

**INORGANIC ARSENIC STANDARD (29 CFR 1910.1018)**  
**1218-0104**  
**May 2019**

**Note**

OSHA has completed a regulatory review of its existing safety and health standards in response to the President's Executive Order 13563, "Improving Regulation and Regulatory Review" (76 FR 3821). This review, the Standards Improvement Project-Phase IV (SIP-IV), was the fourth in a series of rulemaking actions to improve and streamline OSHA standards. OSHA's Standards Improvement Projects remove or revise individual requirements in safety and health standards that are confusing, outdated, duplicative or inconsistent. The goal of this rulemaking was to reduce regulatory burden while maintaining or enhancing worker safety and health.

As part of the SIP-IV rulemaking, OSHA revised a series of requirements addressing employee chest x-rays in the Agency's health standards, including the Inorganic Arsenic standard, 29 CFR 1910.1018. First, OSHA removed the requirement that employers provide periodic chest x-rays in several standards, including the Inorganic Arsenic standard. This change will reduce unnecessary worker exposure to radiation, as well as reduce the cost to employers to provide chest x-rays annually as part of the medical examinations. By removing the chest x-ray requirement, the medical examinations will be reduced by 15 minutes (.25 hour) since the examination will be shorter without the unnecessary chest x-ray and the worker would, therefore, spend less time away from the job.

Second, the Agency is updated the chest x-ray requirements for several of its standards, including the Inorganic Arsenic standard, by adding the option of digital radiography to its existing standards because digital radiography systems are rapidly replacing traditional analog film-based systems in medical facilities. OSHA is not taking burden hours for these updates to the chest x-ray requirements because the updates do not impact the time required for medical examinations.

OSHA also removed the provisions in its standards that require employers to collect and record employees' social security numbers, including the Inorganic Arsenic standard. This change will help protect employee privacy and aid in preventing identity fraud. Time to document SSN in records is negligible and, therefore, the Agency is not requesting any changes in the burden hour or cost estimates as a result.

This ICR seeks OMB approval for changes to the collection in accordance with the SIP-IV Final Rule. As noted above and described in more detail in this ICR, the SIP-IV Final Rule is expected to reduce the paperwork burden borne by employers.

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**SUPPORTING STATEMENT FOR THE  
INFORMATION COLLECTION REQUIREMENTS IN  
THE INORGANIC ARSENIC STANDARD (29 CFR 1910.1018)<sup>1</sup>  
(OFFICE OF MANAGEMENT AND BUDGET (OMB)  
CONTROL NO. 1218-0104) (May 2019)**

**A. 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 authorizes "the development and promulgation of occupational safety and health standards" (29 U.S.C. 651). The OSH Act specifically authorizes information collection by employers as "necessary or appropriate for the enforcement of the Act or for developing information regarding the causes and prevention of occupational accidents and illnesses" (29 U.S.C. 657).

For toxic substances, the OSH Act contains specific statutory language. Thus, as appropriate, health standards must include provisions for monitoring and measuring employee 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 this regard, the OSH Act mandates "regulations requiring employers to maintain accurate records of employee exposure to potentially toxic materials or other harmful physical agents which are required to be monitored and measured," and further requires that employers notify employees exposed to concentrations over prescribed limits of this fact, and of the corrective actions they are taking (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 employee exposure to inorganic arsenic (IA) (29 CFR 1910.1018).<sup>2</sup> The purpose of the Inorganic Arsenic Standard ("IA Standard" or "Standard") is to reduce the incidence of lung cancer caused among employees exposed to IA.

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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 this Standard that contain paperwork requirements; it does not provide information or guidance on how to comply with, or how to enforce the Standard.

<sup>2</sup>29 CFR 1910.1018 is incorporated by reference into the Construction and Shipyard Employment standards (29 CFR 1926.1118 and 1915.1018, respectively).

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The Standard affects primarily copper smelters and some chemical facilities. The specific information collection requirements of the Standard are fully discussed under items 2 and 12 below.

**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.**

**A. Exposure monitoring (§ 1910.1018(e))**

*General § 1910.1018(e)(1)(i)* - Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to inorganic arsenic over an eight (8) hour period.

*§ 1910.1018(e)(1)(ii)* - For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.

*§ 1910.1018(e)(1)(iii)* - The employer shall collect full shift (for at least 7 continuous hours) personal samples including at least one sample for each shift for each job classification in each work area.

*Initial monitoring § 1910.1018(e)(2)* - Each employer who has a workplace or work operation covered by this Standard shall monitor each such workplace and work operation to accurately determine the airborne concentration of inorganic arsenic to which employees may be exposed.

*Periodic Monitoring § 1910.1018(e)(3)(i)* - If the initial monitoring reveals employee exposure to be below the action level the measurements need not be repeated except as otherwise provided in paragraph (e)(4) of this section.

*§ 1910.1018(e)(3)(ii)* - If the initial monitoring, required by this section, or subsequent monitoring reveals employee exposure to be above the permissible exposure limit, the employer shall repeat monitoring at least quarterly.

*§ 1910.1018(e)(3)(iii)* - If the initial monitoring, required by this section, or subsequent monitoring reveals employee exposure to be above the action level and below the permissible exposure limit the employer shall repeat monitoring at least every six months.

*§ 1910.1018(e)(3)(iv)* - The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least seven (7) days apart, are below the action level at which time the employer may discontinue monitoring for that employee until such time as any of the events in paragraph (e)(4) of this section occur.

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**Purpose:** Such monitoring allows employers to identify areas and operations that may require additional reduction in inorganic arsenic exposure. Initial exposure monitoring results also assist employers in determining the need for engineering controls, instituting or modifying work practices, and in selecting appropriate respiratory protection to prevent workers from overexposure to inorganic arsenic. Periodic monitoring allows employers to determine if minor changes in processes and materials result in increased inorganic arsenic exposure. If so, periodic 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 worker overexposure to inorganic arsenic.

*Additional monitoring § 1910.1018(e)(4)* - Whenever there has been a production, process, control or personal change which may result in new or additional exposure to inorganic arsenic, or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to inorganic arsenic, additional monitoring which complies with paragraph (e) of this section shall be conducted.

**Purpose:** Additional monitoring ensures that the workplace is safe, or alerts to the need for increased control of inorganic arsenic.

*Employee Notification § 1910.1018(e)(5)(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 affected employees.

*§ 1910.1018(e)(5)(ii)* - Whenever the results indicate that the representative employee exposure exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken to reduce exposure to or below the permissible exposure limit.

**Purpose:** Written notices provide assurance that workers are informed about exposure data, and gives workers specific information about the efforts the employer is taking to lower their exposures and furnish them with a safe and healthful workplace in accordance with section 8(c) (3) of the Act.

**B. Compliance Program (§ 1910.1018(g)(2))**

*§ 1910.1018(g)(2)(i)* - The employer shall establish and implement a written program to reduce exposures to or below the permissible exposure limit by means of engineering and work practice controls.

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§ 1910.1018(g)(2)(ii) - Written plans for these compliance programs shall include at least the following:

§ 1910.1018(g)(2)(ii)(A) - A description of each operation in which inorganic arsenic is emitted; e.g. machinery used, material processed, controls in place, crew size, operating procedures and maintenance practices;

§ 1910.1018(g)(2)(ii)(B) - Engineering plans and studies used to determine methods selected for controlling exposure to inorganic arsenic;

§ 1910.1018(g)(2)(ii)(C) - A report of the technology considered in meeting the permissible exposure limit;

§ 1910.1018(g)(2)(ii)(D) - Monitoring data;

§ 1910.1018(g)(2)(ii)(E) - A detailed schedule for implementation of the engineering controls and work practices that cannot be implemented immediately and for the adaption and implementation of any additional engineering and work practices necessary to meet the permissible exposure limit;

§ 1910.1018(g)(2)(ii)(F) - Whenever the employer will not achieve the permissible exposure limit with engineering controls and work practices by December 31, 1979, the employer shall include in the compliance plan an analysis of the effectiveness of the various controls, shall install engineering controls and institute work practices on the quickest schedule feasible, and shall include in the compliance plan and implement a program to minimize the discomfort and maximize the effectiveness of respirator use; and

§ 1910.1018(g)(2)(ii)(G) - Other relevant information.

§ 1910.1018(g)(2)(iii) - Written plans for such a program shall be submitted upon request to the Assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary, Director, any affected employee or authorized employee representatives.

OSHA has determined that the requirement for employers to make information available upon request to the Assistant Secretary is not a collection of information; OSHA typically requests access to information during an inspection, and information collected by the Agency during the investigation is not subject to the PRA under 5 CFR 1320.4(a)(2). While NIOSH may use information collected from employers for research purposes, the Agency does not anticipate that

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NIOSH will request employers to make this information available during the approval period. Therefore, the burden for the employer to make this information available to NIOSH is zero.

*§ 1910.1018(g)(2)(iv)* - The plans required by this paragraph must be revised and updated at least annually to reflect the current status of the program.

**Purpose:** This requirement commits the employer to evaluating worker exposure and establishing an organized and complete program for reducing worker exposures to or below the PEL. Revising and updating the written program serves to remind employers to implement and maintain the exposure control methods required by the Standard. Providing the written programs to OSHA compliance officers ensures that employers are in compliance with the Standard, while NIOSH may use the information for research purposes. Workers and their designated representatives review the written programs to determine if the programs validly represent current exposure conditions, and if employers are taking appropriate actions to control inorganic arsenic exposures.

**C. Respirator Program (§ 1910.1018(h)(2))**

*§ 1910.1018(h)(2)(i)* - The employer must implement a respiratory protection program in accordance with 29 CFR 1910.134 (b) through (d) (except (d)(1)(iii)), and (f) through (m), which covers each employee required by this section to use a respirator.

**Purpose:** To ensure that employers establish a standardized procedure for selecting, using, and maintaining respirators for each workplace where respirators will be used. Developing written procedures ensures that workers implement a respirator program that meets the needs of their employees. Burden hours and costs resulting from these program requirements are incurred under the ICR for OSHA's Respiratory-Protection Standard (29 CFR 1910.134), OMB Control Number 1218-0099.

**D. Protective work clothing and equipment (§ 1910.1018(j))**

*§ 1910.1018(j)(2)(vi)* - The employer shall inform in writing any person who cleans or launders clothing required by this section, of the potentially harmful effects including the carcinogenic effects of exposure to inorganic arsenic.

*§ 1910.1018(j)(2)(vii)* - Labels on contaminated protective clothing and equipment.

(A) The employer shall ensure that the containers of contaminated protective clothing and equipment in the workplace or which are to be removed from the workplace are labeled and that the labels include the following information:

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DANGER: CONTAMINATED WITH INORGANIC ARSENIC. MAY CAUSE CANCER. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF INORGANIC ARSENIC CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL REGULATIONS.

(B) Prior to June 1, 2015, employers may include the following information on containers of protective clothing and equipment in lieu of the labeling requirements in paragraphs (j)(2)(vii) of this section:

CAUTION: Clothing contaminated with inorganic arsenic; do not remove dust by blowing or shaking. Dispose of inorganic arsenic contaminated wash water in accordance with applicable local, State or Federal regulations.

**Purpose:** This information allows personnel who handle IA-contaminated clothing and equipment to protect themselves from the potentially harmful effects of IA.

**E. Housekeeping (§ 1910.1018(k))**

*Housekeeping plan § 1910.1018(k)(4)* - A written housekeeping and maintenance plan shall be kept which shall list appropriate frequencies for carrying out housekeeping operations, and for cleaning and maintaining dust collection equipment. The plan shall be available for inspection by the Assistant Secretary.

*Maintenance of equipment § 1910.1018(k)(5)* - Periodic cleaning of dust collection and ventilation equipment and checks of their effectiveness shall be carried out to maintain the effectiveness of the system and a notation kept of the last check of effectiveness and cleaning or maintenance.

**Purpose:** The purpose of this provision is to inform workers who handle inorganic arsenic contaminated items of the potential hazards involved. OSHA believes that it is critically important that workers be made aware of the hazards associated with potential inorganic exposures. By alerting employers and workers who are involved in disposing of inorganic arsenic contaminated material of the potential hazards of inorganic arsenic exposure, they will be better able to implement protective measures.

**F. Medical Surveillance (§ 1910.1018(n))**

*§ 1910.1018(n)(1)(i)* - Employees covered. The employer shall institute a medical surveillance program for the following employees:

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§ 1910.1018(n)(1)(i)(A) - All employees who are or will be exposed above the action level, without regard to the use of respirators, at least 30 days per year; and

§ 1910.1018(n)(1)(i)(B) - All employees who have been exposed above the action level, without regard to respirator use, for 30 days or more per year for a total of 10 years or more of combined employment with the employer or predecessor employers prior to or after the effective date of this Standard. The determination of exposures prior to the effective date of this standard shall be based upon prior exposure records, comparison with the first measurements taken after the effective date of this standard, or comparison with records of exposures in areas with similar processes, extent of engineering controls utilized and materials used by that employer.

***Initial examinations § 1910.1018 (n)(2)*** - By December 1, 1978, for employees initially covered by the medical provisions of this section, or thereafter at the time of initial assignment to an area where the employee is likely to be exposed over the action level at least 30 days per year, the employer shall provide each affected employee an opportunity for a medical examination, including at least the following elements:

§ 1910.1018(n)(2)(i) - A work history and a medical history which shall include a smoking history and the presence and degree of respiratory symptoms such as breathlessness, cough, sputum production and wheezing.

§ 1910.1018(n)(2)(ii) - A medical examination which shall include at least the following:

§ 1910.1018(n)(2)(ii)(A) - A standard film or digital posterior-anterior chest x-ray;

§ 1910.1018(n)(2)(ii)(B) - A nasal and skin examination; and

§ 1910.1018(n)(2)(ii)(C) - Other examinations which the physician believes appropriate because of the employees exposure to inorganic arsenic or because of required respirator use.

***Periodic examinations § 1910.1018(n)(3)***

§ 1910.1018(n)(3)(i) - Examinations must be provided in accordance paragraphs (n)(2)(i) and (n)(2)(ii)(B)-(n)(2)(ii)(C) of this section annually.

§ 1910.1018(n)(3)(ii) - Whenever a covered employee has not taken the examinations specified in paragraphs (n)(2)(i) and (n)(2)(ii)(B)-(n)(2)(ii)(C) of this section within six (6) months preceding the termination of employment, the employer shall provide such examinations to the employee upon termination of employment.



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***Additional examinations § 1910.1018(n)(4)***

If the employee for any reason develops signs or symptoms commonly associated with exposure to inorganic arsenic the employer shall provide an appropriate examination and emergency medical treatment.

**Purpose:** The medical surveillance program specified by the Standard enables employers to determine if any workers have underlying health conditions that place them at increased risk if exposed to inorganic arsenic so that they can take appropriate preventive measures; and identify any diseases that occur as a result of inorganic arsenic exposure.

Documentation and maintenance of medical surveillance results provide a continuous record of worker health. A physician may use these records to determine the extent to which workers, subsequent to their last medical examination, experience health effects related to inorganic arsenic exposure. Further, if symptoms appear potentially as the result of inorganic arsenic exposure, the physician often needs information about a worker's previous medical conditions to make an accurate diagnosis of the new condition, ascertain its apparent cause, and identify a course of treatment. Medical records also permit workers to determine whether or not they need treatment, or to evaluate the effectiveness of their employer's exposure-reduction program.

***Information provided to the physician § 1910.1018(n)(5)*** – The employer shall provide the following information to the examining physician:

§ 1910.1018(n)(5)(i) - A copy of this Standard and its appendices;

§ 1910.1018(n)(5)(ii) - A description of the affected employee's duties as they relate to the employee's exposure;

§ 1910.1018(n)(5)(iii) - The employee's representative exposure level or anticipated exposure level;

§ 1910.1018(n)(5)(iv) - A description of any personal protective equipment used or to be used; and

§ 1910.1018(n)(5)(v) - Information from previous medical examinations of the affected employee which is not readily 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 job assignments involving inorganic arsenic exposure. If symptoms of organic damage appear, the physician often needs information about a

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worker's previous medical conditions to make an accurate diagnosis of the new condition, to ascertain its apparent cause, and to identify a course of treatment. Workers can use these records to determine whether or not they need treatment and to evaluate the effectiveness of their employer's exposure-control program.

***Physician's written opinion § 1910.1018(n)(6)***

§ 1910.1018(n)(6)(i) - The employer shall obtain a written opinion from the examining physician which shall include:

§ 1910.1018(n)(6)(i)(A) - The results of the medical examination and tests performed;

§ 1910.1018(n)(6)(i)(B) - 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 of the employee's health from exposure to inorganic arsenic;

§ 1910.1018(n)(6)(i)(C) - Any recommended limitations upon the employee's exposure to inorganic arsenic or upon the use of protective clothing or equipment such as respirators; and

§ 1910.1018(n)(6)(i)(D) - A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further explanation or treatment.

§ 1910.1018(n)(6)(ii) - The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure.

§ 1910.1018(n)(6)(iii) - The employer shall provide a copy of the written opinion to the affected employee.

**Purpose:** 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 written opinion will also provide information to the employer about whether or not the worker has a medical condition indicating overexposure to IA. The requirement that the 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 medical 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.

**G. Employee information and training (§ 1910.1018(o))**

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The requirements that employers provide training to workers under 1910.1018(o)(1)(i) and (ii) are not considered to be a collection of information. OSHA is not taking burden for this activity under Item 12 of this Supporting Statement.

***Access to training materials § 1910.1018(o)(2)***

§ 1910.1018(o)(2)(i) - The employer shall make readily available to all affected employees a copy of this Standard and its appendices.

§ 1910.1018(o)(2)(ii) - The employer shall provide; upon request, all materials relating to the employee information and training program to the Assistant Secretary and the Director.

OSHA has determined that the requirement for employers to make information available upon request to the Assistant Secretary is also not a collection of information; OSHA typically requests access to information during an inspection, and information collected by the Agency during the investigation is not subject to the PRA under 5 CFR 1320.4(a)(2). While NIOSH may use information collected from employers for research purposes, the Agency does not anticipate that NIOSH will request employers to make this information available during the approval period. Therefore, the burden for the employer to make this information available to NIOSH is zero.

**Purpose:** This provision reinforces the requirements of the training program, and permits OSHA to determine the extent to which an employer is complying with these requirements.

**H. Communication of Hazards (§ 1910.1018(p))**

***§ 1910.1018(p)(1)(i)***

Chemical manufacturers, importers, distributors and employers shall comply with all requirements of the Hazard Communication Standard (HCS) (§ 1910.1200) for inorganic arsenic.

***§ 1910.1018(p)(1)(iii)***

Employers shall include inorganic arsenic in the hazard communication program established to comply with the HCS (§ 1910.1200). Employers shall ensure that each employee has access to labels on containers of inorganic arsenic and to safety data sheets...<sup>3</sup>

***Signs § 1910.1018(p)(2)(i)*** - The employer shall post signs demarcating regulated areas bearing the legend: "DANGER. INORGANIC ARSENIC. MAY CAUSE CANCER. DO NOT EAT,

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<sup>3</sup> The Agency accounts for the burden hours and costs associated with compliance with the HCS, such as the development of a hazard communication program, under the Information Collection Request (ICR) for the HCS, OMB Control No. 1218-0072. The labels required by the HCS as it pertains to Inorganic Arsenic are addressed in this Supporting Statement.

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DRINK OR SMOKE. WEAR RESPIRATORY PROTECTION IN THIS AREA.  
AUTHORIZED PERSONNEL ONLY.”

*§ 1910.1018(p)(2)(ii)* - Prior to June 1, 2016, employers may use the following legend in lieu of that specified in paragraph (p)(2)(i) of this section: “DANGER. INORGANIC ARSENIC. CANCER HAZARD. AUTHORIZED PERSONNEL ONLY. NO SMOKING OR EATING. RESPIRATOR REQUIRED.”

*Labels § 1910.1018(p)(3)(i)* - Prior to June 1, 2015, in lieu of the labeling requirements in paragraphs (p)(1)(i) of this section, employers may apply precautionary labels to all shipping and storage containers of inorganic arsenic, and to all products containing inorganic arsenic, bearing the following legend: “DANGER. CONTAINS INORGANIC ARSENIC. CANCER HAZARD. HARMFUL IF INHALED OR SWALLOWED. USE ONLY WITH ADEQUATE VENTILATION OR RESPIRATORY PROTECTION.”

**Purpose:** Warning signs and labels inform workers that they are near a hazardous area, and that they are permitted to enter the area only if they are authorized to do so. Warning signs and labels also supplement the training workers receive under the Standard.

**I. Recordkeeping (§ 1910.1018(q))**

*Exposure monitoring § 1910.1018(q)(1)(i)* - The employer shall establish and maintain an accurate record of all monitoring required by paragraph (e) of this section.

*§ 1910.1018(q)(1)(ii)* - This record shall include:

§ 1910.1018(q)(1)(ii)(A) - The date(s), number, duration location, and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable;

§ 1910.1018(q)(1)(ii)(B) - A description of the sampling and analytical methods used and evidence of their accuracy;

§ 1910.1018(q)(1)(ii)(C) - The type of respiratory protective devices worn, if any;

§ 1910.1018(q)(1)(ii)(D) - Name and job classification of the employees monitored and of all other employees whose exposure the measurement is intended to represent; and

§ 1910.1018(q)(1)(ii)(E) - The environmental variables that could affect the measurement of the employee's exposure.

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§ 1910.1018(q)(1)(iii) - The employer shall maintain these monitoring records for at least 40 years or for the duration of employment plus 20 years, whichever, is longer.

**Medical surveillance § 1910.1018(q)(2)**

§ 1910.1018(q)(2)(i) - The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by paragraph (n) of this section.

§ 1910.1018(q)(2)(ii) - This record shall include:

§ 1910.1018(q)(2)(ii)(A) - The name and description of duties of the employee;

§ 1910.1018(q)(2)(ii)(B) - A copy of the physician's written opinions;

§ 1910.1018(q)(2)(ii)(C) - Results of any exposure monitoring done for that employee and the representative exposure levels supplied to the physician; and

§ 1910.1018(q)(2)(ii)(D) - Any employee medical complaints related to exposure to inorganic arsenic.

§ 1910.1018(q)(2)(iii) - The employer shall in addition keep, or assure that the examining physician keeps, the following medical records;

§ 1910.1018(q)(2)(iii)(A) - A copy of the medical examination results including medical and work history required under paragraph (n) of this section;

§ 1910.1018(q)(2)(iii)(B) - A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information;

§ 1910.1018(q)(2)(iii)(C) - The initial X-ray;

§ 1910.1018(q)(2)(iii)(D) - The X-rays for the most recent 5 years; and

§ 1910.1018(q)(2)(iii)(E) - Any X-rays with a demonstrated abnormality and all subsequent X-rays;

§ 1910.1018(q)(2)(iv) - The employer shall maintain or assure that the physician maintains those medical records for at least 40 years, or for the duration of employment plus 20 years whichever is longer.

**Purpose:** Medical and exposure-monitoring records are maintained principally for worker

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access, but also are designed to provide valuable information to both workers and employers. The medical and exposure-monitoring records required by this Standard will aid the worker and their physicians in determining whether or not treatment or other interventions are needed as a result of worker exposure to inorganic arsenic. The information also will enable employers to better ensure that workers are not being overexposed to inorganic arsenic; such information may alert the employer that steps must be taken to reduce inorganic arsenic exposures.

***Availability § 1910.1018(q)(3)***

*1910.1018(q)(3)(i) - The employer shall make available upon request all records required to be maintained by paragraph (q) of this section to the Assistant Secretary and the Director for examination and copying.*

*§ 1910.1018(q)(3)(ii) - Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.1020(a)-(e) and (g)-(i).*

Note: The Agency has determined that the requirement for employers to make records available upon request to the Assistant Secretary is no longer considered a collection of information. OSHA typically requests access to records during an inspection, and information collected by the Agency during the investigation is not subject to the PRA under 5 CFR 1320.4(a)(2). While NIOSH may use records collected from employers for research purposes, the Agency does not anticipate that NIOSH will request records from employers during the approval period. Therefore, the burden for the employer to make this information available to NIOSH is zero.

**Purpose:** Workers and their designated representatives use exposure monitoring and medical surveillance records to assess a worker's medical status over the course of employment, to evaluate the effectiveness of the employer's exposure reduction program, and for other reasons.

Usually, OSHA requests access to records required to be maintained by paragraph q of the standard during an inspection. Information collected by the Agency during the investigation is not subject to the PRA under 5 CFR 1320.4(a)(2). Therefore, OSHA takes no burden or cost in Items 12 and 14 of this Supporting Statement

**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 required records. The Standard is written in performance-oriented language, i.e., in terms of what data must be collected rather than how data must be collected.

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**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 A. 2 above.**

The information required to be collected and maintained is specific to each employer and employee involved, and is not available or duplicated by another 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 reduce the 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 or is not conducted less frequently, and any technical or legal obstacles to reducing the burden.**

The information collection frequencies specified by the Standard are the minimum OSHA believes are necessary to ensure that employers and OSHA can effectively monitor the exposure and health status of employees exposed to inorganic arsenic.

**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 prove that it has instituted procedures to protect the information's confidentiality to the extent**

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permitted by law.

Employers are required to inform each employee in writing or by posting of the exposure-monitoring results that represent the employee's exposures within 15 working days after receiving the results. If these results indicate that the employee has been exposed above the PEL, this written notification must also include a statement that the PEL was exceeded and a description of the corrective action the employer has taken to reduce the employee's exposure to or below the PEL.

**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, revealed 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.**

In accordance with 5 CFR 1320.11, OSHA submits a revised Inorganic Arsenic Standard (29 CFR 1910.1018) Information Collection Request (ICR) to the Office of Management and Budget (OMB) for the Standards Improvement Project-Phase IV (SIP-IV) rulemaking.

OSHA sought public comment on revisions to this package when the Agency published the SIP-IV NPRM on October 4, 2016 (81 FR 68504). The Agency received no comments in response to this notice during the comment period for the NPRM.

This ICR seeks OMB approval for changes to the collection in accordance with the SIP-IV Final Rule, which is one of OSHA's Standards Improvement Projects. These projects review existing safety and health standards in response to Executive Order 13563, "Improving Regulation and Regulatory Review" (76 FR 3821). They are intended to improve and streamline OSHA standards by removing or revising requirements that are confusing or outdated, or that duplicate, or are inconsistent with, other standards. The goal of the SIP-IV Final Rule is to reduce regulatory burden while maintaining or enhancing worker safety and health.

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

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



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

The paperwork requirement specified by the Standard does not involve confidential information.

**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.**

The provision in the Standard does not require sensitive information.

**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 and aggregate the hour burdens.**
- **Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories.**

## **RESPONDENT BURDEN-HOUR AND COST BURDEN DETERMINATIONS**

Item 12 of this Supporting Statement addresses previously identified chromate copper arsenate establishments, and coal-fired electrical power plants (including cogenerators).

Previous Inorganic Arsenic information collection requests updated the number of establishments using the Mineral Commodities Summary to identify the number of chromate copper arsenate (CCA) establishments and used previous ICR assumptions to estimate number of employees, and the number of employees exposed over the action level and permissible exposure limit. This ICR continues to use this data source and previous assumptions to update the number of chromate copper arsenate.

Based on information taken from *EPA's 2008 Reregistration Eligibility Decision for Chromated Arsenicals* ([http://www.epa.gov/oppsrrd1/reregistration/REDs/cca\\_red.pdf](http://www.epa.gov/oppsrrd1/reregistration/REDs/cca_red.pdf)), the Agency decreased the number of employers covered by the standard from five to three. For these industries, OSHA maintains many of the same economic assumptions as in previous ICRs.

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The following wages have been adjusted to reflect the fact that fringe benefits comprise roughly 31.70 percent of total employee (worker) compensation in the private sector.<sup>4</sup> The costs of labor used in this analysis are therefore estimates of total hourly compensation. These hourly wages are:

In Table 1 is a summary of the how the wage rate estimates were derived for the information collection requirements specified by the Standard.

**Table 1 – Estimated Wage Rates**

<b>WAGE HOUR ESTIMATES<sup>5</sup></b>				
<b>Occupational Title</b>	<b>Standard Occupation Code</b>	<b>Mean Hour Wage Rate</b>	<b>Fringe Benefits Multiplier</b>	<b>Loaded hourly Wage Rate</b>
Supervisors	51-1011	\$30.13 <sup>6</sup>	31.70% (1.4641)	\$44.11
Secretaries and Administrative Assistants	43-6014	\$17.75 <sup>7</sup>	31.70% (1.4641) <sup>8</sup>	\$25.99
Production Worker	51-000	\$18.30 <sup>9</sup>	31.70% (1.4641)	\$26.79
Industrial hygienist technician	29-9012	25.93	31.70% (1.4641)	\$37.96

<sup>4</sup>Source: Bureau of Labor Statistics. *Employer Costs for Employee Compensation – March 2017* ([http://www.bls.gov/news.release/archives/ecec\\_03172017.pdf](http://www.bls.gov/news.release/archives/ecec_03172017.pdf)).

<sup>5</sup>Source: *Employer Costs for Employee Compensation, Supplementary Table 2*. U.S. Department of Labor, Bureau of Labor Statistics, March 2018.

<sup>6</sup>This mean hourly wage rate corresponds to SOC code 51-1011, “First-Line Supervisors/Managers of Production and Operating Workers.” (Source: *May 2017 National Occupational Employment and Wage Estimates, United States*, U.S. Department of Labor, Bureau of Labor Statistics ([http://www.bls.gov/news.release/archives/ocwage\\_04012014.htm](http://www.bls.gov/news.release/archives/ocwage_04012014.htm))).

<sup>7</sup>This mean hourly wage rate corresponds to SOC code 43-6014, “Secretaries, Except Legal, Medical, and Executive.” (Ibid.) (Source: *May 2017 National Occupational Employment and Wage Estimates, United States*, U.S. Department of Labor, Bureau of Labor Statistics.)

<sup>8</sup>Employer Costs for Employee Compensation (BLS 2018). The multiplier applied to base compensation to determine loaded wages is 1.4641 [1/(1-31.70 percent)]. Applying the multiplier (1.4641) to base compensation (\$17.88) results in loaded wages of \$25.99.

<sup>9</sup>This mean hourly wage rate corresponds to SOC code 51-0000, “Production Occupations.” (Ibid.) (Source: *May 2017 National Occupational Employment and Wage Estimates, United States*, U.S. Department of Labor, Bureau of Labor Statistics)

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The following sections summarize the methodology used for estimating the number of burden hours associated with information collection.

**(A) Exposure monitoring (§ 1910.1018(e))**

1. Initial and Periodic Monitoring

Consistent with the most recent ICR update, the Agency estimates that there are three covered chromate copper arsenate employers<sup>10</sup> all of whom will have workers exposed above the PEL. The Agency further estimates that 528 workers are potentially exposed to inorganic arsenic in these establishments.<sup>11</sup> Of the 528 potentially exposed workers; 14.1% (74) are estimated to be exposed above the PEL, and 12.8% (68) are estimated to be exposed above the action level but below the PEL, a total of 142 workers.<sup>12</sup>

In addition, the Agency estimates that there are 491 covered coal-fired electrical power plants all of which will have workers exposed above the PEL. The Agency estimates that 13,121 workers are potentially exposed to inorganic arsenic in these establishments. Of the 13,121 potentially exposed workers; the Agency estimates that 666 workers are exposed above the action level ((333) are estimated to be exposed above the PEL, and (333) are estimated to be exposed above the action level but below the PEL).<sup>13</sup>

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<sup>10</sup>The 2014 Mineral Commodities Summary reports three domestic producers of chromate copper arsenate (CCA). Source: USGS, 2014. The Minerals Commodities Summaries. <http://minerals.usgs.gov/minerals/pubs/commodity/arsenic/mcs-2014-arsen.pdf> Accessed June 16, 2014.

<sup>11</sup>The previous ICRs estimated that there were 7,400 exposed workers employed in 42 establishments, or an average of 176 workers per employer. OSHA assumes that this ratio of workers per employer has remained stable since the previous ICR update.

<sup>12</sup>These estimates also remain unchanged from the previous ICR update.

<sup>13</sup>Source for respondent and employee numbers, Eastern Research Group (ERG) 2015. See the U.S. Department of Energy, Energy Information Administration, 2013 Form EIA-860 Detailed Data, (EIA, 2013). In 2013, there were 571 coal fired power plants in the U.S., including 518 where coal was the primary power source, and an additional 53 where it was a secondary source. Of those 571, ERG identified 8 that were either under federal or state jurisdiction outside of OSHA's, leaving 563 plants affected. Total employment is based on extrapolation of the estimated of 52 workers per establishment at utility-operated fossil fuel generating facilities (NAICS 221112) provided by 2012 County Business Patterns data (U.S. Census Bureau, 2012). While reliable exposure information is not available for this sector, OSHA believes that potential arsenic exposures are limited to workers engaged in production occupations. Based on data from the 2012 BLS Occupational Employment Statistics Survey (BLS, 2012), OSHA estimates that 50.5% (or 14,885) of the workers at coal-fired power plant facilities fall into this category. Exposures above the Action Level and the PEL are believed to be restricted to workers in installation, maintenance, and repair occupations who represent 30.1% (or 8,880) of total employment, according to the above BLS data source. Of these workers, 10% are assumed to be exposed above the Action Level and 5% exposed above the PEL for inorganic arsenic.

**References:**

BLS, 2012. Occupational Employment Statistics Survey, U.S. Bureau of Labor Statistics. Available at

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The Standard, 29 CFR 1910.1018 Appendix B, III., Monitoring and Measurement Procedures, requires the PBZ sampling method. The Agency estimates that employer will incur 30 minutes (.5 hours) of lost work time for each exposure assessment. (Costs for the PBZ sample are described in Item 13.)

**Burden hours:** ((407 workers exposed above PEL x 4 quarterly) + (401 worker exposed above AL below the PEL x 2 semi-annually)) × .5 hours = 1,215 hours

**Cost:** 1,215 hours × \$44.11 = \$53,594

In total, there are an estimated 13,649 potentially exposed workers (528+13,121), including 808 exposed workers above the action level (142+666) at covered chromate copper arsenate employers and coal-fired electrical power plants.

## 2. Additional Monitoring

The Agency assumes that 10% of the 13,649 potentially exposed workers each year will have a change in inorganic arsenic production, processes, controls, or personnel that may result in new or additional exposure to inorganic arsenic, and that this change will require one airborne sample to assess the inorganic arsenic level in the affected work area. The burden hours and costs for employers inquiring lost work time during exposure monitoring are as follows.

**Burden hours:** 1,365 workers × 1 sample/year × .5 hours = 683 hours

**Cost:** 683 hours × \$44.11 = \$30,127

## 3. Worker Notification

Employers must provide written notification or posting of exposure-monitoring results to each potentially exposed worker. The Agency estimates that 494 (3 covered chromate copper arsenate employers and 491 coal-fired electrical power plants) employers have exposure limits above the PEL requiring quarterly monitoring (semi-annual monitoring results are posted simultaneously with the quarterly monitoring results). These employers will also conduct additional monitoring. OSHA estimates that a secretary, earning \$25.99 per hour, will take 5 minutes (.08 hour) to

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<http://www.bls.gov/oes/>

Energy Information Administration (EIA), 2013. U.S. Department of Energy, Energy Information Administration. Form EIA-860 Detailed Data. Available at <http://www.eia.gov/electricity/data/eia860/>.

County Business Patterns (CBP), 2012. U.S. Economic Census, County Business Patterns. Available at <http://www.census.gov/econ/cbp/download/>.

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prepare and post each notification.

**Burden hours:**  $((494 \text{ employers} \times 4 \text{ samples/year}) + 494 \text{ employers}) \times .08$   
hour = 198 hours  
**Cost:** 198 hours  $\times$  \$25.99 = \$5,146

**(B) Compliance program (§ 1910.1018(g)(2))**

Employers must establish and implement a written compliance program to reduce inorganic arsenic exposures to or below the PEL using engineering and work-practice controls. The written compliance plans for these programs must be updated annually. The plans must include the information specified in paragraph (g)(2)(ii). As the Standard has been effective since 1978, OSHA assumes that these plans have already been developed, and must only be updated. Based on the analysis performed under “Initial and Periodic Monitoring” above, the Agency estimates conservatively that all employers have worker exposures above the PELs. OSHA estimates that 8 hours of supervisory time (at \$44.11 per hour) and 4 hours of secretarial time (at \$25.99 per hour) are needed to update each plan once.

**Burden hour:** 494 employers  $\times$  8 hours  $\times$  1 updates/year = 3,952 hours

**Burden hour:** 494 employers  $\times$  4 hours  $\times$  1 updates/year = 1,976 hours

**Cost:** 3,952 hours  $\times$  \$44.11 = \$174,323

**Cost:** 1,976 hours  $\times$  \$25.99 = \$51,356

**(C) Respirator program (§ 1910.1018(h)(2))**

The Standard requires employers to implement a respiratory protection program in accordance with the provisions of OSHA’s Respiratory Protection Standard (29 CFR 1910.134). The burden for this requirement is taken under the ICR for the Respiratory Protection Standard, OMB Control Number 1218-0099.

**(D) Protective work clothing and equipment (§ 1910.1018(j)(vi))**

Employers must notify anyone who cleans protective clothing or equipment of the hazards from inorganic arsenic exposure. OSHA assumes that each employer would provide this notification in writing once a year, and that a secretary (at a wage rate of \$25.99 per hour) would take 5 minutes (.08 hour) to type and deliver the notice.

**Burden hours:** 494 employers  $\times$  1 notification/year  $\times$  .08 hour = 40 hours

**Cost:** 40 hours  $\times$  \$25.99 = \$1,040

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**(E) Housekeeping plans (§ 1910.1018(k)(4))**

Employers must keep a written housekeeping and maintenance plan that lists appropriate frequencies for specific housekeeping activities and for maintaining dust-collection equipment. As the Standard has been effective since 1978, OSHA assumes that these plans have already been developed, and must only be updated periodically (on average, about once a year); therefore, no cost has been incurred for developing the plans. OSHA estimates that updating and maintaining the plans once each year takes a supervisor (at a wage rate of \$44.11 per hour) 30 minutes (.5 hour) and a secretary (earning \$25.99 an hour) 15 minutes (.25 hour).

<b>Burden hours:</b>	494 supervisors × .5 hour × 1 update/year = 247 hours
<b>Burden hours:</b>	494 secretaries × .25 hour × 1 update/year = 124 hours
<b>Cost:</b>	247 hours × \$44.11 = \$10,895
<b>Cost:</b>	124 hours × \$25.99 = \$3,223

**(F) Medical surveillance (§ 1910.1018(n))**

1. General

The Standard requires annual medical examinations for workers exposed to levels of inorganic arsenic above the action level. The Agency estimates that 528 workers (3 employers x 176 workers) are potentially exposed to inorganic arsenic in chromate copper arsenate establishments. Using exposure percentages described under “Initial and Periodic Monitoring,” of Item 2, above, of the 528 potentially exposed workers, a total of 142 are exposed above the action level (14.1% (74) are exposed above the PEL, and 12.8% (68) are exposed above the action level but below the PEL). Likewise, the Agency estimates that 13,121 workers are exposed to inorganic arsenic in coal-fired electric power plant establishments. Using exposure percentages described under “Initial and Periodic Monitoring,” in Item 2, above, of the 13,121 potentially exposed workers a total of 666 workers are exposed above the action level (333 workers are exposed above the PEL, and 333 workers are exposed above the action level but below the PEL). Also, OSHA assumes that 10% of the 808 workers exposed above the action level (81) will require additional medical examinations in both types of establishments. These examinations are administered if a worker has not had an examination within 6 months of terminating employment or if the worker develops signs or symptoms of an inorganic arsenic-related disease.

In total, the Agency estimates that 889 worker medical examinations (142 (associated with chromate copper arsenate establishments) + 666 (associated with coal-fired electric power

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plants) + 81 (additional exams)) will be administered each year.

The burden hours for medical examinations represents the time a worker is away from the job. For the examinations administered under this Standard, the Agency estimates that a worker (at a wage rate of \$26.79 per hour) will be away from the job 1 hour and 40 minutes (1.67 hours).

**Burden hours:** 889 medical examinations × 1.67 hours = 1,485 hours  
**Cost:** 1,485 hours × \$26.79 = \$39,783

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*OSHA estimates that of 889 annual medical examinations, 219 examinations are for employees receiving initial medical examination and another 81 are for additional examinations. Initial and additional medical examinations include chest x-rays.*

**Burden hours:** 300 medical examinations × 1.67 hours = 501 hours  
**Cost:** 501 hours × \$26.79 = \$13,422

*The remaining 589 medical examinations are for employees who receive periodic examinations. The rule removes the time for a chest x-ray, 15 minutes, from the total time a medical examination.*

**Burden hours:** 589 medical examinations × 1.42 hours = 836 hours  
**Cost:** 836 hours × \$26.79 = \$22,396

*The total burden hours for employees to receive both initial and recurring burden hours totals, 1,337 hours; a reduction of 148 hours based from the current burden hour estimate.*

*The total employee cost reduction is \$3,965, from \$39,783 to \$35,818*

**2. Information provided to the physician**

Employers must provide the examining physician with specific information on each worker who receives a medical examination. The Agency assumes that, for each medical examination administered to a covered worker, it takes a secretary (at a wage rate of \$25.99 per hour) 5 minutes (.08 hour) to compile the required information and provide it to the physician. Based on the analysis performed under “General Medical Surveillance” above, this Standard requires that 889 medical examinations be administered each year.

**Burden hours:** 889 examinations × .08 hour = 71 hours

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**Cost:** 71 hours × \$25.99 = \$1,845

3. Physician's written opinion

OSHA assumes a secretary will take 5 minutes (.08 hour) to deliver a copy of the physician's written opinion to each covered worker. Based on the analysis performed under "Medical Surveillance, General" above, 889 medical examinations will be administered each year, resulting in the same number of opinions that must be delivered to covered workers.

**Burden hours:** 889 examinations × .08 hour = 71 hours

**Cost:** 71 hours × \$25.99 = \$1,845

**(G) Employee information and training (§ 1910.1018(o))**

See Item 2.

**(H) Signs and labels (§ 1910.1018(p))**

The Standard requires that warning signs demarcate regulated areas. The Standard also requires that all containers used to ship or store inorganic arsenic, and most products consisting of inorganic arsenic, have warning labels. The Standard provides specific language for the required signs and labels; therefore no burden has been taken for this provision because OSHA is providing the required information. (See the final rule entitled "Controlling Paperwork Burden on the Public," 5 CFR 1320.3(c)(2).)

**(I) Recordkeeping (§ 1910.1018(q))**

1. Exposure monitoring and medical surveillance

Employers must establish and maintain an accurate record of all exposure monitoring and medical examinations required by the Standard. Based on the estimated worker exposure levels previously discussed under "Medical surveillance, General" above, the Agency estimates that 889 worker medical examinations will be administered each year. Of the 889 workers, OSHA estimates 407 workers are exposed above the PEL requiring that quarterly monitoring records be generated for those workers. Also, 401 workers are exposed above the action level but below the PEL requiring semi-annual monitoring records. In addition, the Agency estimates that 1,365 workers are monitored under "Additional Monitoring."

As described in the analysis described under "Medical surveillance, General" above, a physician administers 889 medical examinations annually. OSHA estimates that a secretary (at a wage rate of \$25.99 per hour) will spend 5 minutes (.08 hour) annually developing and maintaining each



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record.

**Burden hours:**  $((407 \text{ workers} \times 4 \text{ samples/year}) + (401 \text{ workers} \times 2 \text{ samples/year}) + (1,365 \text{ workers} \times 1 \text{ sample/year}) + 889 \text{ medical examinations}) \times .08 = (1628 + 802 + 1,365 + 889) \times 0.08 = 375 \text{ hours}$   
**Cost:**  $375 \text{ hours} \times \$25.99 = \$9,746$

2. Availability

Employers must provide worker medical and exposure-monitoring records to workers and worker representatives on request. The Agency assumes that 10% of the covered workers (those workers exposed above the action level, as well as their representatives and former workers) will request medical and exposure-monitoring records each year. Based on the analysis above, the total number of covered workers is 13,649 (528 + 13,121); 10% of this total is 1,365 workers. OSHA estimates that it will take a secretary (at a wage rate \$25.99 per hour) 5 minutes (.08 hour) to make these records available to these workers.

**Burden hours:**  $1,365 \text{ workers} \times .08 \text{ hour} = 109 \text{ hours}$   
**Cost:**  $109 \text{ workers} \times \$25.99 = \$2,833$

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**Table 2 – Summary of Burden Hours and Cost Per Respondent per Response**

<b>Information Collection Requirement</b>	<b>Number of Respondents</b>	<b>Frequency per response</b>	<b>Total Responses</b>	<b>Time per response</b>	<b>Burden Hours</b>	<b>Wage Rate</b>	<b>Cost</b>
<b>(A) Exposure monitoring</b>							
1. Initial and periodic monitoring	494	4.919	2,430	30/60 hours	1,215	\$44.11	\$53,594
2. Additional monitoring	494	2.763	1,365	30/60 hours	683	\$44.11	\$30,127
3. Employee notification	494	5	2,470	5/60 hours	198	\$25.99	\$5,146
<b>(B) Compliance program</b>	494	1	494	8 hours	3,952	\$44.11	\$174,323
	494	1	494	4 hours	1,976	\$25.99	\$51,356
<b>(C) Respirator program</b>	0	0	0	0	0	0	0
<b>(D) Protective work clothing and equipment</b>	494	1	494	5/60 hours	40	\$25.99	\$1,040
<b>(E) Housekeeping</b>	494	1	494	30/60 hours	247	\$44.11	\$10,895
	494	1	494	15/60 hours	124	\$25.99	\$3,223
<b>(F) Medical surveillance</b>							
1. General	889	0.33745782	300	100/60 hours	501	\$26.79	\$13,422
	889	0.66254218	589	85/60 hours	836	\$26.79	\$22,396
	889	1	889	5/60 hours	71	\$25.99	\$1,845

2. Information provided to the physician							
3. Physician's written opinion	889	1	889	5/60 hours	71	\$25.99	\$1,845
<b>(G) Employee information and training</b>	889	0	0	0	0	0	0
<b>(H) Signs and labels</b>	889	0	0	0	0	0	0
<b>(I) Recordkeeping</b>							
1. Exposure monitoring and medical surveillance	889	5,268	4,684	5/60 hours	375	\$25.99	\$9,746
2. Availability	889	1,535	1,365	5/60 hours	109	\$25.99	\$2,833
<b>TOTAL</b>			<b>16,463</b>		<b>10,398</b>		<b>\$381,791</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 costs 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.

## CAPITAL COST DETERMINATIONS

### 1. Exposure monitoring

Employers are required to conduct initial exposure monitoring to determine if any workers are exposed to inorganic arsenic in excess of the action level. Results from initial exposure monitoring will determine if further monitoring is required. If exposure levels are above the action level but below the PEL, the employer must conduct exposure monitoring at least once every 6 months (semiannually); for workers exposed above the PEL, the employer must perform exposure monitoring at least quarterly.

OSHA assumes that TWA personal breathing zone (PBZ) samples will be used for exposure monitoring. Including the laboratory analysis, the cost per sample is \$249.40.<sup>14</sup> According to the analysis performed under “Exposure Monitoring” above, employers collect 2,430 samples ((407 x 4) + (401 x 2)) each year.

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<sup>14</sup>The Consumer Price Index (CPI) indicated a 10.12% increase in the price of services excluding energy services from 2009 to 2014. OSHA’s preliminary economic analysis of the proposed rule regulating occupational exposure to respirable crystalline silica estimated the labor cost of collecting samples as well as shipping and lab analysis sample costs for medium sized employers (\$216.71). OSHA inflated these costs from 2009 to 2014 using the change in the CPI. OSHA, 2013. Proposed Rule: Occupational Exposure to Respirable Crystalline Silica. Available online at Regulations.gov. Docket ID: OSHA-2010-0034-1721. Posted Dec 11, 2013. Accessed 06/18/14. Using 2014 - 2017 inflation --Based on estimates developed for the 2014 ICR for Inorganic Arsenic (docket reference, footnote Z), the Agency estimated that the unit cost of monitoring for inorganic arsenic was \$216.71 per sample. Using the GDP deflator, the Agency has estimated that such a sample would cost \$249.40 in 2017.

**Cost:**  $2,430 \times \$249.40 = \$606,042$

## 2. Additional monitoring

Employers must also conduct additional monitoring if a change occurs in inorganic arsenic production, processes, controls, or personal that may result in new or additional worker exposures to inorganic arsenic, or if they suspect that a change may result in new or additional worker exposures to inorganic arsenic.

The Agency assumes that 10% of the potentially exposed workers (1,365 workers) each year will have a change in inorganic arsenic production, processes, controls, or personnel that may result in new or additional exposure to inorganic arsenic, and that this change will require one airborne sample to assess the inorganic arsenic level in the affected work area.

**Cost:**  $1,365 \times \$249.40 = \$340,431$

## 3. Medical Examinations

Depending on the worker's length of exposure to inorganic arsenic above the action level, medical examinations must be administered annually. In addition, examinations must be provided to workers who have not had an examination within 6 months of terminating employment, or if they develop signs or symptoms of inorganic arsenic-related disease. The Agency estimates the cost of the basic medical examination at \$171.53, and the cost for one chest x-ray at \$73.11.<sup>15</sup> Only 1 chest x-ray is required annually for each of these employees, regardless of the frequency specified for the medical examinations. Based on the analysis conducted under "Medical Records" above, 889 medical examinations are administered to 1,030 covered workers each year.

Initial, Periodic, and Additional Medical Examinations:

OSHA estimates that of 889 annual medical examinations, 219 examinations are for employees receiving initial medical examination, 589 employees are periodic medical examinations and another 81 examinations are for employees who are taking additional examinations. All medical examinations include chest x-rays.

**Cost:**  $889 \text{ medical examinations} \times \$244.64 = \$217,485$

*As a result of SIP-IV Final:*

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<sup>15</sup>The previous ICR assumed that each medical examination would include the following: basic medical examination costing \$171.53 dollars; which includes the urinary cytology and one x-ray costing \$73.11. The total cost per examination was \$244.64. The Consumer Price Index indicated a 5.83% increase in the price of professional medical services June 2017; the cost of a medical examination was assumed to have increased by 5.83% as well. The costs for a medical examination remain at \$171.53. The SIP-IV NPRM Final Economic Analysis estimates the cost for a chest x-ray as \$73.11.

*The rulemaking removes x-rays costs from the annual medical examinations costs and maintains x-ray costs for initial and additional medical exams.*

*Initial and Additional Medical Examinations:*

*There are 219 examinations for employees receiving initial medical examination and another 81 examinations are for employees who are receiving additional examinations. Initial and additional medical examinations include chest x-rays.*

*Cost: 300 medical examinations x \$244.64 = \$73,392*

*Annual Medical Examinations:*

*The remaining 589 employees would receive annual medical examination without a chest x-ray*

*Cost: 589 x \$171.53 = \$101,031*

*The total cost for initial, additional, and annual medical examinations is \$174,423. The total cost savings is \$43,062 from an adjusted \$217,485 to \$174,423*

Total estimated capitol cost is: \$606,042 + \$340,431 + \$174,423 = \$1,120,896

- 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.**

There are no costs to the Federal Government associated with this collection of information.

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

OSHA is requesting a program change and an adjustment decrease in burden hours of 2,068 hours, from 12,466 hours to 10,398 hours. The program change decrease is due to a decrease in the number of workers receiving chest x-rays during periodic medical exams. Also, there was a decrease in the number of workers receiving medical exams from 1,133 exams to 889 exams, a difference of 244 exams. The total for initial, periodic and additional medical exams is \$174,423. As a result of the SIP-IV rulemaking, there is a total cost reduction of \$43,062 from \$217,485 to \$174,423. Also the Agency requests a burden hour adjustment decrease due to a reduction in the number of affected workers. Table 3, *Summary of Current and Requested Burden Hours Estimates*, shows the changes in burden hours in detail by provision.

As part of the SIP-IV rulemaking, OSHA is also removing the requirement that employers document employees' social security numbers (SSN) in their exposure and medical records. Time to document SSN in records is negligible and, therefore, the Agency is not requesting any changes in the burden hour or cost estimates as a result. OSHA is also not taking burden hours

for its further updates to the chest x-ray requirements, which add the option of digital radiography, because those changes do not impact the time required for medical examinations.

**Table 3 – Summary of Current and Requested Burden Hours Estimates**

<b>Information Collection Requirement</b>	<b>Existing Burden Hours</b>	<b>Requested Burden Hours</b>	<b>Adjustment/ Program Change</b>	<b>Comments</b>
<b>(A) Exposure monitoring</b>				
1. Initial and periodic monitoring	1,548	1,215	-333	This decrease in burden hours is a result of an adjustment due to a decrease in the number of affected workers.
2. Additional monitoring	771	683	-88	This decrease in burden hours is a result of an adjustment due to a decrease in the number of affected workers.
3. Employee notification	226	198	-28	This decrease in burden hours is a result of an adjustment due to a decrease in the number of affected workers.
<b>(B) Compliance program</b>	6,792	5928	-864	This decrease in burden hours is a result of an adjustment due to a decrease in the number of affected workers.
<b>(C) Respirator program</b>	0	0	0	No change.
<b>(D) Protective work clothing and equipment</b>	45	40	-5	This decrease in burden hours is a result of an adjustment due to a decrease in the number of affected workers.
<b>(E) Housekeeping</b>	425	371	-54	This decrease in burden hours is a result of an adjustment due to a decrease in the number of affected workers.
<b>(F) Medical surveillance</b>				
	1,892	1337	-555	The decrease in burden hours is a result of a



1. General				program change. The Agency is no longer requiring x-rays as part of the annual periodic exams for employees.
2. Information provided to the physician	91	71	-20	This decrease in burden hours is a result of an adjustment due to a decrease in the number of affected workers..
3. Physician's written opinion	91	71	-20	This decrease in burden hours is a result of an adjustment due to a decrease in the number of affected workers.
<b>(G) Employee information and training</b>	0	0	0	No change.
<b>(H) Signs and labels</b>	0	0	0	No change.
<b>(I) Recordkeeping</b>				
1. Exposure monitoring and medical surveillance	462	375	-87	This decrease in burden hours is a result of an adjustment due to a decrease in the number of affected workers.
2. Availability	123	109	-14	This decrease in burden hours is a result of an adjustment due to a decrease in the number of affected workers.
<b>TOTAL</b>	<b>12,466</b>	<b>10,398</b>	<b>-2068</b>	

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 information collected under the Inorganic Arsenic Standard 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 lists current valid control numbers in §§ 1910.8, 1915.8, 1917.4, 1918.4, and 1926.5 and publishes the expiration date in the Federal Register notice announcing OMB approval of the information-collection requirement. (See 5 CFR 1320.3(f)(3).) OSHA believes that this is the most appropriate and accurate mechanism to inform interested parties of these expiration dates.

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

OSHA is not requesting an exception to the certification statement.

**B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS**

This Supporting Statement does not contain any collection of information requirements that employ statistical methods.