employee, (2) to determine the suitability of the prospective employee for the job under consideration, and (3) to establish a baseline health condition against which changes in an employee's health may be compared. OSHA believes that any problems associated with this revised rule will be minimal since some type of medical surveillance program is commonplace in most industries where asbestos is handled, even in the smallest firms.

OSHA received many comments regarding the frequency of periodic medical examinations. A number of commenters were in favor of the annual examination [Exs. 90–140, 90–158, 241–A, 248–B, 296] while other commenters were in favor of basing the frequency of the medical examination on the age of the worker with consideration given to the years that have elapsed since first exposure to asbestos [Exs. 123–A, 158–D, 182, 328].

After thorough review and analysis of the comments and testimony received in connection with this issue, OSHA reaffirms its position on the appropriateness of the annual medical examination. The annual medical examination and evaluation is an important tool in protecting the worker exposed to asbestos by, (1) establishing and maintaining rapport between the medical staff and asbestos exposed workers; (2) detecting changes in a worker's physical condition; (3) detecting biological effects of inhalation of asbestos as early as possible; (4) providing a way to re-evaluate the workplace conditions; and (5) evaluating the worker's suitability to continue doing the same job. For these reasons OSHA has retained the provision of an annual medical examination in the final standard.

The final standard provides that all examinations and procedures be performed by or under the supervision of a licensed physician and be provided without cost to the employee. Clearly, a licensed physician is the appropriate person to be supervising and evaluating the medical examination. However, certain parts of the required examination do not necessarily require the physician's expertise and may be conducted by a health care professional designated by the physician and under the supervision of the physician.

The final standard requires the employer to provide the physician with the following information: a copy of this standard and its appendices; a description of the affected employees' duties as they relate to the employee's exposure level; the employee's representative exposure level or anticipated exposure level; a description of any personal protective and respiratory equipment use or to be used; and information from the employee's previous medical examinations which is not readily available to the examining physician. Making this information available to the physician will aid in the evaluation of the employee's health in relation to assigned duties and fitness to wear personal protective equipment, when required.

The employer is required to obtain a written signed opinion from the examining physician containing the results of the medical examinations; the physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment from exposure to asbestos; any recommended restrictions upon the employee's exposure to asbestos or upon the use of protective clothing or equipment such as respirators; and a statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions resulting from asbestos exposure that require further explanation or treatment. This written opinion must not reveal specific findings or diagnoses unrelated to occupational exposure to asbestos and a copy of the opinion must be provided to the affected employee.

The purpose in requiring the examining physician to supply the employer with a written opinion is to provide the employer with a medical basis to aid in the determination of initial placement of employees and to assess the employee's ability to use protective clothing and equipment. The requirement that a physician's opinion be in written form will ensure that employers have had the benefit of this information. The requirement that an employee be provided with a copy of the physician's written opinion will ensure that the employee is informed of the results of the medical examination. The purpose in requiring that specific findings or diagnoses unrelated to occupational exposure to asbestos not be included in the written opinion is to encourage employees to take the medical examination by removing the concern that the employer will obtain information about their physical condition that has no relation to present occupational exposures. The requirement that the physician sign the opinion is to ensure that what he gives to the employer has been seen and read by the physician.

A few substantive changes in the current medical surveillance requirements were made as the result of OSHA's review of extensive public comment and testimony. First, the frequency of x-rays for younger employees and employees who have only recently been exposed has been reduced. Given the potential radiation hazards posed by x-rays and given the long latency periods for most asbestos-related diseases, the requirement for annual x-rays has been changed to one that establishes frequencies based on a worker's age, duration of exposure and latency considerations.

Many commenters expressed the view that annual x-rays do not provide useful information in young persons and during the first few years of potential exposure. It was felt that annual x-rays in early exposure years is of minimal value, while exposing persons unnecessarily to potential harmful radiation. Comments received from Monsanto [Ex. 90–138], CAL/OSHA [Ex. 182], Atlantic Richfield [Ex. 90–160], 3M Co [Ex 90–163], Chemical Manufacturers Association [Ex. 90–166], U.S. Navy [Ex. 90–178] and NIOSH [Ex. 91–40] all suggested that the medical surveillance requirements be changed to allow for less frequent x-rays.

Consequently, the final standard requires that x-rays be offered at 5 year intervals during the 10 years following any employee's first exposure to asbestos. After 10 years from the employee's first exposure, the age category of an employee will determine the frequency of x-ray testing: up until age 35, x-rays will be required at 5 year intervals; between the ages of 35–45 medical exams will be required every 2 years; and above age 45, x-ray will be required on an annual basis. Such a program is currently in place in a number of asbestos surveillance programs (for example, see Lewinsohn, Ex. 258A).

A number of commenters stated that x-ray films should be interpreted and classified by qualified and/or certified individuals using standardized radiological procedures [Exs. 86–4, 131, 158–D]. For example, the AFL–CIO stated:

> X-rays are one of the most important diagnostic tools for asbestos-related lung diseases. The prevalence and seriousness of these diseases warrants the establishment of standardized procedure for the evaluation of x-rays by certified, qualified individuals [Ex. 131, p. 19].

OSHA shares the view of the above referred commenters, and in the final standard requires that, (1) chest x-rays be interpreted and classified in accordance with a professionally accepted classification system by either a B-reader, a board eligible/certified radiologist, or an experienced physician