

**SUPPORTING STATEMENT FOR THE  
INFORMATION COLLECTION REQUIREMENTS CONTAINED IN  
THE BENZENE STANDARD (29 CFR 1910.1028)  
(Office of Management and Budget (OMB))  
Control No. 1218-0129<sup>1</sup> (October 2009)**

**JUSTIFICATION**

- 1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.**

The Occupational Safety and Health Act's (OSH Act) main objective is to "... assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources" (29 U.S.C. 651). To achieve this objective, the OSH Act specifically authorizes "the development and promulgation of occupational safety and health standards" (29 U.S.C. 651) to ensure that workers will be furnished "employment and a place of employment . . . free from recognized hazards that are causing or likely to cause death or serious physical harm."

For toxic substances, the OSH Act contains specific statutory language. Thus, as appropriate, health standards must include provisions for monitoring and measuring worker exposure, medical examinations and other tests, control and technological procedures, suitable protective equipment, labels and other appropriate forms of warning, and precautions for safe use or exposure (29 U.S.C. 655 and 657). In addition, the OSH Act specifically mandates issuing "regulations requiring employers to maintain accurate records of worker exposures to potentially toxic materials or other harmful physical agents that are required to be monitored and measured," and further requires that workers exposed to concentrations over prescribed limits be notified of this fact, and of the corrective action being taken (29 U.S.C. 657).

Under the authority granted by the OSH Act, the Occupational Safety and Health Administration (OSHA) published a health standard governing worker exposure to benzene (29 CFR 1910.1028).<sup>2</sup> The purpose of the Benzene Standard is to reduce the incidence of leukemia caused among workers exposed to benzene. The Standard affects primarily inhalation and dermal contact. A copy of the Benzene Standard is attached to this supporting statement. The specific information collection requirements of this standard are fully discussed under items 2 and 12 below.

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<sup>1</sup>The purpose of this supporting statement is to analyze and describe the burden hours and costs associated with provisions of the Standard that contain paperwork requirements, and does not provide information or guidance on how to comply with or to enforce the Standard.

<sup>2</sup>29 CFR 1910.1028 is incorporated by reference into the Construction and Shipyard Employment Standards (29 CFR 1926.1128 and 29 CFR 1915.1028, respectively).

2. **Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.**

The following are the collection of information requirements as stated in the standard, followed by discussions indicating how, by whom, and for what purpose the information is used.

## **Exposure monitoring (§1910.1028(e))**

### ***General (§1910.1028(e)(1))***

#### *§1910.1028(e)(1)(iii)*

Determinations of compliance with the short-term exposure limit (STEL) shall be made from 15 minute worker breathing zone samples measured at operations where there is reason to believe exposures are high, such as where tanks are opened, filled, unloaded or gauged; where containers or process equipment are opened and where benzene is used for cleaning or as a solvent in an uncontrolled situation. The employer may use objective data, such as measurements from brief period measuring devices, to determine where STEL monitoring is needed.

#### *§1910.1028(e)(1)(iv)*

Except for initial monitoring as required under paragraph (e)(2) of this section, where the employer can document that one shift will consistently have higher worker exposures for an operation, the employer shall only be required to determine representative worker exposure for that operation during the shift on which the highest exposure is expected.

### **Purpose:**

The employer has the duty to characterize the workplace by performing monitoring and identifying tasks that exceed the STEL and PEL.

### ***Initial monitoring (§1910.1028(e)(2))***

#### *§1910.1028(e)(2)(i)*

Each employer who has a place of employment covered under paragraph (a)(1)<sup>3</sup> of this section shall monitor each of these workplaces and work operations to determine accurately the airborne concentrations of benzene to which workers may be exposed.

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<sup>3</sup>Paragraph (a)(1) states: *Scope and application*. This section applies to all occupational exposures to benzene. Chemical Abstracts Service Registry No. 71-43-2, except as provided in paragraphs (a)(2) and (a)(3) of this section.

*§1910.1028(e)(2)(ii)*

The initial monitoring required under paragraph (e)(2)(i) of this section shall be completed by 60 days after the effective date of this standard or within 30 days of the introduction of benzene into the workplace. Where the employer has monitored within one year prior to the effective date of this standard and the monitoring satisfies all other requirements of this section, the employer may rely on such earlier monitoring results to satisfy the requirements of paragraph (e)(2)(i) of this section.

**Purpose:**

Employers must perform initial monitoring to determine the extent of benzene exposure in their workplace. Initial monitoring assists employers in, identifying areas of operation that may require additional efforts to reduce worker exposure to and come into compliance with the standard. Initial monitoring results also assist employers in determining the necessity for using engineering controls, instituting or modifying work practices, and in selecting appropriate respiratory protection to prevent workers from over exposure.

***Periodic monitoring and monitoring frequency (§1910.1028(e)(3))***

*§1910.1028(e)(3)(i)*

If the monitoring required by paragraph (e)(2)(i) of this section reveals employee exposure at or above the action level but at or below the TWA, the employer shall repeat such monitoring for each such employee at least every year.

*§1910.1028(e)(3)(ii)*

If the monitoring required by paragraph (e)(2)(i) of this section reveals employee exposure above the TWA, the employer shall repeat such monitoring for each such employee at least every six (6) months.

*§1910.1028(e)(3)(iii)*

The employer may alter the monitoring schedule from every six months to annually for any worker for whom two consecutive measurements taken at least 7 days apart indicate that the employee exposure has decreased to the TWA or below, but is at or above the action level.

*§1910.1028(e)(3)(iv)*

Monitoring for the STEL shall be repeated as necessary to evaluate exposures of employees subject to short term exposures.

**Purpose:**

Periodic exposure monitoring allows employers to determine if modifications in materials or environmental conditions result in increases in benzene levels. Periodic exposure monitoring also enables employers to evaluate the effectiveness of selected control methods. In addition, these measurements remind both the employer and workers of the continuing need to protect against the hazards that could result from an employee's overexposure.

***Additional monitoring (§1910.1028(e)(5))******§1910.1028(e)(5)(i)***

The employer shall institute the exposure monitoring required under paragraphs (e)(2) and (e)(3) of this section when there has been a change in the production, process, control equipment, personnel or work practices which may result in new or additional exposures to benzene, or when the employer has any reason to suspect a change which may result in new or additional exposures.

***§1910.1028(e)(5)(ii)***

Whenever spills, leaks, ruptures or other breakdowns occur that may lead to employee exposure, the employer shall monitor (using area or personal sampling) after the cleanup of the spill or repair of the leak, rupture or other breakdown to ensure that exposures have returned to the level that existed prior to the incident.

**Purpose:**

Changes in production, process, control equipment, new personnel may lead to suspected increase in worker exposure levels. Additional monitoring is necessary so that the employer may take action to protect workers, such as providing appropriate respiratory equipment or instituting engineering controls. Additional monitoring after an incident has been corrected ensures that exposures have returned to the levels that existed prior to the incident. Additional monitoring ensures that the work areas are safe, or alerts the employer that protection may still be needed.

***Employee notification of monitoring results (§1910.1028(e)(7))******§1910.1028(e)(7)(i)***

The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

#### *§1910.1028(e)(7)(ii)*

Whenever the PELs are exceeded, the written notification required by paragraph (e)(7)(i) of this section shall contain the corrective action being taken by the employer to reduce the employee exposure to or below the PEL, or shall refer to a document available to the employee which states the corrective actions to be taken.

#### **Purpose:**

Consistent with section 8(c)(3) of the OSH Act, every worker has the right to know what their exposure level is and whether it is above or below the action level. Moreover, since the permissible exposure level is a feasibility level and not a “safe” level, the worker must know, for proper evaluation of their health by a physician in the present and future, the level of benzene to which they were exposed.

When exposures are over the PEL, the employer must also state in the notification what corrective action the employer is going to take to reduce the exposure level. This is necessary to assure workers that the employer is making every effort to furnish them with a safe and healthful work environment and implements section 8(c)(3) of the OSH Act.

#### **Methods of compliance (§1910.1028(f))**

##### ***Engineering controls and work practices (§1910.1028(f)(1)(iii))***

Where the employer can document that benzene is used in a workplace less than a total of 30 days per year, the employer shall use engineering controls, work practice controls or respiratory protection or any combination of these controls to reduce employee exposure to benzene to or below the PELs, except that employers shall use engineering and work practice controls, if feasible, to reduce exposure to or below 10 ppm as an 8-hour TWA.

#### **Purpose:**

Documentation serves as a record showing the employer has determined that benzene is being used less than a total of 30 days per year in the workplace. As workers, their representatives, and OSHA have access to this documentation, it serves to ensure that the frequency of benzene used in the workplace has been accurately characterized by the employer.

##### ***Compliance program (§1910.1028(f)(2))***

#### *§1910.1028(f)(2)(i)*

When any exposures are over the PEL, the employer shall establish and implement a written program to reduce employee exposure to or below the PEL primarily by means of engineering and work practice controls, as required by paragraph (f)(1) of this section.

#### *§1910.1028(f)(2)(ii)*

The written program shall include a schedule for development and implementation of the engineering and work practice controls. These plans shall be reviewed and revised as appropriate based on the most recent exposure monitoring data, to reflect the current status of the program.

*§1910.1028(f)(2)(iii)*

Written compliance programs shall be furnished upon request for examination and copying to the Assistant Secretary, the Director, affected employees and designated employee representatives.

**Purpose:**

Written compliance plans are an essential part of the compliance program. They encourage employers to achieve the required engineering and work practice controls and provide necessary documentation to OSHA, employers and workers of the compliance methods chosen, and the extent to which controls have been or are planned to be instituted.

**Respiratory protection (§1910.1028(g))**

***General (§1910.1028(g)(1))***

For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this paragraph. Respirators must be used during:

*§1910.1028(g)(1)(i)* -- Periods necessary to install or implement feasible engineering and work-practice controls.

*§1910.1028(g)(1)(ii)* -- Work operations for which the employer establishes that compliance with either the TWA or STEL through the use of engineering and work-practice controls is not feasible; for example, some maintenance and repair activities, vessel cleaning, or other operations for which engineering and work-practice controls are infeasible because exposures are intermittent and limited in duration.

*§1910.1028(g)(1)(iii)* -- Work operations for which feasible engineering and work-practice controls are not yet sufficient, or are not required under paragraph (f)(1)(iii) of this section, to reduce employee exposure to or below the PELs.

*§1910.1028(g)(1)(iv)* -- Emergencies.

***Respirator program (§1910.1028(g)(2)(i))***

The employer must implement a respiratory protection program in accordance with 1910.134(b) through (d) (except (d)(1)(iii), (d)(3)(iii)(b)(1) and (2)), and (f) through (m), which covers each employee required by this section to use a respirator.

**Purpose:**

The Respiratory Protection Standard assists employers in protecting the health of employees exposed to airborne contaminants and biological agents. The collections of information are contained in the Respiratory Protection ICR, OMB Control Number 1218-0099. The Respiratory Protection ICR provides the justification, purpose, and burden hours and cost estimates for these provisions.

***Medical surveillance (§1910.1028(i))******General (§1910.1028(i)(1)(i))***

The employer shall make available a medical surveillance program for employees who are or may be exposed to benzene at or above the action level 30 or more days per year; for employees who are or may be exposed to benzene at or above the PELs 10 or more days per year; for employees who have been exposed to more than 10 ppm of benzene for 30 or more days in a year prior to the effective date of the standard when employed by their current employer; and for employees involved in the tire building operations called tire building machine operators, who use solvents containing greater than 0.1 percent benzene.

***Initial examination (§1910.1028(i)(2))******§1910.1028(i)(2)(i)***

Within 60 days of the effective date of this standard, or before the time of initial assignment, the employer shall provide each employee covered by paragraph (i)(1)(i) of this section with a medical examination including the following elements:

§1910.1028(i)(2)(i)(A) -- A detailed occupational history which includes:

§1910.1028(i)(2)(i)(A)(1) -- Past work exposure to benzene or any other hematological toxins;

§1910.1028(i)(2)(i)(A)(2) -- A family history of blood dyscrasias including hematological neoplasms;

§1910.1028(i)(2)(i)(A)(3) -- A history of blood dyscrasias including genetic hemoglobin abnormalities, bleeding abnormalities, abnormal function of formed blood elements;

§1910.1028(i)(2)(i)(A)(4) -- A history of renal or liver dysfunction;

§1910.1028(i)(2)(i)(A)(5) -- A history of medicinal drugs routinely taken;

§1910.1028(i)(2)(i)(A)(6) -- A history of previous exposure to ionizing radiation and

§1910.1028(i)(2)(i)(A)(7) -- Exposure to marrow toxins outside of the current work situation.

§1910.1028(i)(2)(i)(B) -- A complete physical examination.

§1910.1028(i)(2)(i)(C) -- Laboratory tests. A complete blood count including a leukocyte count with differential, a quantitative thrombocyte count, hematocrit, hemoglobin, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC). The results of these tests shall be reviewed by the examining physician.

§1910.1028(i)(2)(i)(D) -- Additional tests as necessary in the opinion of the examining physician, based on alterations to the components of the blood or other signs which may be related to benzene exposure; and

§1910.1028(i)(2)(i)(E) -- For all workers required to wear respirators for at least 30 days a year, the physical examination shall pay special attention to the cardiopulmonary system and shall include a pulmonary function test.

*§1910.1028(i)(2)(ii)*

No initial medical examination is required to satisfy the requirements of paragraph (i)(2)(i) of this section if adequate records show that the employee has been examined in accordance with the procedures of paragraph (i)(2)(i) of this section within the 12 months prior to the effective date of this standard.

***Periodic examinations (§1910.1028(i)(3))***

*§1910.1028(i)(3)(i)*

The employer shall provide each employee covered under paragraph (i)(1)(i) of this section with a medical examination annually following the previous examination. These periodic examinations shall include at least the following elements:

§1910.1028(i)(3)(i)(A) -- A brief history regarding any new exposure to potential marrow toxins, changes in medicinal drug use, and the appearance of physical signs relating to blood disorders:

§1910.1028(i)(3)(i)(B) -- A complete blood count including a leukocyte count with differential, quantitative thrombocyte count, hemoglobin, hematocrit, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC); and



§1910.1028(i)(3)(i)(C) -- Laboratory tests. Appropriate additional tests as necessary, in the opinion of the examining physician, in consequence of alterations in the components of the blood or other signs which may be related to benzene exposure.

§1910.1028(i)(3)(ii)

Where the employee develops signs and symptoms commonly associated with toxic exposure to benzene, the employer shall provide the employee with an additional medical examination which shall include those elements considered appropriate by the examining physician.

§1910.1028(i)(3)(iii)

For persons required to use respirators for at least 30 days a year, a pulmonary function test shall be performed every three (3) years. A specific evaluation of the cardiopulmonary system shall be made at the time of the pulmonary function test.

***Emergency examinations (§1910.1028(i)(4))***

§1910.1028(i)(4)(i)

In addition to the surveillance required by (i)(1)(i), if an employee is exposed to benzene in an emergency situation, the employer shall have the employee provide a urine sample at the end of the employee's shift and have a urinary phenol test performed on the sample within 72 hours. The urine specific gravity shall be corrected to 1.024.

§1910.1028(i)(4)(ii)

If the result of the urinary phenol test is below 75 mg phenol/L of urine, no further testing is required.

§1910.1028(i)(4)(iii)

If the result of the urinary phenol test is equal to or greater than 75 mg phenol/L of urine, the employer shall provide the employee with a complete blood count including an erythrocyte count, leukocyte count with differential and thrombocyte count at monthly intervals for a duration of three (3) months following the emergency exposure.

§1910.1028(i)(4)(iv)

If any of the conditions specified in paragraph (i)(5)(i) of this section exists, then the further requirements of paragraph (i)(5) of this section shall be met and the employer shall, in addition, provide the employees with periodic examinations if directed by the physician.

### ***Additional examinations and referrals (§1910.1028(i)(5))***

#### ***§1910.1028(i)(5)(i)***

Where the results of the complete blood count required for the initial and periodic examinations indicate any of the following abnormal conditions exist, then the blood count shall be repeated within 2 weeks.

§1910.1028(i)(5)(i)(A) -- The hemoglobin level or the hematocrit falls below the normal limit [outside the 95% confidence interval (C.I.)] as determined by the laboratory for the particular geographic area and/or these indices show a persistent downward trend from the individual's pre-exposure norms; provided these findings cannot be explained by other medical reasons.

§1910.1028(i)(5)(i)(B) -- The thrombocyte (platelet) count varies more than 20 percent below the employee's most recent values or falls outside the normal limit (95% C.I.) as determined by the laboratory.

§1910.1028(i)(5)(i)(C) -- The leukocyte count is below 4,000 per mm<sup>3</sup> or there is an abnormal differential count.

#### ***§1910.1028(i)(5)(ii)***

If the abnormality persists, the examining physician shall refer the employee to a hematologist or an internist for further evaluation unless the physician has good reason to believe such referral is unnecessary. (See Appendix C for examples of conditions where a referral may be unnecessary.)

#### ***§1910.1028(i)(5)(iii)***

The employer shall provide the hematologist or internist with the information required to be provided to the physician under paragraph (i)(6) of this section and the medical record required to be maintained by paragraph (k)(2)(ii) of this section.

#### ***§1910.1028(i)(5)(iv)***

The hematologist's or internist's evaluation shall include a determination as to the need for additional tests, and the employer shall assure that these tests are provided.

### **Purpose:**

The purpose of medical surveillance is the prevention or detection of abnormalities which may occur in some benzene exposed workers early enough to prevent leukemia, multiple myeloma or other deleterious health effects from developing or to provide earlier treatment for these conditions. OSHA considers regular medical surveillance for benzene workers exposed at or above the action level to be necessary.

***Information provided to the physician (§1910.1028(i)(6))***

The employer shall provide the following information to the examining physician:

§1910.1028(i)(6)(i) -- A copy of this regulation and its appendices;

§1910.1028(i)(6)(ii) -- A description of the affected employee's duties as they relate to the employee's exposure;

§1910.1028(i)(6)(iii) -- The employee's actual or representative exposure level;

§1910.1028(i)(6)(iv) -- A description of any personal protective equipment used or to be used; and

§1910.1028(i)(6)(v) -- Information from previous employment-related medical examinations of the affected employee which is not otherwise available to the examining physician.

**Purpose:**

Making the required information available to the physician will aid in the evaluation of the worker's health and fitness for particular benzene-exposed job assignments. If symptoms of organic damage appear, the physician often needs information as to the worker's previous medical conditions to make an accurate diagnosis of the new problem, its apparent cause, and the course of treatment required. Medical records also ensure that employers can determine whether or not treatment or other interventions are needed for occupational exposures.

***Physician's written opinions (§1910.1028(i)(7))***

§1910.1028(i)(7)(i)

For each examination under this section, the employer shall obtain and provide the employee with a copy of the examining physician's written opinion within 15 days of the examination. The written opinion shall be limited to the following information:

§1910.1028(i)(7)(i)(A) -- The occupationally pertinent results of the medical examination and tests;

§1910.1028(i)(7)(i)(B) -- The physician's opinion concerning whether the employee has any detected medical conditions which would place the employee's health at greater than normal risk of material impairment from exposure to benzene;

§1910.1028(i)(7)(i)(C) -- The physician's recommended limitations upon the employee's exposure to benzene or upon the employee's use of protective clothing or equipment and respirators.

§1910.1028(i)(7)(i)(D) -- A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions resulting from benzene exposure which require further explanation or treatment.

*§1910.1028(i)(7)(ii)*

The written opinion obtained by the employer shall not reveal specific records, findings and diagnoses that have no bearing on the employee's ability to work in a benzene-exposed workplace.

**Purpose:**

The purpose of requiring the employer to obtain a written opinion from the examining physician is to provide the employer with medical information to aid in determining the initial placement of workers, and to assess a worker's ability to use protective clothing and equipment. The physician's opinion will also provide information to the employer about whether the worker may be suffering from over exposure to benzene. The requirement that a physician's opinion be written will ensure that the information is properly memorialized for later reference. The requirement that workers be provided with a copy of the physician's written opinion will ensure that they are informed of the results of the medical examination so that they can assist in determining the need for, and evaluate the effectiveness of, treatment or other interventions.

***Medical removal plan (§1910.1028(i)(8))***

*§1910.1028(i)(8)(i)*

When a physician makes a referral to a hematologist/internist as required under paragraph (i)(5)(ii) of this section, the employee shall be removed from areas where exposures may exceed the action level until such time as the physician makes a determination under paragraph (i)(8)(ii) of this section.

*§1910.1028(i)(8)(ii)*

Following the examination and evaluation by the hematologist/internist, a decision to remove an employee from areas where benzene exposure is above the action level or to allow the employee to return to areas where benzene exposure is above the action level shall be made by the physician in consultation with the hematologist/internist. This decision shall be communicated in writing to the employer and employee. In the case of removal, the physician shall state the required probable duration of removal from occupational exposure to benzene above the action level and the requirements for future medical examinations to review the decision.

*§1910.1028(i)(8)(iii)*

For any employee who is removed pursuant to paragraph (i)(8)(ii) of this section, the employer shall provide a follow-up examination. The physician, in consultation with the hematologist/internist, shall make a decision within 6 months of the date the employee was removed as to whether the employee shall be returned to the usual job or whether the employee should be removed permanently.

**Purpose:**

Medical removal is an integral and essential part of medical surveillance. Medical removal provides an opportunity for blood abnormalities, particularly aplasias and cytopenias, to reverse themselves before they become irreversible. The second basis for removal is to prevent increased benzene exposure for those workers who already show signs of more serious diseases such as leukemia and aplastic anemia. In these cases, most physicians recommend removal from the possible causative agent. If the cause cannot be determined, it is still prudent to remove a worker to avoid a known leukemogen that could increase the adverse effects through a synergistic or additive mechanism with the primary leukemic agent.

**Communication of benzene hazards to employees (§1910.1028(j))**

***Signs and labels (§1910.1028(j)(1))***

*§1910.1028(j)(1)(i)*

The employer shall post signs at entrances to regulated areas. The signs shall bear the following legend:

DANGER  
BENZENE  
CANCER HAZARD  
FLAMMABLE - NO SMOKING  
AUTHORIZED PERSONNEL ONLY  
RESPIRATOR REQUIRED

**Purpose:**

These signs alert workers of regulated areas, and to take necessary protective steps before entering the area. Regulated areas may also exist on a temporary basis, for example, during maintenance. The use of warning signs in these types of situations is also important, since the temporary high exposures would represent a new or unexpected exposure to workers who are regularly scheduled to work at these sites. The posting of signs at the occurrence of a maintenance situation or during an emergency, if there is time, will help prevent unnecessary exposures to workers who may not otherwise know or expect excessive benzene exposure levels and serves to warn workers of the need to wear respirators.

*§1910.1028(j)(1)(ii)*

The employer shall ensure that labels or other appropriate forms of warning are provided for containers of benzene within the workplace. There is no requirement to label pipes. The labels shall comply with the requirements of 29 CFR 1910.1200(f) and, in addition, shall include the following legend:

DANGER  
CONTAINS BENZENE  
CANCER HAZARD

**Purpose:**

Warning labels assure that downstream employers and workers are informed of the associated hazards with benzene and that special practices may need to be implemented to insure against exposure. Furthermore, hazards labels alert other employers who, in the absence of such labels, might not know that asbestos is present in their workplace and that they have incurred obligation of complying with the Standard.

***Material safety data sheets (§1910.1028(j)(2))***

*§1910.1028(j)(2)(i)*

Employers shall obtain or develop, and shall provide access to their employees, to a material safety data sheet (MSDS) which addresses benzene and complies with 29 CFR 1910.1200.

*§1910.1028(j)(2)(ii)*

Employers who are manufacturers or importers shall:

§1910.1028(j)(2)(ii)(A) -- Comply with paragraph (a) of this section, and

§1910.1028(j)(2)(ii)(B) -- Comply with the requirement in OSHA's Hazard Communication Standard, 29 CFR 1910.1200, that they deliver to downstream employers an MSDS which addresses benzene.

**Purpose:**

The hazards of benzene are sufficiently great that workers who may be exposed to the chemical need the detailed information that would be present on a MSDS for benzene so the worker would be in a better position to protect him or herself. The MSDS also serves as the central source of information to workers and downstream employers who must be provided with an MSDS if benzene is produced and shipped out of a plant. In addition, the MSDS serves as the basic source of information on the hazards of benzene essential to the training provisions of this and other applicable health standards.

### ***Information and training (§1910.1028(j)(3))***

#### ***§1910.1028(j)(3)(i)***

The employer shall provide employees with information and training at the time of their initial assignment to a work area where benzene is present. If exposures are above the action level, employees shall be provided with information and training at least annually thereafter.

#### ***§1910.1028(j)(3)(ii)***

The training program shall be in accordance with the requirements of 29 CFR 1910.1200(h)(1) and (2), and shall include specific information on benzene for each category of information included in that section.

#### ***§1910.1028(j)(3)(iii)***

In addition to the information required under 29 CFR 1910.1200, the employer shall:

§1910.1028(j)(3)(iii)(A) -- Provide employees with an explanation of the contents of this section, including Appendices A and B, and indicate to them where the standard is available; and

§1910.1028(j)(3)(iii)(B) -- Describe the medical surveillance program required under paragraph (i) of this section, and explain the information contained in Appendix C.

### **Purpose:**

Training is essential to inform workers of hazards to which they are exposed, and to provide workers with the necessary understanding of the degree to which they can minimize the health-hazard potential. Training serves to explain and reinforce the information presented to workers on signs, labels, and material safety data sheets. These written forms of information and warning will be successful and relevant only when workers understand the information, and are aware of the action to be taken to avoid or minimize exposure.

Training provides information to the workers to enable them to be able to recognize how and where they might be occupationally exposed and what steps to take to limit exposure. Workers must be provided with information on the location of benzene, as well as the work practices to use when they are exposed to benzene.

## **Recordkeeping (§1910.1028(k))**

### ***Exposure measurement (§1910.1028(k)(1))***

#### ***§1910.1028(k)(1)(i)***

The employer shall establish and maintain an accurate record of all measurements required by paragraph (e) of this section in accordance with 29 CFR 1910.1020.

#### ***§1910.1028(k)(1)(ii)***

This record shall include:

§1910.1028(k)(1)(ii)(A) -- The dates, number, duration, and results of each of the samples taken, including a description of the procedure used to determine representative employee exposures;

§1910.1028(k)(1)(ii)(B) -- A description of the sampling and analytical methods used;

§1910.1028(k)(1)(ii)(C) -- A description of the type of respiratory protective devices worn, if any; and

§1910.1028(k)(1)(ii)(D) -- The name, social security number, job classification and exposure levels of the employee monitored and all other employees whose exposure the measurement is intended to represent.

#### ***§1910.1028(k)(1)(iii)***

The employer shall maintain this record for at least 30 years, in accordance with 29 CFR 1910.1020.

### ***Medical surveillance (§1910.1028(k)(2))***

#### ***§1910.1028(k)(2)(i)***

The employer shall establish and maintain an accurate record for each employee subject to medical surveillance required by paragraph (i) of this section, in accordance with 29 CFR 1910.1020.

#### ***§1910.1028(k)(2)(ii)***

This record shall include:

§1910.1028(k)(2)(ii)(A) -- The name and social security number of the employee;



§1910.1028(k)(2)(ii)(B) -- The employer's copy of the physician's written opinion on the initial, periodic and special examinations, including results of medical examinations and all tests, opinions and recommendations;

§1910.1028(k)(2)(ii)(C) -- Any employee medical complaints related to exposure to benzene;

§1910.1028(k)(2)(ii)(D) -- A copy of the information provided to the physician as required by paragraphs (i)(6)(ii) through (v) of this section; and

§1910.1028(k)(2)(ii)(E) -- A copy of the employee's medical and work history related to exposure to benzene or any other hematologic toxins.

§1910.1028(k)(2)(iii) -- The employer shall maintain this record for at least the duration of employment plus 30 years, in accordance with 29 CFR 1910.1020.

### ***Availability (§1910.1028(k)(3))***

#### ***§1910.1028(k)(3)(i)***

The employer shall assure that all records required to be maintained by this section shall be made available upon request to the Assistant Secretary and the Director for examination and copying.

#### ***§1910.1028(k)(3)(ii)***

Employee exposure monitoring records required by this paragraph shall be provided upon request for examination and copying to employees, employee representatives, and the Assistant Secretary in accordance with 29 CFR 1910.1020 (a) through (e) and (g) through (i).

#### ***§1910.1028(k)(3)(iii)***

Employee medical records required by this paragraph shall be provided upon request for examination and copying, to the subject employee, to anyone having the specific written consent of the subject employee, and to the Assistant Secretary in accordance with 29 CFR 1910.1020.

### **Purpose:**

Exposure-monitoring and medical records are maintained principally to protect worker health, to assist in the prevention or early diagnosis of leukemia, multiple myeloma and other blood diseases, and to provide valuable information to both workers and employers. The records also assist OSHA in enforcing the Standard. The exposure-monitoring records required by this standard will aid workers and their physicians in determining whether or not treatment or other interventions are needed for benzene exposure.

The information also will enable employers to better ensure that workers are not being over exposed to benzene; such information may alert the employer that steps must be taken to reduce benzene exposures. Records must be maintained for extended periods because of the long latency associated with development of benzene-related carcinogenesis (i.e., leukemia).

***Transfer of records (§1910.1028(k)(4))***

***§1910.1028(k)(4)(i)***

The employer shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.1020(h).

***§1910.1028(k)(4)(ii)***

If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall notify the Director, at least three (3) months prior to disposal, and transmit them to the Director if required by the Director within that period.

**Purpose:**

NIOSH may wish to acquire these records for research purposes. If NIOSH does not request the employer to transmit the records to them, the employer may dispose of these records.

3. **Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also, describe any consideration of using information technology to reduce burden.**

Employers may use improved information technology as appropriate when making, keeping, and preserving the required records. The standard is written in performance language, i.e., in terms of what data must be collected rather than how data must be collected.

4. **Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.**

The information required to be collected and maintained is specific to each employer and worker involved, and is not available or duplicated by any other source. The information required by this standard is available only from employers. At this time, there is no indication that any alternate information source is available.

5. **If the collection of information impacts small businesses or other small entities, describe any methods used to minimize burden.**

The information collection does not have a significant impact on a substantial number of small entities.

6. **Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.**

The information collection frequencies specified by this standard are the minimum OSHA believes are necessary to ensure that employers and OSHA can effectively monitor the exposure and health status of workers working with benzene and workers can receive protection from developing diseases.

7. **Explain any special circumstances that would cause an information collection to be conducted in a manner:**

- **requiring respondents to report information to the agency more often than quarterly;**
- **requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**
- **requiring respondents to submit more than an original and two copies of any document;**
- **requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records for more than three years;**
- **in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;**
- **requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**
- **that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**
- **requiring respondents to submit proprietary trade secret, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

If exposure monitoring indicates that a worker has been exposed above the PELs, regardless of whether or not respirators are used, employers must notify the worker in writing of the exposure-monitoring results, and the steps being taken to reduce the exposure to within the PELs. This notification must be provided to the worker within 15 working days after receipt of the exposure-monitoring results (§1910.1028(e)(7)(i)).

Also, for each examination performed under the medical surveillance paragraphs, the employer must obtain and provide the worker with a copy of the examining physician's written opinion within 15 days of the examination (§1910.1028(i)(7)(i)).

8. **If applicable, provide a copy and identify the date and page number of publication in the *Federal Register* of the Agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that**

**notice and describe actions taken by the agency in response to these comments. Specifically address comments received on cost and hour burden.**

**Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.**

**Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years -- even if the collection of information activity is the same as in prior periods. There may be circumstances that may preclude consultation in a specific situation. These circumstances should be explained.**

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3506(c)(2)(A)), OSHA published a notice in the *Federal Register* on August 10, 2009 (74 FR 39978, Docket No. OSHA-2009-0021) requesting public comment on its proposal to extend the Office of Management and Budget's approval of the information collection requirements contained in the Benzene Standard (29 CFR 1910.1028). The notice was part of a preclearance consultation program that provided interested parties with an opportunity to comment on OSHA's request for an extension by OMB of a previous approval of the information collection requirements found in the Benzene Standard. The Agency did not receive any comments regarding the proposed information collection request.

- 9. Explain any decision to provide any payment or gift to respondents, other than reenumeration of contractors or grantees.**

The Agency will not provide payments or gifts to the respondents.

- 10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.**

As medical records may contain private information, OSHA and NIOSH have taken steps to assure that the medical data are kept confidential. Agency practices and procedures governing OSHA access to worker medical records are contained in 29 CFR 1913.10.

- 11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.**

There are no provisions in this standard requiring that questions of a sensitive nature be asked.

- 12. Provide estimates of the hour burden of the collection of information. The statement should:**

- **Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. Consultation with a sample (fewer than 10) of potential respondents is desirable. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or**

**complexity, show the range of estimated hour burden, and explain the reasons for the variance. Generally, estimates should not include burden hours for customary and usual business practices.**

- **If this request for approval covers more than one form, provide separate hour burden estimates for each form.**
- **Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories. The cost of contracting out or paying outside parties for information collection activities should not be included here. Instead, this cost should be included in Item 14.**

The SRI Chemical Economic Handbook (2007) projected a 0% increase in benzene production between mid-year 2002 through 2012. Large companies account for more than 76% of the total U.S. benzene capacity. For the purposes of updating this ICR, it is assumed the number of facilities is flat due to the lack of increase in benzene production. The Agency believes these estimates are still accurate to calculate burden hours and costs.

The Agency determined average wage rates for individuals in the Benzene Standard using hourly earnings, including benefits, to represent the cost to worker time. The Agency adopted the mean wage rates from “*Employer Costs for Employee Compensation, June 2008*,” U.S. Department of Labor, Bureau of Labor Statistics, <http://stats.bls.gov/home.htm>. Total compensation for these occupational categories includes an adjustment of 29.4 percent (*Employer Costs for Employee Compensation, June 2008*) for fringe benefits; this figure represents the average level of fringe benefits in the private sector. The costs of labor used in this analysis are, therefore, estimates of total hourly compensation. These hourly wage rates are:

|                      |         |
|----------------------|---------|
| Professional/Manager | \$42.96 |
| Worker               | \$27.17 |
| Clerical/Secretary   | \$23.09 |

**Table 1**

This table lists industries covered by the Benzene Standard, number of facilities in each industry, and the total number of workers exposed above the action level for each industry.

| Industry                      | Number of Facilities | Number of Workers Exposed Above the Action Level |
|-------------------------------|----------------------|--------------------------------------------------|
| Coke and Coal Chemicals       | 227                  | 1,280                                            |
| Petroleum Refineries          | 145                  | 50,580                                           |
| Petrochemicals                | 40                   | 5,788                                            |
| Bulk Terminals                | 1,969                | 15,714                                           |
| Bulk Plants                   | 10,867               | 29,993                                           |
| Transportation via Tank Truck | 250                  | 8,973                                            |
| <b>TOTALS</b>                 | <b>13,498</b>        | <b>112,328</b>                                   |

OSHA assumes that the number of workers exposed to benzene is unchanged from the previous ICR.

**(A) Notification of Exposure–Monitoring Results (§1910.1028(e)(1))**

**Exposure Monitoring (§1910.1028(e))**

1. Initial, Periodic, and Additional Monitoring

**Burden hours: 0**

**Cost: 0**

OSHA assumes that employers use passive dosimeters to conduct exposure monitoring. Using these dosimeters to monitor worker exposure does not interfere with workers' work activity. Costs associated with the dosimeter and lab analysis are accounted for under item 13.

2. Employee Notification of Monitoring Results

**Burden hours: 1,728**

**Cost: \$39,900**

Initial Exposure-Monitoring Notification

No new facilities have been established for the production of benzene over the last three years; consequently, no initial exposure-monitoring is being performed by employers.

### Periodic Exposure-Monitoring Notification

For the periodic monitoring requirements, OSHA relied on the assumption in the RIA that all facilities (13,498 facilities; see Table 1) have some workers exposed in excess of the action level and, therefore, these employers must conduct annual exposure monitoring. In addition, the Agency assumed that 50% of all facilities (6,749 facilities) have some workers exposed above the PEL or STEL, with these workers being monitored semi-annually. Therefore, the total number of posted notifications resulting from periodic exposure monitoring is 20,247 (13,498 facilities (one annual notification each) + 6,749 facilities (one semi-annual notification each)). The Agency estimated that a secretary, earning an hourly wage of \$23.09, will take 5 minutes (0.08 hour) to post the exposure-monitoring results.

**Burden hours:** 20,247 notifications x 0.08 hours to post results = 1,620 hours

**Cost:** 1,620 hours x \$23.09 = \$37,406

### Additional Exposure-Monitoring Notification

The Agency assumes that 10% of existing facilities conduct additional monitoring and must notify workers of their exposure-monitoring results. These facilities must conduct additional exposure monitoring because of the increase in benzene production, as well as changes in processes, control equipment, personnel, and work practices associated with this production, that may increase worker exposure to benzene. Also, some facilities may have additional exposure resulting as a result of spills, leaks, ruptures or breakdowns that may lead to increased worker exposure. Secretaries will post these exposure-monitoring results within 15 days of receiving the results.

**Burden hours:** 13,498 facilities x 10% x 0.08 hour to post results = 108 hours

**Cost:** 108 hours x \$23.09 = \$2,494

### **(B) Written Compliance Program (§1910.1028(f)(2)(i), (ii), and (iii))**

**Burden hours:** 3,375

**Cost:** \$144,990

Based on the technological feasibility analysis in the RIA, OSHA assumes that 50% of the facilities may have workers exposed over the PEL. These facilities, therefore, must update or change their existing compliance program. The Agency assumes that a professional, earning \$42.96 an hour, would expend 0.5 hours to update the program.

**Burden hours:** 6,749 facilities x 0.5 hours to update plan = 3,375 hours

**Cost:** 3,375 hours x \$42.96 = \$144,990

**(C) Respiratory Protection (§1910.1028(g))****Burden hours: 0****Cost: \$0**

Burden hours and cost for the respiratory-protection program are incurred under the ICR for the Respiratory Protection Standard (29 CFR 1910.134), OMB Control Number 1218-0099.

**(D) Medical Surveillance (§1910.1028(i))****1. Medical Examinations****Burden hours: 106,196****Cost: \$2,885,345****Initial Medical Examinations**

Only new workers entering the industry are required to have initial medical examinations. To estimate the number of new workers, the Agency assumes that 10% of existing workers (11,233) are considered new and would require initial medical examinations. Based on Table 1, there are approximately 112,328 exposed workers.

**Burden hours:** 11,233 exams x 2 hours per exam = 22,466 hours**Cost:** 22,466 hours x \$27.17 = \$610,401**Periodic Examinations**

According to the RIA and previous ICR assumptions, the number of required periodic examinations performed annually is 41,647.<sup>4</sup> Thus, using the worker wage rate of \$27.17 per hour, the burden hours and costs due to lost-work time are:

**Burden hours:** 41,647 exams x 2 hours per exam = 83,294 hours**Cost:** 83,294 hours x \$27.17 = \$2,263,098**Additional Examinations and Referrals**

Based on past RIA assumptions, OSHA estimates that approximately 109 referral examinations are conducted annually, and that a referral examination involves 4 hours of lost work-time.

**Burden hours:** 109 exams x 4 hours per exam = 436 hours**Cost:** 436 hours x \$27.17 = \$11,846.**2. Information Provided to Physician****Burden hours: 4,239****Cost: \$97,879**

Employers must provide the examining physician with specific information on each worker examined. The Agency assumes that this requirement takes 5 minutes (.08 hour) of secretarial

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<sup>4</sup>Periodic examinations include worker's annual exams, follow-up exams resulting from signs and symptoms from exposure to benzene, and emergency examinations.



time. Total number of exams is equal to the sum of initial, periodic, and referral examinations (52,989 exams).

**Burden hours:** 52,989 exams x .08 hours per exam = 4,239 hours  
**Cost:** 4,239 hours x \$23.09 = \$97,879

3. Physician's Written Opinion

**Burden hours:** 4,239  
**Cost:** \$97,879

OSHA assumes it takes 5 minutes (.08 hour) for a secretary to give a copy of a physician's written opinion to the affected worker.

**Burden hours:** 52,989 exams x .08 hours per exam = 4,239 hours  
**Cost:** 4,239 hours x \$23.09 = \$97,879

**(E) Communication of Benzene Hazards (§1910.1028(j))**

1. Signs and Labels

**Burden hours:** 0  
**Cost:** \$0

The employer must post signs at entrances to regulated areas, and ensure that labels or other appropriate forms of warning are provided for containers of benzene within the workplace. Since the Agency is providing specific language in the regulation for these situations, no burden hours or costs have been attributed to this provision.

2. Material Safety Data Sheets

**Burden hours:** 0  
**Cost:** \$0

Employers must obtain or develop material safety data sheets (MSDSs) that address benzene; these MSDSs must comply with the requirements of 29 CFR 1910.1200. They must also provide their workers with access to the MSDSs. The burden associated with this provision is accounted for under the Hazard Communication ICR (OMB Control Number 1218-0072).

3. Information and Training

**Burden hours:** 0  
**Cost:** \$0

The standard's training provisions are performance-oriented, rather than specified and detailed language. The standard, in requiring training to be in accordance with the requirements of 29 CFR 1910.1200, lists the categories of information to be transmitted to workers and not the specific ways that this is to be accomplished. The employer is in the best position to determine how the training he or she is providing is being received and absorbed by the workers. OSHA describes the objectives to be met and their intent of its training to ensure they can hope to protect themselves. The specifics of how this is to be accomplished are left up to the employer.

## **(F) Recordkeeping (§1910.1028(k))**

### **1. Exposure Monitoring**

**Burden hours: 1,728**  
**Cost: \$39,900**

The standard requires each employer to establish and maintain an accurate record of all measurements taken to monitor worker exposure to benzene. OSHA estimates that a secretary earning \$23.09 an hour would expend approximately 5 minutes (.08 hour) to maintain these records.

#### Periodic Monitoring Records

Using the number of notifications required to inform workers of exposure-monitoring results (calculated above on page 12), the burden estimates for maintaining records of these results are:

**Burden hours:** 20,247 notifications x .08 hours = 1,620 hours  
**Cost:** 1,620 hours x \$23.09 = \$37,406

#### Additional Monitoring Records

**Burden hours:** 13,498 facilities x 10% x .08 hour = 108 hours  
**Cost:** 108 hours x \$23.09 = \$2,494

### **2. Medical Surveillance Records**

**Burden hours: 4,239**  
**Cost: \$97,879**

OSHA estimates that it takes 5 minutes (.08 hour) of secretarial time (\$23.09 per hour) to update and maintain worker medical surveillance records. As noted above on page 14, there are 52,989 medical examinations administrated each year.

**Burden hours:** 52,989 records x .08 hours per record = 4,239 hours  
**Cost:** 4,239 hours x \$23.09 = \$97,879

### **3. Records Availability**

**Burden hours: 424**  
**Cost: \$9,790**

OSHA estimates that 5 minutes (.08 hour) of secretarial time (\$23.09 per hour) is needed to make medical and exposure monitoring records available to the worker or worker representative for examination and copying. OSHA assumes that 10% of the workers (which includes worker representatives) will request access to medical records.

**Burden hours:** 52,989 records x 10% x .08 (hours per record) = 424 hours  
**Cost:** 424 hours x \$23.09 = \$9,790

#### 4. Federal Access

**Burden hours: 15**

**Cost: \$644**

The Benzene Standard specifies that employers make available all records required by the standard at the request of the Assistant Secretary (usually an OSHA compliance officer). OSHA estimates that a professional, at \$42.96 per hour, will expend approximately 5 minutes (.08 hour) to inform an OSHA compliance officer of the location of the various records during an inspection. The Agency estimates that it would request access to benzene records during 187 inspections annually.

**Burden hours:** 187 inspections x .08 hours per record = 15 hours

**Cost:** 15 hours x \$42.96 = \$644

#### 5. Transfer of Records

**Burden hours: 1**

**Cost: \$23**

If an employer ceases to do business and there is no successor employer to receive and retain worker medical and exposure-monitoring records for the specified periods, the employer must notify NIOSH of their availability at least 3 months prior to disposing of them. The employer must transmit the records to NIOSH if requested to do so within the 3 month period.

NIOSH did not receive any records from employers during the past 3 years. For the purposes of calculating burden hours and costs, it is assumed that 1 employer may submit 1 set of records to NIOSH each year, and that a secretary, earning \$23.09 per hour, would spend 1 hour preparing these records.

**Burden hours:** 1 employer x 1 hour = 1 hour

**Cost:** 1 hour x \$23.09 = \$23

**Table 2**

#### Summary of Annual Burden Hours and Costs

| Information Collection Requirement                       | Current OMB Inventory | Requested Burden Hours | Adjustments | Estimated Cost Under Item 12 | Number of Responses |
|----------------------------------------------------------|-----------------------|------------------------|-------------|------------------------------|---------------------|
| <b>(A) Exposure Monitoring</b>                           |                       |                        |             |                              |                     |
| (1) Initial, Periodic, and Additional Monitoring         | 0                     | 0                      | 0           | \$0                          | 0                   |
| (2) Employee Notification of Exposure-Monitoring Results | 1,728                 | 1,728                  | 0           | \$39,900                     | 21,597              |
| <b>(B) Written Compliance Program</b>                    | 3,375                 | 3,375                  | 0           | \$144,990                    | 6,749               |

| Information Collection Requirement              | Current OMB Inventory | Requested Burden Hours | Adjustments | Estimated Cost Under Item 12 | Number of Responses |
|-------------------------------------------------|-----------------------|------------------------|-------------|------------------------------|---------------------|
| <b>(C) Respiratory Protection (Fit Testing)</b> | 0                     | 0                      | 0           | \$0                          | 0                   |
| <b>(D) Medical Surveillance</b>                 |                       |                        |             |                              |                     |
| (1) Medical Examinations                        | 105,330               | 106,196                | +866        | \$2,885,345                  | 52,989              |
| (2) Information Provided to Physician           | 4,204                 | 4,239                  | +35         | \$97,879                     | 52,989              |
| (3) Physician's Written Opinion                 | 4,204                 | 4,239                  | +35         | \$97,879                     | 52,989              |
| <b>(E) Communication of Benzene Hazards</b>     |                       |                        |             |                              |                     |
| (1) Signs and Labels                            | 0                     | 0                      | 0           | \$0                          | 0                   |
| (2) Material Safety Data Sheets                 | 0                     | 0                      | 0           | \$0                          | 0                   |
| (3) Employee Information and Training           | 0                     | 0                      | 0           | \$0                          | 0                   |
| <b>(F) Recordkeeping</b>                        |                       |                        |             |                              |                     |
| (1) Monitoring Records                          | 1,728                 | 1,728                  | 0           | \$39,900                     | 21,597              |
| (2) Medical Records                             | 4,204                 | 4,239                  | +35         | \$97,879                     | 52,989              |
| (3) Records Availability                        | 420                   | 424                    | +4          | \$9,790                      | 5,299               |
| (4) Federal Access                              | 15                    | 15                     | 0           | \$644                        | 187                 |
| (5) Records Transfer                            | 1                     | 1                      | 0           | \$23                         | 1                   |
| <b>TOTAL</b>                                    | <b>125,209</b>        | <b>126,184</b>         | <b>975</b>  | <b>\$3,414,229</b>           | <b>267,386</b>      |

13. Provide an estimate of the total annual cost burden to respondents or recordkeepers resulting from the collection of information. (Do not include the cost of any hour burden shown in Items 12 and 14).

- The cost estimate should be split into two components: (a) a total capital and start-up cost component (annualized over its expected useful life); and (b) a total operation and maintenance and purchase of services component. The estimates should take into account cost associated with generating, maintaining, and disclosing or providing the information. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the time period over which costs will be incurred. Capital and start-up costs include, among

other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling and testing equipment; and record storage facilities.

- If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collection services should be a part of this cost burden estimate. In developing cost burden estimates, agencies may consult with a sample of respondents (fewer than 10), utilize the 60-day pre-OMB submission public comment process and use existing economic or regulatory impact analysis associated with the rulemaking containing the information collection, as appropriate.
- Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.

### **Exposure Monitoring**

Employers must conduct initial exposure monitoring to determine if there is any exposure in excess of the action level. Results from the initial exposure monitoring will determine if periodic monitoring is required. If exposure levels are at or above the action level, but below the time weighted average (TWA), then the employer is required to conduct the monitoring at least annually. If exposure levels are above the TWA, the employer is required to conduct the monitoring at least semi-annually. If the employer has exposure-monitoring readings over the short-term exposure limit (STEL), then the monitoring for the STEL must be repeated as necessary to ensure that no worker is exposed to benzene concentrations that exceed the STEL. The employer must also perform additional exposure monitoring whenever there is a change in the production process, control equipment, personnel or work facilities that may result in new or additional exposures to benzene, or when the employer has any reason to suspect a change that may result in new or additional exposures. The employer must also conduct additional monitoring after spills, leaks, ruptures, or other breakdowns that may lead to worker exposure to ensure that exposure levels are the same that existed prior to the incident. OSHA assumes that employers use passive dosimeters to conduct the required monitoring. The cost for the dosimeter and lab analysis is estimated to be \$60.25 per exposure-monitoring sample.

#### **Initial Monitoring**

It is assumed that the number of facilities has not increased over the past three years, therefore; no cost is estimated for initial monitoring.

Cost: \$0

#### **Periodic Monitoring**

All 13,498 facilities will incur a cost for one monitoring sample for workers being exposed above the action level. Of the 13,498 facilities, half or 6,749 facilities will incur another cost for the second semi-annual exposure monitoring sample.

Cost: 13,498 facilities (above the action level) + 6,749 facilities (above the PEL, semi-annual) x \$60.25 = \$ 1,219,882

#### Additional Monitoring

Cost: 13,498 facilities x 10% x \$60.25 = \$81,325

**Total Cost for Exposure Monitoring = \$1,301,207**

### **Medical Examinations**

The cost of required medical examinations is calculated using the current estimated cost of \$130 per examination.

11,233 (initial exams) + 41,647 (periodic exams) + 109 (referral exams) = 52,989 exams

**Cost: 52,989 exams x \$130 = \$6,888,570**

### **Transfer of Records to NIOSH**

**Cost: \$12**

If an employer ceases to do business and there is no successor employer to receive and retain worker medical and exposure-monitoring records for the specified periods, employer must transmit the records to NIOSH. Based on discussions with the U.S. Postal Service, OSHA estimates that it will cost employers about \$12.30 to send benzene records via registered mail to NIOSH. Based on the Agency's assumption that 1 employer will send 1 set of records to NIOSH each year, the total cost to that employer is \$12.

**Total Cost Under Item 13: \$1,301,207 + \$6,888,570 + \$12 = \$8,189,789**

14. **Provide estimates of annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information. Agencies also may aggregate cost estimates from Items 12, 13, and 14 in a single table.**

### **Federal Access**

**Cost: \$594**

OSHA estimates that a compliance officer (GS-12, step 5), with an hourly wage rate of \$39.70, spends about 5 minutes (.08 hour) during an inspection reviewing records required to be maintained by the Benzene Standard. The Agency has determined that its compliance officers will conduct approximately 187 inspections during each year covered by this ICR.<sup>5</sup> OSHA considers other expenses, such as equipment, overhead, and support staff salaries to be normal

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<sup>5</sup> OSHA estimated the number of inspections by determining the inspection rate (1.4%) for the number of facilities covered by this ICR (13,498), and then multiplying this number by 1.4% (i.e., 13,348 facilities x 1.4% = 187 inspections).

operating expenses that would occur without the paperwork requirements specified by the Standard. Therefore, the total cost of these paperwork requirements to the Federal Government is:

$$\text{Cost: } 187 \text{ inspections} \times .08 \text{ hour} \times \$39.70 = \$594$$

#### **Transfer of Records to NIOSH**

**Cost: \$1 (rounded)**

The Benzene Standard requires that employers who cease business, and have no successor employers, notify NIOSH at least 3 months before disposing of the records; they must transmit the records to NIOSH if so requested.

The cost of this provision to the Federal government consists of the costs required to process, the following records: Records received by NIOSH from employers who cease to do business and have no successor to receive and retain the worker records; and records obtained when the retention period for the records has expired. NIOSH has received one record from one employer since 1999. To account for any transfer burden during this clearance period, OSHA assumes that NIOSH will receive 1 record annually, and that a secretary, earning \$19.26 per hour, will take 4 minutes (.07 hour) to process each record.

$$1 \text{ record} \times .07 \text{ hour} \times \$19.26 = \$1$$

Also, NIOSH incurs costs for: preparing records inventory, completing the required Centers for Disease Control and Prevention (CDC) Records schedule, and Federal Records Center paperwork; transporting records to a Federal Records Center; and storing for records. Given that NIOSH has not received any benzene records over the last six years; such cost for benzene records is negligible.

**Total Cost Under Item 14: \$594 + \$1 = \$595**

#### **15. Explain the reasons for any program changes or adjustments.**

The Agency is requesting an adjustment increase of 975 hours, from 125,209 hours to 126,184 hours. The adjustment increase is a result of medical examinations increasing from 10,800 to 11,233. To estimate the number of initial medical examinations, OSHA assumes 10% of the total number of exposed workers would be considered new and would require a medical examination. Previously, the Agency estimated that the number of new workers needing medical examinations was 10% of existing establishments. The increase in medical examinations also results in a cost increase of \$56,811 (from \$8,132,978 to \$8,189,789).

#### **16. For collections of information whose results will be published, outline plans for tabulation, and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.**

The collection of information will not be published.

- 17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.**

OSHA is not seeking such approval.

- 18. Explain each exception to the certification statement.**

OSHA is not seeking such exceptions.