

individual. As such, it is impossible for OSHA or anyone else to set a valid number of days even if the resolution period is set on the basis of the type of illness/injury" (Ex. 15: 203).

In addition, the proposed 45-day approach was interpreted differently by different commenters. For example, David E. Jones of the law firm Ogletree, Deakins, Nash, Smoak & Stewart (ODNSS) suggested:

The words "either" and "or" * * * should be deleted because an aggravation of the previously recorded injury or illness brought about within the 45-day period would require the entry of a new case at that time, thus negating the 45-day rule, leading to the adverse result that the 45-day rule otherwise would rectify. Accordingly, ODNSS recommends * * * "A recurrence of a previous work-related injury or illness is a new case when it (1) results from a new work event or exposure and (2) 45 days have elapsed since medical treatment, restricted work activity, or days away from work (as applicable) were discontinued and the employee has been symptom-free (including both subjective symptoms and physical findings) (emphasis added) (Ex. 15: 406).

In the final rule, OSHA has decided against the proposed approach of determining case resolution based on a certain number of days during which the injured or ill employee did not lose time, receive treatment, have signs or symptoms, or be restricted to light duty. OSHA agrees with those commenters who argued that the proposed approach was too prescriptive and did not allow for the variations that naturally exist from one injury and illness case to the next. Further, the record contains no convincing evidence to support a set number of days as appropriate. OSHA thus agrees with those commenters who pointed out that adoption of a fixed time interval would result in the overrecording of some injury and illness cases and the underrecording of others, and thus would impair the quality of the records.

Further, OSHA did not intend to create an "injury free" time zone during which an injury or illness would not be considered a new case, regardless of cause, as ODNSS suggested. Instead, OSHA proposed that a case be considered a new case if *either* condition applied: the case resulted from a new event or exposure or 45 days had elapsed without signs, symptoms, or medical treatment, restricted work, or days away from work. There are clearly cases where an event or exposure in the workplace would be cause for recording a new case. A new injury may manifest the same signs and symptoms as the previous injury but still be a new injury and not a continuation of the old case if, for example, an employee sustains a

fall and fractures his or her wrist, and four months later falls again and fractures the wrist in the same place. This occurrence is not a continuation of the fracture but rather a new injury whose recordability must be evaluated. The final rule's approach to recurrence/new case determinations avoids this and other recording problems because it includes no day count limit and relies on one of the basic principles of the recordkeeping system, i.e., that injuries or illnesses arising from events or exposures in the workplace must be evaluated for recordability.

In response to those commenters who raised issues about inconsistency between the OSHA system and workers' compensation, OSHA notes that there is no reason for the two systems, which serve different purposes (recording injuries and illnesses for national statistical purposes and indemnifying workers for job-related injuries and illnesses) to use the same definitions. Accordingly, the final rule does not rely on workers' compensation determinations to identify injuries or illness cases that are to be considered new cases for recordkeeping purposes.

Another group of commenters argued that the 45-day recording requirement would lead employers to spend money on unnecessary and costly health care (see, e.g., Exs. 15: 136, 137, 141, 224, 266, 278, 305, 346, 348, 375). The views of the American Petroleum Institute (API) are representative: "OSHA's proposal would also add substantially to employers' costs since it could require employees to make frequent trips to a health care professional, even if symptom free, just to avoid being recorded repeatedly on the OSHA log as new cases" (Ex. 15: 375). Union Carbide Corporation (Ex. 15: 396) also remarked on the proposed approach's potential incentive for medical follow-up, but viewed such an incentive as a positive phenomenon, stating "One benefit [of the proposed approach] is that it encourages medical follow-up for the employee." Although the proposed approach would not have "required" an employer to send a worker to a physician or other licensed health care professional, and OSHA is not persuaded that employers would choose to spend money in this way merely to avoid recording an occasional case as a new case, elimination of any set day-count interval from the final rule will also have made the concerns of these commenters moot.

OSHA also received a number of suggestions about the role of physicians and other licensed health care professionals (HCP) in new case determinations. A number of

commenters recommended that the decision to record should be based solely on the opinions of a physician or other licensed health care professional (see, e.g., Exs. 33: 15: 39, 95, 107, 119, 127, 133, 225, 289, 332, 335, 341, 387, 424, 440). The National Grain and Feed Association, the National Oilseed Processors Association, and the Grain Elevator and Processing Society (Ex. 15: 119) commented as a group and recommended that "[r]elying on a physician's opinion rather than an arbitrary timeframe would simplify recordkeeping and help ensure that the records are consistent with existing and accepted workers' compensation plans."

Other commenters recommended that, if OSHA adopted a day count time limit, the rule should specifically allow a physician's opinion to be used to refute a new case determination (see, e.g., Exs. 15: 65, 181, 184, 203). Several others simply asked OSHA to provide more guidance on what type of medical evidence could be used in new case determinations (see, e.g., Exs. 15: 176, 231, 273, 301, 430). The National Wholesale Druggists' Association (NWDA) suggested that "OSHA should also include a provision that the employee obtain written approval from a doctor that the employee's condition has been resolved before going back to work. Determining the end of treatment should be left in the hands of a medical professional and OSHA should require some type of documentation to that effect" (Ex. 15: 185).

OSHA has not included any provisions in the final rule that require an employer to rely on a physician or other licensed health care professional or that tell a physician or other licensed health care professional how to treat an injured or ill worker, or when to begin or end such treatment. In the final rule OSHA does require the employer to follow any determination a physician or other licensed health care professional has made about the status of a new case. That is, if such a professional has determined that a case is a new case, the employer must record it as such. If the professional determines that the case is a recurrence, rather than a new case, the employer is not to record it a second time. In addition, the rule does not require the employee, or the employer, to obtain permission from the physician or other licensed health care professional before the employee can return to work. OSHA believes that the employer is capable of, and often in the best position to, make return-to-work decisions.

Southern California Edison (Ex. 15: 111) expressed concern that imposing a day limit would not take differences

between types of injuries and illnesses into account, stating "A recurrence of a previous work-related injury or illness should only be considered a new case when the injury or illness has completely healed. Severe muscle and nerve damage can take many weeks or months to properly heal." The final rule takes such differences into account, as follows. If the previous injury or illness has not healed (signs and symptoms have not resolved), then the case cannot be considered resolved. The employer may make this determination or may rely on the recommendation of a physician or other licensed health care professional when doing so. Clearly, if the injured or ill employee is still exhibiting signs or symptoms of the previous injury or illness, the malady has not healed, and a new case does not have to be recorded. Similarly, if work activities aggravate a previously recorded case, there is no need to consider recording it again (although there may be a need to update the case information if the aggravation causes a more severe outcome than the original case, such as days away from work).

The Quaker Oats Company (Ex. 15: 289) suggested that employers should be permitted by the rule to decide whether a given case was a new case or not, without requirements in the rule:

The 45 day interval on determining if a case is a new one or should be counted under a previous injury should be left to the discretion of the employer. They have the most intimate knowledge of the work environment, medical treatment of the affected employee and the status of their work-related injury or illness. I will agree that it is a difficult matter to decide and to assure consistency throughout industry * * * I believe that any number of days would simply be an arbitrary attempt at quantifying something that is best left to the medical judgment of a healthcare professional.

Under the OSHA recordkeeping system, the employer is always the responsible party when it comes to making the determination of the recordability of a given case. However, if OSHA did not establish consistent new case determination criteria, a substantial amount of variability would be introduced into the system, which would undermine the Agency's goals of improving the accuracy and consistency of the Nation's occupational injury and illness data. Accordingly, OSHA has not adopted this suggested approach in the final rule.

A number of commenters argued that the occurrence of a new event, exposure, or incident should be required to trigger the recording of a new case (see, e.g., Exs. 33, 15: 102, 171,

176, 231, 273, 301, 307, 308, 405, 410, 413, 425). Representative of these comments was one from the Voluntary Protection Programs Participants' Association (VPPPA), which recommended that OSHA "adopt a definition for new case that requires the occurrence of a new work-related event to trigger a new case. In the absence of this, the case would be considered recurring" (Ex. 15: 425). OSHA agrees with the VPPPA that if no further event or exposure occurs in the workplace to aggravate a previous injury or illness, a new case need not be recorded. However, if events or exposures at work cause the same symptoms or signs to recur, the final rule requires employers to evaluate the injury or illness to see if it is a new case and is thus recordable.

The OSHA statistical system is designed to measure the incidence, rather than prevalence, of occupational injury and illness. Incidence measures capture the number of new occupational injuries and illnesses occurring in a given year, while prevalence measures capture the number of such cases existing in a given year (prevalence measures thus capture cases without regard to the year in which they onset). Prevalence measures would therefore capture all injuries and illnesses that occurred in a given year as well as those unresolved injuries and illnesses that persist from previous years. The difference is illustrated by the following cases: (1) A worker experiences a cut that requires sutures and heals completely before the year ends; this injury would be captured both by an incidence or prevalence measure for that particular year. (2) Another worker retired last year but continues to receive medical treatment for a work-related respiratory illness that was first recognized two years ago. This case would be captured in the year of onset and each year thereafter until it resolves if a prevalence measure is used, but would be counted only once (in the year of onset) if an incidence measure is used.

Because the OSHA system is intended to measure the incidence of occupational injury and illness, each individual injury or illness should be recorded only once in the system. However, an employee can experience the same type of injury or illness more than once. For example, if a worker cuts a finger on a machine in March, and is then unfortunate enough to cut the same finger again in October, this worker has clearly experienced two separate occupational injuries, each of which must be evaluated for its recordability. In other cases, this evaluation is not as simple. For example, a worker who

performs forceful manual handling injures his or her back in 1998, resulting in days away from work, and the case is entered into the records. In 1999 this worker has another episode of severe work-related back pain and must once again take time off for treatment and recuperation. The question is whether or not the new symptoms, back pain, are continuing symptoms of the old injury, or whether they represent a new injury that should be evaluated for its recordability as a new case. The answer in this case lies in an analysis of whether or not the injured or ill worker has recovered fully between episodes, and whether or not the back pain is the result of a second event or exposure in the workplace, e.g., continued manual handling. If the worker has not fully recovered and no new event or exposure has occurred in the workplace, the case is considered a continuation of the previous injury or illness and is not recordable.

One reason for the confusion that is apparent in some of the comments on the proposal's approach to the recording of recurrences may be the custom that developed over the years of referring to recordable recurrences of work-related injuries and illnesses as "new cases." See for example, 61 FR 4037/1 ("employers may be dealing with a re-injury or recurrence of a previous case and must decide whether the recurrence is a "new case" or a continuation of the original case.") The term "new case" tends to suggest to some that the case is totally original, when in fact new cases for OSHA recordkeeping purposes include three categories of cases; (1) totally new cases where the employee has never suffered similar signs or symptoms while in the employ of that employer, (2) cases where the employee has a preexisting condition that is significantly aggravated by activities at work and the significant aggravation reaches the level requiring recordation, and (3) previously recorded conditions that have healed (all symptoms and signs have resolved) and then have subsequently been triggered by events or exposures at work.

Under the former rule and the final rule, both new injuries and recurrences must be evaluated for their work-relatedness and then for whether they meet one or more of the recording criteria; when these criteria are met, the case must be recorded. If the case is a continuation of a previously recorded case but does not meet the "new case" criteria, the employer may have to update the OSHA 300 Log entry if the original case continues to progress, i.e., if the status of the case worsens. For example, consider a case where an

employee has injured his or her back lifting a heavy object, the injury resulted in medical treatment, and the case was recorded as a case without restricted work or days away. If the injury does not heal and the employer subsequently decides to assign the worker to restricted work activity, the employer is required by the final rule to change the case classification and to track the number of days of restricted work. If the case is a previous work-related injury that did not meet the recording criteria and thus was not recorded, future developments in the case may require it to be recorded. For example, an employee may suffer an ankle sprain tripping on a step. The employee is sent to a health care professional, who does not recommend medical treatment or restrictions, so the case is not recorded at that time. If the injury does not heal, however, and a subsequent visit to a physician results in medical treatment, the case must then be recorded.

OSHA and employers and employees need data on recurring cases because recurrence is an important indicator of severity over the long term. Just as the number of days away is a useful indicator of health and safety risk at a particular establishment, so is the total number of injury and illness events and of exposures resulting in health consequences that occur in an establishment or industry. Further, any realistic assessment of occupational safety and health conditions should reflect the fact that some but not all injuries and illnesses have long-term consequences. In other words, a safety and health analysis should give less weight to an injury or illness that has a clear and relatively quick recovery without impairment of any kind and an injury or illness that is chronic in nature or one that involves recurring episodes that are retriggered by workplace events or exposures.

Ignoring the fact that an occupational injury or illness is a recurrence occasioned by an event or exposure in the workplace would result in an underestimate of the true extent of occupational injury and illness and deprive employers, employees, and safety and health professionals of essential information of use in illness prevention. The other extreme, requiring employers to record on-going signs or symptoms repeatedly, even in the absence of an event or exposure in the workplace, would result in overstating the extent of illness. In terms of the recordkeeping system, deciding how most appropriately to handle new cases requires a balanced approach that minimizes both overrecording and underrecording. OSHA has dealt with

this problem in the final rule by carefully defining the circumstances under which a chronic and previously recorded injury or illness must be considered closed and defining the circumstances under which a recurrence is to be considered a new case and then evaluated to determine whether it meets one or more of the recordability criteria.

OSHA's proposal to apply a single criterion to the determination of the recordability of all recurrences of previously recorded injuries and illnesses received support from several commenters (see, e.g., Exs. 15: 31, 61, 70, 154, 203, 396). The final rule uses one set of criteria for determining whether any injury or illness, including a musculoskeletal disorder, is to be treated as a new case or as the continuation of an "old" injury or illness. First, if the employee has never had a recorded injury or illness of the same type and affecting the same part of the body, the case is automatically considered a new case and must be evaluated for recordability. This provision will handle the vast majority of injury and illness cases, which are new cases rather than recurrences or case continuations. Second, if the employee has previously had a recorded injury or illness of the same type and affecting the same body part, but the employee has completely recovered from the previous injury or illness, and a new workplace event or exposure causes the injury or illness (or its signs or symptoms) to reappear, the case is a recurrence that the employer must evaluate for recordability.

The implementation section of § 1904.6 describes these requirements and includes explanations applying to two special circumstances. In the first case, paragraph 1904.6(b)(1) the employee has experienced a chronic injury or illness of a type that will progress regardless of further workplace exposure. Cases to which this provision applies are serious, chronic illness conditions such as occupational cancer, asbestosis, silicosis, chronic beryllium disease, etc. These occupational conditions generally continue to progress even though the worker is removed from further exposure. These conditions may change over time and be associated with recurrences of symptoms, or remissions, but the signs (e.g., positive chest roentgenogram, positive blood test) generally continue to be present throughout the course of the disease.

The second kind of case, addressed in paragraph 1904.6(b)(2), requires employers to record chronic illness cases that recur as a result of exposures in the workplace. These conditions

might include episodes of occupational asthma, reactive airways dysfunction syndrome (RADS), or contact allergic dermatitis, for example.

Paragraph 1904.6(b)(3) recognizes the role of physicians and other licensed health care professionals that the employer may choose to rely on when tracking a "new case" or making a continuation of an old case determination. If a physician or other licensed health care professional determines that an injury or illness has been resolved, the employer must consider the case to be resolved and record as a new case any episode that causes the signs and symptoms to recur as a result of exposure in the workplace. On the other hand, if the HCP consulted by the employer determines that the case is a chronic illness of the type addressed by paragraph 1904.6(b)(1), the employer would not record the case again. In either case, the employer would evaluate it for work-relatedness and then determine whether the original entry requires updating or the case meets the recording criteria. Paragraph (b)(3) also recognizes that the employer may ask for input from more than one HCP, or the employer and employee may each do so, and in such cases, the rule requires the employer to rely on the one judged by the employer to be most authoritative.

Adding a Recurrence Column to the OSHA 300 Log

In the proposal, OSHA asked commenters whether the Log should include a column with a check-box that could be marked if a case was a recurrence of a pre-existing condition (61 FR 4037). Some commenters supported the proposed approach (see, e.g., Exs. 15: 27, 39, 61, 65, 89, 154, 186, 214, 235, 277, 299, 305, 332, 336). For example, the National Association of Manufacturers (NAM) suggested that, in lieu of adopting a 45-day time limit, OSHA should add a column to the Log: "If the Agency believes there is a need to track the number of recurring cases, we believe the better approach would be to add a column to the log which would permit the original entry for each injury or illness to be updated in the event of a recurrence" (Ex. 15: 305). The American Association of Homes and Services for the Aging (AAHSA) agreed:

[t]here should be a column on the injury and illness log for employers to check for reoccurring injuries. This addition would help the employer to identify possible patterns or problems associated with a specific job and find solutions. Recommendation: Add a column to the injury and illness log allowing the employer

to check when an employee is having a repetitive injury or illness (Ex. 15: 214).

Other commenters did not support the proposal's approach to tracking recurrences (see, e.g., Exs. 15: 70, 78, 136, 137, 141, 151, 152, 179, 180, 194, 224, 266, 278). The comments of Kathy Lehrman, RN, Occupational Health Nurse (Ex. 15: 136) are representative of these comments:

The addition of a column to record recurrent conditions would not reduce the stigma and would lead to increased health care provider visits to avoid having an ongoing case labeled as a new case. * * * I do not see the value of including a new category of case designation. This runs counter to the simplification objective.

After a review of the comments on this issue, OSHA has decided not to include such a check-box on the Log. The final rule adds several columns to the OSHA 300 form to collect data on the number of restricted workdays and on various types of occupational injuries and illnesses. The addition of these columns, and the decision to provide more space on the Log to add information on the case, has used up the available space on the form. Requiring employers to record recurrences would also be burdensome and make the rule more complex. Further, OSHA did not propose such a requirement, and this issue raises questions not adequately aired in the record. For example, if an employee has recurring episodes of low back pain, should the employer be required to record each day the employee experiences such pain as a recurring injury? OSHA is also unsure how recurrence data should be captured and used in the Nation's injury and illness statistics. For example, would a separate data set on recurrences, similar to data on injuries and illnesses, be produced by the BLS?

OSHA has therefore decided that it is not appropriate to add a column to the Log to capture data on recurring injuries and illnesses. However, OSHA recognizes that data on injury and illness recurrence may be useful to employers and employees at individual worksites and encourages employers who wish to collect this additional information to do so; however, the final rule does not require employers to provide recurrence data on the Log.

Section 1904.7 General Recording Criteria

Section 1904.7 contains the general recording criteria for recording work-related injuries and illnesses. This section describes the recording of cases that meet one or more of the following six criteria: death, days away from work, restricted work or transfer to another

job, medical treatment beyond first aid, loss of consciousness, or diagnosis as a significant injury or illness by a physician or other licensed health care professional.

Paragraph 1904.7(a)

Paragraph 1904.7(a) describes the basic requirement for recording an injury or illness in the OSHA recordkeeping system. It states that employers must record any work-related injury or illness that meets one or more of the final rule's general recording criteria. There are six such criteria: death, days away from work, days on restricted work or on job transfer, medical treatment beyond first aid, loss of consciousness, or diagnosis by a physician or other licensed health care professional as a significant injury or illness. Although most cases are recorded because they meet one of these criteria, some cases may meet more than one criterion as the case continues. For example, an injured worker may initially be sent home to recuperate (making the case recordable as a "days away" case) and then subsequently return to work on a restricted ("light duty") basis (meeting a second criterion, that for restricted work). (see the discussion in Section 1904.29 for information on how to record such cases.)

Paragraph 1904.7(b)

Paragraph 1904.7(b) tells employers how to record cases meeting each of the six general recording criteria and states how each case is to be entered on the OSHA 300 Log. Paragraph 1904.7(b)(1) provides a simple decision table listing the six general recording criteria and the paragraph number of each in the final rule. It is included to aid employers and recordkeepers in recording these cases.

1904.7(b)(2) Death

Paragraph 1904.7(b)(2) requires the employer to record an injury or illness that results in death by entering a check mark on the OSHA 300 Log in the space for fatal cases. This paragraph also directs employers to report work-related fatalities to OSHA within 8 hours and cross references the fatality and catastrophe reporting requirements in § 1904.39 of the final rule, Reporting fatalities and multiple hospitalizations to OSHA.

Paragraph 1904.7(b)(2) implements the OSH Act's requirements to record all cases resulting in work-related deaths. There were no comments opposing the recording of cases resulting in death. However, there were several comments questioning the determination of work-relatedness for certain fatality cases and

the appropriateness of reporting certain kinds of fatalities to OSHA. These comments are addressed in the sections of this preamble devoted to work-relationship and fatality reporting (sections 1904.5 and 1904.39, respectively).

Paragraph 1904.7(b)(3) Days Away From Work

Paragraph 1904.7(b)(3) contains the requirements for recording work-related injuries and illnesses that result in days away from work and for counting the total number of days away associated with a given case. Paragraph 1904.7(b)(3) requires the employer to record an injury or illness that involves one or more days away from work by placing a check mark on the OSHA 300 Log in the space reserved for day(s) away cases and entering the number of calendar days away from work in the column reserved for that purpose. This paragraph also states that, if the employee is away from work for an extended time, the employer must update the day count when the actual number of days away becomes known. This requirement continues the day counting requirements of the former rule and revises the days away requirements in response to comments in the record.

Paragraphs 1904.7(b)(3)(i) through (vi) implement the basic requirements. Paragraph 1904.7(b)(3)(i) states that the employer is not to count the day of the injury or illness as a day away, but is to begin counting days away on the following day. Thus, even though an injury or illness may result in some loss of time on the day of the injurious event or exposure because, for example, the employee seeks treatment or is sent home, the case is not considered a days-away-from-work case unless the employee does not work on at least one subsequent day because of the injury or illness. The employer is to begin counting days away on the day following the injury or onset of illness. This policy is a continuation of OSHA's practice under the former rule, which also excluded the day of injury or onset of illness from the day counts.

Paragraphs 1904.7(b)(3)(ii) and (iii) direct employers how to record days-away cases when a physician or other licensed health care professional (HCP) recommends that the injured or ill worker stay at home or that he or she return to work but the employee chooses not to do so. As these paragraphs make clear, OSHA requires employers to follow the physician's or HCP's recommendation when recording the case. Further, whether the employee works or not is in the control of the

employer, not the employee. That is, if an HCP recommends that the employee remain away from work for one or more days, the employer is required to record the injury or illness as a case involving days away from work and to keep track of the days; the employee's wishes in this case are not relevant, since it is the employer who controls the conditions of work. Similarly, if the HCP tells the employee that he or she can return to work, the employer is required by the rule to stop counting the days away from work, even if the employee chooses not to return to work. These policies are a continuation of OSHA's previous policy of requiring employees to follow the recommendations of health care professionals when recording cases in the OSHA system. OSHA is aware that there may be situations where the employer obtains an opinion from a physician or other health care professional and a subsequent HCP's opinion differs from the first. (The subsequent opinion could be that of an HCP retained by the employer or the employee.) In this case, the employer is the ultimate recordkeeping decision-maker and must resolve the differences in opinion; he or she may turn to a third HCP for this purpose, or may make the recordability decision himself or herself.

Paragraph 1904.7(b)(3)(iv) specifies how the employer is to account for weekends, holidays, and other days during which the employee was unable to work because of a work-related injury or illness during a period in which the employee was not scheduled to work. The rule requires the employer to count the number of calendar days the employee was unable to work because of the work-related injury or illness, regardless of whether or not the employee would have been scheduled to work on those calendar days. This provision will ensure that a measure of the length of disability is available, regardless of the employee's work schedule. This requirement is a change from the former policy, which focused on scheduled workdays missed due to injury or illness and excluded from the days away count any normal days off, holidays, and other days the employee would not have worked.

Paragraph 1904.7(b)(3)(v) tells the employer how to count days away for a case where the employee is injured or becomes ill on the last day of work before some scheduled time off, such as on the Friday before the weekend or the day before a scheduled vacation, and returns to work on the next day that he or she was scheduled to work. In this situation, the employer must decide if the worker would have been able to work on the days when he or she was

not at work. In other words, the employer is not required to count as days away any of the days on which the employee would have been able to work but did not because the facility was closed, the employee was not scheduled to work, or for other reasons unrelated to the injury or illness. However, if the employer determines that the employee's injury or illness would have kept the employee from being able to work for part or all of time the employee was away, those days must be counted toward the days away total.

Paragraph 1904.7(b)(3)(vi) allows the employer to stop counting the days away from work when the injury or illness has resulted in 180 calendar days away from work. When the injury or illness results in an absence of more than 180 days, the employer may enter 180 (or 180+) on the Log. This is a new provision of the final rule; it is included because OSHA believes that the "180" notation indicates a case of exceptional severity and that counting days away beyond that point would provide little if any additional information.

Paragraph 1904.7(b)(3)(vii) specifies that employers whose employees are away from work because of a work-related injury or illness and who then decide to leave the company's employ or to retire must determine whether the employee is leaving or retiring because of the injury or illness and record the case accordingly. If the employee's decision to leave or retire is a result of the injury or illness, this paragraph requires the employer to estimate and record the number of calendar days away or on restricted work/job transfer the worker would have experienced if he or she had remained on the employer's payroll. This provision also states that, if the employee's decision was unrelated to the injury or illness, the employer is not required to continue to count and record days away or on restricted work/job transfer.

Paragraph 1904.(b)(3)(viii) directs employers how to handle a case that carries over from one year to the next. Some cases occur in one calendar year and then result in days away from work in the next year. For example, a worker may be injured on December 20th and be away from work until January 10th. The final rule directs the employer only to record this type of case once, in the year that it occurred. If the employee is still away from work when the annual summary is prepared (before February 1), the employer must either count the number of days the employee was away or estimate the total days away that are expected to occur, use this estimate to calculate the total days away during the year for the annual summary, and then

update the Log entry later when the actual number of days is known or the case reaches the 180-day cap allowed in § 1904.7(b)(3)(v).

Comments on the Recording of Days Away From Work

OSHA received a large number of comments on how days away should be counted. The issues addressed by commenters included (1) whether to count scheduled workdays or calendar days, (2) whether the day counts should be "capped," and, if so, at what level, (3) how to count days away or restricted when employees are terminated or become permanently disabled, and (4) how to handle cases that continue to have days away/restricted from one year to the next.

Scheduled or calendar work days. OSHA proposed to count scheduled workdays, consistent with its long-standing policy of excluding normal days off such as weekends, holidays, days the facility is closed, and prescheduled vacation days (61 FR 4033). The proposal asked the public for input on which counting method—calendar days or scheduled work days—would be better, stating that "OSHA is considering a modification to the concept of days away from work to include days the employee would normally not have worked (e.g. weekends, holidays, etc.). OSHA believes this change to calendar days would greatly simplify the method of counting days away by eliminating the need to keep track of, and subtract out, scheduled days off from the total time between the employee's first day away and the time the employee was able to return to full duty" (61 FR 4033). The proposal also discussed the potential benefits and pitfalls of counting calendar days:

Another potential benefit of changing to calendar days would be that the day count would more accurately reflect the severity of the injury or illness. The day count would capture all the days the employee would not have been able to work at full capacity regardless of work schedules. For example, if an employee, who normally does not work weekends, is injured on a Friday and is unable to work until the following Tuesday, the "days away from work" would be three (3), using calendar days, rather than one (1) day, using work days. If the same injury occurred on a Monday, the day count would be three (3) using either calendar or workdays. Changing the day count to calendar days would eliminate discrepancies based upon work schedules. Thus, the day counts would be easier to calculate and potentially more meaningful.

One of the potential problems with this change would be that economic information on lost work time as a measure of the impact of job related injuries and illnesses on work

life would no longer be available. Employers could, however, estimate work time lost by applying a work day/calendar day factor to the recorded day counts. OSHA solicits comment on the idea of counting calendar days rather than work days, in particular, what potential do these methods have for overstating (i.e. counting calendar days) or understating (i.e. counting work days) the severity of injuries and illnesses? (61 FR 4034)

OSHA received a large number of comments on the calendar day/scheduled day issue. Many commenters suggested that OSHA track days away from work using its former method of counting scheduled workdays (see, e.g., Exs. 21; 30; 37; 15: 10, 16, 30, 42, 44, 48, 61, 66, 69, 78, 79, 89, 100, 107, 108, 119, 121, 122, 127, 130, 133, 146, 151, 152, 154, 159, 163, 170, 172, 179, 180, 200, 203, 204, 213, 214, 219, 226, 246, 260, 262, 265, 281, 287, 297, 299, 300, 304, 305, 307, 308, 341, 346, 356, 363, 364, 368, 373, 378, 384, 385, 387, 389, 390, 397, 401, 404, 410, 413, 414, 424, 426, 427, 431, 440, 443). Many commenters also suggested that OSHA use calendar days instead of scheduled workdays to track days away from work (see, e.g., Exs. 19; 44; 15: 26, 27, 31, 34, 44, 71, 75, 82, 105, 111, 119, 127, 136, 137, 138, 141, 153, 181, 182, 188, 198, 205, 218, 224, 233, 242, 263, 266, 269, 270, 271, 278, 310, 316, 326, 337, 345, 347, 350, 359, 369, 377, 391, 396, 405, 407, 409, 415, 418, 423, 425, 428, 429, 434, 438). The arguments of each group fall loosely into two categories: which counting method provides the most meaningful data and which method is least burdensome.

Arguing against counting calendar days, a number of commenters stated that calendar days would overstate lost workdays and artificially inflate or distort severity rates (see, e.g., Exs. 15: 10, 16, 42, 44, 69, 108, 119, 127, 130, 133, 146, 159, 163, 170, 195, 203, 213, 219, 281, 287, 297, 300, 304, 305, 307, 341, 356, 364, 373, 385, 389, 390, 397, 404, 410, 414, 424, 426, 431, 440, 443). Some commenters also argued that the information would be "false and misleading" (see, e.g., Exs. 15: 287, 443), "would not indicate true severity" (Ex. 15: 108), or would make it difficult to compare data from the old rule with data kept under the new rule (see, e.g., Exs. 37; 15: 44, 61, 130, 146, 226, 281, 297, 299, 300, 304, 341, 378, 384, 385, 397, 404, 426, 440). Typical of these views was the one expressed by the American Trucking Associations (Ex. 15: 397), which stated that:

This provision serves no useful purpose. Its proponents exaggerate the difficulty in computing days away from work under the current regulation. Instead, it will only serve

the purpose of artificially increasing incidence and severity rates which would falsely designate a given worksite as unsafe or delineate it as a high hazard workplace. This false delineation of high hazardousness would also result in the workplace being unfairly targeted by OSHA for enforcement activities. In addition, this change would make it difficult, if not impossible, for employers to compare previous lost work day incidence rates with current rates. Such trend data is invaluable to employers in tracking progress made in eliminating workplace injuries and illnesses.

Other commenters, however, argued that calendar days would be a better statistical measure (see, e.g., Exs. 15: 71, 75, 347, 425, 434, 438). For example, the American Waterways Shipyard Conference (Ex. 15: 75) stated:

AWSC would also urge that "days away from work" be counted by calendar days rather than work days. This would ease the burden on establishments in their recordkeeping and would also make the data more useful. For example, an employee injured on Friday who does not return to work until Tuesday is currently counted as one-day off the job. If "days away from work" are calculated by calendar days, then this same injury would be counted as three days. The three day injury ruling is a more accurate indicator of the seriousness of the injury.

The United Auto Workers (UAW) argued that: "Calendar days are a much better measure of severity or disability than actual days which are adjusted for work schedule, vacations, layoffs and other extraneous disruptions. Frankly, counting actual days is a waste of effort, subject to manipulation and serves no public health purpose. It is relic and should be eliminated. The only reason some employers might wish to retain this measure is because they can generate a lower number" (Ex. 15: 438).

Other commenters were concerned that the change to counting calendar days would have an unfair effect on firms that rely more heavily on part-time workers, use alternative schedules, and/or use planned plant shutdowns (see, e.g., Exs. 15: 42, 96, 121, 159, 163, 213, 219, 200, 262, 281, 299). For example, Dayton Hudson Corporation (Ex. 15: 121) stated that:

DHC questions the concept of counting calendar days versus the proposed scheduled work days in documenting days away from work. Both methods have their value and also potential problems. The calendar method would make it much easier for a company to record the severity of an accident. However, this method would have a significant effect on an industry such as retailing, since the majority of our work force is part-time. If OSHA decides to go with the calendar method, there needs to be clearly defined examples referenced in the standard dealing with part-time workers.

Northrop Grumman Corporation (Ex. 15: 42) asserted that: "[c]ounting calendar days for days away from work would have an adverse impact on those companies, such as aerospace companies, which routinely have shut downs for one or more weeks at a time. Employees injured on the day prior to shut down would have to be recorded as being injured, off work, for the entire time of the shut down." The Texas Chemical Council (Ex. 15: 159) expressed concern about the impact the change to calendar days might have on day counts involving alternative schedules:

We believe the value of the reduced burden is not worth the skewed data that may result. OSHA's proposal may yield accurate data and better reflect severity when applied to work schedules following an 8 hour day, Monday through Friday. However, many industries utilize a 12 hour shift that provides periods of time off longer than the normal two day weekends. The proposed method of counting days could, for example, turn an injury requiring two days recuperation time into a case requiring four or more days to be counted. This would skew severity analysis utilizing days off data.

However, the Eli Lilly Company (Ex. 15: 434) argued that calendar days would help equalize day counts: "[a] calendar day count would ensure employer consistency and comparability even when employers have unique and variable shift works."

Other commenters argued that scheduled workdays are a better measurement because they measure economic impact and lost productivity (see, e.g., Exs. 15: 154, 172, 203, 204, 226, 262, 304, 341, 356, 364, 367, 397). The Fertilizer Institute (Ex. 15: 154) argued that: "Although such a change might simplify the counting of days, it will make comparisons difficult for companies, trade and professional associations, and government agencies that are trying to measure the severity of injuries and illnesses in terms of productivity. In addition to the health and safety of its employees, industry is primarily concerned with the cost of work-related injuries and illnesses, as they relate to lost productivity. Thus, the basis of the lost work day, not the lost calendar day, is the most appropriate measurement to use." The Society of the Plastics Industry, Inc. (Ex. 15: 364) urged OSHA to retain the scheduled days system because of its usefulness in measuring the economic impact of job-related accidents and the incentive such information provides for prevention efforts.

In addition to arguments about the preferred way of counting days away, commenters discussed the issues of

simplification and the burden of counting days away from work with both methods. A number of commenters supported using calendar days because doing so would simplify the process and reduce burden (see, e.g., Exs. 15: 71, 75, 82, 136, 137, 141, 224, 242, 263, 266, 269, 270, 278, 347, 377, 415, 418, 423, 434). Two commenters made the point that using calendar days would make it easier to use computer software to calculate days away from work (Exs. 15: 347, 423). Representative of the comments supporting the use of calendar days to reduce the recording burden was the view of the Ford Motor Company (Ex. 15: 347):

The single most significant change that could be made to simplify and reduce the burden of the current recordkeeping system would be a change to a calendar count for days away from work. This would eliminate the need to keep track of and subtract out any scheduled days off from the time of the employee's first day away until the time the employee was able to return to work. Of additional importance, a calendar count approach would provide a more accurate reflection of the severity of injuries and illnesses.

Currently, tracking days away from work is a particular problem in that many individuals no longer work a traditional eight hours a day, Monday through Friday. Some individuals work four days a week, ten hours a day, others work every Saturday and/or Sunday, and some individuals have their scheduled days off during the week. Different employees in the same establishment commonly have different work schedules. Different departments are commonly on "down time" while the rest of the establishment may be in full operation. A calendar count will simplify the calculation of days away from work for alternative work schedules.

In comparison to the current system, a calendar count will provide meaningful, consistent, and useful data, as well as provide an accurate reflection of severity. The calendar day count will also enhance the ability to develop software to standardize the recordkeeping process.

In addition, the change to a calendar day count would enable Ford Motor Company to free up highly trained personnel for more productive and effective pursuits rather than tracking lost workdays under the current system. The cost of these resources to track lost workdays cases exceeds one million dollars per year.

Even some of the commenters who argued against OSHA's adoption of a calendar day approach in the final rule acknowledged that counting calendar days would be simpler but emphasized that this added simplicity and reduction in burden would not offset the deleterious effect of this change on the data (see, e.g., Exs. 15: 44, 61, 69, 121, 154, 159, 170, 195). The Institute for Interconnecting and Packaging

Electronic Circuits (IPC) said that: "According to IPC member companies, the potential simplification gains that may be achieved by this proposal would not outweigh the gross overreporting and, therefore, inaccurate data that would result" (Ex. 15: 69).

Other commenters arguing against calendar days stated that counting scheduled workdays is not difficult or onerous (see, e.g., Exs. 15: 107, 146, 387), that counting calendar days would not simplify the counting of lost workdays (see, e.g., Exs. 15: 16, 119, 146, 281, 299, 304, 308, 341, 364, 367, 424), that counting calendar days would add to the administrative burden (see, e.g., Exs. 15: 42, 146, 304, 308, 341, 364, 367, 431), that counting calendar days would add confusion (see, e.g., Exs. 15: 204, 431), or that employers already report scheduled workdays to workers' compensation and thus this information is already available (see, e.g., Exs. 15: 367, 384). Commenters also cited the need to change computer software systems if a shift to calendar days was made (Ex. 15: 122) and argued that retaining scheduled workdays would require less training than moving to calendar days (see, e.g., Exs. 15: 37, 122, 133, 304, 384). The BF Goodrich Company (Ex. 15: 146) summed up these views:

BF Goodrich's business systems are set up to count and track work days and work hours. We do not agree with the suggestion of counting calendar days rather than actual work days for Days Away From Work cases. Counting calendar days would improperly inflate the severity incidence rates which are calculated based on actual hours worked and defeat any efforts to perform trend analysis against previous years. Use of calendar days would also require unnecessary analysis of work capability for days that would not be worked anyway. There would be no reduction in burden in a calendar day system and there would be loss of severity trend analysis capability.

A number of commenters pointed to the difficulty of analyzing days away for injuries that occur just before scheduled time off, such as before the weekend (see, e.g., Exs. 15: 16, 42, 44, 69, 79, 130, 179, 226, 281, 299, 341, 363, 389, 414, 424). The Institute for Interconnecting and Packaging Electronic Circuits (IPC) described the following scenario:

[i]f a worker is injured on Friday, is sent home, and returns to work on Monday, the alternative [calendar day] proposal would require employers to count weekend days in the lost workday count. IPC believes that this alternative proposal would not accurately reflect the severity of the injury since, if the same injury had occurred on a Monday, the worker might have been able to return to work on Tuesday. (Ex. 15: 69)

United Parcel Service (UPS) was concerned about the accuracy of employee reporting of injuries and illnesses under the calendar day system:

[t]he cessation of the effects of an employee's injury or illness cannot reliably be determined in the case of a worker who "heals" on the weekend. Thus, the number of days away from work and their impact on the perception of serious incidents will be substantially inflated. Indeed, it has been UPS's experience that a disproportionate number of injuries are reported on Friday and Monday; inclusion of claimed weekend injury, therefore, would greatly inflate OSHA statistics with factors that honest observers know to be linked, to some degree, with the universal attraction of an extended weekend. The risk, moreover, is not merely inflated numbers, but inflation of the apparent severity of those conditions that are difficult to verify and that are therefore the most likely resort of employees who would misreport a condition for time off (Ex. 15: 424).

Another issue noted by commenters was the difficulty of getting medical attention over the weekend. For example, the American Ambulance Association (Ex. 15: 226) cautioned that "The common practice of a health care provider is to defer an employee's return to work until after a weekend or holiday, due to limited staff resources for evaluating employee status on those days," and the Sandoz Corporation (Ex. 15: 299) noted that "This change [to calendar days] would lead to overstatement of the severity in cases of part-time employees due to the difficulty of getting return-to-work clearance from medical personnel."

Two commenters (Exs. 15: 69, 15: 363) objected to counting calendar days based on a belief that counting these days would raise their workers' compensation insurance rates. For example, the Institute for Interconnecting and Packaging Electronic Circuits (IPC) stated that "Lost time is a major factor in insurance premiums for facilities. As a result, a definition that would over-estimate lost time would significantly raise facility insurance costs" (Ex. 15: 69).

Patrick R. Tyson, a partner in the law firm of Constangy, Brooks & Smith, LLC (Ex. 55X, pp. 99-100), strongly favored moving to a calendar-day-count system, for the following reason:

[w]hat we've seen in some audits is companies that attempt to try to control the number of days that would be counted as lost work days by controlling the number of days that otherwise would be worked. * * *

We * * * encountered one company that announced proudly in its newsletter that one particular employee should be congratulated because when she had to have surgery for carpal tunnel syndrome, clearly work related * * * she chose to have that surgery during

her vacation so that the company's million man hours of work without a lost time accident would not be interrupted. That doesn't make any sense where we encourage those kinds of things * * * We ought to consider a calendar count if only to address those kinds of situations. I understand that would cause problems with respect to those companies who use lost work days as a measure of the economic impact of injuries and illnesses in the workplace, but I suspect that a better measure of that would be worker's compensation. If it's a lost work day, you're going to pay comp on it. * * *

OSHA agrees with some of the points made by those in favor of, and those opposed to, changing over to calendar day counts. After a thorough review of the arguments for each alternative, however, OSHA has decided to require employers to count calendar days, both for the totals for days away from work and the count of restricted workdays. OSHA does not agree with those commenters who argued that the counting of calendar days away from work would be a significant burden. The Agency finds that counting calendar days is administratively simpler than counting scheduled days away and thus will provide employers who keep records some relief from the complexities of counting days away from work (and days of restricted work) under the old system. For the relatively simple injury or illness cases (which make up the great majority of recorded cases) that involve a one-time absence from work of several days, the calendar-day approach makes it much easier to compare the injury/illness date with the return-to-work date and compute the difference. This process is easier than determining each employee's normal schedule and adjusting for normal days away, scheduled vacations, and days the facility was not open. The calendar method also facilitates computerized day counts. OSHA recognizes that, for those injuries and illnesses that require two or more absences, with periods of work between, the advantages of the calendar day system are not as significant; OSHA notes, however, that injuries and illnesses following this pattern are not common.

Changing to a calendar day counting system will also make it easier to count days away or restricted for part-time workers, because the difficulties of counting scheduled time off for part-time workers will be eliminated. This will, in turn, mean that the data for part-time workers will be comparable to that for full-time workers, i.e., days away will be comparable for both kinds of workers, because scheduled time will not bias the counting method. Calendar day counts will also be a better measure of severity, because they will be based

on the length of disability instead of being dependent on the individual employee's work schedule. This policy will thus create more complete and consistent data and help to realize one of the major goals of this rulemaking: to improve the quality of the injury and illness data.

OSHA recognizes that moving to calendar day counts will have two effects on the data. First, it will be difficult to compare injury and illness data gathered under the former rule with data collected under the new rule. This is true for day counts as well as the overall number and rate of occupational injuries and illnesses. Second, it will be more difficult for employers to estimate the economic impacts of lost time. Calendar day counts will have to be adjusted to accommodate for days away from work that the employee would not have worked even if he or she was not injured or ill. This does not mean that calendar day counts are not appropriate in these situations, but it does mean that their use is more complicated in such cases. Those employers who wish to continue to collect additional data, including scheduled workdays lost, may continue to do so. However, employers must count and record calendar days for the OSHA injury and illness Log.

Thus, on balance, OSHA believes that any problems introduced by moving to a calendar-day system will be more than offset by the improvements in the data from one case to the next and from one employer to another, and by the resulting improvements in year-to-year analysis made possible by this change in the future, i.e., by the improved consistency and quality of the data.

The more difficult problem raised by the shift to calendar days occurs in the case of the injury or illness that results on the day just before a weekend or some other prescheduled time off. Where the worker continues to be off work for the entire time because of the injury or illness, these days are clearly appropriately included in the day count. As previously discussed, if a physician or other licensed health care professional issues a medical release at some point when the employee is off work, the employer may stop counting days at that point in the prescheduled absence. Similarly, if the HCP tells the injured or ill worker not to work over the scheduled time off, the injury was severe enough to require days away and these must all be counted. In the event that the worker was injured or became ill on the last day before the weekend or other scheduled time off and returns on the scheduled return date, the employer must make a reasonable effort to determine whether or not the

employee would have been able to work on any or all of those days, and must count the days and enter them on the Log based on that determination. In this situation, the employer need not count days on which the employee would have been able to work, but did not, because the facility was closed, or the employee was not scheduled to work, or for other reasons unrelated to the injury or illness.

Accordingly, the final rule adopts the counting of calendar days because this approach provides a more accurate and consistent measure of disability duration resulting from occupational injury and illness and thus will generate more reliable data. This method will also be easier and less burdensome for employers who keep OSHA records and make it easier to use computer programs to keep track of the data.

Capping the Count of Lost Workdays

OSHA proposed to limit, or cap, the total number of days away from work the employer would be required to record. This would have been a departure from OSHA's former guidance for counting both days away from work and restricted workdays. The former rule required the employer to maintain a count of lost workdays until the worker returned to work, was permanently reassigned to new duties, had permanent work restrictions, or was terminated (or retired) for reasons unrelated to the workplace injury or illness (Ex. 2, pp. 47-50).

OSHA's proposed regulatory text stated that "[f]or extended cases that result in 180 or more days away from work, an entry of '180' or '180+' in the days away from work column shall be considered an accurate count" (61 FR 4058). In the preamble to the proposal, OSHA explained that day counts of more than 180 days would add negligible information for the purpose of injury and illness case analysis but would involve burden when updating the OSHA records. The proposed preamble also asked several questions: "Should the days away from work be capped? Is 180 days too short or long of a period? If so, should the count be capped at 60 days? 90 days? 365 days? or some other time period?" (61 FR 4033)

A large number of commenters supported a cap on day counts (see, e.g., Exs. 21; 27; 33; 51; 15; 26, 67, 72, 82, 85, 89, 95, 105, 108, 111, 119, 120, 121, 127, 132, 133, 136, 137, 141, 146, 153, 159, 170, 173, 176, 180, 182, 185, 188, 194, 195, 198, 199, 203, 205, 213, 224, 231, 233, 239, 242, 260, 262, 263, 265, 266, 269, 270, 271, 273, 278, 283, 287, 288, 289, 297, 298, 301, 304, 307, 310,

316, 317, 321, 332, 334, 335, 336, 341, 345, 346, 347, 348, 351, 368, 373, 374, 375, 377, 378, 384, 385, 387, 389, 390, 392, 397, 401, 404, 405, 434, 437, 440, 442). The most common argument was that capping the counts would reduce the burden on employers (see, e.g., Exs. 21; 33; 15: 82, 95, 111, 146, 154, 159, 170, 176, 182, 188, 213, 231, 260, 262, 265, 273, 288, 289, 297, 301, 304, 305, 310, 341, 345, 346, 373, 389, 390, 401, 442) and simplify the OSHA recordkeeping system (see, e.g., Exs. 21; 15: 188, 297, 373). Several commenters argued that such a change would produce a "significant" reduction in burden and cost (see, e.g., Exs. 15: 154, 159, 203, 297). The Miller Brewing Company comment (Ex. 15: 442) was representative: "We endorse this cap on the days away from work (DAFW) calculation. Once a case reaches 180 days, it is clearly recognized as a serious case. The requirement to calculate days away from work beyond 180 is a time consuming administrative exercise which provides no value-added information relative to the severity of a given case. Again, we support this rule change and OSHA's attempt to simplify the recordkeeping process."

Commenters also pointed out that limiting the day counts would make it easier to count days for cases that span two calendar years (see, e.g., Exs. 15: 153, 194, 195, 289). Other commenters stated that it was difficult to modify the former year's records (Ex. 15: 153) and that the day count cap would ease the burden of tracking cases that span two calendar years (Ex. 15: 289).

Several commenters stated that the benefits of recording extended day counts were insignificant (see, e.g., Exs. 15: 111, 159, 176, 184, 260, 262, 265, 288, 297, 373, 401, 430, 434, 442), that they added negligible information for case analysis or safety and health program evaluation (Ex. 15: 434), and that there was no "value added information" from high day counts (see, e.g., Exs. 15: 260, 262, 265, 401, 442). Others stated that capping the day counts would provide "adequate data" (see, e.g., Exs. 15: 111, 159, 304, 345) and that there would be no loss of significant data for analysis (see, e.g., Exs. 15: 170, 184, 297, 341, 373). The McDonnell Douglas Corporation (Ex. 15: 297) argued that a cap "[w]ould allow industry to avoid the significant and costly paperwork burdens associated with tracking lost workdays, without any appreciable reduction in OSHA's ability to identify significant workplace injuries and illnesses or to assure continuing improvement in workplace safety and health."

Support for capping the count of days away from work was not unanimous, and several commenters opposed a day count cap (see, e.g., Exs. 15: 31, 62, 197, 204, 225, 277, 294, 302, 350, 359, 369, 379). The National Safety Council stated that "[n]o cap on counting lost workdays is necessary provided that the count automatically ends with termination, retirement, or entry into long-term disability. Only a small proportion of cases have extended lost workday counts so there is little additional recordkeeping burden. The additional information gained about long-term lost workday cases is important and keeps employers aware of such cases" (Ex. 15: 359). Other commenters stressed that it was important to obtain an accurate accounting of days away to assess the severity of the case (see, e.g., Exs. 15: 294, 379, 429, 440), that the counts were needed to make these cases visible (see, e.g., Exs. 15: 294, 440), and that the counts demonstrate the impact of long term absences (Ex. 15: 62). For example, the Boeing Company (Ex. 15: 294) argued that

If the count is suspended after 180 days (or any other arbitrary number), an employer will lose valuable information regarding the true amount of lost work days and their associated costs. The experience of The Boeing Company indicates that there are a small number of cases that have many more than 180 days. The result is a disproportionate amount of total costs. Not having visibility of these cases would be a mistake.

The United Steelworkers of America (USWA) offered several reasons for not adopting a day count cap: "The USWA also strongly opposes capping lost work day cases at 180. We believe that no cap is necessary or desirable. Only a very small proportion of cases have extended lost workdays recorded so there is little additional recordkeeping burden. The additional information gained about long-term lost workday cases is important in evaluating the severity of the injury and it keeps attention on such cases" (Ex. 15: 429).

The International Brotherhood of Teamsters (IBT) opposed the capping of day counts on the basis that the OSH Act requires "accurate" records, stating that:

The IBT opposes the elimination of counting the days of restricted work activity and opposes capping the count of "days away from work" at 180 days. The IBT uses the restricted work activity day count to gauge the severity of an injury or illness. We are supported by the OSH Act, section 24(a) "the Secretary shall compile accurate statistics on work injuries and illnesses which shall include all disabling, serious, or significant injuries or illnesses. * * * The

International Brotherhood of Teamsters maintains that the recording of restricted work activity day counts and counting of days away from work enables OSHA to compile accurate data on serious and significant injuries. (Ex. 15: 369)

After a review of the evidence submitted to the record, OSHA has decided to include in the final rule a provision that allows the employer to stop counting days away from work or restricted workdays when the case has reached 180 days. OSHA's primary reason for this decision is that very few cases involve more than 180 days away or days of restricted work, and that a cap of 180 days clearly indicates that such a case is very severe. Continuing to count days past the 180-day cap thus adds little additional information beyond that already indicated by the 180-day cap.

Selection of the Day Count Cap

A large number of commenters specifically supported the 180 day cap proposed by OSHA (see, e.g., Exs. 51; 15: 26, 27, 67, 70, 89, 111, 121, 127, 136, 137, 141, 153, 154, 159, 170, 176, 184, 224, 233, 242, 260, 262, 263, 265, 266, 269, 270, 278, 283, 288, 298, 316, 335, 341, 368, 377, 385, 401, 404, 423, 430, 437, 442). The Chemical Manufacturers Association (CMA) stated that "CMA supports the use of a cap on the number of days away from work that must be counted. Once an employee misses more than 180 days from work * * * due a workplace injury or illness, the relative seriousness of the incident is determined and little benefit is derived from continuing to count the number of days for OSHA's recordkeeping system." The Fertilizer Institute (Ex. 15: 154) supported 180 days because it "is consistent with most corporate long-term disability plans."

Many commenters who supported a cap on counting days away recommended that OSHA adopt a number of days other than 180 (see, e.g., Exs. 21; 37; 15: 60, 71, 75, 82, 85, 105, 108, 119, 122, 132, 180, 182, 185, 188, 194, 195, 198, 199, 203, 213, 239, 246, 271, 272, 287, 289, 297, 303, 304, 305, 307, 308, 317, 336, 347, 348, 351, 375, 378, 384, 385, 404, 405, 407, 409, 410, 414, 425, 431, 434). The most common argument against capping at 180 days was that a few very serious cases would skew the statistical data (see, e.g., Exs. 15: 75, 180, 246, 271, 385, 409). Hoffman-La Roche, Inc. argued for 90 days on the grounds that "90 days is more than sufficient to get a read on the severity of the injury/illness. This would enable employers to obtain meaningful data that is not skewed by one or two cases" (Ex. 15: 271).

Commenters suggested a number of alternatives, including 30 days (see, *e.g.*, Ex. 15: 414); 60 days (see, *e.g.*, Exs. 15: 60, 108, 119, 194, 203, 246, 287, 405); 60 or 90 (Ex. 15: 407); 90 days (see, *e.g.*, Exs. 21; 15: 75, 85, 105, 132, 182, 185, 239, 271, 272, 289, 297, 303, 317, 336, 347, 378, 409, 410, 425, 431); 50 to 100 days (see, *e.g.*, Exs. 37; 15: 384); 90 to 120 days (Ex. 15: 71); 90 or 180 days (Ex. 15: 434); 120 days (Ex. 15: 198); the equivalent of six months (see, *e.g.*, Exs. 15: 82, 188, 199, 213, 304, 307, 308, 351, 375); one year (Ex. 15: 122); and 60 days after the beginning of the new year (see, *e.g.*, Ex. 15: 195).

The most common alternative recommended by commenters was 90 days (see, *e.g.*, Exs. 21; 15: 75, 85, 105, 132, 182, 185, 239, 271, 272, 289, 297, 303, 317, 336, 347, 378, 409, 410, 425, 431). These commenters argued that 90 days would reduce the burden without a loss of information (see, *e.g.*, Exs. 15: 75, 85, 239, 297, 425), that 90 days is sufficient to determine severity (see, *e.g.*, Exs. 15: 85, 105, 271, 272, 289, 303, 410), that 90 days matches existing labor agreements (see, *e.g.*, Exs. 15: 378), and that 90 days limits the problems caused by a case that extends over 2 years (see, *e.g.*, Exs. 15: 407, 431).

NIOSH (Ex. 15: 407) commented that: NIOSH agrees with OSHA that "day counts greater than 180 days add negligible information while entailing significant burden on employers when updating OSHA records." Therefore, NIOSH agrees with the concept of capping the count of days away from work at a maximum of 180 days, and recommends that OSHA also consider caps of 60 or 90 days away from work.

Currently, the Annual Survey of Occupational Injuries and Illnesses reports distributional data for the number of days away from work and the median number of days away from work for demographic (age, sex, race, industry, and occupation) and injury/illness (nature, part of body, source, and event) characteristics. The largest category of days away from work reported by the BLS for days away from work is "31 days or more." In 1992, the Annual Survey reported median days away from work that ranged from 1 day to 236 days [U.S. Department of Labor 1995]. For most demographic and injury/illness categories, capping the count of days away from work at 180 days will not alter the values for either the percent of injuries in the "31 days or more" category or median days away from work.

OSHA may wish to consider capping the count of days away from work at either the 60 or the 90 day level. Employers could be instructed to enter a value of 61+(or 91+) to indicate that the recorded injury or illness condition existed beyond the cap on the count of days away from work based on the 1992 Annual Survey data, not reported industry and only one reported occupation had a median of greater than 60 days (dental

hygienist, median = 71). There was also a very small number of injury/illness characteristics with medians between 60 and 90 days or with medians exceeding 90 days. Eleven of the 13 instances in which the median exceeded 60 days away from work were based on distributions involving a small number of estimated cases *i.e.*, only 100 to 400 nationally. Capping the count of days away from work at either 60 or 90 days would still allow the reporting of the proportion of cases involving days away from work in the "31 days or more category" that is currently being reported by the BLS. A minor limitation of capping the count of days away from work at 60 or 90 days is that for a very small number of characteristics, the median would have to be reported as exceeding the cap.

Two commenters suggested that OSHA use months instead of days as the measurement (Exs. 15: 304, 404), and a number of commenters pointed out that OSHA's proposed 180 days should be 125 if based on 6 months of actual workdays instead of calendar days (see, *e.g.*, Exs. 15: 199, 213, 307, 308, 348).

After careful consideration, OSHA has decided to cap the day counts at 180 days and to express the count as days rather than months. The calendar month is simply too large and unwieldy a unit of measurement for this purpose. The calendar-day method is the simplest method and will thus produce the most consistent data.

OSHA has decided to cap the counts at 180 days to eliminate any effect such capping might have on the median days away from work data reported by BLS. This cap will continue to highlight cases with long periods of disability, and will also reduce the burden on employers of counting days in excess of 180. Using a shorter threshold, such as 90 or even 120 days, could impact the injury and illness statistics published by the BLS, and could thus undermine the primary purpose of this regulation: to improve the quality and utility of the injury and illness data. Using a shorter time frame would also make it harder to readily identify injuries and illnesses involving very long term absences. The rule also does not require the employer to use the designation of 180+ or otherwise require cases extending beyond 180 days to be marked with an asterisk or any other symbol, as suggested by various commenters (see, *e.g.*, Exs. 15: 31, 62, 153, 289, 374, 407, 425). Employers who wish to attach such designations are free to do so, but OSHA does not believe such designations are needed.

Counting Lost Workdays When Employees Are No Longer Employed by the Company

The proposed rule contained a provision that would have allowed the

employer to stop counting the days away from work when the worker was terminated for reasons unrelated to an injury or illness (61 FR 4058). This provision would have continued OSHA's former policy on this matter, which allowed the employer to stop counting days away or restricted workdays when the employee's employment was terminated by retirement, plant closings, or like events unrelated to the employee's work-related injury or illness (Ex. 2, pp. 49, 50). The final rule, at paragraph 1904.7(b)(3)(vii), permits employers to stop counting days away if an injured or ill employee leaves employment with the company for a reason unrelated to the injury or illness. Examples of such situations include retirement, closing of the business, or the employee's decision to move to a new job.

Paragraph 1904.7(b)(3)(vii) also requires employers whose employees have left the company because of the injury or illness to make an estimate of the total days that the injured or ill employee would have taken off work to recuperate. The provisions in paragraph 1904.7(b)(3)(vii) also apply to the counting of restricted or transferred days, to ensure that days are counted consistently and to provide the simplest counting method that will collect accurate data. OSHA's reasoning is that day counts continue to be relevant indicators of severity in cases where the employee was forced to leave work because of the injury or illness.

Handling Cases That Cross Over From One Year to the Next

A special recording problem is created by injury and illness cases that begin in one year but result in days away from work or days of restricted work in the next year. Under the former rule, the employer was to record the case once, in the year it occurred, and assign all days away and restricted days to that case in that year (Ex. 2, p. 48). Under the rule being published today, this policy still applies. If the case extends beyond the time when the employer summarizes the records following the end of the year as required by § 1904.32, the employer is required by paragraph 1904.7(b)(3)(viii) to update the records when the final day count is known. In other words, the case is entered only in the year in which it occurs, but the original Log entry must subsequently be updated if the day count extends into the following year.

In addition to the NIOSH (Ex. 15: 407) comments on the day counts summarized above, the Society for Human Resource Management (Ex. 15: 431) urged OSHA to adopt a lower day

count cap to limit the "crossover" problem. Two commenters urged OSHA to take a new approach to cases that extend over two or more years. Both the Laborers' Health & Safety Fund of North America (Ex. 15: 310) and the Service Employees International Union (Ex. 15: 379) recommended that these cases be recorded in each year, with the days for each year assigned to the appropriate case. The Laborers' Health & Safety Fund of North America (Ex. 15: 310) stated:

One concern with a large number of days away from work is how to record the lost days which begin in one calendar year and end in a following calendar year. We suggest that it is best to record the number of days lost from the date of the injury to the end of the calendar year, and to enter the injury again on the following year's OSHA 300 with the remaining days of lost time up to the 180 day maximum. A box should be available to indicate that the entry is a continuation from the prior year.

As stated earlier, OSHA has decided on the 180 day cap for both days away and days of restricted work cases to ensure the visibility of work-related injuries and illnesses with long periods of disability. The final rule also requires the employer to summarize and post the records by February 1 of the year following the reference year. Therefore, there will be some cases that have not been closed when the records are summarized. Although OSHA expects that the number of cases extending over two years will be quite small, it does not believe that these cases warrant special treatment. A policy that would require the same case to be recorded in two years would result in inaccurate data for the following year, unless special instructions were provided. Accordingly, the final rule requires the employer to update the Log when the final day count is known (or exceeds 180 days), but to record the injury or illness case only once. This approach is consistent with OSHA's longstanding practice and is thus familiar to employers.

Miscellaneous Day Counting Issues

Two commenters provided additional comments for OSHA to consider on the issue of counting days away from work. The Laborers' Health & Safety Fund of North America (Ex. 15: 310) recommended that OSHA require employers to enter a count of 365 days away from work on the Log for any fatality case:

In a recent project we used OSHA 200 data from road construction and maintenance employers to determine the causes and relative severities of serious injuries. The number of lost workdays plus restricted work

activity days for an injury event or type was used as a measure of severity. In quite a few individual injury cases, the number of days away from work entry was not available because of the severity of the injury or because the injury resulted in a fatality. For recordkeeping purposes, we would suggest a maximum cap of 180 days for a non-fatal serious injury of long duration, and an automatic entry of 365 for fatalities. Using this method, the most severe cases would be weighted appropriately, with fatalities carrying the heaviest weight. Also, entering a lost workday number for fatalities would enable fatalities to count in a single and simple "severity-weighted Lost Work Day Injury and Fatality (LWDIF) rate".

OSHA has not adopted the Laborers' Health & Safety Fund of North America recommendation. OSHA believes that fatalities must be considered separately from non-fatal cases, however severe the latter may be. When an employee dies due to a work-related injury or illness, the outcome is so severe and so important that it must be treated separately. Merging the two types of cases would diminish the importance of fatality entries and make the days away data less useful for determining the severity of days away injury cases. Accordingly, the final rule being published today does not reflect this recommendation.

The Westinghouse Corporation (Ex. 15: 405) suggested that OSHA look at days of hospitalization as a measure of severity, stating "[t]he number of days hospitalized does provide a more objective indication of the seriousness of injury or illness, if for no other reason than cost control by insurance companies. If OSHA can document a legitimate use for an indicator of the "seriousness" of an injury, it may want to consider hospital stay time." OSHA has considered the use of hospitalized days, but has rejected them as a measure of injury or illness severity. Although these day counts may be a reasonable proxy for severity, they are applicable only in a relatively small number of cases.

Paragraph 1904.7(b)(4) Restricted Work or Transfer to Another Job

Another class of work-related injuries and illnesses that Section 8(c) of the Act identifies as non-minor and thus recordable includes any case that results in restriction of work or motion² or transfer to another job. Congress clearly

²The term *restricted motion* has been interpreted to mean restricted work motion and to be essentially synonymous with *restricted work*. OSHA does not distinguish between the two terms. OSHA's former *Guidelines* (Ex. 2, p. 43) clearly stated that a restriction of work or motion, such as that resulting from a bandaged finger, that did not also impair work was not recordable, and that is also the interpretation of the final rule.

identified restricted work activity and job transfer as indicators of injury and illness severity.

In the years since OSHA has been enforcing the recordkeeping rule, however, there has been considerable misunderstanding of the meaning of the term "restricted work," and, as a result, the recording of these cases has often been inconsistent. The Keystone Report (Ex. 5), which summarized the recommendations of OSHA stakeholders on ways to improve the OSHA recordkeeping system, noted that restricted work was perhaps the least understood of the elements of the system.

This section of the Summary and Explanation first discusses the former recordkeeping system's interpretation of the term restricted work, describes how the proposed rule attempted to revise that interpretation, and then summarizes and responds to the comments OSHA received on the proposed approach to the recording of work restriction and job transfer cases. Finally, this section explains the final rule's restricted work and job transfer requirements and OSHA's reasons for adopting them.

The Former Rule

The former recordkeeping rule did not include a definition of restricted work or job transfer; instead, the definition of these terms evolved on the basis of interpretations in the BLS *Guidelines* (Ex. 2, p. 48). The *Guidelines* stated that restricted work cases were those cases "where, because of injury or illness, (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at his or her permanently assigned job but could not perform all the duties connected with it." The key concepts in this interpretation were that work was to be considered restricted when an employee experienced a work-related injury or illness and was then unable, as a result of that injury or illness, to work as many hours as he or she would have been able to work before the incident, or was unable to perform all the duties formerly connected with that employee's job. "All duties" were interpreted by OSHA as including any work activity the employee would have performed over the course of a year on the job.

OSHA's experience with recordkeeping under the former system indicated that employers had difficulty with the restricted work concept. They questioned the need for keeping a tally of restricted work cases, disagreed with the "less than full time" concept, or

were unsure about the meaning of "all the duties connected with [the job]." (In OSHA's experience, employers have not generally had difficulty understanding the concept of temporary job transfer, which are treated in the same way as restricted work cases for recordkeeping purposes. The following discussion thus focuses on restricted work issues.) The changes OSHA proposed to make to the work restriction concept (61 FR 4033) were intended to address these employer concerns.

The Proposed Rule

The proposal would have changed restricted work recordkeeping practices markedly. For example, the proposal would have required employers to acknowledge that the case involved restricted work by placing a check in the restricted work column on the Log but would no longer have required them to count the number of restricted work days associated with a particular case. At the time of the proposal, OSHA believed that dropping the requirement to count restricted days was appropriate because the Agency lacked data showing that restricted work day counts were being used by employers in their safety and health programs. In addition, the proposal would have limited the work activities to be considered by the employer in determining whether the injured or ill worker was on restricted work. Under the former rule, employers had to consider whether an injured or ill employee was able to perform "all the duties" normally connected with his or her job when deciding if the worker's job was restricted; OSHA interpreted "all the duties" to include any work activity the employee performed at any time within a year. Under the proposal, the duties that the employer would have been required to consider were narrowed to include only (1) those work activities the employee was engaged in at the time of injury or illness onset, or (2) those activities the employee would have been expected to perform on that day (61 FR 4059). OSHA also requested comment in the proposal on the appropriateness of limiting the activities to be considered and on other definitions of work activities that should be considered, *e.g.*, would it be appropriate not to consider an employee to be on restricted work if he or she is able to perform any of his or her former job activities? (61 FR 4059).

Comments on the Proposed Rule's Restricted Work and Job Transfer Provisions

The comments OSHA received on these provisions were extensive. Commenters offered a wide variety of

suggestions, including that OSHA eliminate restricted work activity cases from the recordkeeping system altogether, that the proposed definition of restricted work activity be changed, that the proposed approach be rejected, that it be adopted, and many other recommendations. These comments are grouped under topic headings and are discussed below.

Eliminate the Recording of Restricted Work Cases

Several commenters recommended that OSHA completely eliminate the recording of restricted work cases because, in the opinion of these commenters, the concept confused employers, created disincentives to providing light duty work or return-to-work programs, and provided no useful information (see, *e.g.*, Exs. 15: 119, 203, 235, 259, 336, 414, 427). For example, the American Bakers Association said, "We believe that the concept and definitions of 'restricted work activity' should be eliminated. That term and its proposed definition is so ambiguous as to be unworkable, and information gleaned from that terminology would have little reliability or usefulness" (Ex. 15: 427).

The National Grain and Feed Association agreed, arguing that the recording of restricted work cases should be eliminated on the following grounds:

[w]e agree with the conclusion of the Keystone Report that "the recording of restricted work is perhaps the least understood and least accepted concept in the recordkeeping system." We disagree with OSHA, however, that the concept of restricted work is meaningful. For example, there is a wide range of restrictions that may be placed on an injured employee's activity after returning to work depending on the nature of the injury (*e.g.*, the range of work possible for an employee who has experienced a slight sprain versus an employee with a broken bone). Additionally, the concept of restricted work is greatly dependent on individual employee motivation and job description. * * * Importantly, we believe the concepts embodied in the proposed restricted work definition run counter to modern work practices that encourage workers to return to productive work at the worksite. Workers who have experienced minor injuries on the job can return to productive work under employer "return-to-work" programs. For this reason, the concept of restricted work is arbitrary and ultimately of little use to either evaluating the effectiveness of an employer's safety and health programs or determining the exposure of workers to a hazard at a specific worksite. We, therefore, recommend that the Agency delete the category of restricted work injuries from the proposed changes to 29 CFR 1904. Removal of this section will simplify the recordkeeping

system and make it more "user friendly." We support deletion of this category of injury because we think it will make the system more complex and is inconsistent with current practices of returning employees back to productive work at the earliest date (Ex. 15: 119).

Revise the Proposed Definition of a Restricted Work Case

Most of the remaining comments recommended either that the definition of restricted work in the final rule be revised to include a more inclusive set of job activities or functions or a less inclusive set. For example, the Small Business Administration (Ex. 51) was concerned that:

[t]he new definition for classifying "restricted work activity" could increase the number of cases that would be subject to this standard, and subsequently, classified as a recordable incident. Small businesses would face increased recordkeeping. Under the proposed definition, a case would be determined as a "restricted work activity" if the employee cannot perform what he or she was doing at the time of the illness or injury, or he or she could not perform the activities scheduled for that day. While this would be a very simple method, it would encompass more recordable incidents. Many workers have a myriad of tasks associated with their job. If an employee can return to work and perform functions within their job description, this should not be considered "restricted work activity". * * *

Several commenters recommended that OSHA rely on a definition of restricted work that would focus on "non productive work" and exclude the recording of any case where the employee was still productive (see, *e.g.*, Exs. 15: 9, 45, 46, 67, 80, 89, 247, 437). For example, Countrymark Cooperative, Inc. (Ex. 15: 9) stated:

[w]e disagree with a portion of the definition for restricted work activity. We agree that this should include injuries or illnesses where the worker is not capable of performing at full capacity for a full shift. However, by addressing the task that they were engaged in at the time of the injury will create problems. Most employees today have numerous assignments and responsibilities. They move from one task to another during a given day and during a given week. What they are doing at the time they are injured may not be the assignment for the next day or the next week. In these cases, they may be back at work in a fully productive role, but not doing the same task as when they were hurt. If they are performing a fully productive role within the same job description, but cannot perform the role of the job they were doing at the time, they should not be penalized. In many cases, this job task may not be active at the time they return. * * * It should be very clear that the ability to return an employee to a productive role (whether 50% or 100%) is extremely important to any "Return-to-Work" Program. If that person is returned to work and is

performing at full capacity in a given task within their job description, this should not be recorded unless it meets other criteria such as medical treatment. If we return to the days of recording these and penalizing the employer, they may be inclined to return to the days of only allowing employees to return to work when they are 100% in all given tasks within their job description. If this occurs, we all lose. * * * We do agree that any time an employee is returned to work and is restricted to only perform certain jobs, can only return for a limited duration, or must be reassigned to another task, this should be recorded as a restricted work case (Ex. 15: 9).

Others recommended that OSHA adopt the Keystone Report's definition of restricted work (see, *e.g.*, Exs. 15: 123, 129, 145, 225, 359, 379, 418). For example, the National Safety Council recommended:

[t]he concept of restricted work activity as described on page 4046 [of the **Federal Register**] is one with which the Council concurs, but the specific wording in proposed section 1904.3 is less clear. The colon following the opening clause of the definition "at full capacity for a full shift:" seems to mean that the employee must be able to perform the task during which he/she was injured and the other tasks he/she performed or would have performed that day not only for the normal frequency or duration, but "at full capacity for a full shift." For example, if the employee were required to open a valve at the start of a shift and close it at the end of the shift, the current wording seems to say that if the employee could not spend the entire shift opening and closing the valve, then his/her work activity is restricted. * * * The Council also believes that the concept of restricted work activity as formulated by the Keystone Report is appropriate in that it represents a consensus among the various stakeholder groups. For this reason, we also recommend that the task limitations refer to the week's activities rather than the day's activities (Ex. 15: 359).

The Union of Needletrades, Industrial and Textile Employees (UNITE) agreed with the National Safety Council that a different time period should be used in determining what job activities to consider. UNITE suggested that OSHA use the employee's monthly, rather than daily or weekly, duties to define restricted work activity (Ex. 15: 380).

A few commenters expressed concern that use of the proposed restricted work definition could lead employers to include unusual, extraordinary or rarely performed duties in the "work activities" to be considered when determining whether a case was a restricted work case (see, *e.g.*, Exs. 15: 80, 247). For example, the Arizona Public Service Company said:

[d]etermining restricted duty days should remain as it currently is in the Guidelines. The restriction should focus on the ability of the employee to perform all or any part of his

or her normal job duties. Focusing on what specifically they were doing at the time of injury could incorrectly base this determination on an activity that is performed rarely. Also, focusing on what they were scheduled to do for that week would not be useful for those whose schedules can change daily (Ex. 15: 247).

Adopt the Americans With Disabilities Act Definition of Essential Duties

The Laboratory Corporation of America's comment (Ex. 15: 127) was typical of those of several commenters who suggested that OSHA use the concept of essential job duties that is also used for the administration of the Americans with Disabilities Act (ADA) (see, *e.g.*, Exs. 15: 127, 136, 137, 141, 224, 266, 278, 431):

[t]he definition used by the Americans with Disability Act (ADA) would be very useful here. That definition indicates that restricted work exists if an employee is unable to perform the essential functions of his/her job. Since these essential functions are identified in the employee's job description, the employer would have a consistent "yardstick" with which to make this determination for each employee.

Adoption of the Proposed Approach Will Lead to Underreporting

Some commenters, such as the AFL-CIO, opposed the proposed approach to restricted work on the grounds that it would result in underreporting:

[w]e believe this proposed provision would entice employers to manipulate records and lead to further under-reporting. We strongly suggest that the Agency adopt the Keystone Report recommendation of restricted work which requires an employer to record if the employee is (1) unable to perform the task he or she was engaged in at the time of injury or onset of illness (task includes all facets of the assignment the employee was to perform); or (2) unable to perform any activity that he or she would have performed during the week (Ex. 15: 418).

Other commenters agreed (see, *e.g.*, Exs. 20, 15: 17, 129, 418). For example, the United Brotherhood of Carpenters (UBC) Health & Safety Fund of North America argued in favor of a broader definition to avoid this problem:

[t]he majority of workers represented by the UBC, such as carpenters and millwrights, routinely perform a wide variety of tasks during their normal workdays in either construction or industrial settings. Therefore, OSHA should not limit the classification of "restricted work activity" to either "the task he or she was engaged in at the time of the injury" or his or her daily work activity (daily work activity includes all assignments the employee was expected to perform on the day of the injury or onset of illness)" as proposed. The UBC feels that the current proposal would allow for manipulation of the records and will lead to serious under

reporting. Many workplaces have armies of "walking wounded" rather than reporting lost or restricted work activity. OSHA should at the very least adopt the position of the Keystone Report which recommended that restricted work activity should be recorded if the employee is "(1) unable to perform the task he or she was engaged in at the time of the injury or onset of illness, or (2) unable to perform any activity that he or she would have performed during the week." The UBC believes that the best definition of restricted work activity would be any illness or injury which inhibits, interferes with, or prevents a worker from performing any or all of the functions considered to be a normal part of his or her trade or occupation as defined in the applicable job description (Ex. 20).

Do Not Count Incidents Involving Only One or a Few Days as Restricted Work

A number of commenters recommended that restricted work activity involving only the day of injury/illness onset should not trigger an OSHA recordable case (see, *e.g.*, Exs. 15: 19, 44, 146, 154, 156, 198, 364, 374, 391). Typical of these comments is one from the Society of the Plastics Industry, Inc.:

[e]mployers have had problems with OSHA's definition of restricted work activity because OSHA's interpretation that having any work restriction, even one which lasts only for the remainder of the shift and which imposes no significant limitations on the employee's ability to perform his or her job, makes a case recordable. OSHA should adopt the administratively simple and common-sense rule that restricted work activity on the day of the case report does not make the case recordable. . . . The definition of "restricted work activity" should be clarified to state that the criteria apply only to days following the day of injury or onset of the illness. An employee's inability to work a full shift on the actual date of injury or onset of illness should not require recording as a restricted work case. As noted above, because OSHA's interpretation that having any work restriction, even one which lasts only for the remainder of the shift and which imposes no significant limitations on the employee's ability to perform his or her job, makes a case recordable, many non-serious, non-disabling cases are now recorded. Cases which do not otherwise meet the recordability criteria should not be recordable. Therefore, as recommended above, OSHA should eliminate the current requirement to record cases in which restricted work activity occurs only on the day of the case report (Ex. 15: 364).

The Kodak Company urged OSHA not to count cases involving restrictions lasting only for three days as restricted work cases on the grounds that such cases are "minor": "Restricted work activity allows employers and employees to remain at work. This is a win-win situation for both. Kodak suggests restricted work activity be counted only if the restriction lasts

longer than 3 working days. Hence, only serious cases would be recorded" (Ex. 15: 322).

Adopt the Proposed Approach

A large number of commenters supported OSHA's proposed definition, however (see, e.g., Exs. 27, 15: 26, 61, 70, 133, 159, 171, 185, 199, 204, 242, 263, 269, 270, 272, 283, 303, 305, 307, 317, 318, 324, 334, 347, 351, 373, 375, 377, 378, 384, 390, 392, 405, 409, 413, 425, 430). Typical of these were comments from the New Jersey Department of Labor (Ex. 15: 70), which commented:

[p]roviding a clear definition of what constitutes restricted work and an item to indicate that an injured employee has been shifted to restricted work activity should improve the accuracy and completeness of case reporting. Identifying the actual number of cases in which employees are shifted to alternate work, which are thought to be under reported, and adding the date when the employee returned to his/her usual work will help to assess the impact of these incidents.

The American Petroleum Institute, which believed that the proposed definition would be easy to interpret and would therefore improve recording consistency, stated: "API strongly supports OSHA's proposed definition of restricted activity. Because it is much more logical and easy to understand than the current definition, API believes it will lead to greater consistency" (Ex. 15: 375).

Use Different Triggers Than Those Proposed

The Commonwealth Edison Company recommended that restricted work be defined only in terms of the hours the employee is able to work, not the functions the employee is able to perform:

[C]omEd disagrees with OSHA on its definition of "restricted work activity". We propose that OSHA consider that restricted work activity simply state "Restricted work activity means the worker, due to his or her injury or illness, is unable to work a full shift." OSHA's proposed definition of restricted work activity is even more confusing than the current one. ComEd's proposed definition will allow quantifiable, direct cost tracking for this category of injury or illness. Workers will more than likely have some kind of meaningful work waiting for them if the injury is not disabling. If he or she is able to work the required normal shift hours, don't count the case as restricted. If they miss the entire shift, count is as a day away from work. If they miss part of the shift, count it as restricted (Ex. 15: 277).

Two commenters suggested that a case should only be considered restricted when it involves both medical

treatment *and* work restrictions (Exs. 15: 9, 348). For example, the E. I. du Pont de Nemours & Company (DuPont) said that the

"Restricted Work Activity" definition is a definite improvement over the current one. Suggest making treatment AND restriction the criteria. An insignificant injury can result in being told not to climb ladders. This does not negate the ability to do the job; it just limits the job to levels where ladder climbing is not required. * * * Restricted work activity is more dependent on timing and job than on injury severity. It doesn't necessarily focus on hazardous conditions. Certainly the definition in the proposed guidelines is far more specific and appropriate than the current one. We suggest consideration be given to dropping the Restricted category where medical treatment is not also given. For example, a slight muscle strain will result in advice not to climb ladders. The case would be in the restricted category although the treatment, if any, would be at the first aid level. Injury severity is the equivalent of a cut finger" (Ex. 15: 348).

Other comments sought a broader, more inclusive definition of restricted work, one that relies on job descriptions (see, e.g., Exs. 15: 41, 62, 198, 426). For example, Robert L. Rowan, Jr. stated:

[t]he definition of "restricted work activity" also concerns me and I believe it is unsuitable. The definition refers to an employee who is not capable of performing at full capacity for a full shift the "task" that he or she was engaged in at the time of the injury or onset of illness. The definition should include "any and all tasks" within the employee's clearly defined job description" (Ex. 15: 62).

The Maine Department of Labor, however, preferred the former rule's interpretation, with some modifications:

[w]e agree that there should be no mention of "normal" duties in the definition. Include: temporary transfer to a position or department other than the position or department the worker was working at when he/she was injured. Some of these can be detected on payroll records; only being able to work part of their workday. Time forms could raise suspicion here; a health care provider puts the person on written restrictions unless the employer can show that the restrictions listed do not impact the employee's ability to do his or her scheduled job during the time period of the restrictions. Keep a copy of the restrictions in the file. The doctor's name on the OSHA 301 serves as another possible check (Ex. 15:41).

Miscellaneous Comments and Questions

There were also a variety of miscellaneous comments and questions about the proposed approach to the recording of restricted work cases. For example, Bob Evans Farms suggested that:

[w]hen considering this proposal, OSHA needs to keep in mind the special nature of

the restaurant business. It is not uncommon for a cook to cut himself or herself, apply a Band-Aid, and then temporarily be reassigned to janitorial work for a day or two to keep the cut dry while it heals. This could be considered work duty modification and would then need to be reported to OSHA. As you can see, this type of minor occurrence would clog the system with needless paper (Exs. 15: 3, 4, 5, 6).

Phibro-Tech, Inc. offered this comment:

[a] factory employee who normally performs heavy labor may be assigned office work as a restricted work activity, and may not actually be contributing anything meaningful to the job. Will employers be required to limit what is considered "light duty" tasks? Will there be directives as to when an employee should really be off work or when he can be on "light duty"? Occupational physicians all have different opinions as to when an employee can return for light or full duty. It would be helpful to have more direction on this issue so employees aren't sent back to work too soon or kept off on lost time too long (Ex. 15: 35).

The law firm of Constangy, Brooks & Smith, LLC, asked, "[w]ould a restriction of piece rate or production rate be considered restricted duty under the proposed definition even though it is not considered restricted duty under the present guidelines?" (Ex. 15: 428). Miller Brewing Company added, "[w]ould also recommend that OSHA attempt to clarify whether a treating physician's [non-specific] return to work instructions such as "8 hours only," "self restrict as needed," and "work at your own pace" will constitute restricted work activity under the proposed recordkeeping rule" (Ex. 15: 442).

The Pacific Maritime Association stated:

This is another example where the ILWU/PMA workforce does not fit into the proposed recordkeeping system. The regulation as written pertains to employers who assign their employees to work tasks. As previously mentioned, in our industry it is the employee who selects the job they will perform. This dispatch system, or job selection process, presents many problems when the maritime industry is required to conform to requirements established for traditional employee/employer relationships found in general industry. At the present time there is no method available to determine why an individual longshoreman selects a specific job. Therefore, the requirement to identify, track, and record "restricted work activity" may be impossible to accomplish [in the maritime industry] (Ex. 15: 95).

Preventive Job Transfers

Several commenters (see, e.g., Exs. 25: 15: 69, 156, 406) urged OSHA to make some accommodation for "preventive

transfers” and medical removals. Many transfers and removals of this nature are related to work-related musculoskeletal disorders and are used to prevent minor musculoskeletal soreness from becoming worse. The following comments are representative of the views of these commenters. The Ogletree, Deakins, Nash, Smoak & Stewart (ODNSS) coalition commented:

[t]his definition [the proposed definition of restricted work] is overly broad, penalizes employers who have a light duty program in place, and fails to take into account that (1) today’s employees increasingly are cross trained and perform varied tasks, and (2) the ability of an employee to perform alternative meaningful work mitigates the seriousness of the inability to perform work in the two categories set out in the definition as proposed. The ODNSS Coalition recommends curing these defects by adding the following proviso to the proposed definition: “The case should be recorded as a restricted work case UNLESS the restrictive work activity is undertaken to relieve minor soreness experienced by a newly hired or transferred employee during a break-in phase to prevent the soreness from worsening, or the employee otherwise is able to perform other existing full-time duties.” The appropriate nature of the recommended proviso is underscored by a baseball analogy where the right fielder and the center fielder change positions. They both continue to play on the same team and make substantial contributions, but the strain on the new right fielder is less because he doesn’t have as much ground to cover (Ex. 15: 406).

The National Association of Manufacturers (NAM) summed up its views as follows:

[a] preventive or prophylactic measure such as medical removal (as opposed to a restorative or curative measure) is not and should not be deemed medical treatment, a job transfer or restricted activity for purposes of recordability, in the absence of a substantial impairment of a bodily function (Ex. 25).

Although Organization Resource Counselors (ORC) generally endorsed the proposed approach to the treatment of restricted work cases, it did express concern about how medical removal cases would be treated under the proposed definition:

[t]he proposed definition of restricted work is a significant improvement over the current [former] one, which was considered by many employers to be unfair and confusing. It is no secret that many employers did not understand the current restricted work rules and, as a result, did not follow them consistently. Additionally, the [proposed] elimination of the count of restricted workdays is appropriate and is a recognition by OSHA that the recording of this count is of little value to either the Agency or employers in program evaluation or program development. * * * Additionally, requirements for the recording of either

voluntary or mandatory medical removals where no additional symptoms are present are examples of appropriate action taken by employers to prevent harm to employees and not of a recordable injury or illness. * * * (Ex. 15: 358).

Final Rule’s Restricted Work and Job Transfer Provisions, and OSHA’s Reasons for Adopting Them

Paragraph 1904.7(b)(4) contains the restricted work and job transfer provisions of the final rule. These provisions clarify the definition of restricted work in light of the comments received and continue, with a few exceptions, most of the former rule’s requirements with regard to these kinds of cases. OSHA finds, based on a review of the record, that these provisions of the final rule will increase awareness among employers of the importance of recording restricted work activity and job transfer cases and make the recordkeeping system more accurate and the process more efficient.

OSHA believes that it is even more important today than formerly that the definition of restricted work included in the final rule be clear and widely understood, because employers have recently been relying on restricted work (or “light duty”) with increasing frequency, largely in an effort to encourage injured or ill employees to return to work as soon as possible. According to BLS data, this category of cases has grown by nearly 70% in the last six years. In 1992, for example, 9% of all injuries and illnesses (or a total of 622,300 cases) recorded as lost workday cases were classified in this way solely because of restricted work days, while in 1998, nearly 18% of all injury and illness cases (or a total of 1,050,200 cases) were recorded as lost workday cases only because they involved restricted work [BLS Press Release 99–358, 12–16–99]. The return-to-work programs increasingly being relied on by employers (often at the recommendation of their workers’ compensation insurers) are designed to prevent exacerbation of, or to allow recuperation from, the injury or illness, rehabilitate employees more effectively, reintegrate injured or ill workers into the workplace more rapidly, limit workers’ compensation costs, and retain productive workers. In addition, many employees are eager to accept restricted work when it is available and prefer returning to work to recuperating at home.

The final rule’s requirements in paragraph 1904.10(b)(4) of the final rule state:

(4) How do I record a work-related injury or illness that involves restricted work or job transfer?

When an injury or illness involves restricted work or job transfer but does not involve death or days away from work, you must record the injury or illness on the OSHA 300 Log by placing a check mark in the space for job transfer or restricted work and entering the number of restricted or transferred days in the restricted work column.

(i) How do I decide if the injury or illness resulted in restricted work?

Restricted work occurs when, as the result of a work-related injury or illness:

(A) You keep the employee from performing one or more of the routine functions of his or her job, or from working the full workday that he or she would otherwise have been scheduled to work; or

(B) A physician or other licensed health care professional recommends that the employee not perform one or more of the routine functions of his or her job, or not work the full workday that he or she would otherwise have been scheduled to work.

(ii) What is meant by “routine functions”?

For recordkeeping purposes, an employee’s routine functions are those work activities the employee regularly performs at least once per week.

(iii) Do I have to record restricted work or job transfer if it applies only to the day on which the injury occurred or the illness began?

No. You do not have to record restricted work or job transfers if you, or the physician or other licensed health care professional, impose the restriction or transfer only for the day on which the injury occurred or the illness began.

(iv) If you or a physician or other licensed health care professional recommends a work restriction, is the injury or illness automatically recordable as a “restricted work” case?

No. A recommended work restriction is recordable only if it affects one or more of the employee’s routine job functions. To determine whether this is the case, you must evaluate the restriction in light of the routine functions of the injured or ill employee’s job. If the restriction from you or the physician or other licensed health care professional keeps the employee from performing one or more of his or her routine job functions, or from working the full workday the injured or ill employee would otherwise have worked, the employee’s work has been restricted and you must record the case.

(v) How do I record a case where the worker works only for a partial work shift because of a work-related injury or illness?

A partial day of work is recorded as a day of job transfer or restriction for recordkeeping purposes, except for the day on which the injury occurred or the illness began.

(vi) If the injured or ill worker produces fewer goods or services than he or she would have produced prior to the injury or illness but otherwise performs all of the activities of his or her work, is the case considered a restricted work case?

No. The case is considered restricted work only if the worker does not perform all of the

routine functions of his or her job or does not work the full shift that he or she would otherwise have worked.

(vii) How do I handle vague restrictions from a physician or other licensed health care professional, such as that the employee engage only in "light duty" or "take it easy for a week"?

If you are not clear about a physician or other licensed health care professional's recommendation, you may ask that person whether the employee can perform all of his or her routine job functions and work all of his or her normally assigned work shift. If the answer to both of these questions is "Yes," then the case does not involve a work restriction and does not have to be recorded as such. If the answer to one or both of these questions is "No," the case involves restricted work and must be recorded as a restricted work case. If you are unable to obtain this additional information from the physician or other licensed health care professional who recommended the restriction, record the injury or illness as a case involving job transfer or restricted work.

(viii) What do I do if a physician or other licensed health care professional recommends a job restriction meeting OSHA's definition but the employee does all of his or her routine job functions anyway?

You must record the injury or illness on the OSHA 300 Log as a restricted work case. If a physician or other licensed health care professional recommends a job restriction, you should ensure that the employee complies with that restriction. If you receive recommendations from two or more physicians or other licensed health care providers, you may make a decision as to which recommendation is the most authoritative, and record the case based upon that recommendation.

The concept of restricted work activity in the final rule falls somewhere between the commenters' broadest and narrowest definitions of the work activities that should be considered in determining whether a particular case involves work restriction. The final rule's concept of restricted work is based both on the type of work activities the injured or ill worker is able to perform and the length of time the employee is able to perform these activities. The term "routine functions of the job" in paragraphs 1904.7(b)(4)(i) and (b)(4)(ii) clarifies that OSHA considers an employee who is unable, because of a work-related injury or illness, to perform the job activities he or she usually performs to be restricted in the work he or she may perform. Use of the term "routine functions of the job" should eliminate the concern of some commenters who read the proposed definition as meaning that an employee had to be able to perform every possible work activity, including those that are highly unusual or performed only very rarely, in order for the employer to avoid recording the case as a restricted work case (see, e.g., Exs.

15: 80, 247). In other words, OSHA agrees that it makes little sense to consider an employee who is prevented by an injury or illness from performing a particular job function he or she never or rarely performed to be restricted (see, e.g., Exs. 15: 80, 247). For example, OSHA finds that, for the purposes of recordkeeping, an activity that is performed only once per month is not performed "regularly." This approach is consistent with OSHA interpretations under the former rule. Limiting the definition to "essential functions," the ADA term recommended by several commenters (see, e.g., Exs. 15: 127, 136, 137, 141, 224, 266, 278, 431), would be inappropriate, because OSHA needs information on all restricted work cases, not just those that interfere with the essential functions of the job (29 U.S.C. 657(c)(2)).

On the other hand, OSHA agrees with those commenters who argued that the proposed definition, to limit the definition of restricted activity to the specific functions or tasks the employee was engaged in on the day of injury or onset of illness would be unsatisfactory, because doing so could fail to capture activities that an employee regularly performs (see, e.g., Exs. 20: 15: 17, 129, 380, 418). In the final rule, OSHA has decided that defining restricted work as work that an employee would regularly have performed at least once per week is appropriate, i.e., OSHA believes that the range of activities captured by this interval of time will generally reflect the range of an employee's usual work activities. Activities performed less frequently than once per week reflect more uncommon work activities that are not considered routine duties for the purposes of this rule. However, the final rule does not rely on the duties the employee actually performed during the week when he or she was injured or became ill. Thus, even if an employee did not perform the activity within the last week, but usually performs the activity once a week, the activity will be included. OSHA believes that this change in definition will foster greater acceptance of the concept of restricted work among employers and employees because of its common sense approach.

Use of the term "partial work shift" in paragraph 1904.7(b)(4)(v) covers restrictions on the amount of time an employee is permitted to work because of the injury or illness. This interpretation of restricted work was not generally disputed by commenters, although some argued that the restriction on the hours worked should last for a specific number of days before the case becomes recordable as a restricted work case (see, e.g., Exs. 15:

19, 44, 146, 154, 156, 198, 364, 374, 391).

The final rule's restricted work provisions also clarify that work restriction must be imposed by the employer or be recommended by a health care professional before the case is recordable. Only the employer has the ultimate authority to restrict an employee's work, so the definition is clear that, although a health care professional may recommend the restriction, the employer makes the final determination of whether or not the health care professional's recommended restriction involves the employee's routine functions. Restricted work assignments may involve several steps: an HCP's recommendation, or employer's determination to restrict the employee's work, the employers analysis of jobs to determine whether a suitable job is available, and assignment of the employee to that job. All such restricted work cases are recordable, even if the health care professional allows some discretion in defining the type or duration of the restriction, an occurrence noted by one commenter (Ex. 15:442). However, the final rule's provisions make it clear that the employee is not the person making the determination about being placed on restricted work, as one commenter (Ex. 15: 97) feared.

A number of commenters suggested that OSHA cease to require the recording of restricted work cases entirely (see, e.g., Exs. 15: 119, 427). However, the Congress has directed that the recordkeeping system capture data on non-minor work-related injuries and illnesses and specifically on restricted work cases, both so that the national statistics on such injuries and illnesses will be complete and so that links between the causes and contributing factors to such injuries and illnesses will be identified (29 U.S.C. 651(b)). Days away and restricted work/job transfer cases together constitute two of the most important kinds of job-related injuries and illnesses, and it would be inappropriate not to record these serious cases. OSHA also cannot narrow the definition of restricted work to those cases where the employee is at work but cannot do productive work, as several commenters suggested (see, e.g., Exs. 15: 9, 45, 46, 89, 437), because the Congress clearly intended that workers whose work-related injuries and illnesses were so severe as to prevent them from doing their former work or from working for a full shift had experienced an injury or illness that was non-minor and thus worthy of being recorded. OSHA does not believe that requiring employers to record such injuries and illnesses as

restricted work cases will in any way discourage the use of restricted work or return-to-work programs, and the marked shift in the number of restricted work cases reported to the BLS in the last few years bears this out. It would also not be appropriate for OSHA to require that employers only record as restricted work cases those cases in which the injured or ill worker requires medical treatment *and* is placed on restricted work, as some commenters suggested (see, *e.g.*, Exs. 15: 9, 348). The OSH Act clearly requires the recording of all work-related cases that require either medical treatment or restricted work.

Under the final rule, employers are not required to record a case as a restricted work case if the restriction is imposed on the employee only for the day of the injury or onset of illness. OSHA thus agrees with a number of commenters (see, *e.g.*, Exs. 15: 19, 44, 146, 154, 156, 198, 364, 374, 391) that restricted activity only on the day the injury occurred or the illness began does not justify recording. This represents a change in the treatment of restricted work cases from OSHA's practice under the former rule. OSHA has made this change to bring the recording of restricted work cases into line with that for days away cases: under the final rule, employers are not required to record as days away or restricted work cases those injuries and illnesses that result in time away or time on restriction or job transfer lasting only for the day of injury of illness onset.

Several commenters recommended that cases involving medical removal under the lead or cadmium standards or cases involving "voluntary" preventive actions, such as cases involving job transfer or restricted work activity, not be considered recordable under the final rule; these participants argued that requiring employers to record voluntary transfers or removals would create a disincentive for employers to take these protective actions (see, *e.g.*, Exs. 25, 15: 69, 156, 358, 406). Under the final rule (see section 1904.9), mandated removals made in accordance with an OSHA health standard must be recorded either as days away from work or as days of restricted work activity, depending on the specific action an employer takes. Since these actions are mandated, no disincentive to record is created by this recordkeeping rule.

Some commenters, however, urged OSHA to make an exception from the recording requirements for cases where the employer voluntarily, or for preventive purposes, temporarily transfers an employee to another job or restricts an employee's work activities.

OSHA does not believe that this concept is relevant to the recordkeeping rule, for the following reasons. Transfers or restrictions taken *before* the employee has experienced an injury or illness do not meet the first recording requirement of the recordkeeping rule, *i.e.*, that a work-related injury or illness must have occurred for recording to be considered at all. A truly preventive medical treatment, for example, would be a tetanus vaccination administered routinely to an outdoor worker. However, transfers or restrictions whose purpose is to allow an employee to recover from an injury or illness as well as to keep the injury or illness from becoming worse are recordable because they involve restriction or work transfer caused by the injury or illness. All restricted work cases and job transfer cases that result from an injury or illness that is work-related are recordable on the employer's Log.

As the regulatory text for paragraph (b)(4) makes clear, the final rule's requirements for the recording of restricted work cases are similar in many ways to those pertaining to restricted work under the former rule. First, like the former rule, the final rule only requires employers to record as restricted work cases those cases in which restrictions are imposed or recommended as a result of a work-related injury or illness. A work restriction that is made for another reason, such as to meet reduced production demands, is not a recordable restricted work case. For example, an employer might "restrict" employees from entering the area in which a toxic chemical spill has occurred or make an accommodation for an employee who is disabled as a result of a non-work-related injury or illness. These cases would not be recordable as restricted work cases because they are not associated with a work-related injury or illness. However, if an employee has a work-related injury or illness, and that employee's work is restricted by the employer to prevent exacerbation of, or to allow recuperation from, that injury or illness, the case is recordable as a restricted work case because the restriction was necessitated by the work-related injury or illness. In some cases, there may be more than one reason for imposing or recommending a work restriction, *e.g.*, to prevent an injury or illness from becoming worse or to prevent entry into a contaminated area. In such cases, if the employee's work-related illness or injury played *any* role in the restriction, OSHA considers the case to be a restricted work case.

Second, for the definition of restricted work to apply, the work restriction must be decided on by the employer, based on his or her best judgment or on the recommendation of a physician or other licensed health care professional. If a work restriction is not followed or implemented by the employee, the injury or illness must nevertheless be recorded on the Log as a restricted case. This was also the case under the former rule.

Third, like the former rule, the final rule's definition of restricted work relies on two components: whether the employee is able to perform the duties of his or her pre-injury job, and whether the employee is able to perform those duties for the same period of time as before.

The principal differences between the final and former rules' concept of restricted work cases are these: (1) the final rule permits employers to cap the total number of restricted work days for a particular case at 180 days, while the former rule required all restricted days for a given case to be recorded; (2) the final rule does not require employers to count the restriction of an employee's duties on the day the injury occurred or the illness began as restricted work, providing that the day the incident occurred is the only day on which work is restricted; and (3) the final rule defines work as restricted if the injured or ill employee is restricted from performing any job activity the employee would have regularly performed at least once per week before the injury or illness, while the former rule counted work as restricted if the employee was restricted in performing any activity he or she would have performed at least once per year.

In all other respects, the final rule continues to treat restricted work and job transfer cases in the same manner as they were treated under the former rule, including the counting of restricted days. Paragraph 1904.7(b)(4)(xi) requires the employer to count restricted days using the same rules as those for counting days away from work, using § 1904.7(b)(3)(i) to (viii), with one exception. Like the former rule, the final rule allows the employer to stop counting restricted days if the employee's job has been permanently modified in a manner that eliminates the routine functions the employee has been restricted from performing. Examples of permanent modifications would include reassigning an employee with a respiratory allergy to a job where such allergens are not present, or adding a mechanical assist to a job that formerly required manual lifting. To make it clear that employers may stop

counting restricted days when a job has been permanently changed, but not to eliminate the count of restricted work altogether, the rule makes it clear that at least one restricted workday must be counted, even if the restriction is imposed immediately. A discussion of the desirability of counting days of restricted work and job transfer at all is included in the explanation for the OSHA 300 form and the § 1904.29 requirements. The revisions to this category of cases that have been made in the final rule reflect the views of commenters, suggestions made by the Keystone report (Ex. 5), and OSHA's experience in enforcing the former recordkeeping rule.

Paragraph 1904.7(b)(5) Medical Treatment Beyond First Aid

The definitions of first aid and medical treatment have been central to the OSHA recordkeeping scheme since 1971, when the Agency's first recordkeeping rule was issued. Sections 8(c)(2) and 24(a) of the OSH Act specifically require employers to record all injuries and illnesses other than those "requiring only first aid treatment and which do not involve medical treatment, loss of consciousness, restriction of work or motion, or transfer to another job." Many injuries and illnesses sustained at work do not result in death, loss of consciousness, days away from work or restricted work or job transfer. Accordingly, the first aid and medical treatment criteria may be the criteria most frequently evaluated by employers when deciding whether a given work-related injury must be recorded.

In the past, OSHA has not interpreted the distinction made by the Act between minor (i.e., first aid only) injuries and non-minor injuries as applying to occupational illnesses, and employers have therefore been required to record all occupational illnesses, regardless of severity. As a result of this final rule, OSHA will now apply the same recordability criteria to both injuries and illnesses (see the discussion of this issue in the Legal Authority section of this preamble). The Agency believes that doing so will simplify the decision-making process that employers carry out when determining which work-related injuries and illnesses to record and will also result in more complete data on occupational illness, because employers will know that they must record these cases when they result in medical treatment beyond first aid, regardless of whether or not a physician or other licensed health care professional has made a diagnosis.

The former recordkeeping rule defined first aid as "any one-time treatment and any follow-up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care." Medical treatment was formerly defined as "treatment administered by a physician or by registered professional personnel under the standing orders of a physician."

To help employers determine the recordability of a given injury, the *Recordkeeping Guidelines*, issued by the Bureau of Labor Statistics (BLS) in 1986, provided numerous examples of medical treatments and of first aid treatments (Ex. 2). These examples were published as mutually exclusive lists, i.e., a treatment listed as a medical treatment did not also appear on the first-aid list. Thus, for example, a positive x-ray diagnosis (fractures, broken bones, etc.) was included among the treatments generally considered medical treatment, while a negative x-ray diagnosis (showing no fractures) was generally considered first aid. Despite the guidance provided by the *Guidelines*, OSHA continued to receive requests from employers for interpretations of the recordability of specific cases, and a large number of letters of interpretation addressing the distinction between first aid and medical treatment have been issued. The following sections discuss the definitions of medical treatment and first aid proposed by OSHA, the comments received in response to the proposal, and the definition of medical treatment that OSHA has decided to include in the final rule.

In the proposed rule, OSHA presented a simplified approach: to define as first aid anything on a list of first aid treatments, and to define as medical treatment any treatment not on that list. Specifically, medical treatment was defined as "any medical cure or treatment beyond first aid" (61 FR 4059).

The proposal contained a comprehensive list of all treatments that would be considered "first aid" regardless of the provider:

- (1) Visit(s) to a health care provider limited to observation
- (2) Diagnostic procedures, including the use of prescription medications solely for diagnostic purposes (e.g. eye drops to dilate pupils)
- (3) Use of nonprescription medications, including antiseptics
- (4) Simple administration of oxygen
- (5) Administration of tetanus or diphtheria shot(s) or booster(s)
- (6) Cleaning, flushing or soaking wounds on skin surface

(7) Use of wound coverings such as bandages, gauze pads, etc.

(8) Use of any hot/cold therapy (e.g. compresses, soaking, whirlpools, non-prescription skin creams/lotions for local relief, etc.) except for musculoskeletal disorders (see Mandatory Appendix B to Part 1904)

(9) Use of any totally non-rigid, non-immobilizing means of support (e.g. elastic bandages)

(10) Drilling of a nail to relieve pressure for subungual hematoma

(11) Use of eye patches

(12) Removal of foreign bodies not embedded in the eye if only irrigation or removal with a cotton swab is required

(13) Removal of splinters or foreign material from areas other than the eyes by irrigation, tweezers, cotton swabs or other simple means (61 FR 4059)

OSHA also solicited comment on three specific definitional questions:

(A) Should any treatments on the proposed first aid list be excluded and should any treatments be added?

(B) Should a list of medical treatments also be provided? Which treatments?

(C) Should simple administration of oxygen be defined to exclude more severe procedures such as Intermittent Positive Pressure Breathing (IPPB)? If so, how?

OSHA received many comments on the general approach taken in the proposal, i.e., that employers rely on a comprehensive list of first aid treatment and define any treatment not on that list as medical treatment. The Agency also received many comments on the individual items on the proposed first aid list. The following discussion addresses comments on the general approach adopted in the final rule and then deals with comments on specific items and OSHA's responses to each issue.

A large number of commenters agreed with OSHA's proposal to rely on a finite list of treatments considered first aid and to consider all other treatments medical treatment (see, e.g., Exs. 15: 9, 13, 26, 27, 74, 76, 87, 95, 122, 127, 156, 163, 185, 188, 199, 204, 218, 242, 263, 269, 270, 283, 297, 324, 332, 338, 347, 357, 359, 377, 378, 385, 386, 387, 395, 397, 405, 407, 414, 434). Several commenters wanted no change to the proposal (see, e.g., Exs. 15: 26, 76, 204, 385, 378), while others agreed with the general approach but stated that the first aid list should be more comprehensive (see, e.g., Exs. 15: 199, 332, 338, 357, 386, 387).

Commenters supported the proposed approach for a variety of reasons. For example, some stated that a finite list

would improve the clarity of the definition, reduce confusion for employers, and reduce inaccuracy in the data (see, e.g., Exs. 15: 87, 95, 122, 127, 163, 185, 188, 395, 338, 242, 270, 269, 263, 347, 377, 386). The statement of the American Iron and Steel Institute exemplified these comments:

Consistent with its statutory mandate, OSHA's proposal would also require the recording of all work-related injuries and illnesses that result in medical treatment beyond first aid. The expanded and finite list of treatments that constitute first aid would clarify the task of deciding what to record, because any treatment that does not appear on this list will be considered a medical treatment. (Ex. 15: 395)

The Ford Motor Company agreed, stating:

Ford supports that the definition of first aid be modified to consist of a comprehensive list of treatments. Treatments not found on the first aid list would be considered medical treatment for recordkeeping purposes. Assuming that the list will be comprehensive, it will reduce confusion, lead to consistent recordkeeping, and greatly simplify the decision making process (Ex. 15: 347).

Some commenters stated that the proposed approach would be simpler for employers, generate more consistent records, and facilitate better comparisons of injury and illness data over time (see, e.g., Exs. 15: 13, 122, 127, 242, 270, 269, 263, 283, 297, 347, 359, 377, 405, 407). According to the Southern Nuclear Operating Company: "Providing a comprehensive list of all first-aid treatments will remove the current ambiguity in deciding if a case involves first aid only or if it is medical treatment. This should provide more consistent recordkeeping and allow for more meaningful comparisons of accident histories" (Ex. 15: 242, p. 2).

A number of commenters, however, disagreed that defining first aid by listing first aid treatments was appropriate (see, e.g., Exs. 15: 18, 63, 83, 87, 96, 119, 123, 129, 145, 159, 171, 173, 176, 182, 201, 225, 229, 247, 260, 262, 265, 272, 281, 303, 307, 308, 335, 337, 338, 341, 348, 349, 357, 364, 375, 380, 382, 389, 396, 401, 413, 418, 430, 434). Several of these commenters argued that it would not be possible to list every first aid treatment (see, e.g., Exs. 15: 225, 335, 337, 396, 430). Some commenters stated that the proposed approach would not provide sufficient clarity, would involve a definition of medical treatment that was overly vague, and would not be helpful to employers without additional definitions (see, e.g., Exs. 15: 159, 171, 176, 229, 281, 348, 357, 396). Another group of commenters stated that the

approach did not provide flexibility to adapt to changing medical practice, and would not be capable of responding to changes in technology (see, e.g., Exs. 15: 18, 63, 96, 335, 348). The comments of the Dow Chemical Corporation are representative of these views:

Dow believes that OSHA should provide non-exhaustive lists for both first aid and medical treatment, rather than defining one solely by the exclusion of the other. Dow believes this suggested approach is necessary to take into account that these lists cannot be comprehensive or all-inclusive as it is impossible to list every possible contingency. Moreover, technology is constantly changing and cannot be accounted for in a static list. For example, one can now obtain Steri-Strips over the counter where previously it would have been considered "medical treatment." Since exhaustive lists do not allow the flexibility to take these technologies into account nor capture every possible situation, much would still be left to supposition. By providing an illustrative list for both first aid and medical treatment, OSHA would be giving adequate guidance for the regulated community. Dow recommends OSHA make this modification in the final rule. (Ex. 15: 335)

A number of commenters urged OSHA to use the definition of medical treatment as a way to focus primarily on the seriousness of the injury or illness (see, e.g., Exs. 15: 147, 201, 308, 341, 375, 395, 418). For example, the American Petroleum Institute remarked " * * * the fundamental issue is the seriousness of the injury or illness, not the treatment" (Ex. 375-A, p. 7). The Caterpillar Corporation provided lengthy comments on the definition of medical treatment, including the following criticism of the proposed approach:

Insignificant injuries for which medical treatment is provided do not provide valuable information for safety and health analysis. This proposal attempts to oversimplify the recordkeeping process which will result in many insignificant injuries and illnesses being recorded because of the unnecessarily restrictive definitions for first aid and medical treatment. The definition and listing of first aid cannot be a comprehensive or exclusive listing and definition. Medical treatment may be provided for insignificant injuries and significant injuries may receive little or no medical treatment. The medical treatment process and options are too complicated to be adequately described by one list which makes the treatments mutually exclusive. OSHA should continue the current practice with lists for both first aid and medical treatment. Further, the treatments cannot be mutually exclusive since treatment does not necessarily recognize the severity of the injury or illness (Ex. 15: 201, p. 4).

Some commenters who disagreed with the proposed approach provided suggestions and alternative definitions.

A number of commenters suggested that OSHA keep its former definitions of first aid and medical treatment (see, e.g., Exs. 15: 83, 119, 123, 129, 145, 225, 337, 380, 389, 418, 430). Several commenters urged OSHA to update the former rule's definitions using the proposed rule's listing of first aid treatments (see, e.g., Exs. 15: 83, 380, 418). Other commenters urged OSHA not to change the definition in any way because it would produce a break in the historical series of occupational injury and illness data (see, e.g., Exs. 15: 123, 145, 389).

Several commenters made suggestions that they believed would introduce flexibility into the proposed rule's first aid definition. The National Restaurant Association suggested that OSHA add a "catchall" category to the list to include "any similar type of treatment" (Ex. 15: 96, p. 5). The General Electric Company urged that the following language be added: "Other treatments may be considered first aid so long as they are recognized as first aid actions and [are] not listed in the definition of medical treatment" (Ex. 15: 349, p. 8). Some commenters suggested allowing the health care professional to determine whether the activity was properly classified as first aid or medical treatment (see, e.g., Exs. 27: 15: 131, 173, 176, 201, 334, 382, 392, 434). A typical comment along these lines was one from the American Forest and Paper Association, which stated that " * * * we believe a qualified health care professional should have the authority to determine what is properly characterized as first aid and what should be properly characterized as medical treatment" (Ex. 15:334, p. 7). Two commenters suggested that the health care professional be allowed to decide whether an action constituted first aid or medical treatment only if the treatment was not on either the first aid or medical treatment lists (see, e.g., Exs. 27: 15: 382, 392, 434).

One commenter, the American Network of Community Options and Resources, supported the development of a finite first aid list, but suggested that OSHA define medical treatment as "any treatment that requires professional medical intervention" (Ex. 15: 393, p. 8).

A number of commenters agreed with OSHA that the first aid definition should focus on the type of treatment given, and not on the provider (see, e.g., Exs. 15: 185, 308, 338, 349, 364, 443). Other comments argued that a distinction between first aid and medical treatment could be made on the basis of the number of times a particular treatment had been given. The AFL-CIO expressed a concern that, absent some

consideration of the number of times a treatment was administered, many serious injuries and illnesses would no longer be recordable and valuable data would be lost. The AFL-CIO stated that longer term treatments are more likely than shorter ones to be indicative of medical treatment:

The proposed change in definition would seem to exclude cases where there are continued instances of the listed first aid treatments from the recordkeeping requirements. Those conditions which require continued treatments, including continued use of non-prescription drugs and repeated cleaning, flushing or soaking of wounds would no longer be recordable. The AFL-CIO believes that first aid should be limited to one time treatments as is the current practice, so that serious conditions which require multiple treatments are recorded on the log. We strongly urge OSHA to maintain the definition of first aid in the current recordkeeping guidelines and to use the listed conditions as examples of first aid. (Ex. 15: 418).

Similarly, the TIMEC group of companies believed that any one-time treatment should be considered first aid, saying:

It is also TIMEC's perspective that the exclusion of a "one time medical treatment" provision from the list of first aids is unduly restrictive. Any condition that can be resolved or treated in one visit to the doctor should be considered minimal or negligible in the context of record keeping for industrial injuries. Under the proposed regulation, a condition that results in a one time medical treatment theoretically could be given the same weight, in terms of OSHA recordability, as a broken or severed limb. This seems unduly restrictive. Further, it may inhibit some employers from taking injured employees to the doctor in the first instance, in order to avoid a "OSHA recordable injury." An employer may otherwise hope that the matter will heal itself without infection. This seems contrary to the goal of the Occupational Safety and Health Act, to ensure appropriate and prompt medical treatment and safety services to employees (Ex. 15: 18, p. 2).

In response to these comments and the evidence in the record of this rulemaking, the final rule essentially continues the proposed approach, i.e., it includes a list of first-aid treatments that is inclusive, and defines as medical treatment any treatment not on that list. OSHA recognizes, as several commenters pointed out, that no one can predict how medical care will change in the future. However, using a finite list of first aid treatments—knowing that it may have to be amended later based on new information—helps to limit the need for individual judgment about what constitutes first aid treatment. If OSHA adopted a more open-ended definition or one that relied

on the judgment of a health care professional, employers and health care professionals would inevitably interpret different cases differently, which would compromise the consistency of the data. Under the system adopted in the final rule, once the employer has decided that a particular response to a work-related illness or injury is in fact treatment, he or she can simply turn to the first aid list to determine, without elaborate analysis, whether the treatment is first aid and thus not recordable. OSHA finds that this simple approach, by providing clear, unambiguous guidance, will reduce confusion for employers and improve the accuracy and consistency of the data.

The need for clear and unambiguous guidance is also OSHA's reason for not considering treatments from the first aid list to be medical treatment if carried out for a lengthier time, as suggested by the AFL-CIO. If an injured or ill employee is given first-aid treatment, such as non-prescription medications (at non-prescription strength), hot or cold therapy, massage therapy, or some other treatment on the first aid list, the treatment should not be considered medical treatment for OSHA recordkeeping purposes, regardless of the length of time or number of applications used. This approach will ensure that the recordkeeping system excludes truly minor injuries and illnesses, and capture the more serious cases that require treatment beyond first aid.

In the final rule, OSHA has adopted the approach taken in the proposal, in a slightly modified form. Under the final rule, employers will be able to rely on a single list of 14 first aid treatments. These treatments will be considered first aid whether they are provided by a lay person or a licensed health care professional. However, the final rule includes the following definition of medical treatment; "management and care of a patient for the purpose of combating disease or disorder;" this definition excludes observation and counseling, diagnostic procedures, and the listed first aid items. OSHA believes that providing a definition of medical treatment for recordkeeping purposes will help employers who are uncertain about what constitutes medical treatment. OSHA will also provide examples of medical treatments covered by this definition in compliance assistance documents designed to help smaller businesses comply with the rule. The following discussion describes the definitions of first aid and medical treatment in the final rule and explains

the Agency's reasons for including each item on the first aid list.

Final Rule

The final rule, at § 1904.7(b)(5)(i), defines medical treatment as the management and care of a patient for the purpose of combating disease or disorder. For the purposes of Part 1904, medical treatment does not include:

(A) Visits to a physician or other licensed health care professional solely for observation or counseling;

(B) The conduct of diagnostic procedures, such as x-rays and blood tests, including the administration of prescription medications used solely for diagnostic purposes (e.g., eye drops to dilate pupils); or

(C) "first aid" as defined in paragraph (b)(5)(ii) of this section.

The final rule, at paragraph (b)(5)(ii), defines first aid as follows:

(A) Using a nonprescription medication at nonprescription strength (for medications available in both prescription and non-prescription form, a recommendation by a physician or other licensed health care professional to use a non-prescription medication at prescription strength is considered medical treatment for recordkeeping purposes).

(B) administering tetanus immunizations (other immunizations, such as hepatitis B vaccine or rabies vaccine, are considered medical treatment).

(C) Cleaning, flushing or soaking wounds on the surface of the skin;

(D) Using wound coverings, such as bandages, Band-Aids®, gauze pads, etc.; or using butterfly bandages or Steri-Strips® (other wound closing devices, such as sutures, staples, etc. are considered medical treatment);

(E) Using hot or cold therapy;

(F) Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (devices with rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for recordkeeping purposes);

(G) Using temporary immobilization devices while transporting an accident victim (e.g. splints, slings, neck collars, back boards, etc.)

(H) Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister;

(I) Using eye patches;

(J) Removing foreign bodies from the eye using only irrigation or a cotton swab;

(K) Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs, or other simple means;

(L) Using finger guards;

(M) Using massages (physical therapy or chiropractic treatment are considered medical treatment for recordkeeping purposes);

(N) Drinking fluids for relief of heat stress.

This list of first aid treatments is comprehensive, i.e., any treatment not included on this list is not considered

first aid for OSHA recordkeeping purposes. OSHA considers the listed treatments to be first aid regardless of the professional qualifications of the person providing the treatment; even when these treatments are provided by a physician, nurse, or other health care professional, they are considered first aid for recordkeeping purposes.

The definition of medical treatment in the final rule differs both from the definition used in the former rule ("treatment administered by a physician or by registered professional personnel under the standing orders of a physician") and the proposed definition ("medical treatment includes any medical care or treatment beyond first aid"). The medical treatment definition in the final rule is taken from *Dorland's Illustrated Medical Dictionary*, and is thus consistent with usage in the medical community.

The three listed exclusions from the definition—visits to a health care professional solely for observation or counseling; diagnostic procedures, including prescribing or administering of prescription medications used solely for diagnostic purposes; and procedures defined in the final rule as first aid—clarify the applicability of the definition and are designed to help employers in their determinations of recordability.

OSHA received several comments on the proposed definition of medical treatment. These dealt primarily with the general approach OSHA was proposing, i.e., the use of an all-inclusive list of first aid applications, and defining any treatment not on the list as medical treatment. The remaining comments (see, e.g., Exs. 15: 87, 171, 173, 176, 182, 229, 247, 260, 262, 265, 272, 303, 307, 357, 338, 375, 382, 396, 401, 413) urged OSHA to develop an all-inclusive list of medical treatments, to provide examples of some medical treatments, or to provide a non-mandatory appendix with such examples.

OSHA has not adopted the suggestions made by these commenters because the Agency finds that simplicity and clarity are best served by adopting a single, all-inclusive first aid list and explicitly stating that any treatment not on the list is considered, for recordkeeping purposes, to be medical treatment. Employers will thus be clear that any condition that is treated, or that should have been treated, with a treatment not on the first aid list is a recordable injury or illness for recordkeeping purposes.

This simplified approach addresses the concerns expressed by several commenters, who emphasized that the distinction between first aid and

medical treatment made in the Act was meant to ensure that all occupational injuries and illnesses that were other than minor be captured by OSHA's recordkeeping system but that minor conditions not be recorded (see, e.g., Exs. 15-308, 375A, p. 7). As the American Petroleum Institute commented (Ex. 375A), "* * * the fundamental issue is the seriousness of the injury or illness, not the treatment." OSHA concludes, based on its review of the record, that the final rule's definitions of medical treatment and first aid will work together to achieve Congress's intent, as specified in sections 8 and 24 of the Act.

In making its decisions about the items to be included on the list of first aid treatments, OSHA relied on its experience with the former rule, the advice of the Agency's occupational medicine and occupational nursing staff, and a thorough review of the record comments. In general, first aid treatment can be distinguished from medical treatment as follows:

- First aid is usually administered after the injury or illness occurs and at the location (e.g., workplace) where the injury or illness occurred.
- First aid generally consists of one-time or short-term treatment.
- First aid treatments are usually simple and require little or no technology.
- First aid can be administered by people with little training (beyond first aid training) and even by the injured or ill person.
- First aid is usually administered to keep the condition from worsening, while the injured or ill person is awaiting medical treatment.

The final rule's list of treatments considered first aid is based on the record of the rulemaking, OSHA's experience in implementing the recordkeeping rule since 1986, a review of the BLS *Recordkeeping Guidelines*, letters of interpretation, and the professional judgment of the Agency's occupational physicians and nurses.

Specific Items on the Proposed First Aid List in the NPRM

Item 1 listed in the NPRM definition of first aid was "Visit(s) to a health care provider limited to observation." Two commenters raised the issue of counseling with regard to the recording of mental disorders (Exs. 15: 226, 395). The American Ambulance Association (AAA) stated that: "This is and should be considered preventive treatment aimed at preventing stress-related illnesses. OSHA's adoption of such a policy will allow and encourage employers to provide CISD (critical

incident stress debriefing) counseling" (Ex. 15: 226, p. 3). The AAA recommended that OSHA add preventive counseling, such as critical incident stress debriefing, to the first aid listing.

OSHA agrees that counseling should not be considered medical treatment and has expressly excluded it from the definition of medical treatment. Counseling is often provided to large groups of workers who have been exposed to potentially traumatic events. Counseling may be provided on a short-term basis by either a licensed health care professional or an unlicensed person with limited training. OSHA believes that capturing cases where counseling was the only treatment provided do not rise to the level of recording; other counseling cases, where prescription medications, days away from work, or restricted work activity is involved, would be captured under those criteria.

The Brookhaven National Laboratory recommended that the first aid list include any return visit to evaluate diagnostic decisions (Ex. 15: 163). Caterpillar, Inc. suggested that visits for observation, testing or diagnosis of injuries should also be considered first aid (Ex. 15: 201). The Chemical Manufacturers Association and Marathon Oil Company encouraged OSHA to add visits to the hospital for observation to the first-aid list (Exs. 15: 308, 310).

OSHA generally agrees with these commenters. OSHA believes that visits to a health care professional for observation, testing, diagnosis, or to evaluate diagnostic decisions should be excluded from the definition of medical treatment in the final rule. Visits to a hospital, clinic, emergency room, physician's office or other facility for the purpose of seeking the advice of a health care professional do not themselves constitute treatment. OSHA believes that visits to a hospital for observation or counseling are not, of and by themselves, medical treatment. Accordingly, the final rule excludes these activities from the definition of medical treatment.

Item 2 listed in the NPRM definition of first aid was "Diagnostic procedures, including the use of prescription medications solely for diagnostic purposes (e.g. eye drops to dilate pupils)." Several commenters believed that diagnostic procedures such as x-rays and blood tests should not be considered medical treatment (see, e.g., Exs. 15: 176, 301, 347, 349, 375, 443). For example, General Electric (GE) stated "Diagnostic tests should not be considered medical treatment.

Considering a diagnostic test to be a recordable injury without consideration of the test results is illogical and will establish a disincentive to test. GE's position is that a definition of medical treatment should also be included in the proposed regulation. Proposed wording is as follows: "Medical treatment" includes any medical care or treatment beyond "first aid" and does not include diagnostic procedures."

Two commenters opposed the exclusion of diagnostic procedures. The National Institute for Occupational Safety and Health (NIOSH) said "the term diagnostic procedures" in item #2 is too broad, and the example given is vague. These procedures should not be considered first aid" (Ex. 15: 407, p. 17). The United Steelworkers of America stated " * * * delete the use of prescription drugs for diagnostic purposes. This will be abused by the company" (Ex. 15: 429).

OSHA disagrees with NIOSH that the exclusion for diagnostic procedures is overly vague. It is the experience of the Agency that employers generally understand the difference between procedures used to combat an injury or illness and those used to diagnose or assess an injury or illness. In the event that the employer does not have this knowledge, he or she may contact the health care professional to obtain help with this decision. If the employer does not have this knowledge, and elects not to contact the health care professional, OSHA would expect the employer to refer to the first aid list and, if the procedure is not on the list, to presume that the procedure is medical treatment and record the case. OSHA also does not believe that this provision will be subject to abuse, because the procedures used for diagnosis are generally quite different from those involving treatment.

OSHA agrees with those commenters who recommended the exclusion of diagnostic procedures from the definition of medical treatment. Diagnostic procedures are used to determine whether or not an injury or illness exists, and do not encompass therapeutic treatment of the patient. OSHA has included such procedures on the first aid list in the final rule with two examples of diagnostic procedures to help reduce confusion about the types of procedures that are excluded.

Item 3 listed in the NPRM definition of first aid was "Use of nonprescription medications, including antiseptics." This issue received a large number of comments, more than any other issue related to the proposed definition of medical treatment and first aid. Most of the comments requested that OSHA

consider some uses of prescription drugs to be first aid treatment (see, e.g., Exs. 15: 13, 60, 147, 159, 201, 218, 225, 246, 247, 297, 308, 332, 335, 336, 348, 349, 359, 374, 375, 386, 387, 395, 405, 414, 430, 434). The most common reason given by commenters for treating some prescription drugs as first aid was their use when they were given for preventive rather than therapeutic intervention. Several commenters asked for a broad exception from medical treatment for prescription drugs taken for preventive or prophylactic purposes (see, e.g., Exs. 55X 15: 247, 336, 375, 395). For example, the American Iron and Steel Institute stated "AISI encourages OSHA to make one change: add the use of prescription medications for prophylactic reasons to the first aid list. In many instances, a health care professional will prescribe antibiotics as a precaution against a possible infection. An employer should not be required to record a minor injury solely because a health care professional opted to respond aggressively" (Exs. 15: 395; 55X).

Several commenters asked for an exception from the medical treatment for antibiotics and antiseptics (see, e.g., Exs. 15: 218, 246, 332, 349, 375, 395, 414, 430). Raytheon Constructors, Inc. commented: "We believe the following treatments should be added [to the first aid list]: Application of antiseptics, as often as needed. This is for prevention of infection after an injury. Infection is not caused by the work environment. Treatment for an infection, such as prescription drugs. Again, infection is not the result of the work environment" (Ex. 15: 414).

A number of employers asked OSHA to define the use of prescription drugs for comfort, or to relieve pain or inflammation, as first aid (see, e.g., Exs. 15: 60, 147, 201, 225, 247, 308, 348, 349). The American Gas Association stated that: we propose that 'prescription medications for comfort' be added to the list. Medical practitioners frequently "prescribe drugs to comfort people after an injury" (Ex. 15: 225), and the Proctor and Gamble Company stated "[p]rescription medication to prevent complications or reduce pain should not be a sole basis for recording injuries and illnesses. It is our view that preventive measures or action taken to reduce pain should not in themselves be the basis for recording" (Ex. 15: 147). Entergy Services Inc. suggested that OSHA include Benadryl shots as first aid since they are often given to prevent allergic reactions to insect bites and poison oak/ivy/sumac (Ex. 15: 13). The Arizona Public Service Company remarked:

"Treatment for bee stings should be addressed (perhaps listed on the First Aid list). For instance, if a doctor administers the same treatment that an employee could have administered themselves it should not be considered medical treatment" (Ex. 15: 247).

Another set of comments suggested that prescription medications should be considered first aid if they were used only once or for a limited period of time. A number of comments requested that OSHA continue to treat a single dose of prescription medication as first aid. (see, e.g., Exs. 15: 201, 332, 348, 349, 359, 374, 386, 387, 405, 430, 434). Typical of these comments was one from the National Safety Council:

[t]hat administration of a single dose of prescription medication on first visit for minor injury or discomfort remain first aid. For example, minor muscle aches and pains may occasionally be eased with a single dose of 800 mg ibuprofen. This is currently considered first aid and should remain so. Another example would be the treatment of first degree burns. This is currently considered first aid treatment, even though treatment frequently involves the application of a single dose of prescription-strength ointment. (Ex.15: 359, p. 12)

Other commenters suggested that prescription medications used for 24 hours, 48 hours, or five days be considered first aid (see, e.g., Exs. 15: 159, 246, 297, 308, 335, 375).

In the final rule, OSHA has not included prescription medications, whether given once or over a longer period of time, in the list of first aid treatments. The Agency believes that the use of prescription medications is not first aid because prescription medications are powerful substances that can only be prescribed by a licensed health care professional, and for the majority of medications in the majority of states, by a licensed physician. The availability of these substances is carefully controlled and limited because they must be prescribed and administered by a highly trained and knowledgeable professional, can have detrimental side effects, and should not be self-administered.

Some commenters asked whether a case where a prescription was written by a physician and given to the injured or ill employee but was not actually filled or taken would be recordable. In some instances the employee, for religious or other reasons, refuses to fill the prescription and take the medicine. In other cases, the prescriptions are issued on a "take-as-needed" basis. In these cases, the health care professional gives the patient a prescription, often for pain medication, and tells the patient to fill and take the prescription if he or she

needs pain relief. OSHA's long-standing policy has been that if a prescription of this type has been issued, medical treatment has been provided and the case must therefore be recorded.

Numerous commenters asked OSHA to reverse or clarify its policy and consider these prescriptions to be first aid in the final rule (see, e.g., Exs. 15: 13, 105, 247, 260, 262, 279, 281, 295, 300, 308, 359, 362, 386, 414). For example, the National Safety Council requested that "OSHA should specify whether the treatment must actually be given or merely be appropriate or normal for the injury or illness. For example, is medical treatment given when a prescription is written or when it is filled or when it is taken by the employee" (Ex. 15: 359).

OSHA has decided to retain its long-standing policy of requiring the recording of cases in which a health care professional issues a prescription, whether that prescription is filled or taken or not. The patient's acceptance or refusal of the treatment does not alter the fact that, in the health care professional's judgment, the case warrants medical treatment. In addition, a rule that relied on whether a prescription is filled or taken, rather than on whether the medicine was prescribed, would create administrative difficulties for employers, because such a rule would mean that the employer would have to investigate whether a given prescription had been filled or the medicine had actually been taken. Finally, many employers and employees might well consider an employer's inquiry about the filling of a prescription an invasion of the employee's privacy. For these reasons, the final rule continues OSHA's longstanding policy of considering the giving of a prescription medical treatment. It departs from former practice with regard to the administration of a single dose of a prescription medicine, however, because there is no medical reason for differentiating medical treatment from first aid on the basis of the number of doses involved. This is particularly well illustrated by the recent trend toward giving a single large dose of antibiotics instead of the more traditional pattern involving several smaller doses given over several days.

Yet another issue raised by commenters about medications involved the use of non-prescription medications at prescription strength. In recent years, many drugs have been made available both as prescription and "over-the-counter" medications, depending on the strength or dosage of the product. Some examples include various non-steroidal

anti-inflammatory drugs (NSAIDs), such as ibuprofen, and cortisone creams. OSHA's policy has been that if these drugs are used in the over-the-counter form they are first aid, but if they are used in prescription form, they are medical treatment. Some commenters stated that these drugs should always be considered first aid (see, e.g., Exs. 15: 300, 308, 414). For example, Heritage Environmental Services, Inc. stated:

While the proposed rule includes the use of non-prescription medications in the definition of first aid, it fails to address the use of prescription quantities of over-the-counter medications (i.e., Tylenol, Motrin). It has been Heritage's experience that the requirement of the current rule to record cases where physicians have prescribed over the counter medications has resulted in the inclusion of a broad range of minor cases, that in all other respects would not have been recordable. In working with occupational health care providers for many years, Heritage has found that frequently, physicians prescribe prescription quantities of over the counter medications for reasons other than the severity of the injury. Many physicians are unaware that the distribution of OTC medications in such a manner results in an OSHA recordable injury/illness. * * * Heritage strongly favors the inclusion of a statement within the definition of first aid that eliminates the need to record cases where the sole reason for the recording of the case is the administration of prescription quantities of over-the-counter medications. (Ex. 15: 300)

Other commenters stated that the use of nonprescription medications should be considered medical treatment if they are used at prescription strength (Ex. 15: 279) or that the continued use of non-prescription drugs, especially anti-inflammatory drugs, should be considered medical treatment (see, e.g., Exs. 15: 362, 371, 380, 418). The Union of Needletrades, Industrial and Textile Employees (UNITE) stated that "the self-administration of medication, when used on a recurring basis, should trigger the recording of cases" (Ex. 15: 380), and the United Food and Commercial Workers Union, pointed out that "When the employee reports pain that has lasted for over a week, they are given over-the-counter medication for as long as they ask. These cases, which can go on for a month or longer, are never recorded" (Ex. 15: 371).

One commenter suggested that health care professionals might prescribe over-the-counter medications rather than prescription medications for economic reasons (Ex. 15: 279).

The final rule does not consider the prescribing of non-prescription medications, such as aspirin or over-the-counter skin creams, as medical treatment. However, if the drug is one that is available both in prescription and

nonprescription strengths, such as ibuprofen, and is used or recommended for use by a physician or other licensed health care professional at prescription strength, the medical treatment criterion is met and the case must be recorded. There is no reason for one case to be recorded and another not to be recorded simply because one physician issued a prescription and another told the employee to use the same medication at prescription strength but to obtain it over the counter. Both cases received equal treatment and should be recorded equally. This relatively small change in the recordkeeping rule will improve the consistency and accuracy of the data on occupational injuries and illnesses and simplify the system as well.

Two commenters asked OSHA to add non-prescription ointments to item 3 on the first aid list (Exs. 15: 308, 443). The final rule simply lists non-prescription medications, and expects non-prescription medications to be included regardless of form. Therefore, non-prescription medicines at non-prescription strength, whether in ointment, cream, pill, liquid, spray, or any other form are considered first aid. OSHA has also removed antiseptics from the description of non-prescription medications. Following the same logic used for ointments, there is no need to list the variety of possible uses of non-prescription medications. Non-prescription medicines are first aid regardless of the way in which they are used.

Item 4 listed in the NPRM definition of first aid was "Simple administration of oxygen." Some commenters agreed with OSHA's proposal to define the giving of oxygen as first aid (see, e.g., Exs. 15: 34, 74, 78, 201, 281, 378, 414).

Several commenters, however, asked OSHA to provide more guidance as to what qualified as the "simple" administration of oxygen (see, e.g., Exs. 15: 13, 170, 188, 229, 260, 262, 265, 272, 303, 374, 401, 405), while others suggested alternatives that would make some uses of oxygen first aid and other uses medical treatment. The American Petroleum Institute recommended: "Simple oxygen administration is standard operating procedure for EMTs and should remain first aid. Oxygen therapy, if prescribed, should be considered medical treatment" (15: 375). A group of utilities said "Simple administration of oxygen should be defined to include the preventive aspects following an injury. This would include, for example, administration at the pre-hospital site or while in the emergency room or hospital for observation. Identifying oxygen administration in this manner would

eliminate the need to identify which of the more advanced uses of oxygen should be considered as medical treatment" (see, e.g., Exs. 15: 260, 262, 265, 401).

A number of commenters opposed the inclusion of oxygen as a first aid treatment (see, e.g., Exs. 15: 9, 87, 156, 290, 350, 395, 415, 429). The American Red Cross stated:

The simple administration of oxygen * * * is inappropriately considered first aid. Simple administration of oxygen is not so simple. If oxygen is administered to someone with chronic pulmonary disease (a medical condition not generally recognized by untrained individuals), the victim could die. Carbon dioxide build-up in the blood forces an individual with this condition to breathe; therefore, administration of oxygen would obstruct the involuntary breathing action, resulting in pulmonary arrest. Red Cross would argue that no administration of oxygen is "simple" (Ex. 15: 290).

The United Brotherhood of Carpenters Health & Safety Fund of North America (USC H&SF) remarked, "[w]e urge that OSHA remove the simple administration of oxygen from first aid treatment. This procedure requires considerable training above what is recognized as First Aid by either the Red Cross's or National Safety Council's First Aid training courses" (Ex. 15: 350). The Muscatine Iowa Chamber of Commerce Safety Committee added:

We feel that oxygen administration, as a first aid treatment would extend beyond the intent of the standards. The training and equipment requirements for the delivery of oxygen are extensive and beyond the simple first aid kits. We believe that the delivery of even the most minimal amount of oxygen constitutes an advanced level of care to an employee. All oxygen administration should be considered as medical treatment, no matter how delivered or how much is used, for whatever the reason" (Ex. 15: 87, p. 4).

OSHA is persuaded by the views of the Red Cross and others, which point to the potential complexities and consequences of the administration of oxygen. Accordingly, the Agency has decided to remove the use of oxygen from the first aid list and to consider any use of oxygen medical treatment. Oxygen administration is a treatment that can only be provided by trained medical personnel, uses relatively complex technology, and is used to treat serious injuries and illnesses. The use of any artificial respiration technology, such as Intermittent Positive Pressure Breathing (IPPB), would also clearly be considered medical treatment under the final rule.

Item 5 listed in the NPRM definition of first aid was "administration of tetanus or diphtheria shot(s) or booster(s)." These treatments have been

considered first aid by OSHA for some time when they are administered routinely, *i.e.*, in the absence of an injury or illness (see the Recordkeeping Guidelines (Ex. 2, p. 43)). Several commenters expressed their support for continuing to include tetanus and diphtheria shots and boosters as first aid (see, e.g., Exs. 15: 197, 201, 218, 247, 302, 308, 348, 385, 386, 393). Bell Atlantic commented that "Bell Atlantic supports the proposed inclusion of tetanus/diphtheria shots on the first aid list. Such preventative actions should not be considered medical treatment" (Ex. 15: 218). One commenter, Countrymark Cooperative, Inc., agreed that tetanus shots or boosters should be considered first aid, but did not believe diphtheria shots or boosters should be (Ex. 15: 9).

Two commenters recommended that tetanus and diphtheria shots be considered medical treatment, whether or not they are administered in connection with a work-related injury or illness. The American Red Cross stated, "inappropriately considered * * * administration of diphtheria and tetanus shots or boosters cannot be performed without a prescription from a physician. The person administering the shots must also be cognizant of potential side effects, *i.e.*, anaphylactic shock, which can result from such an action, and be prepared to address them" (Ex. 15: 290). The International Brotherhood of Teamsters added "International Brotherhood of Teamsters encourages OSHA to discontinue tetanus and diphtheria booster shots as first aid. They should be considered medical treatment. They are usually administered both after exposure and before diagnosis. The International Brotherhood of Teamsters considers it similar to the prophylaxis medical treatment given after exposure to Hepatitis B Virus" (Ex. 15: 369).

A number of commenters recommended the addition to the first aid list of other immunizations, including gamma globulin; vaccines for hepatitis B, hepatitis C, and rabies; or other prophylactic immunizations (see, e.g., Exs. 15: 197, 201, 218, 302, 308, 347, 348, 386). Caterpillar, Inc. recommended, "[c]learly exclude any immunizations and inoculations which are preventative in nature. Immunizations and inoculations are not usually provided in response to a specific injury or illness and should be excluded from OSHA records" (Ex. 15: 201).

In the final rule, tetanus immunizations are included as item B on the first aid list. These immunizations are often administered

to a worker routinely to maintain the required level of immunity to the tetanus bacillus. These immunizations are thus based not on the severity of the injury but on the length of time since the worker has last been immunized.

The issue of whether or not immunizations and inoculations are first aid or medical treatment is irrelevant for recordkeeping purposes unless a work-related injury or illness has occurred. Immunizations and inoculations that are provided for public health or other purposes, where there is no work-related injury or illness, are not first aid or medical treatment, and do not in themselves make the case recordable. However, when inoculations such as gamma globulin, rabies, etc. are given to treat a specific injury or illness, or in response to workplace exposure, medical treatment has been rendered and the case must be recorded. The following example illustrates the distinction OSHA is making about inoculations and immunizations: if a health care worker is given a hepatitis B shot when he or she is first hired, the action is considered first aid and the case would not be recordable; on the other hand, if the same health care worker has been occupationally exposed to a splash of potentially contaminated blood and a hepatitis B shot is administered as prophylaxis, the shot constitutes medical treatment and the case is recordable.

Item 6 listed in the NPRM definition of first aid was "cleaning, flushing or soaking wounds on skin surface." OSHA received only one specific comment on this item. The American Federation of State, County, and Municipal Employees (AFSCME) commented: "Cleaning, flushing or soaking wounds on skin surfaces. This is the initial treatment for needle stick injuries. AFSCME requests that OSHA clarify its position that cleaning, flushing or soaking of sharps injuries is considered a medical treatment" (Ex. 15: 362).

The AFL-CIO disagreed with OSHA's proposed approach to skin surface wounds, based on the belief that valuable information about serious work-related injuries would be lost if the approach were adopted:

The proposed change in definition would seem to exclude cases where there are continued instances of the listed first aid treatments from the recordkeeping requirements. Those conditions which require continued treatments, including continued use of non-prescription drugs and repeated cleaning, flushing or soaking of wounds would no longer be recordable. The AFL-CIO believes that first aid should be limited to one time treatments as is the

current practice, so that serious conditions which require multiple treatments are recorded on the log. We strongly urge OSHA to maintain the definition of first aid in the current recordkeeping guidelines and to use the listed conditions as examples of first aid (Ex. 15: 418).

OSHA believes that cleaning, flushing or soaking of wounds on the skin surface is the initial emergency treatment for almost all surface wounds and that these procedures do not rise to the level of medical treatment. This relatively simple type of treatment does not require technology, training, or even a visit to a health care professional. More serious wounds will be captured as recordable cases because they will meet other recording criteria, such as prescription medications, sutures, restricted work, or days away from work. Therefore, OSHA has included cleaning, flushing or soaking of wounds on the skin surface as an item on the first aid list. As stated previously, OSHA does not believe that multiple applications of first aid should constitute medical treatment; it is the nature of the treatment, not how many times it is applied, that determines whether it is first aid or medical treatment.

Item 7 listed in the NPRM definition of first aid was "Use of wound coverings, such as bandages, gauze pads, etc." These treatments were considered first aid treatments by the *Recordkeeping Guidelines* (Ex. 2, p. 43). OSHA received no comments opposing the proposed definition of wound coverings as first aid. However, the issue of whether or not butterfly bandages and Steri-strips™ are first aid was raised. Steri-strips™ are a product of the 3M Company, which advertises them as a comfortable adhesive strip used to secure, close and support small cuts, wounds and surgical incisions. "Butterfly bandages" is a generic term used for similar adhesive strips designed for small wounds.

All of the commenters who raised the issue suggested that OSHA add Steri-strips and butterfly bandages to this first aid item (see, e.g., Exs. 15: 45, 108, 163, 201, 247, 308, 332, 349, 387, 405). Some commenters believed that the use of Steri-strips™ and butterfly bandages should always be considered first aid (see, e.g., Exs. 15: 45, 247, 332, 349, 387), while others believed they should be considered medical treatment only when used as a replacement for, or in lieu of, sutures (see, e.g., Exs. 15: 108, 163, 201, 308, 405). The Westinghouse Electric Corporation stated, "Steri-strips should be added to the list of first-aid treatments, when determined by the attending medical provider that the

Steri-strip™ was not applied in lieu of sutures. Often medical care providers use a Steri-strip™ rather than a bandage, even though the injury does not require closure of any type" (Ex. 15: 405).

These treatments were listed in the 1986 *Recordkeeping Guidelines* as medical treatment when applied "in lieu of sutures" (Ex. 2, p. 43). In the past, this provision in the *Guidelines* has been the subject of several letters of interpretation. For example, in a 1993 letter from Ms. Monica Verros, R.N., C.O.H.N, of the IBP company, Ms. Verros asked, "[a]re all applications of butterfly adhesive dressing(s) and Steri-strip(s) considered medical treatment?" OSHA's answer was simply "yes" (Ex. 70: 136).

OSHA agrees with the commenters who suggested that these devices be considered first aid treatment. They are included in item D of the first aid list. Steri strips and butterfly bandages are relatively simple and require little or no training to apply, and thus are appropriately considered first aid.

Two commenters also raised the issue of whether or not sutures or stitches should be considered first aid (Exs. 15: 229, 348). The National Pest Control Association (NPCA) stated:

NPCA believes cuts requiring five or less external stitches should also be categorized as first aid as well unless the employee has to go back to the medical provider because of the cut or there are more than five external stitches. Some of the examples the agency has included in its list of first aid, such as drilling of a nail to relieve pressure for subungual hematoma and removal of splinters or foreign material from areas other than eyes by irrigation, tweezers, cotton, swabs or other simple means, seems to be comparable to cuts requiring a minimal amount of stitches. Therefore, we believe it should be added to the list (Ex. 15: 229, p. 4).

The Dupont Company suggested: "Expand the 'suture' category to say that any device used for closure for therapeutic reasons is an automatic MTC (medical treatment case). Leeway should be given for when a care provider gives 'unnecessary' treatment, for example, sutures for cosmetic reasons instead of for therapeutic closure, where the doctor provides the documentation" (Ex. 15: 348).

OSHA believes that including sutures or stitches in the first aid list would not be appropriate. Performing these procedures requires substantial medical training, and they are used only for more serious wounds and are generally considered to go beyond first aid. OSHA has also decided not to provide exclusions for first aid items based on

their purpose or intent. If the medical professional decides stitches or sutures are necessary and proper for the given injury, they are medical treatment.

Because OSHA has decided not to include a list of medical treatments in the final rule, there is no need to articulate that the use of other wound closing devices, such as surgical staples, tapes, glues or other means are medical treatment. Because they are not included on the first aid list, they are by definition medical treatment.

Item 8 listed in the proposed definition of first aid was "[u]se of any hot/cold therapy (e.g. compresses, soaking, whirlpools, non prescription skin creams/lotions for local relief, etc.) except for musculoskeletal disorders" (61 FR 4059). The *Recordkeeping Guidelines* defined heat therapy, hot or cold therapy compresses or soaking therapy, or whirlpool bath therapy on a second or subsequent visit to be medical treatment (Ex. 2, p. 43). OSHA has restated this guidance in numerous letters of interpretation, most of them related to the issue of the recording of musculoskeletal disorders (MSDs).

A number of commenters recommended that hot or cold therapy be defined as first aid regardless of the number of times it is administered or the type of condition for which it is used (see, e.g., Exs. 15: 39, 45, 95, 109, 156, 163, 199, 201, 218, 246, 308, 347, 348, 359, 386, 414, 430, 443). Several of the comments cited consistency as an issue (see, e.g., Exs. 15: 39, 109, 347, 348, 430). For example, the Dupont Company stated that "Item 8 on the 'First Aid Treatment' list considers the same treatment as either first aid or medical treatment depending on the condition for which it is applied. The treatment is used for reduction of swelling and discomfort. The condition for which it is used should not matter. * * * Exclude the 'except for musculoskeletal disorders * * *' clause from item 8 (Ex. 15: 348, p. 9).

Another issue raised was that hot and cold treatments do not require special training (Ex. 15: 414). For example, Raytheon Constructors stated "[w]e believe the following treatments should be added: Soaking, whirlpool and hot/cold therapy with no limit on the number of times. Many physicians choose this conservative treatment, plus, any first aid trained person and/or the injured person can do this" (Ex. 15: 414). Other commenters stated that serious musculoskeletal disorders would be captured more consistently by other recording criteria (see, e.g., Exs. 15: 199, 347). The Ford Motor Company stated:

We have a major disagreement with the proposed rule that the use of any hot or cold therapy is first aid, except for musculoskeletal disorders. The use of hot or cold therapy should always be considered first aid. If an individual has a significant or serious musculoskeletal disorder, it would require prescription medicine, restriction of work or motion, transfer to another job, a day away from work, or medical treatment. Considering hot or cold therapy to always be first aid simplifies the system, reduces confusion, and does not discourage practitioners from using hot or cold therapy for minor or insignificant musculoskeletal disorders. If all musculoskeletal disorders which include two or more applications of hot or cold therapy as directed by a health care provider are recordable, the data on musculoskeletal disorders will be absolutely useless (Ex. 15: 347).

Several commenters believed that multiple hot or cold treatments should be considered medical treatment (see, e.g., Exs. 15: 371, 418). The AFL-CIO disagreed with OSHA's proposal; it recommended that multiple treatments of all types be considered medical treatment, based on the belief that valuable information about serious work-related injuries would otherwise be lost. The AFL-CIO said:

The proposed change in definition would seem to exclude cases where there are continued instances of the listed first aid treatments from the recordkeeping requirements. * * * The AFL-CIO believes that first aid should be limited to one time treatments as is the current practice, so that serious conditions which require multiple treatments are recorded on the log. We strongly urge OSHA to maintain the definition of first aid in the current recordkeeping guidelines and to use the listed conditions as examples of first aid (15: 418).

The Tosco Corporation proposed an alternative, recommending that hot/cold treatments for musculoskeletal disorders be considered first aid for the first four treatments (Ex. 15: 246).

In the final rule, OSHA has included hot and cold treatment as first aid treatment, regardless of the number of times it is applied, where it is applied, or the injury or illness to which it is applied. The Agency has decided that hot or cold therapy must be defined as either first aid or medical treatment regardless of the condition being treated, a decision that departs from the proposal. It is OSHA's judgment that hot and cold treatment is simple to apply, does not require special training, and is rarely used as the only treatment for any significant injury or illness. If the worker has sustained a significant injury or illness, the case almost always involves some other form of medical treatment (such as prescription drugs, physical therapy, or chiropractic

treatment); restricted work; or days away from work. Therefore, there is no need to consider hot and cold therapy to be medical treatment, in and of itself. Considering hot and cold therapy to be first aid also clarifies and simplifies the rule, because it means that employers will not need to consider whether to record when an employee uses hot or cold therapy without the direction or guidance of a physician or other licensed health care professional.

Item 9 listed in the NPRM definition of first aid was "[u]se of any totally non-rigid, non-immobilizing means of support (e.g. elastic bandages)." The proposal reflected OSHA's guidance to employers under past interpretations. The *Recordkeeping Guidelines* defined first aid treatment as "use of elastic bandage(s) during first visit to medical personnel" (Ex. 2, p. 43). The *Guidelines* do not provide specific guidance on the use of other types of orthopedic devices such as splints, casts, or braces. In response to requests from the public to clarify the issue of which devices are medical treatment and which are first aid treatment, OSHA issued several letters of interpretation stating that the use of wraps or non-constraining devices such as wristlets, tennis elbow bands or elastic bandages are first aid treatment, regardless of how long or how often they are used. The use of casts, splints, or orthopedic devices designed to immobilize a body part to permit it to rest and recover is considered medical treatment. Generally, orthopedic devices used for immobilization are made rigid, in whole or in part, through the use of stays or non-bending supports (see, e.g., Exs. 70: 40, 158).

OSHA received several comments recommending that it provide additional clarification of this issue (see, e.g., Exs. 15: 176, 290). Several commenters suggested that OSHA include wrist splints as first aid, on the grounds that wrist splints are used as a prophylactic treatment (see, e.g., Exs. 15: 332, 349, 386, 387). Other commenters recommended that finger splints be considered first aid (see, e.g., Exs. 15: 201, 349, 386). The Caterpillar Company suggested that OSHA "[e]xpand item 9 to include rigid finger splints, which are used only to prevent further injury or to maintain the cleanliness of finger lacerations and other minor wounds, rather than as part of the required medical treatment. Only splints that are used to provide rigidity as part of the required medical treatment should trigger recordability" (Ex. 15: 201).

Several comments centered on the issue of immobilization for injuries

while the worker is being transported to a medical care facility (see, e.g., Exs. 15: 290, 347, 434). The Ford Motor Company remarked, "[t]he first aid list should be expanded to include the use of any partially or totally rigid immobilizing means of support when used solely for the purpose of immobilization during initial transport for medical evaluation. For example, the use of a back board, stiff neck collar, or air splint" (Ex. 15: 347). The American Red Cross added:

While Red Cross would agree that this is "first aid," it is unclear whether OSHA intends for use of rigid support to be considered "medical treatment." In most traditional first aid classes, including those taught by Red Cross, students are taught that if, for example, a victim has broken a bone, any rigid means of support that would immobilize the limb until further medical care can be obtained should be utilized. Examples of rigid support include newspapers, magazines, sticks, boards, splints, etc., anything that is available to prevent further injury. This action may be performed by anyone who has been trained in first aid, and Red Cross does not believe that "rigidity" is the appropriate qualification to consider this action "medical treatment" (15: 290).

The General Electric Corporation (GE) recommended that OSHA rely, not on the design of the device but on whether or not the device resulted in restricted activity. GE recommended "the following additions to the list: Use of rigid or non-rigid immobilization devices, if they don't result in restricted activity, e.g. wrist braces, finger splints, immobilization for transport" (Ex. 15: 349).

OSHA has included two items related to orthopedic devices in the final definition of first aid. Item F includes "[u]sing any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (devices with rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for recordkeeping purposes)." OSHA has included more examples of the devices (wraps and non-rigid back belts) to help make the definition clearer. However, OSHA believes that the use of orthopedic devices such as splints or casts should be considered medical treatment and not first aid. They are typically prescribed by licensed health care professionals for long term use, are typically used for serious injuries and illnesses, and are beyond the everyday definition of first aid. OSHA believes that it would be inappropriate to rely on "restricted activity," as recommended by GE, because there may be situations where orthopedic devices are prescribed, the worker is not placed on

restrictions, but an injury or illness warranting recording has occurred.

However, OSHA agrees with those commenters who stated that the use of these devices during an emergency to stabilize an accident victim during transport to a medical facility is not medical treatment. In this specific situation, a splint or other device is used as temporary first aid treatment, may be applied by non-licensed personnel using common materials at hand, and often does not reflect the severity of the injury. OSHA has included this item as G on the first aid list: “[u]sing temporary immobilization devices while transporting an accident victim (e.g. splints, slings, neck collars, etc.)”

Item 10 listed in the proposed definition of first aid was “drilling of a nail to relieve pressure for subungual hematoma.” A subungual hematoma is an accumulation of blood underneath a finger or toenail that is normally caused by a sharp blow to the nail. When pressure builds beneath the nail, pain results. The normal course of treatment for this injury is to drill a small hole through the nail to relieve the pressure. In the past, OSHA considered such treatment to be medical treatment and not first aid. For example, a 1993 letter from IBP, Inc. asked whether “[d]rilling a hole through a fingernail to relieve pressure (subungual hematoma) is considered medical treatment?” OSHA’s answer was “Yes, the draining of any fluids or blood is to be considered medical treatment” (Ex. 70: 136).

OSHA received very few comments on this first aid item. Linda Ballas & Associates stated “The drilling of a nail to relieve pressure for subungual hematoma should be included as medical treatment and not first aid” (Ex. 15: 31, p. 5). The American Textile Manufacturers Institute recommended that OSHA change the item to: “Simple relieving of the pressure of a subungual hematoma. The use of the word drilling is too restrictive. There are a number of simple procedures to relieve pressure that are considered first aid” (Ex. 15:156). OSHA also received a similar comment from Oxychem Corporation stating that lancing a blister should be considered first aid (Ex. 15: 386).

OSHA has decided to retain this item on the first aid list and to add the lancing of blisters as well. These are both one time treatments provided to relieve minor soreness caused by the pressure beneath the nail or in the blister. These are relatively minor procedures that are often performed by licensed personnel but may also be performed by the injured worker. More serious injuries of this type will

continue to be captured if they meet one or more of the other recording criteria. OSHA has specifically mentioned finger nails and toenails to provide clarity. These treatments are now included as item H on the first aid list.

Item 11 listed in the proposed definition of first aid was “Use of eye patches.” The *Recordkeeping Guidelines* did not provide specific guidance about eye patches. However, in a 1992 letter, OSHA provided an interpretation that the use of eye patches was first aid treatment; in that letter, ELB Inc. asked OSHA to “[e]xplain if pressure patches on eyes are recordable or if a patch over an eye to prevent light from entering is recordable? Is the use of an eye patch recordable?” OSHA answered “The use of a normal eye patch is considered to be first aid. However, if the employee is unable to perform all of his/her normal job duties because of the patch, the case should be recorded based on restricted work activity. The use of a pressure eye patch is medical treatment” (Ex. 70: 161).

OSHA received only one comment specific to this item. The National Institute for Occupational Safety and Health (NIOSH) stated that the initial use of an eye patch would generally require medical evaluation and should not be considered first aid (Ex. 15: 407). In the final rule, OSHA has included the use of eye patches as first aid in item I of the first aid list. Eye patches can be purchased without a prescription, and are used for both serious and non-serious injuries and illnesses. OSHA believes that the more serious injuries to the eyes will that NIOSH refers to require medical treatment, such as prescription drugs or removal of foreign material by means other than irrigation or a cotton swab, and will thus be recordable.

Item 12 listed in the proposed definition of first aid was “removal of foreign bodies not embedded in the eye if only irrigation or removal with a cotton swab is required.” The effect of including this item in the list of first aid treatments would be to make any case involving a foreign body embedded in the eye a recordable injury.

The *Recordkeeping Guidelines* listed “removal of foreign bodies embedded in the eye” as medical treatment and “removal of foreign bodies not embedded in eye if only irrigation is required” as first aid (Ex. 2, p. 43). In subsequent letters of interpretation, the use of a cotton swab to remove a foreign body from the eye was interpreted to be first aid; injuries requiring any removal method other than irrigation or a cotton

swab made the case recordable (Ex. 70: 92).

OSHA received few comments on this first aid item. NIOSH stated that any case involving a foreign body in the eye should be recorded, because “even though removal of a foreign body from the eye may be a first aid procedure, the presence of a work-related foreign body in the eye should be recordable. These procedures should not be considered first aid” (Ex. 15: 407). The Ford Motor Company asked OSHA to clarify that a foreign body “embedded in or adhered to” the eye and removed by the methods proposed would be considered first aid. Ford added that “[t]he use of a prescription medication to anesthetize the eye for a diagnostic procedure, an assessment procedure, or flushing to remove a loose foreign body should not be considered medical treatment” (Ex. 15: 347). Countrymark Cooperative, Inc. asked that the definition of this item be expanded to include other means of removal, stating: “We suggest wording such as * * * Removal of foreign bodies not embedded in the eye if only irrigation or simple removal techniques are required, or comparable” (Ex. 15: 9).

In the final rule, OSHA has included as item J “Removing foreign bodies from the eye using only irrigation or a cotton swab.” OSHA believes that it is often difficult for the health care professional to determine if the object is embedded or adhered to the eye, and has not included this suggested language in the final rule. In all probability, if the object is embedded or adhered, it will not be removed simply with irrigation or a cotton swab, and the case will be recorded because it will require additional treatment.

OSHA believes that it is appropriate to exclude those cases from the Log that involve a foreign body in the eye of a worker that can be removed from the eye merely by rinsing it with water (irrigation) or touching it with a cotton swab. These cases represent minor injuries that do not rise to the level requiring recording. More significant eye injuries will be captured by the records because they involve medical treatment, result in work restrictions, or cause days away from work.

Item 13, the last item listed in the proposed definition of first aid, was “Removal of splinters or foreign material from areas other than the eyes by irrigation, tweezers, cotton swabs or other simple means.” The *Recordkeeping Guidelines* distinguished between foreign body removal cases on the basis of the complexity of the removal technique used. According to the *Guidelines*, the “removal of foreign bodies from a wound if the procedure is

complicated because of depth of embedment, size or location" was medical treatment, while "removal of foreign bodies from wound, if procedure is uncomplicated, and is, for example, by tweezers or other simple technique" was first aid (Ex. 2, p. 43).

OSHA received one comment specific to this proposed first aid item. The Muscatine Iowa Chamber of Commerce Safety Committee stated "The list appears to be very inclusive of what items are currently understood as first aid treatments. Our only concern is the ambiguous ending of Number 13. "* * * or other simple means." This should be further defined. Change number 13 to read: "Removal of splinters or foreign material from areas other than the eyes by irrigation, tweezers, cotton swabs or by excision not to exceed the depth of the outer layer of skin" (Ex. 15: 87).

In the final rule, OSHA has decided to retain item 13 essentially as proposed, and this first aid treatment appears as item K on the first aid list. The inclusion of the phrase "other simple means" will provide some flexibility and permit simple means other than those listed to be considered first aid. Cases involving more complicated removal procedures will be captured on the Log because they will require medical treatment such as prescription drugs or stitches or will involve restricted work or days away from work. OSHA believes that cases involving the excision of the outer layer of skin are not appropriately considered first aid, as suggested by the Muscatine Iowa Chamber of Commerce; excision of tissue requires training and the use of surgical instruments.

Additions to the First Aid List Suggested by Commenters

In addition to comments about the first aid items OSHA proposed to consider first aid, a number of commenters asked for additional clarifications or recommended additions to the first aid list. The items suggested included exercise, chiropractic treatment, massage, debridement, poison ivy, bee stings, heat disorders, and burns.

Exercise: Several commenters requested adding exercise, performed either at home or at work, to the list (see, e.g., Exs. 15: 201, 308, 349, 396). For example, Caterpillar suggested that OSHA "[a]dd a listing for range of motion exercises and minor physical therapy performed at home" (Ex. 15: 201). These comments described exercises that amount to self-administered physical therapy, and are normally recommended by a health care

professional who trains the worker in the proper frequency, duration and intensity of the exercise. Physical therapy treatments are normally provided over an extended time as therapy for a serious injury or illness, and OSHA believes that such treatments are beyond first aid and that cases requiring them involve medical treatment.

Chiropractic treatment: A few commenters believe that chiropractic treatment should be treated as first aid (see, e.g., Exs. 15: 154, 299, 396). For example, the Sandoz Corporation stated "[i]t would simplify our record keeping if there were better definition of the use of chiropractors. Is one visit counted or do you have to have multiple visits" (Ex. 15: 299). OSHA does not distinguish, for recordkeeping purposes, between first aid and medical treatment cases on the basis of number of treatments administered. OSHA also does not distinguish between various kinds of health care professionals, assuming they are operating within their scope of practice. If a chiropractor provides observation, counseling, diagnostic procedures, or first aid procedures for a work-related injury or illness, the case would not be recordable. On the other hand, if a chiropractor provides medical treatment or prescribes work restrictions, the case would be recordable.

Massage therapy: The Union Carbide company recommended the addition of massages and prescribed physical therapy to the first aid list (Ex. 15: 396). OSHA believes that massages are appropriately considered first aid and has included them as item M in the final rule's first aid list. However, physical therapy or chiropractic manipulation are treatments used for more serious injuries, and are provided by licensed personnel with advanced training and therefore rise to the level of medical treatment beyond first aid.

Debridement: Several commenters recommended that OSHA include debridement as a first aid treatment (see, e.g., Exs. 15: 201, 332, 349, 387). Debridement is the surgical excision, or cutting away, of dead or contaminated tissue from a wound. The *Recordkeeping Guidelines* listed "cutting away dead skin (surgical debridement)" as an example of medical treatment (Ex. 2, p. 43). The Caterpillar Company recommended that OSHA "[a]dd to the [first aid] listing provisions for the minor removal of nonviable tissue as first aid treatment" (Ex. 15: 201).

OSHA has decided not to include debridement as a first aid treatment. This procedure must be performed by a

highly trained professional using surgical instruments. Debridement is also usually performed in conjunction with other forms of medical treatment, such as sutures, prescription drugs, etc.

Intravenous (IV) administration of glucose and saline: Two commenters (Exs. 15: 154, 395) argued that the intravenous administration of saline (salt) and glucose (sugar) should be considered first aid. In former letters of interpretation, OSHA considered these treatments first aid in injury cases (see, e.g., Exs. 15: 154, 395). In the final rule, however, OSHA has decided not to include the IV administration of fluids on the first aid list because these treatments are used for serious medical events, such as post-shock, dehydration or heat stroke. The administration of IVs is an advanced procedure that can only be administered by a person with advanced medical training, and is usually performed under the supervision of a physician.

The Union Carbide Corporation (Ex. 15: 396) also recommended three additions to the first aid list: UV treatment of blisters, rashes and dermatitis; acupuncture, when administered by a licensed health care professional; and electronic stimulation. After careful consideration, OSHA has decided not to include these treatments as first aid. Each of these treatments must be provided by a person with specialized training, and is usually administered only after recommendation by a physician or other licensed health care professional.

Several commenters asked that treatments for two specific types of disorders be added to the list: heat disorders and burns. OSHA has not added these types of conditions to the first aid list because the list includes treatments rather than conditions. However, OSHA has added fluids given by mouth for the relief of heat disorders to the list, in response to comments received.

Two commenters asked about the recording of heat disorders and how they relate to the definition of first aid and medical treatment. Union Carbide recommended an addition to the first aid list to state "fluids taken internally for heat stress" (Ex. 15: 396). The Arizona Public Service Company remarked: "Recordability of heat stress and heat rash should be addressed based on classification of treatment (first aid vs. medical)" (Ex. 15: 247). Under OSHA's former recordkeeping system, heat stress was recordable as an occupational illness because it results from non-instantaneous exposures that occur over time and all occupational

illnesses, including minor ones, were considered recordable.

In the final rule, OSHA agrees with Union Carbide that drinking fluids for the relief of heat disorders is a first aid rather than medical treatment and item N on the final first aid list is "drinking fluids for relief of heat stress." However, as discussed above, OSHA believes that more extensive treatment, including the administration of fluids by intravenous injections (IV), are medical treatment, and more serious cases of heat disorders involving them must be entered into the records. In addition, any diagnosis by a physician or other licensed health care professional of heat syncope (fainting due to heat) is recordable under paragraph 1904.7(b)(6), Loss of Consciousness.

Burns: Many commenters recommended that OSHA include the treatment of burns on the first aid list (see, e.g., Exs. 45, 170, 260, 262, 265, 288, 301, 401, 414, 443). Teepak Inc. stated "[s]econd degree burns treated by first aid measures only, with no infection or complication or prescription medication, should be considered first aid" (Ex. 15: 45). The Georgia Power Company argued that "[t]reatment of all first degree burns should be added to the list of first aid treatments because they are minor injuries that are exempt from the requirements of the Act. Omission of first degree and second degree burns receiving only first aid treatment from this list is inconsistent with the recording criteria listed for burns of the skin in [proposed] Appendix B" (Ex. 15: 260). The Chemical Manufacturers Association recommended that OSHA add "[b]urns that require only one-time treatment. Subsequent observations and changing of bandages does not constitute medical treatment" (Ex. 15: 301).

The former *Recordkeeping Guidelines* listed the treatment of first degree burns as an example of first aid treatment and did not consider such treatment to be recordable (Ex. 2, p. 43). In the final rule, OSHA has decided not to include burn treatments on the first aid list. If first, second, or third degree burns result in days away from work, restricted work activity, or medical treatment beyond first aid, such as prescription drugs or complex removal of foreign material from the wound, they will rise to the level that requires recording.

Taking this approach means that burns will be treated just as other types of injury are, i.e., minor burn injuries will not be recordable, while more serious burns will be recorded because they will involve medical treatment. For

example, a small second degree burn to the forearm that is treated with nothing more than a bandage is not recordable. A larger or more severe second degree burn that is treated with prescription creams or antibiotics, or results in restricted work, job transfer, or days away from work is recordable. The vast majority of first degree burns and minor second degree burns will not be recorded because they will not meet the recording criteria, including medical treatment. However, more serious first and second degree burns that receive medical treatment will be recorded, and third degree burns should always be recorded because they require medical treatment.

Miscellaneous First Aid and Medical Treatment Issues

The American Association of Occupational Health Nurses (AAOHN) was concerned that the public might interpret the fact that treatments were listed as first aid to mean that they did not have to be administered, in some cases, by a health care professional:

OSHA must clarify that categorizing certain actions as first aid does not necessarily imply that these actions can be delegated to a non-health care professional. While a list of actions considered first aid treatment will offer guidance for employers in determining recordability of incidents, situations exist that will require the professional judgment of a health care professional. One example is the administration of tetanus/diphtheria shots. While it is appropriate to consider these treatments first aid for recordability, injections pose issues that require the judgment and expertise of a health care professional. One potential hazard of this treatment is the risk of side effects. The ability to identify the reaction and take appropriate measures should be handled by a qualified health care professional (Ex. 15: 181).

OSHA agrees with the AAOHN that certain treatments and interventions require the professional judgment of a health care professional. The Agency believes that these matters are best left to state agencies and licensing boards, and the final rule's definition of health care professional (see Subpart G) makes this clear.

The State of New York expressed a concern about the possible confusion some employers might experience between OSHA's requirements and those of the state workers' compensation systems. The New York Workers' Compensation Board stated:

The proposed rule contains a broad list of treatments which will qualify as first aid, with less emphasis on the number of treatments or the resulting amount of lost time from work. It is possible that many of

the items listed in the OSHA rule as first-aid treatments which do not require reporting under the proposed OSHA standard (i.e. use of splints, drilling a nail in a hematoma, use of compresses and non-prescription medications), may still require reporting under the WCL because in a particular case the treatment qualifies as medical treatment or because it has caused lost time from work beyond the working day. The only problem would be if employers, in complying with proposed OSHA requirements, failed to continue to comply with New York's recording and reporting requirements (Ex. 15: 68).

OSHA's reporting requirements do not in any way interfere with or have any impact on state workers compensation reporting requirements. Employers are required to record certain injuries and illnesses under the OSHA recordkeeping regulation and to observe certain other requirements under workers' compensation law. The two laws have separate functions: workers' compensation is designed to compensate injured or ill workers, while the OSH Act is designed to prevent injuries and illnesses and to create a body of information to improve understanding of their causes. Thus, certain injuries and illnesses may be reportable under state workers' compensation law but not under the OSHA recordkeeping rule, and certain injuries and illnesses may be reportable under the OSHA rule but not under one or more workers' compensation statutes. OSHA notes that employers have been following the requirements of both systems for years, and have generally not experienced difficulty in doing so.

Several commenters remarked on the need for OSHA to update the first aid list in the future (see, e.g., Exs. 234, 247, 384, 407). One commenter remarked: "The suggested first aid list adds and clarifies some treatments as first aid. There should be a mechanism for adding or removing treatments to first aid and medical treatment lists as new information becomes available" (Ex. 15: 234). The Akzo Nobel Company suggested that "[w]ith the assistance of occupational physicians, updates could be made quarterly and distributed via the Internet" (Ex. 15: 384). The National Institute for Occupational Safety and Health (NIOSH) recommended "[t]he first aid list, however, should be included as an appendix, rather than in the rule itself, in order to allow revisions to be made more easily as medical practice evolves" (Ex. 15: 407).

In response, OSHA notes that the list is part of a definition that sets mandatory recording and reporting requirements and is a part of the regulation itself. Including the first aid list as a non-mandatory appendix would

provide additional flexibility for future updates, but doing so would not meet the purposes for which the list is intended. The list is mandatory, and making it non-mandatory would only introduce additional confusion about what is or is not to be entered into the records. As a result, the mechanism OSHA will use to update or modify the first aid list will be to pursue a future rulemaking, if and when such a rulemaking is needed. OSHA will continue to issue letters of interpretation to help employers understand the requirements as they apply to specific situations.

Paragraph 1904.7(b)(6) Loss of Consciousness

The final rule, like the former rule, requires the employer to record any work-related injury or illness resulting in a loss of consciousness. The recording of occupational injuries and illnesses resulting in loss of consciousness is clearly required by Sections 8(c) and 24 of the OSH Act. The new rule differs from the former rule only in clearly applying the loss of consciousness criterion to illnesses as well as injuries. Since the former rule required the recording of all illnesses, illnesses involving loss of consciousness were recordable, and thus OSHA expects that this clarification will not change recording practices. Thus, any time a worker becomes unconscious as a result of a workplace exposure to chemicals, heat, an oxygen deficient environment, a blow to the head, or some other workplace hazard that causes loss of consciousness, the employer must record the case.

Very few commenters addressed the issue of loss of consciousness. Three commenters asked OSHA to make sure that these cases are not recordable unless they are the result of a work-related injury or illness (see, e.g., Exs. 15: 102, 159, 176). The American Frozen Food Institute (AFFI) stated that “[l]oss of consciousness should not be reported unless it is the clear result of a work related injury or illness” (Ex. 15: 102). The Chemical Manufacturers Association added “OSHA must clearly indicate in the final recordkeeping rule that loss of consciousness must be induced by an occupational exposure. For example, if someone faints at work due to pregnancy or has an epileptic seizure, such loss of consciousness should not be recordable” (Ex. 15: 176).

OSHA agrees with these commenters that, in order to be a recordable event, a loss of consciousness must be the result of a workplace event or exposure. Loss of consciousness is no different, in this respect, from any other injury or

illness. The exceptions to the presumption of work-relationship at § 1904.5(b)(2)(ii) allow the employer to exclude cases that “involve signs or symptoms that surface at work but result solely from a non-work-related event or exposure that occurs outside the work environment.” This exception allows the employer to exclude cases where a loss of consciousness is due solely to a personal health condition, such as epilepsy, diabetes, or narcolepsy.

The American Crystal Sugar Company (Ex. 15: 363) raised the issue of phobias resulting in loss of consciousness:

I would also like to suggest exempting an employee's loss of consciousness based on a fear-based phobia, i.e., fainting at the sight of blood. Occasionally an OSHA regulation may require blood tests, such as checking lead levels in blood. There are a few employees that will lose consciousness at the sight of a needle. These phobias are not limited to medical procedures, but may include spiders, snakes, etc. In several of our factories, the occupational health nurse will administer tetanus boosters as a service to our employees. Employees that have a phobia about injections can (and do) lose consciousness, which now makes what was intended as a service an OSHA recordable accident.

The final rule does not contain an exception for loss of consciousness associated with phobias or first aid treatment. OSHA notes, however, that the exception at paragraph 1904.5(b)(2)(iii) allows the employer to rebut the presumption of work relationship if “the injury or illness results solely from voluntary participation in a wellness program or in a medical, fitness, or recreational activity such as blood donation, physical, flu shot, exercise class, racquetball, or baseball.” This exception would eliminate the recording of fainting episodes involving voluntary vaccination programs, blood donations and the like. However, episodes of fainting from mandatory medical procedures such as blood tests mandated by OSHA standards, mandatory physicals, and so on would be considered work-related events, and would be recordable on the Log if they meet one or more of the recording criteria. Similarly, a fainting episode involving a phobia stemming from an event or exposure in the work environment would be recordable.

The Union Carbide Corporation (Ex. 15: 396) asked OSHA to be more precise about the definition of loss of consciousness, stating that “[m]ost people generally understand this term without a definition, but it can be open to interpretation. For example, is ‘feeling woozy’ for a few seconds

considered to be a loss of consciousness? Perhaps OSHA should define the term to avoid any confusion.” In this final rule, OSHA has not included a separate definition for the term “loss of consciousness.” However, the language of paragraph 1904.7(b)(6) has been carefully crafted to address two issues. First, the paragraph refers to a worker becoming “unconscious,” which means a complete loss of consciousness and not a sense of disorientation, “feeling woozy,” or a other diminished level of awareness. Second, the final rule makes it clear that loss of consciousness does not depend on the amount of time the employee is unconscious. If the employee is rendered unconscious for any length of time, no matter how brief, the case must be recorded on the OSHA 300 Log.

Paragraph 1904.7(b)(7) Recording Significant Work-Related Injuries and Illnesses Diagnosed by a Physician or Other Licensed Health Care Professional

Paragraph 1904.7(b)(7) of this final rule requires the recording of any significant work-related injury or illness diagnosed by a physician or other licensed health care professional. Paragraph 1904.7(b)(7) clarifies which significant, diagnosed work-related injuries and illnesses OSHA requires the employer to record in those rare cases where a significant work-related injury or illness has not triggered recording under one or more of the general recording criteria, i.e., has not resulted in death, loss of consciousness, medical treatment beyond first aid, restricted work or job transfer, or days away from work. Based on the Agency's prior recordkeeping experience, OSHA believes that the great majority of significant occupational injuries and illnesses will be captured by one or more of the other general recording criteria in Section 1904.7. However, OSHA has found that there is a limited class of significant work-related injuries and illnesses that may not be captured under the other § 1904.7 criteria. Therefore, the final rule stipulates at paragraph 1904.7(b)(7) that any significant work-related occupational injury or illness that is not captured by any of the general recording criteria but is diagnosed by a physician or other licensed health care professional be recorded in the employer's records.

Under the final rule, an injury or illness case is considered significant if it is a work-related case involving occupational cancer (e.g., mesothelioma), chronic irreversible disease (e.g., chronic beryllium disease), a fractured or cracked bone (e.g., broken arm, cracked rib), or a punctured

eardrum. The employer must record such cases within 7 days of receiving a diagnosis from a physician or other licensed health care professional that an injury or illness of this kind has occurred. As explained in the note to paragraph 1904.7(b)(7), OSHA believes that the great majority of significant work-related injuries and illnesses will be recorded because they meet one or more of the other recording criteria listed in § 1904.7(a): death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness. However, there are some significant injuries, such as a punctured eardrum or a fractured toe or rib, for which neither medical treatment nor work restrictions may be administered or recommended.

There are also a number of significant occupational diseases that progress once the disease process begins or reaches a certain point, such as byssinosis, silicosis, and some types of cancer, for which medical treatment or work restrictions may not be recommended at the time of diagnosis, although medical treatment and loss of work certainly will occur at later stages. This provision of the final rule is designed to capture this small group of significant work-related cases. Although the employer is required to record these illnesses even if they manifest themselves after the employee leaves employment (assuming the illness meets the standards for work-relatedness that apply to all recordable incidents), these cases are less likely to be recorded once the employee has left employment. OSHA believes that work-related cancer, chronic irreversible diseases, fractures of bones or teeth and punctured eardrums are generally recognized as constituting significant diagnoses and, if the condition is work-related, are appropriately recorded at the time of initial diagnosis even if, at that time, medical treatment or work restrictions are not recommended.

As discussed in the Legal Authority section, above, OSHA has modified the Agency's prior position so that, under the final rule, minor occupational illnesses no longer are required to be recorded on the Log. The requirement pertaining to the recording of all significant diagnosed injuries and illnesses in this paragraph of the final rule, on the other hand, will ensure that all significant (non-minor) injuries and illnesses are in fact captured on the Log, as required by the OSH Act. Requiring significant cases involving diagnosis to be recorded will help to achieve several of the goals of this rulemaking. First, adherence to this requirement will produce better data on occupational injury and illness by providing for more

complete recording of significant occupational conditions. Second, this requirement will produce more timely records because it provides for the immediate recording of significant disorders on first diagnosis. Many occupational illnesses manifest themselves through gradual onset and worsening of the condition. In some cases, a worker could be diagnosed with a significant illness, such as an irreversible respiratory disorder, not be given medical treatment because no effective treatment was available, not lose time from work because the illness was not debilitating at the time, and not have his or her case recorded on the Log because none of the recording criteria had been met. If such a worker left employment or changed employers before one of the other recording criteria had been met, this serious occupational illness case would never be recorded. The requirements in paragraph 1904.7(b)(7) remedy this deficiency and will thus ensure the capture of more complete and timely data on these injuries and illnesses.

The provisions of paragraph 1904.7(b)(7) are an outgrowth of Appendix B of the proposed rule, which included provisions for the recording of individual conditions, such as blood lead levels, musculoskeletal disorders, and various respiratory ailments. As OSHA explained in the preamble to the proposed rule (61 FR 4039-4042), the proposed requirements were intended to ensure the recording of significant non-fatal cases that did not meet the general criteria (days away, restricted work, medical treatment, etc.).

Proposed Appendix B has not been included in the final rule, which instead includes additional separate criteria for several of the conditions proposed to be included in Appendix B; these criteria, which cover tuberculosis cases, hearing loss cases, and so on, appear in the final rule at § 1904.8 through § 1904.12. The requirements at paragraph 1904.7(b)(7) of the final rule, which require the recording of significant injuries and illnesses not meeting one or more of the general recording criteria, will ensure the recording of the small number of significant conditions that would have been covered by proposed Appendix B and are not elsewhere addressed in the final rule. Thus, OSHA believes that cases involving the conditions listed in proposed Appendix B will be captured either by the requirements in this significant diagnosed case section or by the other general recording criteria.

In developing the text of paragraph 1904.7(b)(7) of the final rule, OSHA reviewed the following questions as they related to proposed Appendix B.

Each of these questions, and the comments received, are discussed in greater detail below: (1) Are additional recording criteria beyond loss of consciousness, medical treatment, restricted work, job transfer, days away, or death needed in the final rule?; (2) if so, should these additional criteria address a finite list of specific conditions or address a broader range of disorders?; (3) how should the agency define "significant" injuries and illnesses?; and (4) how should the final rule ensure the work-relatedness of these cases?

Are Additional Recording Criteria Needed?

Many commenters viewed proposed Appendix B as an unnecessary addition to the other general recording criteria and argued that OSHA should use the general criteria listed in the OSH Act itself for most if not all of the listed conditions (see, e.g., Exs. 15: 52, 146, 200, 203, 219, 260, 262, 265, 271, 272, 303, 313, 329, 348, 352, 353, 368, 401, 427). For example, the Atlantic Richfield Company (ARCO) stated that:

[t]his broadening of the recordability criteria particularly as detailed in [proposed] mandatory Appendix B dilutes the significant data with marginal data and does not, in our view, fit with OSHA's stated goals for improved Log accuracy and utility. ARCO believes that for almost all of these specific exposures, the appropriate data can be captured through the normal performance criteria of whether the condition or exposure has caused a day away from work, restriction on activity, or resulted in medical treatment. It is, therefore, our opinion that Appendix B is unnecessary and appropriate for deletion (Ex. 15: 329).

However, other commenters saw a need for and supported the inclusion of additional recording criteria in the final rule (see, e.g., Exs. 15: 201, 301, 304, 318). For example, the National Federation of Independent Business (NFIB) agreed that "[t]here are some conditions which are serious enough to be recorded, but could escape the proposed recordkeeping criteria of medical treatment, restricted or loss workdays or job transfer" (Ex. 15: 304). Caterpillar agreed "[w]ith the basic concept proposed in Appendix B that additional guidelines are needed to capture some injuries and illnesses serious enough to be recorded, which may not be captured by the basic recordkeeping criteria" (Ex. 15: 201).

OSHA agrees with those commenters who supported the inclusion in the final rule of an additional mechanism to ensure the capture of significant work-related injuries and illnesses that are diagnosed by a physician or other licensed health care professional but do

not, at least at the time of diagnosis, meet the criteria of death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness. The recording of *all* non-minor injuries and illnesses is consistent with the OSH Act (see the Legal Authority section) and has been the intent of the recordkeeping system for many years. The primary goal of the requirement at paragraph 1904.7(b)(7) is to produce more accurate and complete data on non-minor work-related injuries and illnesses. Because the number of significant work-related injuries and illnesses may not be captured by one or more of the other general recording criteria, OSHA finds that this additional criterion is needed. However, OSHA believes that most cases will be captured by the general recording criteria.

Should Additional Criteria Address a Finite List of Specific Conditions or Address a Broader Range of Disorders?

Proposed Appendix B was composed of a finite list of disorders and their associated recording criteria. A number of commenters were concerned that an inclusive list would overlook other conditions that did not meet the general recording criteria and were not included in proposed Appendix B. For example, OxyChem wrote:

[f]or example, aniline is a substance having specific effects from occupational exposure, but it is not listed in Appendix B. How will occupational illness cases related to aniline be treated? Under OSHA's proposal, employers will apply the general recordability criteria to make a decision, and the case will very likely not be recorded unless it involves medical treatment, loss of consciousness, etc. (Ex. 15: 386)

This issue was also raised by the International Chemical Workers, who wrote that "[a]ppendix B limits the types of illnesses which are recordable. It needs to be textually and visually clear that this list is not an all inclusive list of recordable illnesses" (Ex. 15: 415). Additionally, the American Industrial Hygiene Association had the following thoughts on this subject:

[a]n addition should be made to the end of Appendix B to clarify and expand on the recording of new or emerging occupational illnesses as introduced by OSHA in Appendix B, second paragraph at the end of page 4063: "Conditions not included in this Appendix that otherwise meet the criteria in the § 1904.4.(c) must be recorded." Medical diagnoses, including laboratory and diagnostic tests should be the principal criteria for recording occupational illnesses.

The above quotation "Conditions not included in this Appendix * * * must be recorded" should be reworded to include the

statement "including symptomology with a clear workplace link" (Ex. 15: 153).

OSHA generally agrees with these points. Limiting the recording of non-minor occupational injuries and illnesses to a finite list runs counter to the goal of this rule, which is to capture comprehensive data on all non-minor work-related injuries and illnesses, and thus including such a list would not meet the Agency's statutory mandate to collect such data. OSHA believes there will be very few injuries and illnesses that are not captured by the general recording criteria. For example, non-minor acute illnesses, such as the skin disorders potentially associated with aniline exposure, will be captured by the other criteria, particularly medical treatment beyond first aid, restricted work or job transfer, or days away from work. However, to address the gap in case capture presented by significant injury and illness cases that escape the general recording criteria, OSHA is requiring employers to record cases of chronic, irreversible disease under the § 1904.7(b)(7) criterion. This means that if long-term workplace exposure to aniline results in a chronic, irreversible liver or kidney disease, the case would be recordable at the time of diagnosis, even if no medical treatment is administered at that time and no time is lost from work. The regulatory text of paragraph 1904.7(b)(7) limits the types of conditions that are recordable, however, to significant diagnosed injury and illness cases, which are defined as cancer, chronic irreversible diseases, fractured or cracked bones, and punctured eardrums.

How Should the Agency Define "Significant" Injury or Illness?

Although there was considerable support in the record for the final rule to include a list of conditions that might not be captured under the general recordkeeping criteria, there was far less agreement among commenters on the specific conditions that should be listed. Many commenters agreed with Amoco, which testified that "[t]he criteria currently listed in the proposed rule would require recording of signs, symptoms and laboratory abnormalities; situations which are not disabling, serious, or significant" (Ex. 22). Waste Management, Inc., commented that "[t]he definition of an illness [in the proposal] or injury refers to an adverse change in the individual. This is interpreted to mean a change which is permanent or a change which is clinically demonstrable to be adverse to the individual as a result of occupational exposure in the workplace.

Some of the guidance provided in Appendix B does not meet these criteria" (Ex. 15: 389). The Chemical Manufacturers Association suggested that only those conditions "[w]hose seriousness is approximately equal to that of conditions captured by traditional criteria" be included in Appendix B (Ex. 15: 301), and the Dupont Company proposed that the conditions listed in Appendix B "[i]nclude only situations that cause a permanent change to the body structure where medical treatment may not be given" (Ex. 15: 348). Dupont also stated that "[O]SHA should provide scientific evidence that a change in a lab reading [laboratory tests results were also included in proposed Appendix B] is the equivalent of a serious or significant change to the body structure" (Ex. 15: 348). Other commenters such as the Marathon Oil Company questioned whether OSHA had the legal authority "[t]o require employers to record these non-serious exposures. The OSHA proposed criteria do not represent serious, significant or disabling injuries/illnesses as required by Section 24(a) of the Act" (Ex. 15: 308).

OSHA believes that the conditions that are required to be recorded under § 1904.7(b)(7) of the final rule represent significant occupational injuries and illnesses as described in the OSH Act. Some clearly significant injuries or illnesses are not amenable to medical treatment, at least at the time of initial diagnosis. For example, a fractured rib, a broken toe, or a punctured eardrum are often, after being diagnosed, left to heal on their own without medical treatment and may not result in days away from work, but they are clearly significant injuries. Similarly, an untreatable occupational cancer is clearly a significant injury or illness. The second set of conditions identified in paragraph 1904.7(b)(7), chronic irreversible diseases, are cases that would clearly become recordable at some point in the future (unless the employee leaves employment before medical treatment is provided), when the employee's condition worsens to a point where medical treatment, time away from work, or restricted work are needed. By providing for recording at the time of diagnosis, paragraph 1904.7(b)(7) of the final rule makes the significant, work-related condition recordable on discovery, a method that ensures the collection of timely data. This approach will result in better injury and illness data and also is likely to be more straightforward for employers to comply with, since there is no further need to track the case to

determine whether, and at what point, it becomes recordable.

The core of the recording requirement codified at § 1904.7(b)(7) is the employer's determination that a "significant" injury or illness has been diagnosed. The Agency's former *Recordkeeping Guidelines* addressed this issue in interpretations about "non minor" injuries that did not meet the general recording criteria of death, days away, restricted work, transfer to another job, medical treatment or loss of consciousness. The *Guidelines* stated (Ex. 2, p. 42) that:

The distinction between medical treatment and first aid depends not only on the treatment provided, but also on the severity of the injury being treated. First aid is: (1) Limited to one-time treatment and subsequent observation; and (2) involves treatment of only minor injuries, not emergency treatment of serious injuries. Injuries are not minor if:

(a) They must be treated only by a physician or licensed medical personnel;

(b) They impair bodily function (*i.e.*, normal use of senses, limbs, etc.);

(c) They result in damage to the physical structure of a nonsuperficial nature (*e.g.*, fractures); or

(d) They involve complications requiring followup medical treatment.

Many commenters on the proposal simply stated that the system must include all serious, significant or disabling injuries, and exclude cases that did not rise to that level (see, *e.g.*, Exs. 25; 15: 55, 135, 144, 154, 158, 162, 165, 193, 201, 206, 207, 211, 212, 220, 228, 238, 240, 243, 252, 253, 257, 258, 261, 264, 267, 272, 274, 276, 286, 293, 303, 305, 306, 309, 318, 320, 346, 354, 358, 365, 368, 375, 382, 383, 395, 397, 408, 412, 420, 421, 427, 434). The comments of the American Petroleum Institute (API) reflect this view: "[A]PI is strongly opposed to any provision which would require a case to be recorded which is not serious or which is not likely to become serious. API strongly disagrees that non-serious subjective signs, symptoms, abnormal health test results, or evidence of exposure in and of themselves should be recorded on the OSHA log—unless the case otherwise meets one of the traditional criteria (*e.g.*, medical treatment, *et al.*) or results in, or is expected to result in a serious impairment" (Ex. 15: 375).

Many comments believed that the recordability of occupational illnesses should rely on the diagnosis of a health care professional. For example, the U.S. Small Business Administration recommended that "[a] recordable incident under the [proposed] 'Specific Conditions' should be subject to a health care provider's clinical

diagnosis" (Ed. 15: 67); Fort Howard recommended that "[t]he Company disagrees with the [proposed] Mandatory Appendix B concept particularly in light of the statement in the Proposal that an employer can not rely solely on the clinical diagnosis of an injury or illness by a physician. Fort Howard recommends that an employer be allowed to specifically rely on the conclusions of those trained in this field, namely physicians" (Ex. 15: 194); and Country Mark Cooperative recommended that "[i]f an illness is diagnosed by a medical provider as linked to the cause agent, then it would be recorded as 'otherwise recordable' until such time as other recordable criteria are met such as days unable to work" (Ex. 15: 9). BASF commented that "[proposed] Appendix B should not require the recording of merely signs, symptoms, or laboratory abnormalities. Instead, it should also include objective findings or observations on the part of health care providers regarding the diagnosis of a serious illness or effect not otherwise subject to recording requirements" (Ex. 15: 403).

Only a few commenters suggested methods for differentiating between serious and non-serious cases, in the context of conditions that should be listed in the final rule (see, *e.g.*, Exs. 15: 135, 176, 193, 199, 258, 375, 396). The API suggested that, if OSHA identifies a need to define "disabling, serious or significant" explicitly, the Agency should consider the following criteria:

[a]ny other case which results in a serious impairment or significant injury for which no effective treatment exists, or

involves a diagnosis of a condition which in time is expected to result in a serious impairment (or death), *e.g.*, certain asbestos-related diseases; or

involves evidence of a chemical exposure at biological levels where criteria in an OSHA standard requires medical removal (Ex. 15: 375).

Elsewhere in their comments, the API recommended criteria for selecting which conditions would be listed in proposed Appendix B as follows:

[t]he purpose of this appendix [proposed Appendix B] is to provide for the mandatory recording of occupational injuries and illnesses which are also serious or significant—but which do not immediately result in medical treatment, restricted work * * *

Such cases fall into three broad categories. They occur when the injury or illness either

Results in a serious impairment (unable to perform any normal life activity such as walking, eating, thinking, talking, breathing, seeing, smelling, hearing, driving a car. Incontinence and impotence would also be included)

Involves a diagnosis of a condition which in time is expected to result in serious impairment (or death), *e.g.* certain asbestos related diseases,

or
Involved evidence of a chemical exposure at biological levels where criteria in an OSHA standard requires medical removal (Ex. 15: 375).

Adapto, Inc. (Ex. 15: 258) focused on the major life activity concept, stating that:

[a]s mentioned previously, Congress intended that the statistical data compiled under this rule be limited to cases involving disabling, serious, or significant injuries or illness. Adapto, Inc. believes this phrase generally refers to a work-related condition that results in a physical or mental impairment that substantially limits a major life activity.

Union Carbide (Ex. 15: 396) urged that the following factors be used for determining the conditions that should be included in the final rule:

Serious illnesses caused by exposures which are chronic and cumulative in nature

Serious illnesses with a long latency period between exposure and recognition of the significant illness condition

Serious illnesses which are likely to result in significant impairment

Serious illnesses without a known or widely recognized medical treatment until advanced stages.

The Chemical Manufacturing Association (Ex. 15: 176) restated the same factors articulated by Union Carbide and added another factor: "[s]erious illnesses that are not treatable." The NYNEX Corporation (Ex. 15: 199), the National Broiler Council (NBC), and the National Turkey Federation (Ex. 15: 193), in identical comments, focused on the idea of cases with an expectation of serious impairment or death, stating:

[w]e do recognize, however, that there are some cases that do not meet this criteria that do have the expectation of resulting in serious impairment or even death. We are in agreement that cases of this potential seriousness should be recorded when they are diagnosed by a competent physician or medical professional as work-related.

The Macon Corporation (Ex. 15: 135) suggested using a material impairment test, suggesting that "[w]e need to establish an effective system for the collection of data on serious work related injuries and illnesses which, at the time of recording, represent a material impairment to the health or functional capacity [of the injured or ill worker]." OSHA has not adopted the material impairment alternative in the final rule because the term has specific meaning in the context of OSHA rulemaking. Section 6(b)(5) of the Act,

which sets forth the criteria for promulgating standards dealing with toxic substances or harmful physical agents, states that OSHA shall "set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer *material impairment of health or functional capacity even if such employee has regular exposure to the hazard dealt with by such standard for the period of his working life (emphasis added).*" OSHA believes that use of this term in the recordkeeping rule could cause confusion among employers.

In the final rule, OSHA has adopted an approach similar to that suggested by the American Petroleum Institute, *i.e.*, focusing on two types of injury and illness: those that may be essentially untreatable, at least in the early stages and perhaps never (fractured and cracked bones, certain types of occupational cancer, and punctured eardrums) and those expected to progressively worsen and become serious over time (chronic irreversible diseases). The final rule is also responsive to the many commenters who urged OSHA to adopt a definition of severity for this requirement that would include all serious and significant injuries and illnesses, while excluding less serious cases. The language of paragraph 1904.(b)(7) of the final rule also responds to comments presented by commenters on the proposal who argued that relying on test results or other measures as indicators of serious occupational injury or illness was inappropriate. Instead, the final rule relies exclusively on the diagnosis of a limited class of injuries and illnesses by a physician or other licensed health care professional.

Clarifying That Cases Captured by Paragraph 1904.7(b)(7) Must Be Work Related

A number of commenters on the proposal expressed concern that proposed Appendix B was not clear enough about the fact that conditions must be work-related to be recordable on the OSHA forms. For example, several commenters asked OSHA to make sure that recordable cases of asthma are work-related (see, *e.g.*, Exs. 15: 38, 78, 80, 83, 89, 105, 157, 163, 188, 197, 203, 239, 279, 281, 297, 299, 302, 337, 345, 378, 395, 414). The Jewel Coal and Coke Company (Ex. 15: 281) stated that "[asthma, in nearly all cases, is genetic and, to be recordable, we feel must be a direct result of something in the working OSHA environment. To require anything else would cause the unnecessary recording of cases of

genetic asthma with no relationship to the working environment and would serve no purpose other than to balloon the statistics."

OSHA wishes to reiterate that *any* condition that is recordable on the OSHA injury and illness recordkeeping forms must be work-related, and § 1904.7(b)(7) includes the term "work-related" to make this fact clear. In addition, because the employer will be dealing with a physician or other licensed health care professional, he or she may also be able to consult with the health care professional about the work-relatedness of the particular case. If the employer determines, based either on his or her own findings or those of the professional, that the symptoms are merely arising at work, but are caused by some non-work illness, then the case would not be recorded, under exception (b)(2)(ii) to the work-relatedness presumption at § 1904.5(b)(2) of the final rule. Similarly, if workplace events or exposures contributed only insignificantly to the aggravation of a worker's preexisting condition, the case need not be recorded under § 1904.5(a) and § 1904.5(b)(3) of the final rule.

The provisions of § 1904.7(b)(7) of the final rule thus meet the objectives of (1) capturing significant injuries and illnesses that do not meet the other general recording criteria of death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness; (2) excluding minor injuries and illnesses; (3) addressing a limited range of disorders; and (4) making it clear that these injuries and illnesses must be work-related before they must be recorded.

Section 1904.8 Additional Recording Criteria for Needlestick and Sharps Injuries

Section 1904.8 of the final rule being published today deals with the recording of a specific class of occupational injuries involving punctures, cuts and lacerations caused by needles or other sharp objects contaminated or reasonably anticipated to be contaminated with blood or other potentially infectious materials that may lead to bloodborne diseases, such as Acquired Immunodeficiency Syndrome (AIDs), hepatitis B or hepatitis C. The final rule uses the terms "contaminated," "other potentially infectious material," and "occupational exposure" as these terms are defined in OSHA's Bloodborne Pathogens standard (29 CFR 1910.1030). These injuries are of special concern to healthcare workers because they use needles and other sharp devices in the performance of

their work duties and are therefore at risk of bloodborne infections caused by exposures involving contaminated needles and other sharps. Although healthcare workers are at particular risk of bloodborne infection from these injuries, other workers may also be at risk of contracting potentially fatal bloodborne disease. For example, a worker in a hospital laundry could be stuck by a contaminated needle left in a patient's bedding, or a worker in a hazardous waste treatment facility could be occupationally exposed to bloodborne pathogens if contaminated waste from a medical facility was not treated before being sent to waste treatment.

Section 1904.8(a) requires employers to record on the OSHA Log all work-related needlestick and sharps injuries involving objects contaminated (or reasonably anticipated to be contaminated) with another person's blood or other potentially infectious material (OPIM). The rule prohibits the employer from entering the name of the affected employee on the Log to protect the individual's privacy; employees are understandably sensitive about others knowing that they may have contracted a bloodborne disease. For these cases, and other types of privacy concern cases, the employer simply enters "privacy concern case" in the space reserved for the employee's name. The employer then keeps a separate, confidential list of privacy concern cases with the case number from the Log and the employee's name; this list is used by the employer to keep track of the injury or illness so that the Log can later be updated, if necessary, and to ensure that the information will be available if a government representative needs information about injured or ill employees during a workplace inspection (see § 1904.40). The regulatory text of § 1904.8 refers recordkeepers and others to § 1904.29(b)(6) through § 1904.29(b)(10) of the rule for more information about how to record privacy concern cases of all types, including those involving needlesticks and sharps injuries. The implementation section of § 1904.8(b)(1) defines "other potentially infectious material" as it is defined in OSHA's Bloodborne Pathogens Standard (29 CFR § 1910.1030, paragraph (b)). Other potentially infectious materials include (i) human bodily fluids, human tissues and organs, and (ii) other materials infected with the HIV or hepatitis B (HBV) virus such as laboratory cultures or tissues from experimental animals. (For a complete list of OPIM, see paragraph (b) of 29 CFR 1910.1030.)

Although the final rule requires the recording of all workplace cut and puncture injuries resulting from an event involving contaminated sharps, it does not require the recording of all cuts and punctures. For example, a cut made by a knife or other sharp instrument that was not contaminated by blood or OPIM would not generally be recordable, and a laceration made by a dirty tin can or greasy tool would also generally not be recordable, providing that the injury did not result from a contaminated sharp and did not meet one of the general recording criteria of medical treatment, restricted work, etc. Paragraph (b)(2) of § 1904.8 contains provisions indicating which cuts and punctures must be recorded because they involve contaminated sharps and which must be recorded only if they meet the general recording criteria.

Paragraph (b)(3) of § 1904.8 contains requirements for updating the OSHA 300 Log when a worker experiences a wound caused by a contaminated needle or sharp and is later diagnosed as having a bloodborne illness, such as AIDS, hepatitis B or hepatitis C. The final rule requires the employer to update the classification of such a privacy concern case on the OSHA 300 Log if the outcome of the case changes, i.e., if it subsequently results in death, days away from work, restricted work, or job transfer. The employer must also update the case description on the Log to indicate the name of the bloodborne illness and to change the classification of the case from an injury (i.e., the needlestick) to an illness (i.e., the illness that resulted from the needlestick). In no case may the employer enter the employee's name on the Log itself, whether when initially recording the needlestick or sharp injury or when subsequently updating the record.

The privacy concern provisions of the final rule make it possible, for the first time, for the identity of the bloodborne illness caused by the needlestick or sharps injury to be included on the Log. By excluding the name of the injured or ill employee throughout the recordkeeping process, employee privacy is assured. This approach will allow OSHA to gather valuable data about the kinds of bloodborne illnesses healthcare and other workers are contracting as a result of these occupational injuries, and will provide the most accurate and informative data possible, including the seroconversion status of the affected worker, the name of the illness he or she contracted, and, on the OSHA 301 Form for the original case, more detailed information about how the injury occurred, the equipment and materials involved, and so forth.

Use of the privacy case concept thus meets the primary objective of this rulemaking, providing the best data possible, while simultaneously ensuring that an important public policy goal—the protection of privacy about medical matters—is met. OSHA recognizes that requiring employers to treat privacy cases differently from other cases adds some complexity to the recordkeeping system and imposes a burden on those employers whose employees experience such injuries and illnesses, but believes that the gain in data quality and employee privacy outweigh these disadvantages considerably.

The last paragraph (paragraph (c)) of § 1904.8 deals with the recording of cases involving workplace contact with blood or other potentially infectious materials that do not involve needlesticks or sharps, such as splashes to the eye, mucous membranes, or non-intact skin. The final recordkeeping rule does not require employers to record these incidents unless they meet the final rule's general recording criteria (i.e., death, medical treatment, loss of consciousness, restricted work or motion, days away from work, diagnosis by an HCP) or the employee subsequently develops an illness caused by bloodborne pathogens. The final rule thus provides employers, for the first time, with regulatory language delineating how they are to record injuries caused by contaminated needles and other sharps, and how they are to treat other exposure incidents (as defined in the Bloodborne Pathogens standard) involving blood or OPIM. "Contaminated" is defined just as it is in the Bloodborne Pathogens standard: "Contaminated means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface."

Before issuance of this final recordkeeping rule, the OSHA compliance directive CPL 2-2.44C for the Bloodborne Pathogens standard, "Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens Standard, 29 CFR 1910.1030" provided recording guidance to employers of occupationally exposed employees. The CPL 2-2.44C guidance treated cuts, lacerations and exposure incidents identically, classifying all of the events as injuries because they usually result from instantaneous events or exposures. The employer was required to record an incident when it met one of the following requirements:

1. The incident is a work-related injury that involves loss of consciousness, transfer to another job, or restriction of work or motion.

2. The incident results in the recommendation of medical treatment beyond first aid (e.g., gamma globulin, hepatitis B immune globulin, hepatitis B vaccine, or zidovudine) regardless of dosage.

3. The incident results in a diagnosis of seroconversion. The serological status of the employee shall not be recorded on the OSHA 200. If a case of seroconversion is known, it shall be recorded on the OSHA 200 as an injury (e.g., "needlestick" rather than "seroconversion") in the following manner:

- a. If the date of the event or exposure is known, the original injury shall be recorded with the date of the event or exposure in column B.

- b. If there are multiple events or exposures, the most recent injury shall be recorded with the date that seroconversion is determined in column B.

In 1999, OSHA updated CPL 2-2.44 and changed this language to simply refer to the Part 1904 regulation, in anticipation of the publication of this final recordkeeping rule.

The proposal

In the 1996 **Federal Register** notice, OSHA proposed recording criteria for needlestick and sharps injuries that were the same as the criteria being set forth in this final rule. The requirements in the final rule have been stated in slightly different language from those in the proposal to be consistent with the format of the remainder of the rule. The only substantive difference between the approach taken in the proposal and that in the final rule is the way that cases are handled to protect the privacy of the injured or ill worker. Appendix B of the proposed rule (61 FR 4065) included requirements to record the following:

"any workplace bloodborne pathogen exposure incident (as defined in 1910.1030(b)) that results in a positive blood test or diagnosis by a health care provider indicating AIDS, HIV seroconversion, hepatitis B or hepatitis C.

OR

any laceration or puncture wound that involves contact with another person's blood or other potentially infectious materials.

Note: to protect employee confidentiality, employers shall record occupationally acquired bloodborne pathogen diseases, such as hepatitis B, simply as the initial bloodborne exposure incident and note the exposure type (e.g. needlestick). Seroconversion and specific type of bloodborne disease shall not be recorded."

OSHA explained in its proposal that recording these incidents was appropriate because these injuries are clearly non-minor, and recording them would be consistent with the Agency's mandate to collect information related to the death, illness, and injury of workers (61 FR 4041). OSHA then requested comment on whether it would be appropriate to record small puncture

wounds and lacerations that do not lead to disease, and whether OSHA should require employers to record all "exposure incidents" involving exposure to blood or OPIM, not just *injuries* involving contaminated needles and sharps. The proposal also asked for comment about the special privacy concerns potentially associated with bloodborne pathogen injuries and illnesses, and asked the following questions: "What data is useful to collect? Are there other criteria for the recording of bloodborne infectious diseases which should be considered? What experience do employers have in data collection systems for this hazard?"

These proposed recording criteria for needlesticks and sharps injury cases prompted many comments to the rulemaking record. Very few of the comments supported OSHA's proposed position on this issue. Commenters either recommended recording all bloodborne pathogen exposure incidents or sharply limiting the recording of these events. A large number of commenters either objected specifically to the recording of all bloodborne pathogen exposure incidents or objected to the entire contents of proposed Appendix B (see, e.g., Exs. 15: 1, 37, 38, 39, 44, 48, 52, 61, 66, 69, 74, 78, 82, 89, 100, 119, 121, 122, 126, 133, 146, 151, 152, 154, 156, 179, 193, 197, 200, 201, 203, 204, 213, 218, 219, 239, 254, 260, 262, 265, 271, 272, 277, 287, 297, 299, 301, 303, 305, 308, 310, 313, 317, 322, 329, 335, 345, 346, 347, 348, 349, 351, 352, 353, 361, 364, 373, 374, 375, 378, 392, 393, 395, 396, 398, 401, 403, 405, 407, 408, 409, 425, 434, 435). The most frequent suggestion made by commenters was that the only criterion for recording bloodborne pathogen diseases should be a positive blood test or diagnosis by a health care professional (see, e.g., Exs. 15: 1, 38, 61, 65, 78, 82, 119, 122, 133, 151, 152, 179, 201, 213, 260, 262, 265, 290, 299, 301, 317, 345, 347, 373, 374, 393, 401, 407, 408, 435, 442). Many of the commenters who objected to recording all bloodborne incidents on the Log argued that these cases reflect exposure only and do not usually reflect cases that rise to the level of an injury or illness (see, e.g., Exs. 15: 44, 69, 78, 151, 152, 179, 197, 201, 239, 272, 277, 287, 303, 308, 313, 345, 347, 348, 349, 351, 352, 353, 364, 373, 374, 375, 386, 392, 395, 396, 403, 405, 423, 425, 442). Other commenters urged OSHA to consider these cases minor injuries if they do not result in disease (see, e.g., Exs. 15: 52, 290, 317, 403, 409, 434). Many agreed with the comments submitted by Bellin Hospital, which

stated "[r]ecording of all Significant Exposures is unnecessary. Seroconversions after exposure, regardless of mode of exposure is appropriate recordkeeping only" (Ex. 15: 38). Several commenters made similar points. For example, Atlantic Dry Dock (Ex. 15: 179) wrote that "[n]ot all contact [with blood or other potentially infectious materials] will result in an infection. There is no injury/illness unless an infection has actually resulted from the contact."

Some commenters suggested that only those cases that resulted in either medical treatment or seroconversion should be recorded on the Log (see, e.g., Exs. 15: 48, 100, 213, 310, 395, 416, 423), while others advocated recording lacerations and puncture wounds only if they met the rule's general recording criteria (see, e.g., Exs. 15: 52, 200, 203, 219, 260, 262, 265, 271, 313, 329, 348, 352, 353, 401). As Bell Atlantic (Ex. 15: 128) commented, "[s]erious lacerations and puncture wounds involving contact with bloodborne pathogens should be reported. But the mechanism driving such reporting is the severity of the wound and NOT the presence of bloodborne pathogens. Even with the absence of bloodborne pathogens, such serious injuries would be recorded."

The American Hospital Association and the Georgia Hospital Association expressed concern that bloodborne pathogen disease criteria require "the recording of all instances of certain conditions that meet specific criteria, whether or not they meet OSHA's established criteria for recordability (work-relationship; involves medical treatment or death, loss of consciousness, or in-patient hospitalization, or days away from work restricted work activity, or job transfer)" (Exs. 15: 100, 219).

Several commenters stated that the recording of all bloodborne pathogen incidents would be redundant and unnecessary (see, e.g., Exs. 15: 66, 121, 299, 322, 408, 435). Some commenters said that OSHA's bloodborne pathogen standard already requires recordkeeping and tracking of bloodborne pathogen exposure incidents (see, e.g., Exs. 15: 39, 89, 121, 310, 351, 378, 393, 405, 416), and others remarked that general medical records already contained adequate data (see, e.g., Exs. 15: 151, 152, 179).

A number of commenters discussed the effect on injury and illness statistics that would be caused by recording all bloodborne pathogen incidents (see, e.g., Exs. 15: 39, 44, 48, 61, 66, 69, 126, 146, 151, 152, 179, 201, 239, 287, 290, 308, 313, 329, 345, 352, 353, 364, 405). The Society of the Plastics Industry, Inc.

(Ex. 15: 364) said that "Requiring recording of exposure incidents rather than actual illnesses will improperly inflate the statistics regarding these diseases." Patrick Tyson, a partner at Constangy, Brooks & Smith, LLC, (Ex. 15: 345) stated:

In effect, the Proposed Recordkeeping Rule would include on the Log those exposure incidents where a medical follow-up examination actually rules out the resulting illness. I believe that the Logs should not be used in this fashion any more than they should be used to record incidents of high levels of workplace noise in the absence of actual hearing loss, or incidents of employee exposure to highly repetitive jobs in the absence of resulting musculo-skeletal disorders. Simply stated, the OSH Act does not contemplate or intend the recording of mere exposure incidents on the OSHA Log. To do so would artificially overstate the relative safety and health risk in the American workplace.

On the other hand, a number of commenters recommended that OSHA require the recording of all bloodborne pathogen incidents as defined in the bloodborne pathogens standard (see, e.g., Exs. 24, 15: 72, 153, 181, 196, 198, 289, 379, 380, 418). Several of these commenters urged the recording of all exposure incidents to improve the information on these injuries and promote better protection for workers (see, e.g., Exs. 24, 15: 72, 153, 181, 196, 289, 379, 380). The American Association of Occupational Health Nurses (AAOHN) remarked "The benefit in keeping these detailed records of bloodborne pathogen exposures will be the ability to track the root cause of resultant injuries and illnesses, regardless of latency" (Ex. 15: 181). The National Association of Operating Room Nurses (Ex. 15: 72) added "Reporting exposures may raise consciousness resulting in work practice changes and decreased hazard."

Two commenters cited the severity of these incidents as a reason for requiring the recording of all exposure incidents (Exs. 24; 15: 379). The American Nurses Association based its arguments on the severity of the risk, stating "While the Center for Disease Control and Prevention (CDC) Cooperative Needlestick Surveillance Group reported no seroconversions to HIV positive from mucous membrane or skin exposure, Hepatitis infections have been reported following exposures via these routes. The nature of the risk to HIV however small is very severe, deadly in fact; and the risk of Hepatitis is even greater. Because of the severity of the risk, we believe that all exposures must be recorded" (Ex. 24). The Service Employees International Union (SEIU) added "The lives of thousands of health

care workers each year are unnecessarily devastated by occupational exposure to hepatitis B, hepatitis C and HIV. A workplace exposure to blood or other potentially infectious materials represents a significant event in the life of a health care worker, regardless of whether or not the exposure results in infection with hepatitis B, hepatitis C or HIV" (Ex. 15: 379).

A few commenters remarked on the need for consistency between the bloodborne pathogens standard and the recordkeeping requirements (see, e.g., Exs. 15: 153, 198, 379). The National Association for Home Care (NAHC) stated "NAHC believes that OSHA should maintain consistency between individual OSHA bloodborne pathogen requirements and general OSHA reporting requirements. Reporting of all exposure incidents is consistent with OSHA's bloodborne pathogen regulations for health care settings which require medical follow-up of employees for all exposure incidents" (Ex. 15: 198).

Several commenters suggested recording all incidents as a method for masking the identity of workers who actually contract disease as a result of their injury (see, e.g., Exs. 15: 379, 380, 418). The AFL-CIO (Ex. 15: 418) stated:

The AFL-CIO believes that exposures to bloodborne pathogens pose a unique case with respect to confidentiality and privacy concerns. As the Agency has recognized in the Bloodborne Pathogen Standard, 29 CFR 1910.1030, there are real and legitimate concerns about discrimination against individuals who have tested positive for HIV and other bloodborne infectious diseases. To address these legitimate confidentiality concerns, the AFL-CIO believes that a different approach to recording cases related to bloodborne pathogens is required. For these cases, we recommend that the Agency require the recording of needlestick injuries and all exposures to blood or blood contaminated body fluids on the Log 300 and on the 301. Cases involving actual seroconversions should be recorded in the confidential medical record. This approach would be consistent with the approach and language in the bloodborne pathogen standard. It would permit the log to be used to track individual cases of exposure for prevention purposes, while at the same time maintaining the confidentiality of individuals whose health status had changed as a result of exposure. The AFL-CIO recognizes that this approach will require the recording of exposure incidents which do not result in the change of health status and sets different criteria for recording cases related to bloodborne pathogens. Given the unique confidentiality concerns associated with this set of conditions, we believe that this special treatment for these conditions is warranted.

After a review of the many comments in the record on this issue, OSHA has

decided to require the recording of all workplace injuries from needlesticks and sharp objects that are contaminated with another person's blood or other potentially infectious material (OPIM) on the OSHA Log. These cases must be recorded, as described above, as privacy concern cases, and the employer must keep a separate list of the injured employees' names to enable government personnel to track these cases. OSHA does not agree with those commenters who were of the opinion that contaminated needlestick and sharps injuries are minor injuries comparable in importance to a puncture by a sewing needle or leather punch. OSHA also disagrees with those commenters who believed these incidents are merely exposure incidents roughly comparable with exposure to loud noises. These incidents are clearly injuries, where the worker has experienced a cut or laceration wound.

OSHA recognizes that these injuries are different from most workplace cuts and lacerations, whose seriousness depends largely on the size, location, jaggedness, or degree of contamination of the cut, which determines the need for medical treatment, restricted work, or time away for recuperation and thus the recordability of the incident. In contrast, all injuries from contaminated needles and sharps are serious because of the risk of contracting a potentially fatal bloodborne disease that is associated with them.

Many commenters argued that needlestick and sharps injuries are not the kinds of injuries that Congress intended employers to record, as articulated in the OSH Act (see, e.g., Exs. 15: 239, 308, 313, 345, 352, 353, 375, 395). As discussed earlier in the Legal Authority section, OSHA disagrees, believing that Congress mandated the recording of all non-minor injuries and illnesses as well as all injuries resulting in medical treatment or one of the other general recording criteria. OSHA finds that needlestick and sharps injuries involving blood or other potentially infectious materials are non-minor injuries, and therefore must be recorded. This conclusion is consistent with the Senate Committee on Appropriations report accompanying the fiscal year 1999 *Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill, 1999* (S. 2440) which included the following language:

Accidental injuries from contaminated needles and other sharps jeopardize the well-being of our Nation's health care workers and result in preventable transmission of devastating bloodborne illnesses, including

HIV, hepatitis B, and hepatitis C. The committee is concerned that the OSHA 200 Log does not accurately reflect the occurrence of these injuries. The committee understands that the reporting and recordkeeping standard (29 CFR 1904) requires the recording on the OSHA 200 Log of injuries from potentially contaminated needles and other sharps that result in: the recommendation or administration of medical treatment beyond first aid; death, restriction of work or motion; loss of consciousness, transfer to another job, or seroconversion in the worker. Accidental injuries with potentially contaminated needles or other sharps require treatment beyond first aid. Therefore, the Committee urges OSHA to require the recording on the OSHA 200 log of injuries from needles and other sharps potentially contaminated with bloodborne pathogens (Senate Report 105-300).

OSHA finds that these injuries are significant injuries because of the risk of seroconversion, disease, and death, they pose (see the preamble to the OSHA Bloodborne Pathogens Standard at 56 FR 64004).

OSHA recognizes that requiring the recording of all injuries from contaminated needles and sharps will result in more cases being recorded on employers' Logs and will increase the number of such injuries reflected in the Nation's statistics. However, the Agency does not agree that the statistics will be inappropriately inflated. Instead, OSHA believes that the statistics will henceforth include, for the first time, cases that reflect the incidence of these significant injuries accurately. Adding these cases to the Nation's statistics will create a more accurate accounting of work-related injury and illness cases, information that will be useful to employers, employees, the government and the public. In addition, the collection of this information at the establishment level will generate data employers and employees can use to analyze injury and illness patterns and make improvements in work practices and equipment. Recording these injuries will thus help to realize one of this rulemaking's primary goals, to improve the utility and quality of the information in the records.

If OSHA were to adopt a final rule that only required the recording of seroconversion cases and cases that met the general recording criteria, as many commenters suggested (see, e.g., Exs. 15: 52, 200, 203, 219, 260, 262, 265, 271, 313, 329, 348, 352, 353, 401), the Nation's statistics would not be as complete and accurate, and workplace records would not have the same preventive value for employees and employers. In addition, that approach would be more complex because it

would require employers to evaluate each case against several criteria before recording it. The approach taken in the final rule is considerably simpler. Recording all such injuries also helps to protect the privacy of workers who have been injured in this way. Needlestick and sharps injuries raise special privacy concerns. The comments on this subject show a universal concern for the privacy of a worker's medical information and disease status, and OSHA has taken several special precautions, discussed elsewhere in the preamble, to protect this privacy. Several commenters suggested recording all needlesticks and sharps incidents as a method for masking the identify of workers who actually contract disease (see, e.g., Exs. 15: 379, 380, 418). OSHA has adopted this practice in the final rule because recording all of these injuries will help to protect the privacy of individual workers as well as produce higher quality data.

OSHA disagrees with those commenters who argued that the § 1904.8 recording requirement would be duplicative or redundant with the requirements in the Bloodborne Pathogens standard (29 CFR 1910.1030). That standard requires the employer to document the route(s) of exposure and the circumstances under which the exposure incident occurred, but does not require that it be recorded on the Log (instead, the standard requires only that such documentation be maintained with an employee's medical records). The standard also has no provisions requiring an employer to aggregate such information so that it can be analyzed and used to correct hazardous conditions before they result in additional exposures and/or infections. The same is true for other medical records kept by employers: they do not substitute for the OSHA Log or meet the purposes of the Log, even though they may contain information about a case that is also recorded on the Log.

OSHA is requiring only that lacerations and puncture wounds that involve contact with another person's blood or other potentially infectious materials be recorded on the Log. Exposure incidents involving exposure of the eyes, mouth, other mucous membranes or non-intact skin to another person's blood or OPIM need not be recorded unless they meet one or more of the general recording criteria, result in a positive blood test (seroconversion), or result in the diagnosis of a significant illness by a health care professional. Otherwise, these exposure incidents are considered only to involve exposure and not to constitute an injury or illness. In contrast, a needlestick

laceration or puncture wound is clearly an injury and, if it involves exposure to human blood or other potentially infectious materials, it rises to the level of seriousness that requires recording. For splashes and other exposure incidents, the case does not rise to this level any more than a chemical exposure does. If an employee who has been exposed via a splash in the eye from the blood or OPIM of a person with a bloodborne disease actually contracts an illness, or seroconverts, the case would be recorded (provided that it meets one or more of the general recording criteria).

Privacy Issues

There was support in the record for OSHA's proposal to record occupationally acquired bloodborne pathogen diseases simply as the initial bloodborne exposure incident to protect employee confidentiality. Eli Lilly and Company (Ex. 15: 434) commented:

Lilly agrees with the Agency's proposed method of recording exposure incidents that result in disease. All of these recordable incidents should be recorded simply as the type of bloodborne exposure incident (e.g. needlestick) with no reference to the type of disease. While Lilly is concerned about protecting the privacy of every individual employee's medical information, Lilly concedes that the current social stigma resulting from bloodborne pathogen diseases demands a more simple recordkeeping requirement.

Privacy issues, however, concerned many of the commenters to the rulemaking record. Metropolitan Edison/Pennsylvania Electric Company (M/P), for example, was so concerned with employee privacy that "[d]ue to the sensitivity of Bloodborne Pathogenic diseases and related confidentiality concerns, M/P disagrees with recording these types of incidents" (Ex. 15: 254). The American Automobile Manufacturers Association (AAMA), among others, expressed concern that the recording requirement for bloodborne pathogen diseases would discourage employees from reporting exposures and might also discourage individuals from seeking treatment. AAMA wrote:

[m]any individuals who contract an infectious disease from a workplace event or exposure will be against having their names on the OSHA log for scrutiny by any employee or former employee of the establishment. To openly list (on the OSHA log) an individual with an infectious disease will discourage some employees from reporting exposures. It may also discourage individuals from seeking treatment, which may be lifesaving or which may limit the spread of the disease. We oppose the development of any system which directly or

indirectly discourages individuals from seeking medical evaluation or treatment, for the sake of data collection (Ex. 15: 409).

The AAMA proposed as an alternative "to remove all personal identifiers for infectious disease cases from the OSHA log. Some type of employer created coding system could be instituted, as long as the code was consistently applied. Authorized medical personnel and government representatives would be the only individuals permitted access to the personal identifiers and/or key to the coding system" (Ex. 15: 409). The Quaker Oats Company and the Ford Motor Company supported similar alternatives (Exs. 15: 289, 347). A number of commenters specifically supported the use of a coding system (see, e.g., Exs. 15: 146, 213, 260, 262, 265, 345, 347, 409).

OSHA shares these commenters' concern about the privacy of employees who seroconvert as the result of a bloodborne pathogens-related needlestick or sharps incident and finds that these incidents are clearly the type of non-minor occupational injury and illness Congress intended to be included in the OSHA recordkeeping system. If the Agency were to exclude these cases categorically from the records, it would not be meeting the requirements of the OSH Act to produce accurate statistics on occupational death, injury and illness.

The final recordkeeping rule addresses this issue by prohibiting the entry of the employee's name on the OSHA 300 Log for injury and illness cases involving blood and other potentially infectious material. Further, by requiring employers to record all needlestick and sharps incidents, regardless of the seroconversion status of the employee, coworkers and representatives who have access to the Log will be unable to ascertain the disease status of the injured worker. OSHA believes that the privacy concern case approach of the final rule obviates the need for a coding system because the case number assigned to the recorded injury will serve the purpose of a code, without adding additional complexity or burden. A discussion of access to the records is contained in the portion of the preamble associated with section 1904.35, Employee Involvement.

The College of American Pathologists objected to the inclusion of hepatitis C in the list of bloodborne pathogen diseases. They commented that "the great majority of cases of hepatitis C lack any identifiable source of exposure. More cases of HCV infection occur among non-health care workers than among health care workers. To presume that an individual who is infected with

HCV acquired it on the job just because they work in a health care setting is unjustified" (Ex. 15: 37). On the other hand, a commenter from Waukesha Memorial Hospital suggested that OSHA "should include all blood borne pathogen disease that develops as a result of an exposure incident, not just HIV, Hep B, Hep C, even though those are the major players in a hospital setting. Since we must teach that there are many bloodborne pathogens, it doesn't make sense to me to only record some and not all" (Ex. 15: 436). OSHA believes that hepatitis C cases should, like other illness cases, be tested for recordability using the geographic presumption that provides the principal rationale for determining work-relatedness throughout this rule. OSHA also agrees with the commenter from Waukesha Memorial Hospital that *all* bloodborne pathogen diseases resulting from events or exposures in the workplace should be recorded. Therefore, OSHA has modified the final regulatory text of paragraph 1904.8(b)(4)(i) to reflect this decision.

Section 1904.9 Additional Recording Criteria for Cases Involving Medical Removal Under OSHA Standards

The final rule, in paragraph 1904.9(a), requires an employer to record an injury or illness case on the OSHA 300 Log when the employee is medically removed under the medical surveillance requirements of any OSHA standard. Paragraph 1904.9(b)(1) requires each such case to be recorded as a case involving days away from work (if the employee does not work during the medical removal) or as a case involving restricted work activity (if the employee continues to work but in an area where exposures are not present.) This paragraph also requires any medical removal related to chemical exposure to be recorded as a poisoning illness.

Paragraph 1904.9(b)(2) informs employers that some OSHA standards have medical removal provisions and others do not. For example, the Bloodborne Pathogen Standard (29 CFR 1910.1030) and the Occupational Noise Standard (29 CFR 1910.95) do not require medical removal. Many of the OSHA standards that contain medical removal provisions are related to specific chemical substances, such as lead (29 CFR 1901.1025), cadmium (29 CFR 1910.1027), methylene chloride (29 CFR 1910.1052), formaldehyde (29 CFR 1910.1048), and benzene (29 CFR 1910.1028).

Paragraph 1904.9(b)(3) addresses the issue of medical removals that are not required by an OSHA standard. In some cases employers voluntarily rotate

employees from one job to another to reduce exposure to hazardous substances; job rotation is an administrative method of reducing exposure that is permitted in some OSHA standards. Removal (job transfer) of an asymptomatic employee for administrative exposure control reasons does not require the case to be recorded on the OSHA 300 Log because no injury or illness—the first step in the recordkeeping process—exists. Paragraph 1904.9(b)(3) only applies to those substances with OSHA mandated medical removal criteria. For injuries or illnesses caused by exposure to other substances or hazards, the employer must look to the general requirements of paragraphs 1910.7(b)(3) and (4) to determine how to record the days away or days of restricted work.

The provisions of § 1904.9 are not the only recording criteria for recording injuries and illnesses from these occupational exposures. These provisions merely clarify the need to record specific cases, which are often established with medical test results, that result in days away from work, restricted work, or job transfer. The § 1904.9 provisions are included to produce more consistent data and provide needed interpretation of the requirements for employers. However, if an injury or illness results in the other criteria of § 1904.7 (death, medical treatment, loss of consciousness, days away from work, restricted work, transfer to another job, or diagnosis as a significant illness or injury by a physician or other licensed health care professional) the case must be recorded whether or not the medical removal provisions of an OSHA standard have been met.

The recording of OSHA mandated medical removals was not addressed in the 1996 recordkeeping proposal. OSHA has included the provisions of § 1904.9 in the final rule to address a deficiency noted by a number of commenters, and as a replacement for criteria that were contemplated for the recording of various ailments in proposed Appendix B (61 FR 4063–4065). For example, R. L. Powell, Personnel Safety Manager for Union Carbide Corporation, (Ex. 15: 396) asked about medical removal and restricted work:

How does this criteria [restricted work] apply to "medical removal?" Medical removal is sometimes mandated by other OSHA standards under certain conditions. A similar technique may also be used by a physician to conduct controlled tests to assess the impact of workplace factors on a condition such as a chemical sensitivity.

A number of commenters recommended the use of medical

removal criteria as the correct recording level for various substances listed in proposed Appendix B (see, *e.g.*, Exs. 22; 15: 113, 155, 192, 199, 213, 242, 262, 272, 303, 304, 307, 326, 338, 340, 349). Many of these commenters suggested the medical removal criteria as a substitute for the proposed recording levels for lead and cadmium (Ex. 22; 15: 113, 155, 192, 340, 349). For example, Newport News Shipbuilding (Ex. 15: 113) said:

The proposed regulation requires recording lead and cadmium cases based on biological action levels rather than on the onset of illness. The purpose of the biological action level is to identify those employees who are at greater risk of reaching the limits for medical removal, so that onset of illness may be prevented. The use of biological action levels as the basis of defining and recording illness is inappropriate. Rather, lead and cadmium cases should be recorded when medical removal is required by the specific standard.

The Institute of Scrap Recycling Industries, Inc. (Ex. 15: 192) added:

This [proposed] statement clearly subverts the clear intent of the OSHA lead standard that a blood lead level of 50 µg/100 g of whole blood and not 40 µg/100 g of whole blood is the criteria for medical removal and therefore also the criteria for documentation on the OSHA injury and illness log. Had the scientific evidence on which the OSHA lead standard was based pointed clearly to 40 µg/100 g of whole blood as the medical removal standard and therefore the standard for documentation on the OSHA injury and illness log the standard would have reflected this. Therefore it would clearly subvert the purpose and scope of the OSHA lead standard, that was based on scientific evidence and an exhaustive public comment period on the scientific data, to establish a clear benchmark for a recordable event on the injury and illness log without the benefit of supporting scientific study and data and a public comment period on such information.

The Institute of Scrap Recycling Industries, Inc is incorrect about the lead standard's determination of recording criteria on the OSHA injury and illness log. The lead standard (§ 1910.1025) does not specifically address the recording issue, but the lead standard does address the medical removal issue. The Institute points to the benefit of using medical removal criteria for recording purposes, and OSHA agrees that these criteria are useful for recordkeeping purposes. The medical removal provisions of each standard were set using scientific evidence established in the record devoted to that rulemaking. OSHA takes care when setting the medical removal provisions of standards to ensure that these provision reflect a material harm, *i.e.*, the existence of an abnormal condition that is non-minor and thus

worthy of entry in the OSHA injury and illness records.

Other commenters urged OSHA to use the medical removal criteria as a replacement for all of proposed Appendix B. (see, e.g., Exs. 15: 199, 213, 242, 262, 303, 304, 307, 326, 338, 375). For example, Southern Nuclear Operating Company (Ex. 15: 242) stated that:

Mercury, Lead, Cadmium, Benzene: In these cases, it is appropriate to distinguish between biological markers that merely point to exposure versus those that relate to illness or disease. All of the recordability criteria for these substances are based on various "action" levels stated in their respective OSHA regulations. Southern Nuclear Operating Company believes that the appropriate criteria for recording these cases as illnesses should be the "medical removal" criteria stated in their respective regulations coupled with a physician's diagnosis of disease rather than the "action" levels as stated in the proposal. These "medical removal" criteria are more indicative of disease or illness. If the "action" levels for these substances are used as the recording criteria, the number of illnesses recorded on the OSHA log would more accurately reflect the numbers of workers covered by a given exposure control program as opposed to the number of illnesses that result from an inadequate program.

The American Petroleum Institute (API) argued that:

API incorporates in its recommended Appendix B the recording of cases when medical removal is required by a specific OSHA standard. API concedes this is inconsistent with the concept of "serious or significant"—and inconsistent with API's fundamental belief that actions by employers to prevent cases from becoming serious should not be recorded—because such medical removals are by design preventive; that is, intended to occur before a case becomes serious. However, API acknowledges that it is extremely difficult to define and get substantial agreement on any straight-forward and verifiable criteria when such cases are indeed "serious". Therefore, API has decided to recommend the medical-removal criterion for Appendix B as the best on-balance solution for situations involving toxic substance adsorption. (Ex. 15: 375)

A number of commenters opposed the use of mandatory medical removal levels for injury and illness recording purposes (see, e.g., Exs. 25: 15: 146, 193, 258, 261, 304, 305, 318, 346, 358). Many argued that the OSH Act did not support the use of medical removals (see, e.g., Exs. 25: 15: 258, 261, 304, 358). For example, the National Association of Manufacturers (NAM) commented:

There is no reference in Section 24(a) or Section 8(c)(2) of the OSH Act to recording exposure incidents that do not result in disabling, serious or significant injuries or illnesses; or is there any reference in those sections to medical removal provisions or

other action levels that do not result in disabling, serious or significant injuries or illnesses. On the other hand, Section 8(c)(3) does discuss—as a separate component of OSHA's occupational safety and health statistics program—maintaining records of employee exposures to toxic materials and harmful physical agents pursuant to standards issued under Section 6 of the OSH Act.

This is a rulemaking about the statistical program for tracking disabling, serious or significant injuries and illnesses—nothing more and nothing less. We believe Congress determined that those are the criteria that OSHA should utilize for this particular component of its statistical program. A statistical program that aggregates disabling, serious or significant injuries and illnesses with other conditions and exposure incidents, is contrary to both the congressional directive and the goal of this recordkeeping system.

While these commenters are correct in noting that the OSH Act does not specifically address medical removal levels and whether or not cases meeting these levels should be recorded, the Act also does not exclude them. The Act does require the recording of injuries and illnesses that result in "restriction of work or motion" or "transfer to another job." OSHA finds that cases involving a mandatory medical removal are cases that involve serious, significant, disabling illnesses resulting in restriction of work and transfer to another job, or both. These medical restrictions result either in days away from work (form of restriction) or days when the worker can work but is restricted from performing his or her customary duties.

Other commenters objected to recording medical removals because they are precautionary in nature (Ex. 15: 146, 193, 258, 261, 305, 318, 346). The American Foundrymen's Society, Inc. (Ex. 15: 346) argued that:

An abnormally high level of a toxic material in an individual's blood (e.g., a lead level at or above the action level or the level requiring "medical removal" under OSHA's Lead Standard) is not and should not, in itself, be considered a recordable injury or illness. A preventive or prophylactic measure such as medical removal (as opposed to a restorative or curative measure) is not and should not be deemed medical treatment, a job transfer or restricted activity for purposes of recordability in the absence of a diagnosis of a substantial impairment of a bodily function.

As stated previously, a "diagnosis of substantial impairment of a bodily function" is not required for a case to meet OSHA recordkeeping criteria, nor is it a limitation to recordability under the OSH Act. Many injuries and illnesses meet the recording criteria of the Act but lack diagnosis of a

substantial impairment of a bodily function. Although the medical removal provisions are included in OSHA's standards to encourage participation in the medical program by employees and to prevent progression to serious and perhaps irreversible illness, they also reflect illnesses caused by exposures in the workplace and are thus themselves recordable. The workers are being removed not only to prevent illness, but to prevent further damage beyond what has already been done. Thus OSHA does not agree that medical removal measures are purely preventive in nature; instead, they are also remedial measures taken when specific biological test results indicate that a worker has been made ill by workplace exposures.

OSHA has therefore included section 1904.9 in the final rule to provide a uniform, simple method for recording a variety of serious disorders that have been addressed by OSHA standards. The § 1904.9 provisions of the final rule cover all of the OSHA standards with medical removal provisions, regardless of whether or not those provisions are based on medical tests, physicians' opinions, or a combination of the two. Finally, by relying on the medical removal provisions in any OSHA standard, section 1904.9 of the final rule establishes recording criteria for future standards, and avoids the need to amend the recordkeeping rule whenever OSHA issues a standard containing a medical removal level.

Section 1904.10 Recording Criteria for Cases Involving Occupational Hearing Loss

The recording criteria employers should use to record occupational hearing loss on the OSHA recordkeeping forms have been an issue since OSHA first proposed to require hearing conservation programs for general industry employers (39 FR 37775, October 24, 1974). Job-related hearing loss is a significant occupational safety and health issue because millions of workers are employed in noisy workplaces and thousands of workers experience noise-induced hearing loss each year. Noise-induced hearing loss is a serious and irreversible condition that may affect the safety and well-being of workers for the rest of their lives.

For the nation as a whole in 1997, the BLS reported only 495 cases of occupational hearing loss resulting in days away from work (<http://stats.bls.gov/case/ostb0684.txt>; BLS Characteristics Data Table R15 of 04/22/1999). Hearing loss is not the type of occupational injury or illness that typically requires days away from work for recuperation, as is often the case for

a fracture, fall, or carpal tunnel syndrome case. OSHA believes that there are many cases of hearing loss—probably numbering in the thousands—that occur every year as a result of job-related noise exposure but do not result in days away from work and are thus not captured in the BLS statistics. Because these hearing losses are often permanent, a large number of Americans, both working and retired, are currently suffering the effects of hearing loss due to occupational exposure.

The changes being made to the OSHA 300 form in the final rule will improve the quality of the data collected nationally on this important occupational condition by providing consistent hearing loss recording criteria, thus improving the consistency of the hearing loss statistics generated by the BLS occupational injury and illness collection program. National hearing loss statistics will also be improved because OSHA has added a column to the OSHA 300 Log that will require employers, for the first time, to separately collect and summarize data specific to occupational hearing loss. These changes mean that the BLS will collect hearing loss data in future years, both for cases with and without days away from work, which will allow for more reliable published statistics concerning this widespread occupational disorder.

Paragraph 1904.10(a) of the final rule being published today requires an employer to record an employee's hearing test (audiogram) result if that result reveals that a Standard Threshold Shift (STS) for that employee has occurred. If the employee is one who is covered by the medical surveillance requirements of OSHA's Occupational Noise standard (29 CFR 1910.95), compliance with the standard will generate the information necessary to make recording decisions.

If the employee is not covered by the 29 CFR 1910.95 noise standard, OSHA rules do not require the employer to administer baseline or periodic audiograms, and the 1904 rule does not impose any new requirements for employers to obtain baseline information where it is not already required. However, some employers conduct such tests and acquire such information for other reasons. If the employer's workplace is a high noise environment (i.e., has noise levels that exceed 85 dBA) and the employer has the relevant audiogram information for an employee, the employer must record any identified work-related hearing loss equal to or greater than an OSHA-defined STS on the Log. This means that

an employer in the construction industry, for example, who is aware that his or her work activities regularly generate high noise levels and who has audiometric data on the hearing level of the employees exposed to those noise levels must record on the Log any STS detected in those workers. OSHA believes that this approach to the recording of work-related hearing loss cases among these workers not covered by the noise standard is appropriate because it is reasonable, protective, and administratively straightforward.

Paragraph 1904.10(b)(1) of the final rule defines an STS as that term is defined in the Occupational Noise Standard: as a change in an employee's hearing threshold, relative to the baseline audiogram for that employee, of an average of 10 decibels (dB) or more at 2000, 3000, and 4000 hertz in one or both ears. The Noise standard, at paragraph 1910.95(c)(1), describes the employees in general industry who are covered by the required hearing conservation program as follows:

The employer shall administer a continuing, effective hearing conservation program, as described in paragraphs (c) through (o) of this section, whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or, equivalently, a dose of fifty percent. For purposes of the hearing conservation program, employee noise exposures shall be computed in accordance with appendix A and Table G-16a, and without regard to any attenuation provided by the use of personal protective equipment.

Paragraph 1904.10(b)(2) of the final recordkeeping rule directs employers how to determine whether a recordable STS has occurred. The paragraph deals with two situations: (1) where the employee has not previously experienced such a hearing loss, and (2) where the employee has experienced a past recordable hearing loss. If the employee has never previously experienced a recordable hearing loss, the employer must compare the results of the employee's current audiogram with the employee's baseline audiogram, if the employee has a baseline audiogram. The employee's baseline audiogram could either be that employee's original baseline audiogram or a revised baseline audiogram adopted in accordance with paragraph (g)(9) of 29 CFR 1910.95. For employees who have not previously had a recordable hearing loss with that employer, the loss in hearing is computed using the preemployment hearing test result so that any hearing loss the employee may have experienced before obtaining employment with the employer is not

attributed to noise exposure in that employer's workplace.

If the employee has previously experienced a recordable hearing loss, the employer must compare the employee's current audiogram with the employee's revised baseline audiogram (i.e., the audiogram reflecting the prior recorded hearing loss). For employees who have had a previously recordable hearing loss with that employer, the final recordkeeping rule thus ensures that the employer does not record the same case of hearing loss twice, but that if a second STS occurs, the employer will record that additional hearing loss.

Paragraphs 1904.10(b)(3) and (4) of the final rule allow the employer to take into account the hearing loss that occurs as a result of the aging process and to retest an employee who has an STS on an audiogram to ensure that the STS is permanent before recording it. The employer may correct the employee's audiogram results for aging, using the same methods allowed by the OSHA Noise standard (29 CFR 1910.95). Appendix F of § 1910.95 provides age correction for presbycusis (age-induced hearing loss) in Tables F-1 (for males) and F-2 (for females). Further, as permitted by the Noise standard, the employer may obtain a second audiogram for employees whose first audiogram registers an STS if the second audiogram is taken within 30 days of the first audiogram. The employer may delay recording of the hearing loss case until the STS is confirmed by the second audiogram and is, or course, not required to record the case if the second audiogram reveals that the STS was not permanent.

Paragraph 1904.10(b)(5) of the final rule establishes how employers are to determine the work-relatedness of hearing loss cases. This paragraph specifies that, in accordance with the recordkeeping rule's definition of work-relationship, hearing loss is presumed to be work-related for recordkeeping purposes if the employee is exposed to noise in the workplace at an 8-hour time-weighted average of 85 dB(A) or greater, or to a total noise dose of 50 percent, as defined in 29 CFR 1910.95. (Noise dose is defined as the amount of actual employee exposure to noise relative to the permissible exposure limit for noise; a dose greater than 100% represents exposure above the limit.) For hearing loss cases where the employee is not exposed to this level of workplace noise, or where the employee is not covered by the Occupational Noise standard, the employer must use the rules set out in § 1904.5 to determine if the hearing loss is to be

considered work related for recordkeeping purposes.

Paragraph 1904.10(b)(6) allows the employer not to record a hearing loss case if physician or other licensed health care professional determines that the hearing loss is not work-related or has not been aggravated by occupational noise exposure. This provision is consistent with the Occupational Noise standard, and it allows the employer not to record a hearing loss case that is not related to workplace events or exposures; examples of such cases are hearing loss cases occurring before the employee is hired or those unrelated to workplace noise.

The recordkeeping provisions in section 1904.10 of the final recordkeeping rule thus match the provisions of the Occupational Noise standard by (1) covering the same employers and employees (with the exception of cases occurring among employees not covered by that standard whose employers have audiometric test results and high-noise workplaces); (2) using the same measurements of workplace noise; (3) using a common definition of hearing loss, i.e., the STS; (4) using the same hearing loss measurement methods; (5) using the same definitions of baseline audiogram and revised baseline audiogram; (6) using the same method to account for age correction in audiogram results; and (7) allowing certain temporary threshold shifts to be set aside if a subsequent audiogram demonstrates that they are not permanent or a physician or other licensed health care professional finds they are not related to workplace noise exposure.

The Former Rule

The regulatory text of OSHA's former recordkeeping rule did not specifically address the recording of hearing loss cases, and the § 1910.95 Occupational Noise Standard does not address the recording of hearing loss cases on the OSHA Log. However, the 1986 *Recordkeeping Guidelines* provided clear advice to employers to the effect that work-related hearing loss was a recordable disorder, that it could be either an injury or illness, depending on the events and exposures causing the hearing loss, and that all hearing loss illnesses were required to be recorded, regardless of the industry in which the employer worked (Ex. 2, p. 4). However, the *Guidelines* did not provide specific guidance on the kinds of hearing test or audiogram results that would constitute a recordable, work-related hearing loss.

In 1990, OSHA considered issuing a Compliance Directive addressing the recording of hearing loss cases on

employers' OSHA 200 Logs, but decided that the issue of the recording of hearing loss cases should be addressed through notice-and-comment rulemaking at the time of the revision of the recordkeeping rule. To address this topic in the interim before the final recordkeeping rule was issued, OSHA sent a memorandum to its field staff (June 4, 1991) to clarify its enforcement policy on the recording of occupational hearing loss and cumulative trauma disorders on the OSHA 200 Log, on the grounds that these cases "have received national attention and require immediate clarification." The memorandum specified that "OSHA will issue citations to employers for failing to record work related shifts in hearing of an average of 25 dB or more at 2000, 3000, and 4000 hertz (Hz) in either ear on the OSHA 200 Log." The interim enforcement policy was intended to provide a conservative approach to the issue until the recordkeeping rulemaking was completed. The interim policy stated that "The upcoming revision of the recordkeeping regulations, guidelines and related instructional materials will address the recordability criteria for all work related injuries and illnesses." The memo also mentioned the use of standard threshold shifts (STS) results, saying:

Employers are presently required by 29 CFR 1910.95 to inform employees in writing within 21 days of the determination of a Standard Threshold Shift (an average of 10 dB or more at 2000, 3000 and 4000 Hz in either ear) and to conduct specific follow-up procedures as required in paragraph (g) of the standard. Employers should be encouraged to use this information as a tracking tool for focusing noise reduction and hearing protection efforts.

The Proposal

The proposed recordkeeping criterion for recording a case of hearing loss (61 FR 4064) was an average shift of 15 decibels (dB) or more at 2000, 3000, and 4000 hertz in one or both ears after the employee's hearing loss had been adjusted for presbycusis (age-related hearing loss). OSHA proposed to permit employers to delete the record of the hearing loss injury or illness if a retest performed within 30 days indicated that the original shift was not permanent. Once a 15 dB work-related shift had occurred, however, OSHA proposed that the employee's baseline audiogram (for recordkeeping purposes) be adjusted to reflect that loss. A subsequent audiogram would have to reveal an additional 15 dB shift from the new or revised baseline value to be considered a new hearing loss injury or illness. OSHA proposed to presume work-

relationship if an employee was exposed on the job to an 8-hour time-weighted average noise level equaling 85 dB(A) (61 FR 4064).

OSHA also raised several issues related to hearing loss recording in the proposal (61 FR 4064):

The lowest action level in the noise standard is an average shift of 10 decibels or more at 2000, 3000 and 4000 hertz. OSHA is proposing the 15 decibel criteria for recordkeeping purposes to account for variations in the reliability of individual audiometric testing results.

OSHA asks for input on which level of a shift in hearing should be used as a recording criteria; 10 decibels? 20 decibels? 25 decibels? For each level, what baseline should be used? Preemployment (original) baseline? Audiometric zero? Is adjusting for presbycusis appropriate?

Comments on the Proposal

OSHA's proposed recording criterion for hearing loss received more comments than the proposed criterion for any other type of injury or illness other than musculoskeletal disorders. The hearing loss comments cover a wide variety of issues, including which hearing test results should or should not be considered an OSHA recordable illness, the choice of baseline audiograms, retesting and persistence of hearing loss, determining work relatedness, the appropriateness of correcting audiograms for aging (presbycusis), and the role of physicians and other licensed health care professionals in the determination of recordable hearing loss cases. The issues raised by commenters are organized by topic and discussed below.

The Definition of Recordable Hearing Loss

There was limited support among commenters for OSHA's proposed 15 dB shift recording criterion (see, e.g., Exs. 15: 50, 61, 84, 111, 113, 156, 188, 233, 281, 289, 349, 407). However, many of these commenters supported the use of a 15 dB shift as the recording criterion only if the final recordkeeping rule also reflected other changes, such as eliminating the correction for aging (see, e.g., Exs. 15: 50, 188, 407) or limiting the recording of hearing loss to one case per worker per lifetime (Ex. 15: 349). For example, General Electric (Ex. 15: 349) suggested limiting the recording of hearing loss to one case per employee:

GE supports recording an average standard threshold shift of 15 decibels (dB) or more at 2000, 3000, and 4000 hertz in one or both ears, adjusted for presbycusis and with a deletion upon retest as described. The establishment of the recording criteria at a level slightly higher than STS requiring action in the noise standards allows the

employer the opportunity to take action before the STS progresses to a recordable injury. GE recommends, however, that, to reduce the administrative burden, the baseline not be revised after the shift, that the original baseline be maintained and the hearing loss only be recorded on the initial occasion of the 15 dB shift.

George R. Cook and Omar Jaurez, occupational audiologists (Ex. 15: 50), supported the 15dB level only if no adjustment for aging was allowed:

[t]he Noise Standard has two loopholes in the identification of STS. First it allows for revision of baseline when the loss is persistent. The Standard does not identify persistence and it is possible to revise a baseline early and subsequent STSs would be postponed. The second loophole is the allowance of presbycusis which hides changes in hearing. Therefore, a criteria which separates the recording criteria from STS and protects the required STS follow-up is necessary. A 20 or 25 dB criteria is felt to be too much change.

Most of the commenters, however, did not support the proposed 15 dB criterion (see, e.g., Exs. 22; 26; 15: 25, 45, 108, 110, 119, 137, 146, 154, 171, 177, 201, 203, 213, 218, 246, 251, 262, 278, 295, 310, 329, 331, 334, 343, 347, 348, 350, 358, 369, 394, 396, 405, 424). Most of these commenters recommended a recording criterion of a 25 dB shift, i.e., the criterion used in OSHA's interim enforcement policy (see, e.g., Exs. 22; 15: 45, 119, 137, 146, 154, 171, 177, 201, 203, 218, 246, 262, 278, 329, 331, 334, 343, 348, 358, 395, 424). Con Edison wrote "[l]owering the dB shift criteria to 15 dB [from 25 dB] would result in recording cases which do not meet the clinical definition of hearing loss" (Ex. 15: 213), and the Amoco Corporation testified that OSHA should "[r]aise the hearing loss limit to a more appropriate indication of material impairment" (Ex. 22). The American Iron and Steel Institute (Ex. 15: 395) commented:

The appropriate recording trigger should be the loss of hearing recognized by the American Medical Association (AMA) as the lowest indicator of any material impairment to the employee's hearing. According to the AMA, a person has suffered material impairment when testing reveals a 25 dB average hearing loss from audiometric zero at 500, 1000, 2000, and 3000 hertz. OSHA itself has recognized that this is the lowest level of hearing loss that constitutes any material hearing impairment. see 46 Fed. Reg. 4083 (Jan. 18, 1981). Below that level, an employee has suffered no noticeable injury or illness.

The American Iron and Steel Institute disagreed that a 10 or a 15 dB shift in hearing should be recorded, stating that "While a 15 dB shift is arguably closer to a serious injury than a 10 dB shift, neither is a principled approximation of

the onset of any disabling illness or injury, and each is inconsistent with OSHA's acknowledgment in Forging Indus. Ass'n v. Secretary of Labor, 773 F.2d 1436, 1447 n.18 (4th Cir. 1985), that no injury results until a person experiences a 25 dB loss." (OSHA does not agree with this characterization of its position.)

Similarly, the Monsanto Company commented "OSHA acknowledges in the Hearing Conservation Amendment Standard that STS will occur and nothing is required to be done to prevent it from occurring. Therefore, it cannot be a measure of significantly impaired functional hearing capacity. In the preamble to this rule, OSHA cites several excerpts of testimony supporting this position" (Ex. 15: 295).

Vulcan Chemicals commented that it "believes the present requirement [of a hearing level shift of 25 dB for recordkeeping] is protective and recommends that the recordable criteria should remain at 25 decibels" (Ex. 15: 171). New England Power justified its support for a 25 dB shift as the recording criteria with the comment that there "is far too much variability with an individual subject and the equipment to ensure accuracy" (Ex. 15: 170), and Tosco, arguing in a similar vein, commented that the "existing 25 dB shift provides an easily identifiable measurement for determining injuries, and also provides for variation in background noise during testing, variability of the employee's health/hearing capability on the day being tested, as well as variation in the employee's home/social lifestyle which may contribute to hearing loss" (Ex. 15: 246). The Can Manufacturers Institute commented that a 25 dB shift criterion "would identify as consequential change in hearing acuity that is irreversible and minimize multiple recording of change over time" (Ex. 15: 331).

There was also support in the rulemaking record for using a 20 dB shift as a criterion for recording hearing loss (see, e.g., Exs. 15: 108, 295, 396, 405, 423). Most of the reasons given for supporting this level were the same as those provided as support for a 25 dB shift recording criterion. For example, the Westinghouse Electric Corporation commented that a "20 decibel shift would not only allow for variances in individual audiometric tests, but would also allow for the fact that workplace noise levels are quite often more controlled and less severe than noise levels in the home environment (e.g., trap shooting, stereo sound levels, lawn mowing, and other types of non job-related activities)" (Ex. 15: 405).

Commenting that a 20 dB shift is two times the action level of a 10 dB shift prescribed by OSHA's Occupational Noise standard (29 CFR 1910.95), Brown and Root, Inc. suggested that this level "would allow for a program to be initiated [at the action level] and working before a case becomes recordable. If the program, however, is not as effective as desired, the recordable level would require that the case be logged" (Ex. 15: 423). Finally, Union Carbide Corporation argued that using a 20 dB shift as a recording criterion.

[i]s in the direction of simplicity since this is an even multiple of 10 dB, which is the standard threshold shift and the action level for triggering certain hearing conservation requirements. Having an even multiple makes it much easier to track two different baselines one for the hearing conservation requirements and one for recordkeeping requirements. Our experience has shown that it is an administrative nightmare to track 10 dB baselines for hearing conservation and 25 dB baselines for recordkeeping (Ex. 15: 396).

Industrial Health, Inc. (Ex. 15: 84), a mobile audiometry vendor, supported either a 10 dB or 15 dB persistent shift as the recording criterion and provided an analysis, using their data base of over 4 million audiograms. Their comments on the merits of the 10 dB and 15 dB options, and whether each change is significant and noise related, are:

Noise relatedness: Using the OSHA shift formula across 2, 3 & 4 KHz (including OSHA's corrections for aging), a persistent shift of either 10dB or 15dB shows a strong correlation with audiogram patterns typical of exposure to noise (our samples showed more than 85 percent of such shifts appeared to be noise related, and most of the remainder had been flagged by the reviewing audiologist as either medical referrals or cases where the employee had given a medically related explanation for the shift in hearing). Hence, we conclude that a persistent shift based on the OSHA shift formula with age correction, whether 10 dB or 15 dB, is a reasonably accurate indication of a hearing change due to noise exposure provided that medically related shifts are excluded.

Significance of change: We calculated historic shifts based on both a 10 dB shift and a 15 dB shift on a sample industrial database. The following results are for persistent shifts only. The results showed that 15 dB shifts occurred less often than 10 dB shifts (as would be expected), with approximately 70% as many 15 dB shifts as 10 dB shifts. When both shifts occurred for an employee, most (over 80%) of the 15 dB shifts occurred at exactly the same test dates as did the 10 dB shifts, although in some cases (less than 20%) the 15 dB shifts occurred at later times. In general, the agreement was surprisingly good—much better than we had expected. In most (about 80%) of the instances where a 10 dB shift occurred but a 15 dB shift did not,

the significance of the 10 dB shift was questionable when the actual data were examined. Less than 5% of what we judged to be significant 10 dB shifts were missed by the 15 dB rule.

As a result, our analysis indicates the following (based again on all shifts having been demonstrated to be persistent):

a. A persistent 10 dB shift with age correction is a reasonably good yardstick for significant change due to noise, although it does flag some changes which are of questionable significance (perhaps as high as 20% of the shifts).

b. A persistent 15 dB shift with age correction is a better yardstick for significant change due to noise. In our tests it produced roughly 70 percent as many shifts as the 10 dB rule, but the difference was largely 10 dB shifts of questionable significance. It did report some changes later than the 10 dB rule and missed a few shifts (about 5%) which we judged to be of significance.

Finally, there was strong support in the rulemaking record for using a 10 dB shift (also identified as a standard threshold shift or STS in the OSHA Noise standard) as a recording criterion for hearing loss (see, e.g., Exs. 26; 42; 15; 25, 110, 251, 310, 347, 350, 369, 394). For example, the American College of Occupational and Environmental Medicine noted that the "STS is the earliest reliable indication of measurable hearing loss for practical purposes. This is the earliest practical level of early detection and prevention of further loss is quite possible if the correct measures are taken" (Ex. 15: 251). The Ford Motor Company agreed. Commenting that it currently records any work-related hearing loss that results in an average loss of 10 dB or more, the company noted that "[r]ecording hearing loss in its early stage provides Ford the information to correct hazardous conditions and prevent serious impairment to an employee" (Ex. 15: 347). Ford further stated that its "method of recording occupational hearing loss is consistent with the requirement of the Hearing Conservation Amendment which requires notification to the employee." The Laborer's Health and Safety Fund of North America also pointed out the inconsistency between OSHA's proposed recording criterion in the recordkeeping rule and the criterion in OSHA's occupational noise exposure standard. The Fund commented:

"The noise standard defines a 10 dB shift at 2, 3, and 4K as a standard threshold shift and allows a revision of the baseline should the shift persist. Along comes the recordkeeping rule which says that a 15 dB shift is recordable, and a baseline revision (for recordkeeping purposes) can be made when a 15 dB shift occurs. This situation is an administrative nightmare. It is possible that a hearing loss will never be recordable

because the 'baseline' is revised at a 10 dB shift. To avoid this situation, an employer would have to establish 2 different baselines, one for the noise standard provisions, and one for the recordkeeping rule provisions. This situation is unacceptable. We recommend that standard threshold shifts of 10 dB be used as the recordability criteria, since it is consistent with the 1910.95 noise standard" (Ex. 15: 310).

The Coalition to Preserve OSHA and NIOSH and Protect Workers' Hearing (Exs. 26, 42) recommended a recording policy that would capture instances of age-corrected STS, as defined in the OSHA noise standard, that are confirmed as persistent and that are determined to be work-related. The Coalition's comments are of particular interest because its members include professional and scientific organizations dedicated to the issue of studying and preventing hearing loss. Member associations include the American Speech-Language-Hearing Association, the American Industrial Hygiene Association, the National Hearing Conservation Association, the Acoustical Society of America, the Council for Accreditation in Occupational Hearing Conservation, Self Help for Hard of Hearing People, Inc. and the Institute for Noise Control Engineering. These groups represent well over 100,000 audiologists, acousticians, speech-language pathologists, industrial hygienists, safety and health professionals, and persons with hearing loss (Ex. 42, page 1).

The Coalition provided the following reasons for relying on a 10 dB shift in hearing as an OSHA recordable condition (Ex. 42, pp. 9-13).

1. An allowance in the recording criteria for test-retest variability is inappropriate (i.e. OSHA proposed the 15 dB criterion rather than the 10 dB criterion "to account for variations in the reliability of individual audiometric results."
2. An age-corrected STS is a large hearing change that can affect communicative competence.
3. Typical occupational noise exposures do not justify a larger shift criterion.
4. Recording OSHA STSs reduces the recordkeeping burden to industry.
5. Current OSHA STS rates are not high.
6. Recording OSHA STSs will promote effective hearing conservation programs.

Other commenters proposed still other criteria for recording hearing loss. For example, Detroit Edison stated that a shift in hearing level should not be used as a recording criterion for hearing loss because this "is not indicative of an illness or injury, but only an indication that someone has had a slight change in their ability to hear" and proposed instead that "the level of hearing

impairment should be used in recording hearing losses versus a threshold shift as compared to a baseline" (Ex. 15: 377). OSHA does not agree with this commenter, however, because, as the record in the Noise standard rulemaking indicates, permanent threshold shifts do indicate a non-minor impairment, although not all STSs are disabling.

As is the case for many OSHA rules, the 1981 Noise standard was challenged in the courts, which stayed several provisions. In 1983, OSHA revised the hearing conservation amendment to revoke many of the provisions stayed by the court, lift an administrative stay implemented by OSHA, and make technical corrections (48 FR 9738). One of those provisions involved the definition of STS, which was renamed a "standard" rather than "significant" threshold shift to help differentiate the two separate methods used to calculate the STS in the 1981 and 1983 rules. Although OSHA changed the calculation method used to establish an STS in 1983, the role and importance of the STS concept in the context of a hearing conservation program was unchanged. The main reason for changing the definition of STS in the 1983 standard was to simplify the original calculation and address the concerns of employers and audiology professionals who wished to avoid using a computer to calculate an STS. The standard requires employers to take follow-up actions when an STS is identified, notify the affected employee, evaluate and refit hearing protectors, retrain the employee, and, if necessary, refer the employee for medical evaluation.

The arguments put forward by the Coalition to Preserve OSHA and NIOSH and Protect Workers' Hearing (Exs. 26, 42) are, in OSHA's view, compelling reasons for requiring employers to record on their Logs any case of work-related hearing loss that reaches the level of an STS. OSHA is particularly persuaded by the Coalition's argument that "An age-corrected STS is a large hearing change that can affect communicative competence" because an age-corrected STS represents a significant amount of cumulative hearing change from baseline hearing levels. In the words of the Coalition, "For an individual with normal hearing on the baseline audiogram, STS usually involves age-corrected shifts of 15-20 dB at 3000 and 4000 Hz. For an individual with pre-existing high-frequency hearing loss on the baseline, STS usually involves substantial progression of the hearing loss into the critical speech frequencies. The absolute shift values before age corrections are

considerably larger." The Coalition also stressed that the method of averaging hearing loss at several frequencies, as is required to determine an STS under the OSHA Noise standard, tends to "obscure the large hearing shifts at individual frequencies which usually occur before the average changes by a specified amount" (Ex. 42, p. 10).

OSHA has rejected, for recordkeeping purposes, the use of the 25 dB shift from audiometric zero prescribed by the American Medical Association Guidelines for Material Impairment. The AMA's 25 dB criterion is intended to be used to determine the level at which the employee should be compensated for hearing loss-related medical bills or lost time. In the context of occupational noise exposure, hearing loss of this magnitude reflects a serious impairment of health or functional capacity. As discussed in the Legal Authority section, however, the Congress intended the OSHA recordkeeping system to capture all non-minor occupational injuries and illnesses, and OSHA believes that an STS loss of hearing represents such an injury. An STS is an abnormal condition that should be recorded because it represents a material loss in hearing ability, beyond the normal effects of aging.

OSHA has also rejected the 15 dB and 20 dB shift recording options, for several reasons. First, although OSHA suggested in the proposal that an additional 5 dB beyond the 10-dB STS shift was needed to account for variability in testing, this has not been supported by the record. As the Medical Educational Development Institute (Ex. 15: 25) stated: "[t]est/re-test reliability of 5 dB is well established in hearing testing. For example, the Council on Accrediting Occupational Hearing Conservationists maintain this range of reliability in their training guidelines and this is recognized in American National Standard Method for Manual Pure-Tone Threshold Audiometry, S3.21—1978 (R1992)."

The Coalition to Preserve OSHA and NIOSH and Protect Workers' Hearing (Ex. 26) provided additional justification for dropping the proposed rule's 5 dB reliability margin: "The allowance for a retest (or even multiple retests) should largely eliminate spurious shifts due to measurement error in audiometry. In fact, one of OSHA's original reasons for choosing a frequency-averaged shift (the OSHA STS) as a trigger level for employee follow-up was that the frequency averaging process reduces the influence of random audiometric variability." Because reliance on a frequency-averaged rather than single frequency

shift increases the reliability of audiometric measurements, OSHA has not adopted NIOSH's recommendation that the hearing loss criterion should be a 15 dB shift at *any* frequency (Ex. 15: 407). Single frequency calculations are less reliable and may therefore lead to the under- or over-recording of hearing loss cases compared with the STS method of averaging loss over several frequencies.

In the final recordkeeping rule, OSHA has chosen to use the Occupational Noise standard's STS—an average shift in either ear of 10 dB or more at 2000, 3000, and 4000 hertz—as the shift in hearing that must be recorded by an employer on the OSHA log as a hearing loss case. An STS clearly represents a non-minor injury or illness of the type Congress identified as appropriate for recordkeeping purposes. The final rule allows the employer to adjust an employee's hearing test results for presbycusis (age), to retest within 30 days (the employer is not required to record if there is a retest within 30 days and the retest refutes the original test), and to have the test results evaluated by a physician or other licensed health care professional. Using the STS as the recording criterion also meets one of the primary purposes of this rulemaking, to improve the simplicity of the overall recordkeeping system. Relying on the Noise standard's STS shifts avoids the complexity referred to by many commenters (see, e.g., Exs. 15: 310, 396) of maintaining multiple baselines for the Noise standard and the OSHA recordkeeping rule. As the Laborers' Health & Safety Fund of North America (Ex. 15: 310) commented:

The noise standard defines a 10 dB shift at 2,3, and 4K as a standard threshold shift and allows a revision of the baseline should the shift persist. Along comes the recordkeeping rule which says that a 15 dB shift is recordable, and a baseline revision (for recordkeeping purposes) can be made when a 15 dB shift occurs. This situation is an administrative nightmare. It is possible that a hearing loss will never be recordable because the baseline is revised at a 10 dB shift. To avoid this situation, an employer would have to establish 2 different baselines, one for the noise standard provisions, and one for the recordkeeping rule provisions. This situation is unacceptable. We recommend that standard threshold shifts of 10 dB be used as the recordability criteria, since it is consistent with the 1910.95 noise standard.

Several commenters (see, e.g., Exs. 15: 295, 395) argued that OSHA itself had discounted the significance of the 10 dB STS during the 29 CFR 1910.95 rulemaking. OSHA disagrees with this assessment of the Agency's position on the importance of an STS. In the 1981

preamble to the Hearing Conservation Amendment, OSHA found that a 10 dB shift in hearing threshold is significant because it is outside the range of audiometric error and "it is serious enough to warrant prompt attention" (46 FR 4144). The 1983 preamble reinforces these findings. It states that:

Correctly identifying standard threshold shifts will enable employers and employees to take corrective action so that the progression of hearing loss may be stopped before it becomes handicapping. Moreover, a standardized definition of STS will ensure that the protection afforded to exposed employees is uniform in regard to follow-up procedures. * * *

OSHA reaffirms its position on the ideal criterion for STS which was articulated in the January 16, 1981 promulgation (see 46 FR 4144). The criterion must be sensitive enough to identify meaningful changes in hearing level so that follow-up procedures can be implemented to prevent further deterioration of hearing but must not be so sensitive as to pick up spurious shifts (sometimes referred to as "false positives"). In other words, the criterion selected must be outside the range of audiometric error (48 FR 9760).

The Fourth Circuit rejected an employer's argument that a 10 dB shift in hearing threshold is insignificant. In its decision upholding OSHA's use of a 10 dB STS as an action level in the Hearing Conservation Amendment, the court found that:

[t]he amendment is concerned with protecting workers before they sustain an irreversible shift. Consequently, it was incumbent upon the Agency to select a trigger level that would protect workers by providing an early warning yet not to be so low as to be insignificant or within the range of audiometric error. We find that the Agency struck a reasonable balance between those concerns. * * *

Forging Indus. Ass'n v. Secretary of Labor, 773 F.2d 1436, 1450 (1985)(en banc).

OSHA believes that many of the reasons stated in the 1983 preamble make the STS an appropriate recording criterion for recordkeeping purposes. For example, employers are familiar with the STS definition, which is also sensitive enough to identify a non-minor change in hearing. Use of the STS also reduces the confusion that would arise were OSHA to require employers to maintain two baselines: one required by the Occupational Noise standard and one required for recordkeeping purposes.

Baseline Audiogram

In its proposal, OSHA also asked for comment on which baseline should be used as the starting point in determining recordable hearing loss. There was strong support in the record for using

the preemployment or original baseline for this purpose (see, e.g., Exs. 26; 15: 25, 50, 78, 108, 110, 111, 113, 146, 154, 163, 181, 188, 218, 233, 262, 281, 295, 308, 348, 354, 402, 405), although a few commenters proposed using audiometric zero (see, e.g., Ex. 15: 395). One commenter proposed that the reviewing professional should determine the appropriate baseline on a case-by-case basis (Ex. 15: 175), and another proposed that an audiologist should determine when a change in baseline audiograms is warranted (Ex. 15: 203). Some commenters supported adjusting the employee's baseline audiogram when a recordable hearing loss case has been identified (see, e.g., Exs. 26; 15: 25, 108, 111, 146, 163, 290, 354, 405, 407).

OSHA agrees with those commenters who argued that the preemployment or original baseline should be used as the benchmark from which to determine recordable hearing loss. Using the preemployment or original baseline automatically corrects for any hearing loss that may have occurred before the worker was employed with his or her current employer and will prevent the recording of cases of nonoccupational hearing loss. This policy is also consistent with OSHA's Occupational Noise standard and therefore increases the simplicity of the recording system.

OSHA also agrees that an employee's baseline audiogram should be adjusted if that employee experiences a recordable hearing loss. Revising the baseline by substituting the revised audiogram for the original audiogram after an STS has occurred will avoid a second or third recording of the same STS. On the other hand, recording hearing loss in a given worker only once would overlook the additional hearing loss that may occur, either in the same or the other ear, and would not be consistent with the definition of a "new" case in Section 1904.6 of this rule, which requires employers to evaluate any "new" case that results from exposure in the workplace for recordability. Subsequent STS findings, i.e., further 10-dB shifts in hearing level, are more serious events than the first STS, because of the nonlinearity of the dB rating system and the progressive severity of increasing hearing loss. A second or third STS in a given worker is therefore also treated under the recordkeeping system as a recordable illness on the OSHA 300 Log. The final rule makes this clear by requiring the employee's audiogram to be compared to the preemployment baseline audiogram when the worker has not experienced a recordable hearing loss, and to the audiogram reflecting the most

recent recorded hearing loss if the worker has experienced a prior recorded hearing loss case.

Correction for Aging

In its proposal, OSHA included provisions allowing the employer to adjust the results of audiograms for presbycusis (age-related hearing loss), and asked for comment on whether an age correction is appropriate. The vast majority of commenters agreed that it was (see, e.g., Exs. 26; 42; 15: 39, 45, 84, 113, 137, 163, 175, 201, 203, 262, 278, 281, 283, 331, 347, 348, 396, 405). As the Westinghouse Hanford Company commented, "[t]he adjusting for presbycusis is appropriate as the deterioration of the hearing related to age is an important factor in determining the amount of hearing loss related to workplace hazards" (Ex. 15: 108). Julia Royster, Ph.D. CC-A/SLP, agreed with this view, stating that "Age-related hearing loss is inevitable. There are individual differences in the rate of age-related hearing change and the amount of hearing loss eventually shown due to presbycusis. However, most people will eventually develop age-related hearing changes equivalent to one or more OSHA STSs. Therefore, presbycusis corrections are necessary to avoid attributing age-related hearing change to occupational causes" (Ex. 26, Appendix C).

However, some commenters did not agree that the use of age corrections was appropriate (see, e.g., Exs. 15: 50, 110, 188, 233, 407). For example, Occupational Audiologists (Ex. 15: 50) pointed out that "[w]hen the tables [in 29 CFR 1910.95] are applied they ignore any hearing loss that may be present as a result of medical pathology or noise exposure prior to the baseline hearing test," and therefore the "use of the presbycusis tables hides significant changes in hearing thus delaying the STS required procedures of follow-up, notification, fitting/re-fitting, educating and requiring the wearing of hearing protection for some individuals." Similarly, John P. Barry (Ex. 15: 110), commented:

At the 4000 Hz test frequency where occupational hearing loss first occurs, application of the presbycusis correction may significantly reduce the noted threshold shift relative to the employee's baseline audiogram. However, the changes at 2000 and 3000 Hz often are equal to or less than the presbycusis corrections. When these corrections are applied to actual audiometric data, they mask the effects of occupational noise and hinder early detection of noise-induced hearing loss. While hearing loss due to aging (presbycusis) and hearing loss due to the non occupational environment (sociocusis) may account for some of hearing

loss noted in serial audiograms, there is no scientifically valid way to correct the data for non occupational hearing loss. * * * It is inappropriate use of statistics to apply median values from one population on a different population when no foundation has been developed to justify such manipulation of data.

OSHA recognizes that using the correction for presbycusis when interpreting audiogram results is controversial among experts in the field of audiology and that NIOSH has developed a new criteria document on occupational noise exposure ("Criteria for a Recommended Standard; Occupational Noise Exposure, Revised Criteria, 1998; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health; June 1998) which at present does not recommend applying presbycusis correction values to actual employee audiometric data. However, since the Occupational Noise standard itself permits employers to adjust the interpretation of audiograms for the effects of aging, it would be inconsistent and administratively complex to prohibit this practice in the recordkeeping rule. Accordingly, § 1904.10(b)(3) allows the employer to adjust for aging when determining the recordability of hearing loss. The adjustment is made using Tables F-1 or F-2, as appropriate (table F-1 applies to men and F-2 applies to women), in Appendix F of 29 CFR 1910.95. However, use of the correction for aging is not mandatory, just as it is not mandatory in the Noise standard itself.

Persistence of Hearing Loss

Yet another issue surrounding the recording of hearing loss involves the timing of the recording of a case on the OSHA forms when an audiogram has been performed on an employee. The issue is whether the results of an audiogram should be recorded within the interval for recording all cases, or whether the audiogram should be verified with a retest before recording is required. The proposed rule would have required the recording of hearing loss cases within 7 calendar days of the first audiogram, but then would have permitted employers to remove, or line out, a hearing loss case on the Log if a second audiogram taken on that employee within 30 days failed to show that the STS was persistent. Several commenters supported immediate recording with the 30 day retest provision (see, e.g., Exs. 15: 295, 350, 394, 407). The Building and Construction Trades Department of the AFL-CIO (Ex. 15: 394) noted that if a

retest was not performed the case would never be recorded:

We support OSHA, however, on requiring cases to be recorded and then lined out later if the loss does not persist. In construction, where a worker may never get a follow-up test because they have moved to a different worksite, the case needs to be recorded and presumed work-related. For construction workers that is a very good presumption to make. These changes should lead to more accurate reporting of hearing loss among construction workers.

Other commenters, however, did not agree with OSHA's proposal and believed the shifts should be confirmed before recording on the Log is required (see, e.g., Exs. 26; 42; 15: 50, 84, 175, 181, 188, 201, 203, 331). Impact Health Services (Ex. 15: 175) expressed its opinion that

The new hearing loss criterion should require recording of only confirmed work-related shifts in hearing. * * * There is no question that it is in the best interest of the hearing conservation program to identify shifts in hearing while they are still temporary so that follow-up action can be taken immediately to prevent permanent hearing loss. * * * However, requiring companies to record all shifts (both temporary and persistent) within six (proposed seven) days may have an unintended punitive effect. Companies are usually hesitant to record any incidents on Form 200 (proposed Form 300), even if lining-out the event at a later date is an option. Therefore, disallowing the OSHA 30-day retest for recording purposes may have a negative impact on programs which are designed to prevent hearing loss. By requiring recording of all shifts within seven days, companies may actually discontinue programs of conducting annual testing during the work shift, due to a reluctance to identify (and record) temporary threshold shift.

To address the problem identified by the Building and Construction Trades Department of the AFL-CIO, Impact Health Services recommended that "[i]f a follow-up audiogram is not administered within 30 days of determination, or if the follow-up audiogram confirms the shift, then the shift is considered persistent and if determined to be work related, must be recorded on Form 300" (Ex. 15: 175). The American Association of Occupational Health Nurses (Ex. 15: 181) noted that it "would require less paperwork to record the hearing loss after confirmation by a re-test in thirty days, rather than recording the initial shift and then having to 'line out' the entry if the re-test was not indicative of any hearing loss."

The Coalition to Preserve OSHA and NIOSH and Protect Workers' Hearing (Exs. 26; 42) stated:

This urgency [as reflected in the proposal's provision requiring recording within 7 days]

in recording unconfirmed shifts does not appear justified and creates additional burdens for the employer. The coalition recommends the following more efficient and suitably protective approach:

- Only confirmed (i.e., persistent) work-related STSs are to be recorded on Form 300, unless a follow-up audiogram is not administered.
- If a follow-up audiogram is not administered within 30 days of the initial determination of STS, or if the follow-up audiogram confirms the STS, then the shift is considered persistent, and if determined to be work-related, must be recorded on Form 300. * * *
- If a follow-up audiogram given within 30 days of the initial determination of the STS does not confirm the STS, nothing is to be recorded on Form 300.

The Coalition also recommended that employers be allowed to remove, or line-out, recorded hearing losses that are not confirmed by subsequent retesting, or are found not to be work-related, within 15 months of the initial STS identification, at the discretion of the reviewing professional. Such a provision would allow employers to remove cases if the next annual audiogram showed an improvement in hearing (Exs. 26; 42).

Several commenters discussed the length of time OSHA should allow between the audiogram on which the STS was first detected and the confirmatory retest. The International Dairy Food Association suggested that allowing only a 30-day period "may not be feasible in many situations where mobile van testing is utilized. * * * Thirty days are easily consumed during the compiling, mailing, interpreting, mailing, evaluation process" (Ex. 15: 203). The Association recommended instead that "OSHA increase the current requirement of 30 days to 45 days to allow employers and employees to obtain a re-test following an annual audiogram" (Ex. 15: 403). For the same reasons, the Can Manufacturers Institute recommended that retests be permitted within 90 days of the original test, noting that "[t]here is no magic regarding the current 30 day span" (Ex. 15: 331). Industrial Health Inc. commented that "there's no rush" to retest and stated its preference for a time lapse longer than 30 days "[i]n order to allow temporary [hearing loss] effects to subside" (Ex. 15: 84). NIOSH (Ex. 15: 407) proposed that a confirmatory retest be permitted at any time provided that the retest was preceded by a 14-hour period of quiet.

After a review of the record on this point, OSHA has decided to require that any retest the employer chooses to perform be conducted within 30 days. Accordingly, in the final rule, at

paragraph 1904.10(b)(4), employers are permitted, if they choose, to retest the employee to confirm or disprove that an STS reflected on the first audiogram was attributable to a cold or some other extraneous factor and was not persistent. If the employer elects to retest, the employer need not record the case until the retest is completed. If the retest confirms the hearing loss results, the case must be recorded within 7 calendar days. If the retest refutes the original test, the case is not recordable, and the employer does not have to take further action for OSHA recordkeeping purposes. The 30 day limit in the final recordkeeping rule is consistent with the 30 day retest provision of § 1910.95(g)(5)(ii), which allows the employer to obtain a retest within 30 days and consider the results of the retest as the annual audiogram if the STS recorded on the first test is determined not to persist.

OSHA believes that the 30 day retest option allows the employer to exclude false positive results and temporary threshold shifts from the data while ensuring the timely and appropriate recording of true positive results. Adding language to the final recordkeeping rule to specify different procedures, depending on whether the employer chooses to conduct a re-test within 30 days, adds some complexity to the final rule, but OSHA finds that this added complexity is appropriate because it will reduce burden for some employers and improve the accuracy of the hearing loss data.

Work-Relationship

One of the greatest sources of controversy in the record concerning OSHA's proposed criterion for recording hearing loss relates to the presumption of work-relationship in cases where an employee is exposed to an 8-hour time-weighted average sound level of noise equaling or exceeding 85 dB(A) (61 FR 4064). One commenter supported the recordkeeping proposal's approach on this matter. NIOSH (Ex. 15: 407) recommended that work-relationship be presumed "if an employee is exposed to an 8-hour time-weighted sound level of noise equaling or exceeding 85 dB(A) or to peak sound levels equaling or exceeding 115 dB(A) regardless of brevity or infrequency." Several commenters advocated presuming work-relatedness if the employee experienced occupational exposures to 85 dB unless medical evidence showed that the hearing loss was not related to work (see, e.g., Exs. 15: 39, 50, 146, 171, 188). For example, BF Goodrich (Ex. 15: 146) asked that "[O]SHA give employers the opportunity to refute the work

relationship for employees found to have other than noise-induced hearing loss. If the employee is examined by an otolaryngologist or other qualified health professional and found to have a medical condition that causes hearing loss, the case should not be recordable.”

Several commenters objected to the proposed presumption of work-relationship (see, e.g., Exs. 15: 201, 263, 283, 289, 305, 318, 334, 390). The National Association of Manufacturers commented that “There is no justification for presuming that hearing loss is work-related simply because an employee is exposed to an 8-hour time weighted average sound level of noise of 85 dB(A) or higher, even if it were a daily exposure and particularly where it could be as infrequent as once per year” (Ex. 15: 305). Many commenters agreed with Mississippi Power, which wrote “[t]he presumption of work relationship does not consider other potentially significant noise exposures such as noisy hobbies, or other noisy activities not associated with occupational noise exposures” (Ex. 15: 263). Deere & Company argued that “OSHA is not taking into account the noise-reducing effect of an effective hearing conservation program nor does it take into account the often significant noise exposure that many employees have away from the workplace” (Ex. 15: 283).

There are numerous suggestions in the record on how best to deal with the presumption of work-relationship. Impact Health Services Inc., and others suggested that a case be considered work-related “when in the judgement of the supervising audiologist or physician, the shift is due in full or in part to excessive noise exposure in the workplace” (Ex. 15: 175). Akzo Nobel Chemicals proposed that work-relationship be presumed when “there is no other reasonable non-work related explanation” (Ex. 37), and the National Grain and Feed Association suggested “that if an employer has an active and an enforceable hearing conservation program in place, the presumption should be that any hearing loss experienced by an employee is not work related unless it can be shown to be otherwise” (Ex. 15: 119). A number of commenters agreed with the comment of the Edison Electric Group that “OSHA should also establish a criteria of exposure to noise at or above the 85 dB(a) TWA action level of 30 or more days per year before the case is recordable” because “[a] single day’s exposure at or below the PEL will not cause hearing loss” (Ex. 15: 401), and NIOSH proposed that work-relationship be presumed “if an employee is exposed

to an 8-hour time-weighted sound level of noise equaling or exceeding 85 dB(A) or to peak sound levels equaling or exceeding 115 dB(A) regardless of brevity or infrequency” (Ex. 15: 407).

In the final rule, OSHA has continued to rely on a presumption of work-relationship for workers who are exposed to noise at or above the action levels specified in the Occupational Noise standard (29 CFR 1910.95). In line with the overall concept of work relationship adopted in this final rule for all conditions, an injury or illness is considered work related if it occurs in the work environment. For workers who are exposed to the noise levels that require medical surveillance under § 1910.95 (an 8-hour time-weighted average of 85 dB(A) or greater, or a total noise dose of 50 percent), it is highly likely that workplace noise is the cause of or, at a minimum, has contributed to the observed STS. It is not necessary for the workplace to be the sole cause, or even the predominant cause, of the hearing loss in order for it to be work-related. Because the final recordkeeping rule relies upon the coverage of the Occupational Noise standard, it is also not necessary for OSHA to include a minimum time of exposure provision. The Occupational Noise standard does not require a baseline audiogram to be taken for up to six months after the employee is first exposed to noise in the workplace, and the next annual audiogram would not be taken until a year after that. For any worker to have an applicable change in audiogram results under the Occupational Noise standard, the worker would have been exposed to levels of noise exceeding 85 dB(A) for at least a year, and possibly even for 18 months.

In addition, the provisions allowing for review by a physician or other licensed health care professional allow for the exclusion of hearing loss cases that are not caused by noise exposure, such as off the job traumatic injury to the ear, infections, and the like. OSHA notes that this presumption is consistent with a similar presumption in OSHA’s Occupational Noise standard (in both cases, an employer is permitted to rebut this presumption if he or she suspects that the hearing loss shown on an employer’s audiogram in fact has a medical etiology and this is confirmed by a physician or other licensed health care professional).

Miscellaneous Issues

Other issues addressed by commenters to the rulemaking record on OSHA’s proposed criterion for recording hearing loss included whether OSHA should treat hearing levels for each ear

separately for recording purposes. Impact Health Services, Inc. (Ex. 15: 175) recommended that proposed Appendix B specify that shifts in hearing be calculated separately for each ear:

Because an individual’s left and right ears may be affected differently by noise or other occupational injury, it is important that Appendix B specifies that shifts in hearing are to be calculated separately for each ear.

Arguing along similar lines, the Chevron Companies raised the issue of revising baselines for both ears when a standard threshold shift is recorded in only one ear. They commented:

The proposed rule discusses an average shift in one or both ears and establishing a new or revised baseline for future tests to be evaluated against. In discussing the new or revised baseline however the proposed rule does not give guidance on revision when only one ear meets the revision criteria (15 dB or 25 dB or whatever the final rule states). Are the baselines for both ears revised or only the ear meeting the criteria? This issue should be clearly addressed in the final rule. Usually noise induced hearing loss is a symmetrical event so it would be reasonable to revise the baselines for both ears. If the baselines are to be revised individually one could anticipate more hearing losses being recorded than if they are revised in unison. Therefore, for Hearing Conservation Program statistics to be meaningful and comparable, baseline revision must be handled the same across industries (Ex. 15: 343).

Shifts in hearing must be calculated separately for each ear, in accordance with the requirements of § 1910.95. However, if a single audiogram reflects a loss of hearing in both ears, only one hearing loss case must be entered into the records. The issue of revising baseline audiograms to evaluate the extent of future hearing loss pertains to a hearing loss case that has been entered on the Log. If a single-ear STS loss has been recorded on the Log, then the baseline audiogram should be adjusted for that ear, and that ear only. If an STS affecting both ears has been recorded on the Log, then the baseline audiogram may be revised and applied to both ears. This means that there should be no cases where the baseline audiogram has been adjusted and the case has not been recorded on the Log.

The Medical Educational Development Institute (Ex. 15: 25) made several recommendations for changing OSHA’s noise standard, 29 CFR 1910.95, to add specific steps to be taken when a 10 dB STS occurs, such as employee interviews, reevaluations with medical personnel, physician referral, labeling of revised baseline audiograms, and reassignment to quieter work for workers with a second or subsequent STS. These are interesting

recommendations, but they address issues that are beyond the scope of this rulemaking. This rulemaking is concerned only with the Part 1904 requirements for recording occupational hearing loss on the OSHA 300 Log, and does not affect any provision of the OSHA Occupational Noise standard.

Phillips Petroleum (Ex. 15: 354) raised another miscellaneous issue when it suggested that OSHA phase in the recording of audiometric tests if a more protective definition of hearing loss was adopted in the final rule:

[i]f OSHA insists on the recording of hearing loss at the 15 dB, it would artificially inflate the number of recordable hearing-loss cases and have a similar effect as that of the severity issue. We recommend that if the recordability bar is lowered from 25 dB], OSHA allow a transition period where a 15 dB shift is listed on the log, but is not counted in the recordable total. This should continue for a transition period of three years to allow facilities to identify all employees affected. Any employees who were not identified during the transition period would become recordables with a 15 dB hearing loss after the transition period.

OSHA does not believe that a transition period is needed for the recording of occupational hearing loss or any other type of injury or illness included in the records. Adding such a provision would add unnecessary complexity to the rule, and would also create an additional change in the data that would make it difficult to compare data between the two years at the end of the transition. OSHA finds that it is better to implement the recordkeeping changes as a single event and reduce the impacts on the data in future years.

As noted previously, OSHA is not making any changes to its noise standards in this Part 1904 rulemaking, and thus no additional protections are being provided in this final rule.

Section 1904.11 Additional Recording Criteria for Work-Related Tuberculosis Cases

Section 1904.11 of the final rule being published today addresses the recording of tuberculosis (TB) infections that may occur to workers occupationally exposed to TB. TB is a major health concern, and nearly one-third of the world's population may be infected with the TB bacterium at the present time. There are two general stages of TB, tuberculosis infection and active tuberculosis disease. Individuals with tuberculosis infection and no active disease are not infectious; tuberculosis infections are asymptomatic and are only detected by a positive response to a tuberculin skin test. Workers in many settings are at risk of contracting TB

infection from their clients or patients, and some workers are at greatly increased risk, such as workers exposed to TB patients in health care settings. Outbreaks have also occurred in a variety of workplaces, including hospitals, prisons, homeless shelters, nursing homes, and manufacturing facilities (62 FR 54159).

The text of § 1904.11 of the final rule states:

(a) Basic requirement. If any of your employees has been occupationally exposed to anyone with a known case of active tuberculosis (TB), and that employee subsequently develops a tuberculosis infection, as evidenced by a positive skin test or diagnosis by a physician or other licensed health care professional, you must record the case on the OSHA 300 Log by checking the "respiratory condition" column.

(b) Implementation.

(1) Do I have to record, on the Log, a positive TB skin test result obtained at a pre-employment physical?

No, because the employee was not occupationally exposed to a known case of active tuberculosis in your workplace.

(2) May I line-out or erase a recorded TB case if I obtain evidence that the case was not caused by occupational exposure?

Yes, you may line-out or erase the case from the Log under the following circumstances:

(i) The worker is living in a household with a person who has been diagnosed with active TB;

(ii) The Public Health Department has identified the worker as a contact of an individual with a case of active TB unrelated to the workplace; or

(iii) A medical investigation shows that the employee's infection was caused by exposure to TB away from work, or proves that the case was not related to the workplace TB exposure.

The Proposal

The proposed rule included criteria for the recording of TB cases in proposed Appendix B. In that appendix, OSHA proposed to require the recording of cases of TB infection or disease at the time an employee first had a positive tuberculin skin test, except in those cases where the skin test result occurred before the employee was assigned to work with patients or clients. The proposal stated that cases of TB disease or TB infection would be presumed to be work-related if they occurred in an employee employed in one of the following industries: correctional facilities, health care facilities, homeless shelters, long-term care facilities for the elderly, and drug treatment centers. In

other words, the proposal contained a "special industries" presumption for those industries known to have higher rates of occupational TB transmission. OSHA proposed to allow employers to rebut the presumption of work-relatedness if they could provide evidence that the employee had been exposed to active TB outside the work environment. Examples of such evidence would have included (1) the employee was living in a household with a person who had been diagnosed with active TB, or (2) the Public Health Department had identified the employee as a contact of an individual with a case of active TB. For employees working in industries other than the "special" industries, OSHA proposed that a positive skin test result be considered work-related when the employee had been exposed to a person within the work environment who was known to have TB disease. Under the proposal, an employee exhibiting a positive skin test and working in industries other than those listed would otherwise not be presumed to have acquired the infection in the work environment (61 FR 4041). As noted in the proposal, these recording criteria for TB were consistent with those published previously in OSHA directives to the field (February 26, 1993 memo to Regional Administrators). The final rule permits employers to rebut the presumption of work-relatedness in cases of TB infection among employees but does not rely on the "special industries" approach taken by OSHA in the proposal, for reasons explained below.

Positive Skin Tests

Several comments in the record supported OSHA's proposed recording criteria for occupational TB cases (see, e.g., Exs. 15: 72, 133, 198). A number of commenters, however, questioned whether a positive tuberculin skin test reaction should be considered a recordable occupational illness (Ex. 15: 146, 188, 200). For example, BF Goodrich wrote:

We disagree with a positive skin test reaction as the criterion for recording a TB case. Such tests are only indicative of a past exposure, not necessarily an illness or a condition. OSHA should allow diagnosing medical professionals to use their professional judgement to confirm active TB cases and restrict recordability to those cases (Ex. 15: 146).

Kaiser Permanente (Ex. 15: 200) argued:

The presumption that an initial positive skin test result or diagnosed tuberculosis in a health care employee is occupationally based is not warranted. While there have been outbreaks in health care facilities

documented in the literature, and while skin test conversion does occur in health care workers and may in given cases be occupationally related, the Kaiser Permanente experience has not been characterized by outbreaks or significant rates of skin test conversion. Diagnosed cases of tuberculosis among Kaiser Permanente health care workers are extremely rare.

OSHA views the situation differently. A positive tuberculin skin test indicates that the employee has been exposed to *Mycobacterium tuberculosis* and has been infected with the bacterium. Although the worker may or may not have active tuberculosis disease, the worker has become infected. Otherwise, his or her body would not have formed antibodies against these pathogens. (OSHA is aware that, in rare situations, a positive skin test result may indicate a prior inoculation against TB rather than an infection.)

OSHA believes that TB infection is a significant change in the health status of an individual, and, if occupational in origin, is precisely the type of illness Congress envisioned including in the OSHA injury and illness statistics. Contracting a TB infection from a patient, client, detainee, or other person in the workplace would cause serious concern, in OSHA's view, in any reasonable person. Once a worker has contracted the TB infection, he or she will harbor the infection for life. At some time in the future, the infection can progress to become active disease, with pulmonary infiltration, cavitation, and fibrosis, and may lead to permanent lung damage and death. An employee harboring TB infection is particularly likely to develop the full-blown disease if he or she must undergo chemotherapy, contracts another disease, or experiences poor health. According to OSHA's proposed TB rule (62 FR 54159), approximately 10% of all TB infections progress at some point to active disease, and it is not possible to predict in advance which individuals will do so.

OSHA also believes that it is important to require employers to record TB cases when an employee experiences a positive skin test because doing so will create more timely and complete statistics. If, for example, OSHA were to require recording only when the worker develops active TB, many cases that were in fact occupational in origin would go unrecorded. In such cases, if the worker had retired or moved on to other employment, the employer would generally not know that the employee had contracted active TB disease, and the case would never be included in the Nation's occupational injury and illness

statistics and important information would be lost. Thus, requiring the recording of a case at the infection stage will create more accurate, complete and useful statistics, one of the major goals of this rulemaking.

Several commenters suggested that TB should not be recorded at all because, in their view, acquiring TB infection is not within the control of the employer and is not amenable to control by an employer's safety and health program (see, e.g., Exs. 15: 316, 348, 414, 423). For example, Raytheon Engineers & Constructors (Ex. 15: 414) argued that TB infection and disease should not be recorded because it "is not due to a condition of the work environment under the control of the employer." Dupont argued along similar lines:

It does not make sense to record tuberculosis cases where an infectious worker infects co-workers. That has nothing to do with job activity or with the workplace except as an accidental exposure. The same type of thinking could apply to flu symptoms, "colds", conjunctivitis, etc., where lack of personal hygiene or a strong "germ" migrated through the workplace. If the exposure is not part of the job activity, none of the cases mentioned, including tuberculosis, should be recorded (Ex. 15: 348).

As discussed elsewhere in this document (see the Legal Authority section above), Congress did not intend OSHA's recordkeeping system only to capture conditions over which the employer has complete control or the ability to prevent the condition. The Act thus supports a presumption of work-relatedness for illnesses resulting from exposure in the workplace, and the OSHA recordkeeping system has always reflected this position (although a few specific exceptions to that presumption are permitted, including an exception for common colds and flu). In accordance with that presumption, when an employee is exposed to an infectious agent in the workplace, such as TB, chicken pox, etc., either by a co-worker, client, patient, or any other person, and the employee becomes ill, workplace conditions have either caused or contributed to the illness and it is therefore work-related. Since, as discussed above, TB infection is clearly a serious condition, it is non-minor and must be recorded.

Employee-to-Employee Transmission

Two commenters argued that transmission from employee to employee should not be considered work-related (Exs. 15: 39, 348). The RR Donnelley & Sons Company (Ex. 15: 39) pointed out that an employer "may never know that a fellow employee has

tuberculosis. To record personal transmission from one employee to another goes beyond the scope of work relatedness." Other commenters agreed with OSHA that, at least under certain circumstances, employee-to-employee transmission should be considered work-related (see, e.g., Exs. 15: 78, 218, 361, 398, 407). For example, Alliant Techsystems (Ex. 15: 78) stated that "[i]f a worker with infectious tuberculosis disease infected their co-worker, the co-workers' infection/disease would be recordable."

Again, as discussed above, OSHA believes, under the positional theory of causality, that non-minor illnesses resulting from an exposure in the work environment are work-related and therefore recordable unless a specific exemption to the presumption applies. Infection from exposure to another employee at work is no different, in terms of the geographic presumption, from infection resulting from exposure to a client, patient, or any other person who is present in the workplace. The transmission of TB infection from one employee to another person at work, including a co-worker, clearly is non-minor and is squarely within the presumption.

Special Industry Presumptions

Many of the commenters supported OSHA's proposed approach of assuming work-relatedness for TB cases if the infection occurred in workers employed in certain special industries (see, e.g., Exs. 24, 15: 78, 345, 376, 407). Other commenters suggested that OSHA abandon the proposed special industry presumption (see, e.g., Exs. 15: 197, 200, 225, 259, 279, 302, 341, 431, 436). In the proposed rule, OSHA proposed different work-relatedness criteria for different work environments, *i.e.*, in industries in which published reports of TB outbreaks were available from the Centers for Disease Control and Prevention (CDC), a special presumption would prevail, while in industries in which occupational transmission had not been documented it would not.

Kaiser Permanente commented that the CDC "Guidelines for Preventing the Transmission of *Mycobacterium Tuberculosis* in Health-Care Facilities establish facility risk levels for occupational transmission of tuberculosis based upon assessment of a range of relevant criteria such as job duties, incidence of TB patients treated, and community TB rates" and urged OSHA to follow these in the final rule (Ex. 15: 200).

Two commenters objected to the inclusion of nursing homes in the list of