing for reported injuries which discourage workers from reporting injuries. The increase in these kinds of programs has come as some employers are focusing more on reducing reported injury rates too often without corresponding efforts to reduce job hazards. OSHA's singular focus on injury rates in targeting inspections and measuring performance has in our view encouraged such employer programs and practices. An ergonomics standard which is based primarily on employee reports of injuries will lead to similar practices. An explicit prohibition in the standard is necessary to make clear that such practices are a violation of the standard. Absent such a prohibition, employees will continue to be subject to discipline, drug testing and other harassment simply for reporting injuries, thereby undermining the effective implementation of protective measures.

The prohibition on employer policies discouraging reporting should be expanded to apply not only to reports of MSD signs and symptoms, but to reports of MSDs and reports of MSD hazards as well.

I. Hazard Information and Reporting (Sections 1910.914-916)

The Hazard Information and Reporting provisions are an essential element of an ergonomics program. The standard must be expanded to provide ways for employees to report MSD hazards, not only signs and symptoms. The standard should require earlier training on how to recognize and report MSD hazards, the requirements for medical management and work restriction protection and the prohibition against discouraging employee reports.

The provisions on Hazard Information and Reporting are intended to provide employees the information they need to participate in the ergonomics program and to report problems early. These provisions are an essential element of an ergonomics program, but in our view need to be strengthened to achieve their desired goals.

Sections 1910.911, 1910.913, 1910.914, and 1910.916 require employers to set up ways for employees and their representatives to report MSD signs and symptoms. These are important provisions since they are intended to facilitate and encourage early reporting so problems can be identified before they become more serious or disabling. These provisions as proposed, however, are incomplete and need to be expanded.

First, in addition to signs and symptoms, employees and their representatives must have ways to report MSDs. Many employees who suffer from MSD signs or symptoms may go to their own doctor and receive a diagnosis of a work-related MSD. The standard needs to provide a means for this information to be reported.

Second, employees and their representatives need to have a way to report MSD hazards, and receive employer responses to these reports. The standard requires employees to be provided information about common MSD hazards and training about job specific hazards, and for employees and their representatives to be involved in job hazard analyses and control. There needs to be an established way for employees and representatives to report MSD hazards to the employer and for the employer to follow up and respond to these reports. This should be included as a required element in the reporting program.

As proposed, the standard requires employees to be provided information on common MSD hazards; signs and symptoms of MSDs and the importance of early reporting; how to report MSD signs and symptoms and a summary of the requirements of this standard. In our view, this level of information is insufficient to provide employees the knowledge they need to participate effectively and fully in the program or to fully report injuries, symptoms or hazards. At the initial stages of the program development, employees also need information and training on how to recognize and report MSD hazards, the requirements for medical management and work restriction protection (WRP) and the prohibition against discouraging employee reports.

Some of this information is covered in the training requirements of the rule (Section 1910.925), however, as written this information does not need to be provided until <u>after</u> the provisions on medical management, management leadership and employee participation and reporting are required to be put in place. The proposed compliance deadlines require that during the start-up period, training be provided within two years, and thereafter within 90 days. Provisions on medical management participation must be implemented immediately, and the provisions on management leadership with employee participation and reporting within one year initially and within 30 days thereafter.

Given the proposed sequencing of these provisions, workers will not have the knowledge they need to participate in the development and implementation of many aspects of the program.

The AFL-CIO recommends that the hazard information and training requirements be restructured to move some of the training requirements up-front. Specifically, we recommend

that the Hazard Information and Reporting section require information and hazard awareness initial training on the following:

6. Common MSD hazards;

7. The signs and symptoms of MSDs and the importance of recognizing and reporting them early;

8. How to report MSDs, signs and symptoms of MSDs, and MSD hazards and the prohibition against discouraging employee reports;

9. An explanation of this standard, including ways for employees to participate and how to get a copy of the standard;

10. An explanation of MSD management, including temporary work restrictions and work restriction protection; and

11. The principles for controlling common MSD hazards.

This modification will provide workers the information they need to identify MSD hazards and symptoms and to participate in the development of the program. Additional training on job specific hazards and controls and the specific aspects of the employer's ergonomics program, can be provided at a later time as required by Section 1910.925.

J. Job Hazard Analysis and Control Provisions (Sections 1910.917-922)

The standard should provide for the involvement of both employees and employee representatives in the job analysis and control process. The standard correctly maintains OSHA's longstanding hierarchy of control. The proposed incremental abatement process fails to provide workers adequate protection. The standard should require employers to eliminate or reduce hazards to the extent feasible, within the compliance deadlines, whether a "one-shot" or "incremental process" is used.

The proposed standard requires employers to analyze a "problem job" (i.e., one with a covered MSD) to identify ergonomic risk factors that result in MSD hazards and to either: (1) eliminate the hazards; (2) reduce the hazards to the extent feasible; or (3) materially reduce the hazards using an incremental abatement process.

1. Job Analysis (Section 1910.918)

As discussed earlier in our comments on "triggers" for action, the AFL-CIO believes that a job hazard analysis should be triggered by more than a report of a recordable MSD where employees are exposed to a hazard. The obligation to conduct a job hazard analysis should also be triggered where employees report persistent symptoms or objective signs, and where the employer has information or knowledge that exposure to hazards is likely to pose a risk to workers, and a preliminary evaluation of the job identifies exposure to ergonomic risk factors. some period of time.

The AFL-CIO believes that the provisions for job analysis set forth in Section 1910.918 are generally appropriate. The requirement to include in the analysis employees who represent the range of physical capabilities of employees in the job is important since an assessment of the hazards must include an evaluation of how the job is "fitted" to individual workers. Similarly, the requirement to involve workers in the evaluation process is critical to determine if the job poses problems. Employees understand better than anyone else how their jobs are conducted and can provide valuable information about problems and hazards in the job.

The job analysis provisions should be modified, however, to provide for the involvement of the employee's representatives in the job analysis process. In many unionized workplaces, the union representatives serve as ergonomic monitors and conduct the job hazard analysis. Even where the union representatives do not conduct the job hazard analysis, they should have the right to participate in the process, just as they have the right to observe monitoring and exposure evaluations under other OSHA standards.

The list of physical work activities and conditions set forth in subsection (c) provides employers and workers clear guidance on the kind of work activities that should be evaluated and the kind of risk factors that may be present. Subsection (d) makes clear that these risk factors must be evaluated to determine if there are hazards.

The proposed standard does not require that employers utilize any specific evaluation tool to conduct the job hazard analyses, nor does the AFL-CIO advocate that it do so. We do, however, believe that the agency should provide employers with check lists and other job hazard analysis tools as part of a non-mandatory appendix that can be used to evaluate exposures and determine if control measures have reduced exposures. Such tools include the Job Strain Index, the Liberty Mutual Manual Handling Tables, the Department of Energy Ergo EASER, the ANSI S3.34-1986 (R1997) Hand Arm Vibration Standards, the 1991 NIOSH Lifting Equation and the UAW-GM Risk Factor Checklists (State of Washington, 1999). In addition, the agency should provide extensive outreach and training for employers and workers on how to conduct job analyses.

2. Hazard Control Obligations (Sections 1910.919-922)

Sections 1910.919, 1910.920, 1910.921 and 1910.922 set forth employers' hazard control obligations under the rule. Where a problem job is identified, employers are required to ask employees in the job for control recommendations, identify and assess feasible control measures, track progress towards reducing or eliminating MSD hazards, and identify and evaluate MSD hazards when equipment or processes in problem jobs are changed, redesigned or purchased.

The AFL-CIO believes these are appropriate steps for employers to take in determining what control measures to employ in controlling MSD hazards. They are consistent with the control processes followed by many employers who have implemented successful ergonomic programs (Ex. 26-5; Jones, 1997; Cohen, 1997; Mansfield and Armstrong, 1997; Dow Chemical Co., 1992). In particular the requirement to seek input and recommendations from employees is critical to determining and identifying possible control measures. There is extensive evidence and experience demonstrating such employee involvement is an important element in an effective ergonomics program (Ex. 26-5; Jones, 1997; Cohen, 1997).

The AFL-CIO believes that the provisions for employee involvement in hazard control need to be expanded to include employee designated representatives in the hazard control process. In many unionized workplaces, employee representatives play an integral role in the job analysis and control process, providing input and recommendations on control measures and evaluating their effectiveness. Many of the OSHA settlement agreements on general duty citations for ergonomic hazards include specific provisions and requirements for the involvement of designed representatives in hazard control processes. For example, the February 1991, OSHA corporate-wide settlement agreement with General Motors (General Motors Corporation, 1991) required the establishment of an ergonomics committee of both management and union representatives responsible for implementing the ergonomics program. Similarly the ergonomics settlement agreements with Delta Catfish Processors and UFCW Local 1529 (Delta Catfish Processors, 1991), and with Cargill and the Retail, Wholesale Department Store Union and Teamsters (Cargill, Inc., 1991) required the employer to seek input on control measures from the union safety and health committees, as well as employees in problem jobs.

Section 1910.920 of the proposed rule maintains OSHA's longstanding hierarchy of controls for reducing or eliminating MSD hazards. It permits employers to use any combination of engineering, administrative and/or work practice controls, but makes clear that engineering controls are the preferred method of control. Personal protective equipment (PPE) is allowed only as supplemental means of control or where other control measures are not feasible.

It is appropriate and necessary for OSHA to impose a hierarchy of controls for ergonomic hazards. As with exposure to other toxic substances and harmful physical agents, eliminating or reducing exposure to MSD hazards such as force, repetition, awkward postures, heavy lifting and vibration is most effectively achieved through engineering or design changes (Jones, 1997; Mansfield and Armstrong, 1997; Department of Defense, 1998).

The AFL-CIO also supports OSHA's determination that back belts/braces and wrist braces/splints are not considered to be PPE for the purposes of the standard. As OSHA has pointed out in the preamble (64 FR 65829), there is no body of scientific evidence which supports that back belts or wrist splints are effective primary prevention methods. Given the widespread current use of these devices, it is important that OSHA make clear that the use of such devices is not an acceptable means of protection.

3. "Incremental Abatement" (Sections 1910.9321, 1910.922)

Under Section 1910.921 of the standard, employers have three options to control a problem job. They can: (1) implement controls that eliminate the MSD hazards in the problem job; (2) implement controls that reduce the MSD hazards to the extent feasible; or (3) implement controls that materially reduce the MSD hazards using an incremental abatement process. These options represent three different approaches to control as well as different outcomes for the level of risk reduction that is required. The first two options are similar to the control requirements of many of OSHA's other standards which require employers to institute all feasible controls to reach a permissible exposure limit (PEL), such as the standards on asbestos, lead and benzene or to abate identified hazards, such as standards on Process Safety Management or Hazardous Waste Operations.

The incremental abatement control option, set forth in Section 1910.922, is a different approach to control than that used in any other OSHA standards.

The proposed incremental abatement process requires that when a covered MSD occurs the employer must implement one or more controls in the job that materially reduce the MSD hazards. Additional feasible controls are not required to be implemented unless the injured employee's condition does not improve or another MSD occurs in the job. Thus, even in cases where the employer has identified significant exposure to risk factors in the job, and there are recognized feasible controls to reduce exposure to those risk factors, the employer is under no obligation to reduce exposures unless an injury persists or a new injury occurs.

Employers are only required to "reduce the duration, frequency and/or magnitude of exposure to one or more risk factors in a way that is reasonably anticipated to significantly reduce the likelihood that covered MSDs will occur." (Section 1910.921 note to paragraph (a)). This control endpoint fails to provide an adequate level of protection since it does not require that MSD hazards be eliminated or reduced to the extent feasible as is required by Section (6(b)(5). Also, the proposal does not define what constitutes a "significant reduction in the likelihood" of an occurrence of an MSD. Consequently, it is unclear how much reduction in exposure is required under the "incremental" process.

Moreover, under the proposal, it appears that an employer is only obligated to begin the incremental abatement process by the compliance deadline for permanent controls (three years at

start up and one year thereafter). There is no apparent deadline for completing the installation of controls to address identified risk factors and abate MSD hazards.

At the bottom, then, particularly given the absence of clear timeframes and endpoints for "incremental" abatement, OSHA's incremental abatement process does too little to abate identified hazards and protect workers. Instead it operates as a significant loophole in the rule.

The AFL-CIO believes that any incremental abatement process included in the final standard must have as its goal and endpoint the elimination of MSD hazards or the reduction of MSD hazards to the extent feasible. Employers can eliminate or reduce these hazards incrementally, focusing first on the high duration, high frequency and high intensity risk factors identified in the job analysis. Employee reports of MSDs or symptoms can and should be used to help set priorities for action and to help determine which jobs need further attention, but they should not be the endpoint for when and whether an employer has instituted sufficient controls.

The final standard must also set a compliance deadline for implementing all feasible controls through the incremental abatement process. OSHA should make clear that the same compliance deadlines for permanent controls (i.e., within three years during the startup period and within one year thereafter) apply, regardless of the abatement process an employer chooses to utilize.

K. Training (Sections 1910.923-928)

Training is an essential element of an effective ergonomics program. The standard's provisions should be restructured to provide employees, supervisors and others more information earlier so they can effectively participate in the development and implementation of all elements of the ergonomics program. The provisions on ensuring effective training should be strengthened and the frequency for training shortened.

OSHA's proposed standard requires training about MSD hazards and control measures. Training must be provided to employees, supervisors and persons involved in setting up the ergonomic program at least every three years.

The AFL-CIO strongly supports the inclusion of training provisions in the ergonomics rule. Training is an essential component of any ergonomics program. Workers must have an understanding of the nature of MSD hazards, the signs and symptoms of MSDs, how to recognize and control MSD hazards, the provisions in the ergonomics standard, and how workers can effectively participate in the ergonomics program.

Supervisors must also have the same information. As important, those responsible for setting up and managing the ergonomic program must have the knowledge they need to implement an effective program to protect workers.

There are several ways the proposed training requirements should be strengthened to ensure that workers, supervisors, and others have the necessary knowledge to participate in and implement an effective ergonomics program.

First, the basic obligation section on training (1910.923) is limited to training employees. It needs to be modified to include training of supervisors and persons responsible for setting up and managing the program. Training of these individuals is required in Section 1910.924, but it needs to be part of the basic obligation.

Second, as discussed in our comments on the Hazard Information and Reporting process, the AFL-CIO believes that training requirements need to be restructured to provide employees certain information earlier so they can effectively participate in the ergonomics program. Specifically we recommend that the Section 1910.925 requirements for training on how to recognize MSD signs and symptoms, and the training on requirements of the standard, be provided as part of hazard awareness/initial training. We also recommend that workers be provided information about MSD management, including temporary work restrictions and work restriction protections, information on the principles for controlling common MSD hazards and the prohibition against discouraging employee reports during the initial training.

The training in Section 1910.925 should focus on job specific hazards and controls, the information about the employers' ergonomics program and the workers' role in the program, and recognizing and reporting MSD signs and symptoms. This job-specific and program-specific training should include the following elements:

I. How to recognize MSD signs and symptoms;

II. How to report MSDs, MSD signs and symptoms, and hazards and the importance of early reporting;

III. MSD hazards in workers' jobs and the measures workers must follow to protect themselves from exposures to MSD hazards;

IV. Job-specific controls as they are implemented in workers' jobs;

V. The ergonomics program and workers' role in it; and

VI. Ways to be involved in developing, implementing and evaluating each element of the ergonomics program.

Just as much of the information covered by 1910.925(a) needs to be provided earlier to workers and supervisors, the training required for persons responsible for setting up the ergonomics program needs to be provided earlier as well. Under the proposed compliance dates in 1910.942 and 1910.943, training for these individuals does not need to be conducted until after many of the elements of the ergonomic programs are required to be put in place (e.g., MSD management, management leadership and employee participation, and job hazard analysis). This training needs to be done before, not after, these elements of the program are instituted.

The AFL-CIO also believes that the provisions in 1910.926 with regard to ensuring that employees understand the training, which is a requirement applicable to both hazard information and job-specific training, need to be strengthened and provide for the following:

1. All training must be provided at no cost to the employee and during working hours;

2. Training and information must be appropriate in content and vocabulary to the educational level, literacy, and language of the employee;

3. The person conducting the training must be knowledgeable in the subject matter covered by the elements in the training program;

4. An opportunity for questions and answers with the person conducting the training must be provided; and

5. The employer must determine that each employee received and understood the training required to be provided.

The above provisions for ensuring that workers understand the training they receive are fully consistent with other OSHA standards and similar to the requirements in the standards on bloodborne pathogens (1910.1030) and process safety management of highly hazardous chemicals (1910.119).

Finally, the proposed standard requires training to be provided when a problem job is identified; when an employee is assigned to a problem job; periodically as needed; and at least every three years. The AFL-CIO believes that a three-year time period between training is too long. These training requirements, unlike the training requirements in many OSHA rules, do not apply to workers potentially exposed, but only to those workers determined to be exposed to MSD hazards. Given the central role of workers in an effective ergonomics program (e.g., reporting symptoms and hazards and making recommendations about control), we believe that more regular training is warranted. We recommend that the training frequency be set at one or two years.

L. MSD Management and Work Restriction Protection (Sections 1910.929-935)

MSD management is a critically important element of the standard. To achieve the purpose of preventing impairment and disability through early detection, prompt management and timely recovery, the medical management provisions must be strengthened and apply not only to MSDs, but also to MSD signs and symptoms. The WRP provisions must be modified to provide the same full earnings protection provided by other OSHA standards. The standard must provide for a three physician/health care provider review mechanism to resolve disputes regarding medical determinations.

1. MSD Management (Sections 1910.929-932)

OSHA has included MSD management as one of the basic elements of the proposed ergonomics standard. Under the proposal, employers are required to make MSD management available promptly to workers and to provide "work restriction protection" to workers who are placed on temporary work restrictions.

The AFL-CIO supports the inclusion of MSD management and work restriction protection in the ergonomics standard. As OSHA has noted in the preamble, MSD management, often referred to as medical management, is an integral element of many employers' ergonomics programs. OSHA Meatpacking Guidelines (Ex. 26-3) and NIOSH's Elements of Ergonomics Programs (Ex. 26-2) both include provisions on medical management, as do most of the OSHA settlement agreements on ergonomics which resulted from OSHA enforcement actions (Cargill, Inc., 1991; General Motors Corporation, 1991; Delta Catfish Processors, 1991).

As OSHA has recognized in the preamble, the primary purpose of MSD management is to prevent impairment and disability through early detection, prompt management and timely recovery from MSDs (64 FR 65838). Early detection and intervention will reduce the severity of MSDs and prevent MSDs from progressing to disability or permanent damage (64 FR 65839).

As proposed, however, the MSD management provision does not achieve the goal of early detection. The MSD management provisions apply only to covered MSDs. Thus, in jobs other than manual handling and production jobs, medical management is not required until after there is a recordable case.

OSHA's recordkeeping guidelines for MSDs require that for a case to be recordable, there must be either physical findings or symptoms accompanied by treatment, lost workdays or transfer/rotation to another job (Ex. 26-3). Such determinations can only be made by a medical

evaluation. But under the rule, an evaluation is only required for a covered MSD. Thus, as structured, the rule creates a Catch-22.

To function properly and to achieve the goal of early detection, the MSD management provisions should be triggered in all jobs by reports of persistent symptoms and signs, not just recordable MSDs. Amending the triggers for the rule as proposed by the AFL-CIO would accomplish this purpose.

The proposed standard allows MSD evaluation, management and follow up to be conducted by a licensed healthcare professional whose license, registration or certification allows them to provide the MSD management required by the rule. The AFL-CIO is concerned that this provision is too broad and will permit individuals without the proper training or knowledge to conduct the evaluations and make the determinations called for in the rule.

Ideally, we would like medical evaluations to be conducted by individuals with specific training in and experience with work-related MSDs. At a minimum, however, the rule should require that evaluations be conducted by a physician, a nurse practitioner or healthcare professional operating under the supervision of a physician. As importantly, the final rule should be accompanied by a non-mandatory appendix that includes the algorithm for medical management for upper extremity disorders from the Meatpacking Guidelines (Ex. 26-3). In addition, NIOSH should take the lead in developing more extensive MSD management guidance that could be provided as part of a larger compliance assistance program.

2. Work Restriction Protection (WRP) Sections 1910.933-935)

a. WRP is an Essential Element of the Proposed Ergonomics Standard

OSHA's proposed standard requires employers to provide work restriction protection (WRP) to employees who are temporarily removed from their jobs as a result of a healthcare provider's evaluation and determination. Under the proposed rule, WRP is defined as 100 percent of after-tax earnings, full benefits and seniority in the case of transfer to another job, and 90 percent of after-tax earnings, full benefits and seniority for workers who are removed from the workplace.

The WRP provisions are an integral part of this standard and are necessary for the rule to achieve its protective goals. As OSHA recognized with the promulgation of the lead standard more than 20 years ago, protection of workers' wages and benefits enhances worker protection by removing barriers and disincentives from workers voluntarily participating in the medical surveillance/medical management aspects of OSHA rules (43 FR 52973, Nov. 21, 1978).

The inclusion of WRP is particularly important in the ergonomics standard. Unlike all other OSHA rules, as proposed, obligations under the ergonomics rule are triggered by reports from employees, not exposure to hazards. Thus, the standard will only operate effectively if

workers feel free to report MSDs, signs, symptoms and hazards and to report them early before injury has progressed to the point of disability. If workers believe that reporting an MSD or MSD signs or symptoms is likely to lead to a reduction in earnings or some other economically adverse action, there is a tremendous disincentive for workers not to report injuries and to continue working while injured. WRP helps to remove that disincentive.

Temporary removal is used not only after workers suffer an MSD, but as a means of early intervention to prevent the injury from becoming more severe or disabling. Early detection and early intervention are key to the effectiveness of the rule. The proposed rule appropriately mandates that employers follow the recommendations of the healthcare provider regarding temporary work restrictions. A rule that requires removal of workers as a protective measure must require that employers bear this cost.

b. Providing Workers Less than Full Earnings Protection is Unworkable and Undermines WRP's Effectiveness

The WRP provisions proposed in the ergonomics standard are substantially different than the MRP provisions in all other OSHA standards. Instead of mandating full earnings protection, this ergonomics proposal requires that employers maintain 100 percent of after-tax earnings for workers transferred to other jobs and 90 percent of after-tax earnings for workers who are removed from the workplace.

While at first reading this may seem like a small change, in reality it is a major change that will result in a significant loss of earnings for workers, thus undermining the agency's entire rationale for the WRP provisions.

There is a substantial differences between "earnings" and "after-tax earnings." After-tax earnings are generally described as spendable earnings or earnings after federal taxes, including Social Security (FICA) taxes, and state and local taxes are deducted. For most workers at or under the average weekly wage, such deductions would be approximately 15 to 20 percent of their wages. Thus, employers would be required to maintain approximately 80 percent of earnings for workers on restricted duty and 72 percent for workers removed from the workplace. However, unlike workers' compensation, this amount would still be subject to federal and state taxes, reducing workers' net pay by another 15 to 20 percent. As a result of the standard's requirements, workers removed from their jobs would suffer an average cut in take-home pay of between 20-28 percent (Appendix F).

Such a loss of earnings will clearly create a major disincentive for workers to report MSDs and to report them early — just the opposite of what OSHA claims to want to achieve with the WRP provisions. Indeed, it is exactly the kind of practice that OSHA has attempted to prohibit in the provisions on management leadership which prohibit practices or policies that discourage the reporting of MSD signs or symptoms.

The agency's proposal for maintenance of "after-tax earnings" is also problematic for another reason. It is unworkable. Employee's tax rates are based upon adjusted income, not their wages. Income other than wages, and deductions all play a major role in determining tax rates.

There is simply no way for an employer to know an individual employee's tax rate or to calculate an employee's after-tax earnings, unless the employee provides the employer with a copy of the employee's tax return. Clearly this is not an avenue that OSHA should pursue.

The agency has provided no justification or rationale for the change in WRP benefits to after-tax levels, or for the reduced level of payment (90 percent) for workers removed from the workplace. The change was made between the release of the draft rule in February 1999 (which required provision of full earnings like other OSHA rules), and the issuance of the proposed standard in November. It appears that the change may have been made so that WRP payments might be similar to the levels awarded under workers' compensation (64 FR 65846), and to address concerns raised by employers about potential abuse by employees of WRP benefits.

Both of these reasons are without merit.

First, WRP is not workers' compensation. WRP has a different purpose than workers' compensation. WRP is intended to encourage early reporting and participation in medical management in order to prevent injuries and illnesses from becoming more severe. Workers' compensation is designed to provide partial wage replacement and medical treatment for workers who have already suffered a job-related injury or illness. The criteria for removal under the ergonomics standard and under the medical removal protection (MRP) provisions of other OSHA rules such as lead, have no relationship to the criteria for compensation, nor do they have any bearing on whether an injury or illness is compensable. As pointed out earlier, benefit levels under workers' compensation are not taxable, while payments provided by WRP are fully taxable.

Employer concerns about employee abuse of WRP also have no merit. There is no evidence to suggest that employees will try to abuse the system. Moreover, WRP is trigged only if a healthcare provider determines that it is necessary. The rule does not provide for "WRP on demand."

There is simply no justification for OSHA to reduce payment levels to workers who must be temporarily removed from their jobs to protect them from further injury. The change to after-tax levels of earnings will result in substantial economic loss for workers, create a major disincentive for reporting and greatly undermine the effectiveness of the rule.

c. WRP is Fully Consistent with Section 4(b)(4) of the Occupational Safety and Health Act

Because the proposed WRP provision in no way "supersede[s] or in any manner affect[s] any workmen's compensation law," it does not violate section 4(b)(4) of the Act.

WRP and workers' compensation have totally different rationales and serve vastly different purposes. As OSHA explained in its Preamble to the lead standard:

> [a]rguments that [WRP] and workers' compensation are essentially one and the same flow from the observation that both programs potentially involve the payment of lost wages to workers. This is the only similarity, for [WRP] and workers' compensation were formed for different reasons and serve different ends. . . . [WRP], in stark contrast to workers' compensation law, is solely a preventive health program.. . . Payments to removed workers are not intended to be and do not operate as compensation for injury sustained, but rather are associated with and essential to the overall operation of MRP as a preventive health program.

43 Federal Register 54470-71. The same is true for the WRP provisions of the ergonomics rule.

While WRP may "affect" workers compensation in the sense that by encouraging early reporting and management of MSDs, some workers' compensation claims may be prevented, this in no way creates a conflict with Section 4(b)(4). As the D.C. Circuit observed, this "great practical effect" does not violate 4(b)(4) because it still "leaves the state [workers compensation] scheme wholly intact, as a legal matter." Steelworkers v. Marshall, 647 F.2d 1189, 1236 (D.C. Cir. 1980).

In sum, OSHA should retain and strengthen the WRP provisions of its ergonomics rule, and reject any claim that doing so violates Section 4(b)(4) of the Act.

d. The Need for Multiple Physician Review

OSHA's proposed standard also fails to provide for the three doctor reviews included in the lead standard and other rules to resolve difference in opinions about the employee's health status and appropriate work restrictions. The central role that such determinations play in triggering the requirements of the rule make the inclusion of a three physician or healthcare provider review in the ergonomics standard particularly important.

A long and unfortunate history has been documented of the problems many workers face in receiving an honest opinion from doctors and other healthcare providers who are employed or paid by employers. In the case of lead, practices by company doctors to either ignore high lead levels or to "treat" workers with damaging chelating agents were among the reasons a three-doctor review mechanism was included in that standard (43 FR 52999).

Evidence shows that workers suffering work-related MSDs also face problems receiving objective medical evaluations from healthcare providers who do not have their interests in mind. A 1999 study by Herbert et al of workers in New York state found that 79 percent of workers filing workers' compensation claims for carpal tunnel syndrome had their claims challenged (Herbert et al, 1999). It took an average 429 days to resolve these contested claims, with 96.3 percent of the workers' prevailing in their claims (Herbert et al, 1999).

OSHA's ergonomics standard can only work if there are honest medical assessments and determinations. A three physician/healthcare provider review mechanism would benefit both employees and employers. It would ensure that employees got a fair assessment of their medical condition. It would also allow employers to get a "second opinion" when presented with a diagnosis of an MSD from an employee's physician, which under OSHA's recordkeeping regulations and guidelines must be assessed by the employer to determine whether an injury or illness should be recorded on the OSHA log (OSHA Recordkeeping Guidelines).

Disputes over MSD determinations and appropriate work restrictions are certain to occur once the ergonomics standard is implemented. As proposed, the only mechanism for resolving those disputes is through an OSHA compliance inspection. It makes much more sense for differences in opinion about medical determinations to be resolved by healthcare providers through a three physician/health care provider review mechanism than by OSHA compliance officers through an OSHA inspection.

3. Effective Date for Medical Management and WRP

The proposed rule requires the medical management provisions of the rule to be implemented immediately on the standard's effective date. When an MSD is reported, medical management must be promptly provided. After the phase-in period for the standard as a whole, MSD management must be provided within five days.

While the AFL-CIO fully supports prompt evaluation and medical management for workers, we are greatly concerned that the delay in the standard's provisions for job analysis (two years initially and 60 days thereafter) and control (two years for interim controls and three years for permanent controls, initially and 90 days for interim controls and one year for permanent controls thereafter) will create a difficult and unworkable situation. Specifically, the proposed medical management provisions will require mandatory removal of a worker and WRP protection for up to a six-month period. But during this period, no control measures are required and the MSD hazards in the job may still exist. This means that the worker will have to return to a hazardous job, or depending on the medical recommendation have to be placed in a different job or be terminated if no low exposure jobs exist.

All of OSHA's other 6(b)(5) standards require some form of protection while permanent engineering controls are being put into place. Thus, workers who are temporarily removed under

those standards' medical surveillance and MRP provisions can return to jobs with some protection while permanent controls are put in place.

The final ergonomics standard needs to be modified so the time gap between the implementation of the medical management provisions, particularly the mandatory removal requirement, and the control requirements is closed. This should be accomplished by moving up the compliance date for interim control measures and requiring that WRP be provided for a period of up to six months or until interim controls have been implemented, whichever is longer.

M. Ergonomics Program Evaluation Requirements (Sections 1910.936-938)

The evaluation provisions are important to the effectiveness of the rule. The final rule must be clarified and strengthened to provide for the involvement of both employees and employee representatives and to ensure that employer programs are effectively reducing exposure to MSD hazards.

The proposed standard requires employers to evaluate their ergonomics program periodically and at least every three years to ensure that it is in compliance with the standard. Employers must consult with employees in problem jobs, evaluate the elements of the program to determine if they are functioning properly and evaluate the program to determine if it is eliminating or materially reducing MSD hazards.

There are several ways in which the evaluation provisions should be clarified and modified. First, the basic obligation section 1910.936 should require the employer to evaluate the program to determine if it is eliminating or materially reducing MSD hazards and to determine if it is in compliance with requirements of the rule.

Second, section 1910.937 should be modified to provide for consultation with the employee representative, in addition to employees in problem jobs. This modification is consistent with the requirement of section 1910.913 which requires both employees and employee representatives to be involved in all aspects of the program.

Section 1910.938 requires the employer to take action to address deficiencies in the program. To be consistent with the requirements for evaluation listed in 1910.137, we recommend that 1910.938 be amended to also require the employer to take prompt action if a determination is made that the program is not functioning properly or if it is not eliminating or materially reducing MSD hazards.

The AFL-CIO views the evaluation provisions as a key element of this standard since an evaluation is necessary to determine if exposures to MSD hazards are being reduced. Moreover, provisions for grandfathering existing programs are dependent upon a meaningful evaluation. In

order to assist employers, employees and employee representatives in conducting effective evaluations, we recommend that OSHA publish non-mandatory checklists or other evaluation instruments, either as an appendix or as part of compliance assistance materials. Such tools would help employers comply with the standard and ensure the effectiveness of their programs.

N. Recordkeeping (Sections 1910.939-940)

The recordkeeping provisions are necessary for the effective implementation of an ergonomics program. The provisions should be modified to be consistent with the retention period for the OSHA Log of Injuries and Illnesses and to explicitly provide for access by employees and employee representatives according to the terms of 1910.1020.

The proposed standard requires that employers with ten or more employees keep records on employee reports and employee responses, job hazard analyses, hazard control, quick-fix control, evaluation and MSD management. These records are necessary for the effective implementation of an ergonomics program. For example, records on the job hazard analysis are important for documenting exposure to risk factors and hazards and for determining whether control measures have reduced exposure. These and other records are necessary to conduct a meaningful evaluation of the program.

The proposed standard significantly shortens the present record's retention period prescribed by OSHA's Access to Employee Exposure and Medical Records (29 CFR 1910.1020) which currently applies to many of the records required by the ergonomics standard. Instead of the 30 years for exposure records or employment plus 30 years for medical records required by the "Access" rule, the proposed standard requires that records only be maintained for a period of three years (or employment plus three years for medical management records).

Given that MSDs do not generally have the same latency periods associated with exposures to some toxic substances, a shorter records' retention period is probably sufficient. However, the AFL-CIO recommends that the record retention period be set at five years, and for records pertaining to MSD management, the employee's employment plus five years. A five-year retention period is consistent with the retention period for the Log of Injury and Illness and related records (29 CFR 1904.6). Given the central role that recordable MSDs play in this standard, it is appropriate that records related to the ergonomics standard be maintained for a similar period as the injury and illness records for these injuries.

The recordkeeping provisions of the standard also must be modified to explicitly provide for access by employees and designated representatives to the records required by the standard, according to the terms of 29 CFR 1910.1020. While this may be the intent of the note to Section 1910.940, it does not accomplish this purpose since not all the records required by the standard fit

the definition of an exposure or medical record under 1910.1020 (e.g., records on hazard controls or quick fix).

To effectively participate in the ergonomics program, as the standard requires, employees and designated representatives must have access to these records, just as they have access to records under other OSHA standards.

O. Compliance Dates (Sections 1910.942-943)

The overall time frames for compliance are more than sufficient. Any longer phase-in period would unnecessarily delay protections for workers. The final rule should close the gap between the implementation of medical management/removal requirements and the implementation of controls to ensure that hazards are controlled before workers are returned to these jobs.

The AFL-CIO believes that the overall time frames for compliance set by the proposed standard provide employers with more than sufficient time to implement control measures while requiring faster action on medical management, reporting systems and training. Any longer phase-in period would unnecessarily delay protections for workers.

As noted earlier, there are some problems with the gap between the initial compliance dates for medical management (immediately) and interim control measures (two years). Under the proposal, workers removed from jobs for medical reasons related to job exposures to MSD hazards, can be returned to jobs before any control measures are put in place. Therefore, the start-up date for the installation of interim control measures should be moved up to close this gap.

In addition, compliance dates for the training requirements (two years initially and 90 days thereafter) fail to provide workers the necessary information to effectively participate in the program. The AFL-CIO recommends that some of the subject matter be provided as initial training along with the provisions of hazard information, with a compliance date of one year after the effective date of the standard, and after the compliance deadlines have passed, 30 days after a problem job is identified. We also recommend that the compliance deadline for training individuals responsible for the ergonomics program be set at six months for the start-up period and thereafter within 60 days.

IV. CONCLUSION

As these comments indicate, the AFL-CIO strongly supports OSHA's efforts to promulgate an ergonomics standard. The proposed standard, with the improvements described in these comments, will protect workers, prevent costly and disabling MSDs, and help further the purpose of the Occupational Safety and Health Act: "to assure so far as possible every working man and woman in the nation safe and healthful working conditions." 29 U.S.C. 651(b).

OSHA should move without further delay to complete this rulemaking and issue strong final ergonomics standard to protect workers from serious injury and illness.

APPENDIX A

Number of MSD* Injuries and Illnesses for State and Local Government Workers Involving Days Away from Work, 1997

	MSD's Among State Government Workers			MSD's Among Local Government Workers			Total Number MSD's State and Local
State	All Events	Number of MSD's	Percent	All Events	Number of MSD's	Percent	
Alaska	456	207	45%	602	251	42%	458
Arizona	1,109	540	49%	2,772	1,218	44%	1,758
California	8,558	3,489	41%	37,516	16,872	45%	20,361
Connecticut	2,002	716	36%	4,038	1,582	39%	2,298
Hawaii	1,285	611	48%	1,777	542	31%	1,153
Indiana	1,902	828	44%	3,331	1,181	35%	2,009
Iowa	N/A	N/A	N/A	1,864	788	42%	788
Kentucky	1,158	501	43%	2,318	887	38%	1,388
Maryland	2,232	475	21%	5,194	1,468	28%	1,943
Michigan	2,451	923	38%	8,344	3,933	47%	4,856
Minnesota	900	388	43%	3,891	1,629	42%	2,017
Nevada	325	111	34%	1,133	434	38%	545
New Mexico	N/A	N/A	N/A	1,420	457	32%	457

*Includes overexertion, repetitive motion and bodily reaction.

Number of MSD* Injuries and Illnesses for State and Local Government Workers

Involving Days Away from Work, 1997

	MSD's AmongState Government Workers			MSD's Among Local Government Workers			Total Number MSD's State and Local
State	**All Events**	**Number of MSD's**	**Percent**	**All Events**	**Number of MSD's**	**Percent**	
New York	10,965	4,029	37%	43,549	13,654	31%	17,683
North Carolina	1,807	654	36%	4,601	1,668	36%	2,322
Oregon	661	359	54%	2,093	1,043	50%	1,402
South Carolina	2,213	730	33%	2,791	961	34%	1,691
Tennessee	1,512	495	33%	4,259	1,159	27%	1,654
Utah	471	190	40%	1,325	204	15%	394
Vermont	324	174	54%	371	172	47%	346
Virginia	2,968	1,045	35%	6,117	2,113	35%	3,158
Washington	2,600	1,264	49%	5,879	2,804	48%	4,068
Wyoming	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maine	351	199	57%	767	280	37%	479
New Jersey	4,276	1,140	27%	13,562	5,057	37%	6,197
Wisconsin	1,144	537	47%	6,257	3,033	48%	3,570
						Total	**82,995**

Source: Occupational Injuries and Illnesses in the United States Profiles Data 1992-1997, Bureau of Labor Statistics.
These are the only states that reported this data to BLS for 1997.

APPENDIX B - MSD Data Comparison from Three States

Work-related Carpal Tunnel Syndrome in Massachusetts

Massachusetts SENSOR Program vs. Massachusetts BLS, 1993 - 1996

Year	Massachusetts SENSOR			CTS Cases Reported by Massachusetts BLS
	All Workers Compensation Cases	Additional Physician Reported only Cases	Total Unique SENSOR Cases	
1993	1076	281	1,357	379
1994	1156	185	1,341	627
1995	885	86	971	321
1996	915	104	1,019	431

Source: The Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Public Health, January 20, 1999.

Musculoskeletal Disorders in Oregon

Number of Injuries by Event that Caused the Injury, 1992 - 1994

	1992		1993		1994	
	WC[1]	BLS[2]	WC	BLS	WC	BLS
Repetitive Motion	545	950	1,038	857	1,521	1,156
Overexertion	12,325	7,966	11,786	7,752	11,697	7,315
TOTAL	12,870	8,916	12,824	8,609	13,218	8,471

Source: BLS State data for 1992, 1993, 1994 and *Oregon Workers' Compensation Characteristics Calendar Year 1995*, Research & Analysis Section, Oregon Department of Consumer & Business Services, June 1997.

Musculoskeletal Disorders Resulting from Overexertion in Washington State

Industrial Insurance Claims vs. BLS Data, 1992 - 1994

Year	BLS Data[3]		Industrial Insurance Claims[4]	
	1 or More Days Away - Overexertion	3 or More Days Away - Overexertion	Total # MSD[5] Claims - Overexertion	Total # Time-loss MSD Claims[6] - Overexertion
1992	17,107	13,258	48,019	21,575
1993	16,488	12,514	46,970	20,578
1994	14,345	11,046	45,747	19,768

Source: *Work-Related Musculoskeletal Disorders: Washington State Summary 1992-1994*, State of Washington Dept. of Labor and Industries, Oct 1996 and data from the State of Washington Dept. of Labor and Industries, Jan/Feb 1999.

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[1] These are time-loss claims with 4 or more days away from work. Private insurers accounted for 49% of the claims, the SAIF Corporation for 31%, and self-insured companies for 20 percent.

[2] Number of private industry nonfatal occupational injuries and illnesses involving three or more days away from work. Days-away-from-work cases include those which result in days away from work with or without restricted work activity.

[3] Reflects both State fund and Self Insured employers.

[4] The term claims refers to accepted claims only. Data reflects both State fund and Self Insured employers.

[5] MSDs can include strains/sprains, joint inflammation, lower back pain and nerve compression syndromes. **93%** of all MSD claims were coded overexertion.

[6] Washington state defines time-loss claims as those claims with 4 or more days away from work and includes claims where the employee is kept on salary, has loss of earning power or provisional time loss.

APPENDIX C

SUMMARIES OF STUDIES ON EFFECTIVE ERGONOMICS PROGRAMS AND INTERVENTIONS

LARGE EMPLOYERS

Johns Hopkins University Hospital

Johns Hopkins Hospital and University initiated a comprehensive ergonomics program in 1992, covering approximately 20,000 employees to reduce the incidence of upper extremity work-related MSDs. The program consisted of early diagnosis and treatment of upper extremity MSDs along with identification and correction of problem jobs. The program emphasized early detection of problems by providing that any worker with a complaint that could "possibly" be related with an upper extremity MSD was medically evaluated and an ergonomic survey/job analysis of the employees workplace was conducted to determine the work-relatedness of a potential workers compensation claim and to initiate corrective action. As the program matured, ergonomic surveys were conducted in the workplace where potential ergonomic hazards were suspected of being present rather than relying on the work area where an injured employee worked. Under State of Maryland workers' compensation law, these upper extremity MSDs are usually not held to be compensable which likely explains why employees were discouraged from reporting these problems to their employer or seeking medical care. Thus, in order to encourage early diagnosis and treatment and for employees to report problems, Johns Hopkins changed its procedures for compensability determination by agreeing to pay for all diagnostic workups and ergonomic assessments for any employee who files a complaint. In the seven year period following the 1992 initiation of this ergonomic program, the rate of upper extremity work-related MSDs decreased significantly by 80 % from 6.5 per 1,000 in 1992 to 1.3 per 1,000 in 1998. Likewise, the number of surgeries performed on employees for MSDs also fell, essentially being eliminated. The success of this program was attributed to the encouragement of promptly reporting problems associated with the change in the employers compensability procedures; diagnosing and treating cases of recently reported symptoms; reducing ergonomic hazards in jobs where employees had experienced upper extremity MSDs; and assessing and correcting jobs where potential ergonomic problems might occur (Bernacki et al., 1999).

Poultry Processor

A poultry processor initiated a corporate-wide ergonomics program in 1990 covering 13 facilities employing more than 12,000 employees. The program consisted of a comprehensive set of core program elements, including management commitment; employee involvement on joint labor-management ergonomics committees; training of employees and supervisors; evaluation of problem jobs by the ergonomics committee followed by implementation of control measures (some "quick fix"); identification of problem jobs using OSHA recordable MSDs and responding to employee reports of

symptoms associated with musculoskeletal disorders; seeking worker input on the nature of problems with their jobs and possible interventions; medical management for employees with musculoskeletal disorders; and an annual evaluation of the entire ergonomics program. As the ergonomics program matured overtime, proactive measures addressing potential ergonomic hazards were instituted, including ergonomic assessment of installation of new equipment or expansion of facilities. Five years after initiation of the program, the incidence of workers compensation claims for upper extremity MSDs fell by 46% and severity of the claim (cost of claim per 200,000 work hours) fell by 20%. All repeated trauma cases recordable on OSHA 200 logs dropped from 5.55 in 1991 to 3.77 per 100 employees while the incidence of repeated trauma cases with days away from work fell from 0.73 per 100 workers in 1991 to 0.51 in 1994 (Jones, 1997).

Electronics Manufacturer

An electronics manufacturer implemented an ergonomics program to prevent repetitive strain injuries. The program included an ergonomics team which determined the objectives; chose hazard reduction methods and oversaw implementation of the program; reviewed all injuries for those which may be repetitive strain injuries; inspected the work site to assess job tasks for ergonomic risk factors; completed a worker survey to identify hazards and symptoms which may be related to MSDs; and following collection of this information, prioritized tasks for initiating hazard control measures. An “ergonomics corrective action team”, which included management and workers, initiated the intervention process, with supervisors responsible for follow-up and implementation. Extensive training was also provided. While the number of total recordable repetitive strain injuries increased over a 10 year period from 1985 to 1995 (due likely to increased awareness by employees of the work-relatedness of upper extremity pain and encouragement to report injuries), the percentage of repetitive strain injuries with lost workdays dropped from 80-90% to approximately 50% indicating a reduction in severity of the injury (Cohen, 1997).

Office Setting

The Colorado Compensation Insurance Authority or CCIA, a quasi-public entity providing workers compensation insurance to employers, established an early ergonomics intervention (EEI) program for its clients designed to reduce the cost of office-related MSDs. Under this program, physicians who identify office workers with an injury being caused by cumulative trauma will request a workstation evaluation by a CCIA ergonomics specialist. The workstation evaluation consists of an interview with the worker about the tasks associated with the job; observation of the workers who perform the job tasks; explanation of risk factors and potential interventions for addressing major risk factors associated with cumulative trauma; followed by implementation of control measures (typically adjustments in the workstation). This study found that the odds of an injury without any intervention becoming a lost-time injury were three-fold greater than the odds for an injury where the EEI program was in place. The average cost for an injury in the EEI program was $1,693 less than that of an injury where no intervention occurred. Finally, the return on the investment for EEI

(that is, the average benefit obtained by EEI divided by the average cost of performing such an intervention) was 17.8 (Wahl, 1998).

Nuclear Power Plant

At the Seabrook, NY nuclear power plant, the employer initiated an ergonomics program in 1995 in response to a growing number of repetitive motion injuries among computer users found on their OSHA 200 log. The employer initially surveyed all 950 employees about symptoms and injuries and categorized the responses into different risk groups among those with symptoms and the length of the workday spent using computers. Observations of the jobs tasks were conducted among those workers with injuries or who worked in the highest risk group as a pilot project. Interventions, in the form of ergonomically designed furniture, were installed and then evaluated for effectiveness in follow-up visits. Education and training was also provided. Within weeks, 9 of 27 employees in the pilot program had their symptoms disappear altogether while 6 additional employees said they experienced significant improvement. Following the success of the pilot program, the employer implemented the program for the entire workforce. Of 81 cases with medical symptoms, 97% of all employees had their symptoms disappear, improve significantly, or had some improvement following the introduction of ergonomic furniture. In 1996, the employer had no recorded OSHA 200 log work-related injuries for the first time in their history (Fernberg, 1997).

Intel Corporation

In 1991, Intel Corporation initiated its ergonomics program incorporating a number of core elements, including management commitment, training, medical management, identification of high risk employees, hazard analysis and control. During the period of 1994 through 1998, OSHA recordable cumulative trauma disorder rates decreased in each of the four years; days away from work per lost day case had declined from 14.67 in 1994 to 4.1 in 1998, a 72% decrease in the time away from work for each lost day case; and an avoidance of approximately 20,000 days away from work over the four year period, accounting for more than $10 million in direct and indirect savings (Intel Corporation, 1999).

Office Setting

The United Services Automobile Association, an insurance and financial services company, initiated an ergonomics program in the late 1980's focused on an office environment. Their program incorporated a number of the core elements of a programmatic approach, including training, management commitment, job hazard evaluation and control, medical management, hazard identification and a proactive element (engineering out hazards before equipment is put in place). This employer made certain that none of its efforts could be interpreted by employees as an incentive not to report an injury and took steps to “aggressively seek” workers with pain or discomfort. Total MSD claims severity (monies paid for MSDs) dropped despite an estimated 15% per year increase in medical costs. In addition, MSD claims payouts as

a percent of total workers' compensation payouts has declined from 66% of total dollars paid in 1992 to 48% of dollars paid (projected) in 1997. (United Services Automobile Association).

SMALL EMPLOYERS

Cable Manufacturer

At a cable manufacturing facility employing approximately 100 workers, ergonomics interventions were initiated in 1975. A statistically significant decrease in average musculoskeletal sick leave, expressed as percentage of total production time, dropped from 5.3% in the period of 1967 to 1974 to 3.1% in the years from 1975 to 1982. A statistically significant reduction in labor turnover also occurred in the period of 1967 to 1974 compared to 1975 to 1982, attributable to the impact that ergonomic interventions had on improved health and job satisfaction by employees. In the opinion of the workers, 93% believed the reason for the reduction in musculoskeletal illnesses was due to the fact that it was possible to alter the height and slope of their work tables (Westgaard, 1985).

Engine and Transmission Assembler

At an automobile manufacturing facility which fabricates and assembles engines and transmissions, employing 64 hourly and 40 salaried employees, an ergonomic intervention approach was applied to the manual truing of flywheels. Incorporating worker participation, the truing task was chosen for evaluation and intervention based upon the number and severity of injuries associated with this task. Recommendations to modify the task were agreed upon and workers were videotaped while performing the truing. Using a committee of supervisors, operators, and engineers, an intervention was selected and implemented, followed by an evaluation of the impact of the intervention. Evaluation of pre- and post-intervention data demonstrated a 29% decrease in the incidence of total musculoskeletal disorders, an 82% decrease in the severity rate, and a drop of 78% in the incidence of upper extremity disorders. Workers had favorable views about the intervention (Moore, 1994).

Foam Products Manufacturer

A manufacturer of automobile foam products with 200 regular employees and 100 temporary workers, had an elevated number of lost workdays due to repetitive motion problems. In response to the cumulative trauma injuries, the employer instituted an ergonomics program which included management commitment, medical management, training, creation of an ergonomics committee, identification of hazards, job analysis, and implementation of control measures. During the four year period following the initiation of the ergonomics program, covering 1990 to 1993, recordable

injuries dropped from 128 to 18; lost workday cases fell from 35 to 1; and cumulative trauma cases decreased from 34 to 6 (Whaley).

Window Manufacturer

At Creation Windows, a 450 employee facility which manufactures windows for vans, trucks and cabs, an ergonomics program was implemented to address a problem they were having with an average of 22 carpal tunnel syndrome surgery cases occurring every year. Their program consisted of job site assessments to identify hazards, training, modifying work areas or tasks to reduce repetitive body motions using ergonomic aids such as wrist supports, and early intervention by reacting aggressively to the first symptoms of repetitive strain injuries or carpal tunnel syndrome. Following implementation of the program, carpal tunnel syndrome surgeries averaged one case per year, the employer received a $250,000 rebate on their workers compensation premium, and saved as much at 75% in medical costs by intervening early using physical therapy rather than surgery (Strakal, 1994).

Car Seat Manufacturer

At General Seating, a manufacturer of car seats with a workforce of 290 employees, an ergonomics program was initiated in 1993. Using a joint labor-management committee, jobs with reports of workers discomfort were identified for further evaluation using a checklist, a job rotation program was established various engineering controls were instituted and the workforce also received training. As a result of this program, cumulative trauma disorder related lost workdays fell from 1136 in 1993 to 335 in 1994, a drop of 70%. Carpal tunnel syndrome cases dropped 96% and tendinitis cases decreased by 93% (Ex. 26-1076).

Steel Furniture Manufacturer

Charleston Forge, a manufacturer of steel furniture with a workforce of 150 employees, implemented an ergonomics program in 1993 to address problems with carpal tunnel syndrome and tendinitis. Their program consisted of obtaining worker input on identifying problems and interventions; obtaining expert assistance from physicians and physical therapists; training of employees; and utilizing engineering approaches to reducing hazards. Lost days due to carpal tunnel syndrome and tendinitis dropped from 176 in 1991 to zero in 1994 (Ex. 26-1065).

APPENDIX D

Chronology of OSHA's Ergonomics Standard

August 1990 -- In response to statistics indicating that RSIs are the fastest growing category of occupational illnesses, Secretary of Labor Elizabeth Dole commits the Labor Department to "taking the most effective steps necessary to address the problem of ergonomic hazards on an industry wide-basis" and to begin rulemaking on an ergonomics standard. According to Secretary Dole, there was sufficient scientific evidence to proceed to address "one of the nation's most debilitating across-the-board worker safety and health illnesses of the 1990's."

July 1991 -- The AFL-CIO and 30 affiliated unions petition OSHA to issue an emergency temporary standard on ergonomics. Secretary of Labor Lynn Martin declines to issue an emergency standard, but commits the agency to developing and issuing a standard using normal rulemaking procedures.

June 1992 -- OSHA, under acting Assistant-Secretary Dorothy Strunk, issues an Advanced Notice of Proposed Rulemaking on ergonomics.

January 1993 -- The Clinton Administration makes the promulgation of an ergonomics standard a regulatory priority. OSHA commits to issuing a proposed rule for public comment by September 30, 1994.

March 1995 -- The House passes its FY 1995 rescission bill that prohibits OSHA from developing or promulgating a proposed rule on ergonomics. Industry members of the Coalition on Ergonomics lobbied heavily for the measure. Industry ally and outspoken critic of government regulation, Rep. Tom DeLay (R-TX), acts as the principal advocate of the measure.

-- OSHA circulates draft ergonomics standard and begins holding stakeholders' meetings to seek comment and input prior to issuing a proposed rule.

June 1995 -- President Clinton vetoes the rescission measure.

July 1995 -- Outspoken critic of government regulation Rep. David McIntosh (R-IN) holds oversight hearings on OSHA's ergonomics standard. National Coalition on Ergonomics members testify. By the end of the hearing, McIntosh acknowledges that the problem must be addressed, particularly in high risk industries.

-- Compromise rescission bill signed into law; prohibits OSHA from issuing, but not from working on, an ergonomics standard. Subsequent continuing resolution passed by Congress continues the prohibition.

August 1995 -- Following intense industry lobbying, the House passes a FY 1996 appropriations bill that would prohibit OSHA from issuing, or developing, a standard or guidelines on ergonomics. The bill even prohibits OSHA from requiring employers to record ergonomic-related injuries and illnesses. The Senate refuses to go along with such language.

November 1995 -- OSHA issues its 1996 regulatory agenda which does not include any dates for the issuance of an ergonomics proposal.

December 1995 -- Bureau of Labor Statistics (BLS) releases 1994 Annual Survey of Injuries and Illnesses which shows that the number and rate of disorders associated with repeated trauma continues to increase.

April 1996 -- House and Senate conferees agree on a FY 1996 appropriation for OSHA that contains a rider prohibiting the agency from issuing a standard or guidelines on ergonomics. The compromise agreement does permit OSHA to collect information on the need for a standard.

June 1996 -- The House Appropriations Committee passes a 1997 funding measure (H.R. 3755) that includes a rider prohibiting OSHA from issuing a standard or guidelines on ergonomics. The rider

also prohibits OSHA from collecting data on the extent of such injuries and, for all intents and purposes, prohibits OSHA from doing any work on the issue of ergonomics.

July 1996 -- The House of Representatives approves the Pelosi amendment to H.R. 3755 stripping the ergonomics rider from the measure. The vote was 216-205. Ergonomic opponents vow to reattach the rider in the Senate or on a continuing resolution.

February 1997 -- Rep. Henry Bonilla (R-TX) circulates a draft rider which would prohibit OSHA from issuing an ergonomics proposal until the National Academy of Sciences completes a study on the scientific basis for an ergonomics standard. The rider, supported by the new coalition, is criticized as a further delay tactic.

-- During a hearing on the proposed FY 1998 budget for the National Institute for Occupational Safety and Health, Rep. Bonilla questions Centers for Disease Control head David Satcher on the scientific underpinnings for an ergonomics standard. Bonilla submits more than 100 questions on ergonomics to Satcher.

April 1997 -- Rep. Bonilla raises questions about OSHA's plans for an ergonomics standard during a hearing on the agency's proposed FY 1998 budget.

July 1997 -- NIOSH releases its report *Musculoskeletal Disorders and Workplace Factors*. Over 600 studies were reviewed. NIOSH concludes that "a large body of credible epidemiological research exists that shows a consistent relationship between MSDs and certain physical factors, especially at higher exposure levels."

-- California's ergonomics regulation is initially adopted by the Cal/OSHA Standard Board, approved by the Office of Administrative Law, and becomes effective. (July 3)

October 1997 -- A California superior court judge rules in the AFL-CIO's favor and struck down the most objectionable provisions of the CA ergonomics standard.

November 1997 -- Congress prohibits OSHA from spending any of its FY 1998 budget to promulgate or issue a proposed or final ergonomics standard or guidelines, with an agreement that FY 1998 would be the last year any restriction on ergonomics would be imposed.

May 1998 -- At the request of Rep. Bonilla and Rep. Livingston, The National Academy of Sciences (NAS) receives $490,000 from the National Institutes of Health (NIH) to conduct a review of the scientific evidence on the work-relatedness of musculoskeletal disorders and to prepare a report for delivery to NIH and Congress by September 30, 1998.

August 1998 -- NAS brings together more than 65 of the leading national and international scientific and medical experts on MSDs and ergonomics for a two day meeting to review the scientific evidence for the work relatedness of the disorders and to assess whether workplace interventions were effective in reducing ergonomic hazards.

October 1998 -- NAS releases its report *Work-Related Musculoskeletal Disorders: A Review of the Evidence*. The NAS panel finds that scientific evidence shows that workplace ergonomic factors cause musculoskeletal disorders.

-- Left as one of the last issues on the table because of its contentiousness, in its massive Omnibus spending bill Congress appropriates $890,000 in the FY 1999 budget for another NAS study on ergonomics. The bill, however, freed OSHA from a prohibition on the rulemaking that began in 1994. This point was emphasized by a letter to Secretary of Labor Alexis Herman from then Chair of the Appropriations Committee Rep. Livingston and Ranking member Rep.Obey expressly stating that the study was not intended to block or delay OSHA from moving forward with its ergonomics standard.

December 1998 -- Bureau of Labor Statistics (BLS) releases 1997 Annual Survey of Injuries and Illnesses which shows that disorders associated with repeated trauma

continue to make up nearly two-thirds of all illness cases and musculoskeletal disorders continue to account for one-third of all lost-workday injuries and illnesses.

February 1999 -- OSHA releases its draft proposed ergonomics standard and it is sent for review by small business groups under the Small Business Regulatory and Enforcement Fairness Act (SBREFA).

March 1999 -- Rep. Blunt (R-MO) introduces H.R. 987, a bill which would prohibit OSHA from issuing a final ergonomics standard until NAS completes its second ergonomics study (24 months).

April 1999 -- The Small Business Review Panel submits its report on OSHA's draft proposed ergonomics standard to Assistant Secretary Jeffress.

May 1999 -- The second NAS panel on Musculoskeletal Disorders and the Workplace holds its first meeting on May 10-11 in Washington, DC.

-- Senator Kit Bond (R-MO) introduces legislation (S. 1070) that would block OSHA from moving forward with its ergonomics standard until 30 days after the NAS report is released to Congress

-- House Subcommittee on Workforce Protections holds mark-up on H.R. 987 and reports out the bill along party line vote to forward it to Full Committee.

June 1999 -- House Committee on Education and the Workforce holds mark-up on H.R. 987 and reports out the bill in a 23-18 vote.

August 1999 -- House votes 217-209 to pass H.R. 987, preventing OSHA from issuing an ergonomics standard for at least 18 months until NAS completes its study.

October 1999 -- Senator Bond offers an amendment to the LHHS appropriations bill which would prohibit OSHA from issuing an ergonomics standard during FY 2000. The amendment is withdrawn after it becomes apparent that Democrats are set to filibuster the amendment.

-- The California Court of Appeals upholds the ergonomics standard - the first in the nation - which covers all California workers.

November 1999 -- Washington State Department of Labor and Industries issues a proposed ergonomics regulation on November 15 to help employers reduce ergonomic hazards that cripple and injure workers.

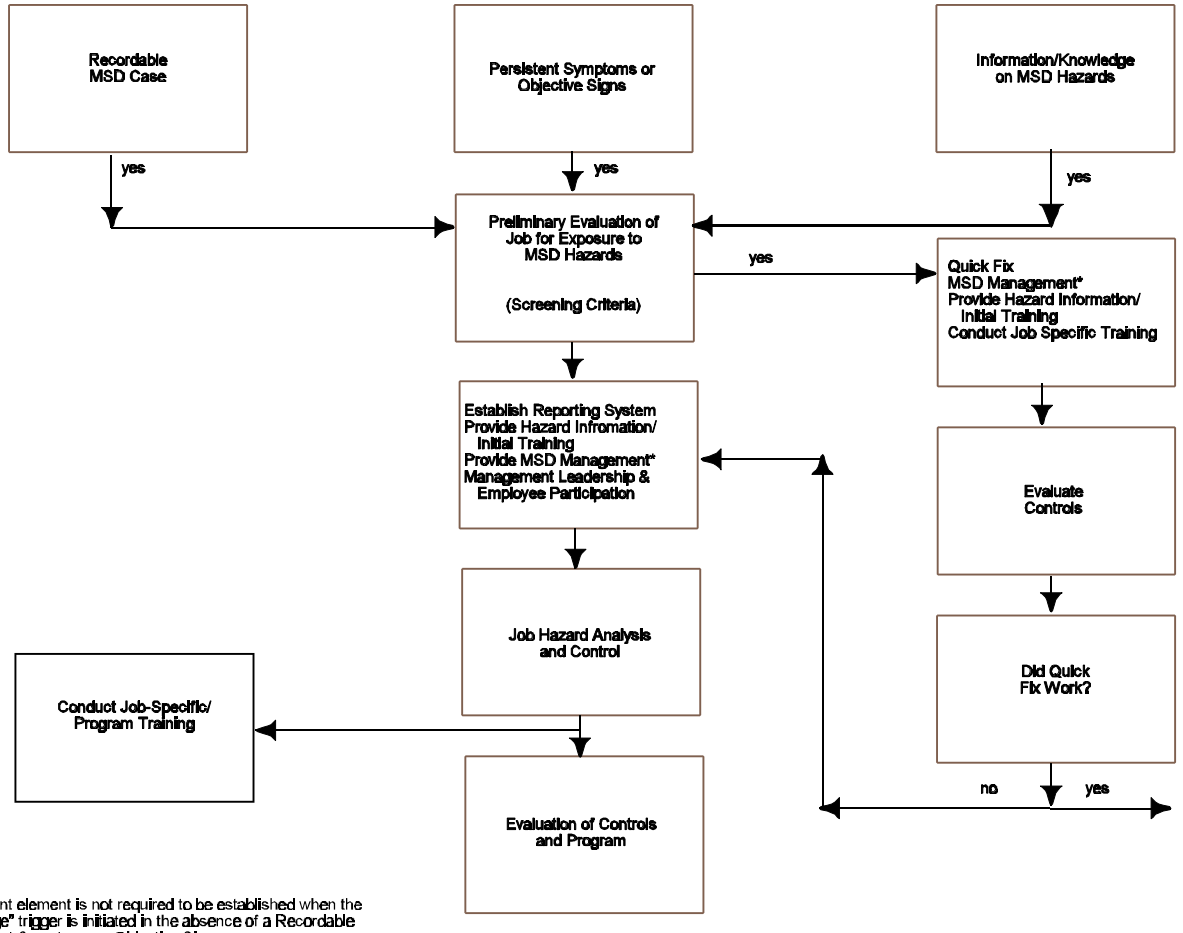
-- Federal OSHA issues the proposed ergonomics standard on November 22. Written comments will be taken until February 1, 2000. Public hearings will be held in February, March, and April.

February 2000 -- OSHA extends the period for submitting written comments and testimony until March 2. Public hearings are rescheduled to begin March 13 in Washington, DC followed by public hearings in Chicago, IL and Portland, OR in April and May.

Prepared by: AFL-CIO Department of Occupational Safety and Health, updated February 2000

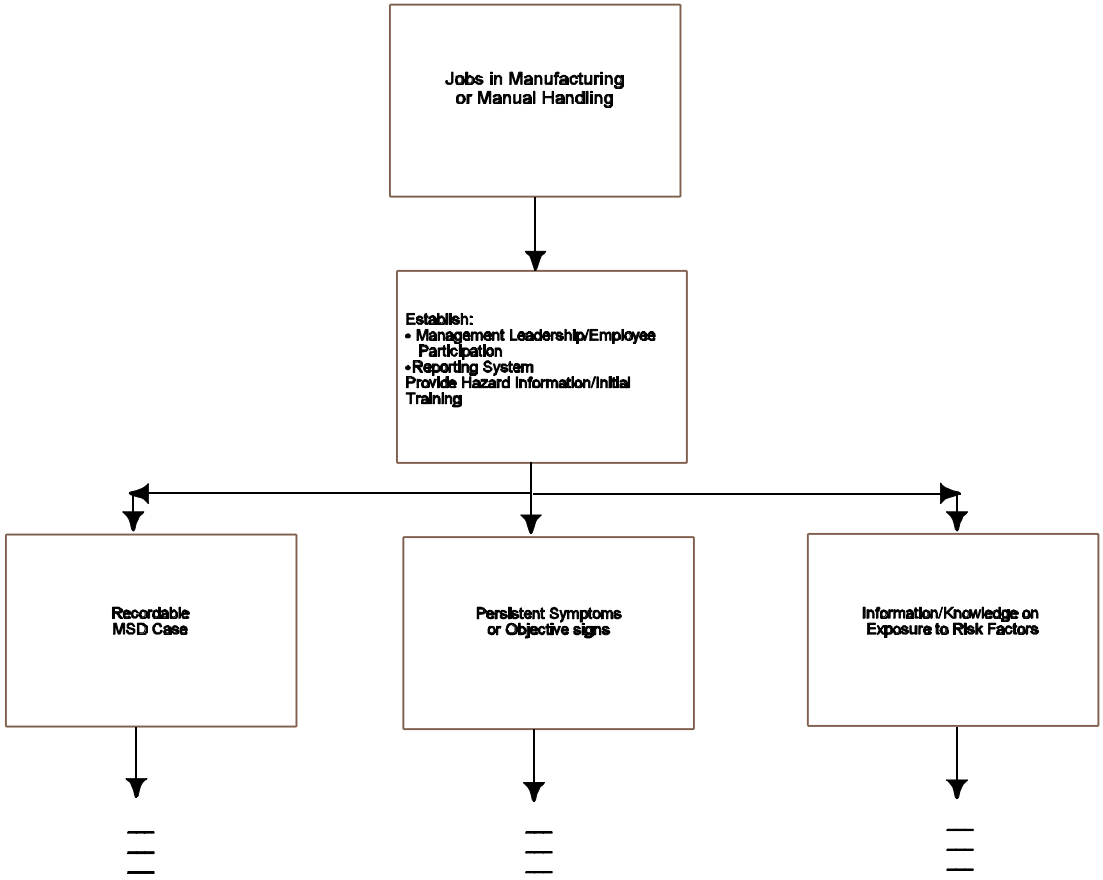
APPENDIX E

AFL-CIO Proposed Triggers



*The MSD Management element is not required to be established when the "Information/Knowledge" trigger is initiated in the absence of a Recordable MSD Case or Persistent Symptoms or Objective Signs.

AFL-CIO Proposed Triggers



APPENDIX F

The Impact of OSHA's WRP on Worker's Earnings

State	Wage[1] (AWW)	After-Tax Earnings/WRP[2]	WRP Less Taxes[3]	90% of WRP	Less Taxes[3]
CA	650	520	416	468	374
OH	560	448	358	403	323
MA	689	551	441	496	397
PA	581	465	372	419	335
NY	750	600	480	540	432
MICH	636	509	407	458	366
GA	563	450	360	405	324
NC	520	416	333	374	300
IL	639	511	409	460	368

[1]This chart uses each state's average weekly wage (AWW) for the twelve months ending 9/98, Source: Department of Labor.
[2]After-tax earnings are 80% of gross earnings (based on assumption that federal income taxes, social security (FICA) taxes, and state and local taxes would be 20%of earnings).
[3]Assumes that tax burden remains at 20%.

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