

**Exposure Assessment Guidelines and Example Template for Subcontractors**

**Purpose:** This guide has been prepared to provide consistency and to assist subcontractors that need guidance in the exposure assessment process. An exposure assessment is required by 10 CFR 851.21 and is used to identify hazards, assess hazard risks and implement suitable control measures to prevent or reduce workers exposure to chemical, physical and biological agents.

**Exposure Assessment:** An exposure assessment shall be prepared by a person who is knowledgeable of the scope of work (Industrial Hygienist or a safety professional). Supervisors and workers familiar with the scope of work can provide valuable information for the development of the assessment. Use the attached template as a guide to format the assessment. A valuable reference book is Exposure Assessment Strategy published by the American Industrial Hygiene Association (AIHA).

One of the goals of the exposure assessment is to conclude if sampling is needed to determine if exposures are acceptable or unacceptable.

**Negative Exposure Assessments:** This includes assessments where no significant worker exposure is expected or determined for chemical, physical, biological or ergonomic stressors. Negative exposure assessments are important since new exposure effects may be identified and retrospective health concerns can only be addressed by documented assessment records. Consequently, assessments for operations determined to have no significant exposure potential (i.e. negative exposure) should be appropriately documented for rationale and historical purposes. Subcontractors are required to document and maintain records of all worker exposure assessments for chemical hazards, physical hazards, biological agents and ergonomic stressors. The information for a negative exposure assessment shall be included in the attached template. Or in the case of a chemical product where the MSDS ratings for health, fire and reactivity are all zeros, the subcontractor can provide a statement to reflect that information.

**Element (1)**

**Hazard identification:** Should be regarded as an ongoing, integral part of workplace hazard review. Re-evaluate the hazards and controls when the following occurs:

Before and during the introduction of a new scope of work

Before and during alterations or changes to the scope of work

New information on hazards or control measures becomes available

The start of a new project

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A change in the work process, tools, equipment or machinery

Introduction of new chemicals or substances

Significant changes in weather conditions that will effect the scope of work and / or safety of the workers

**Element (2)**

**Hazard risk assessment:** Refers to the process of assessing risks associated with each hazard identified during the hazard identification process.

Subcontractors should evaluate each hazard to determine its' level of risk. Risk assessments are very important as they form an integral part of a good occupational health and safety management plan. They help to: create awareness of hazards and risks, identify who may be at risk, determine if existing control measures are adequate or if more should be done, prevent injuries or illnesses when done at the design or planning stage, and prioritize hazards and control measures. To research the hazard, subcontractors should consider the following information:

- Product information / manufacturer documentation,
- Past experience (workers, etc)
- Legislated requirements and/or applicable standards
- Industry codes of practice / best practices
- Health and safety material about the hazard such as material safety data sheets (MSDSs), or other manufacturer information
- Information from reputable organizations
- Results of testing (atmospheric, air sampling of workplace, biological, etc)
- The expertise of an occupational health and safety professional
- Information about previous injuries, illnesses, "near misses", lessons learned, accident reports etc.

**Ranking or prioritizing hazards** is one way to determine the potential for accident, injury or illness. The subcontractor should consider the following when ranking and prioritizing hazards:

- Percentage of workforce exposed
- Frequency of exposure
- Degree of harm likely to result from the exposure
- Probability of occurrence

**Hazard assessment record keeping:** Keeping records of your hazard assessment and any control actions taken is very important. The subcontractor records should provide the following information:

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- Evidence that a quality exposure assessment was conducted
- Determination of the risks involved
- Control measures were suitable for the risk(s)
- Hazards in the workplace were evaluated and monitored
- Conclusions and lessons learned

It is most important that the conclusions reached about risks are documented and that any supporting information on how that decision was made is included in associated records.

**Element (3)**

**Hazard control program:** A hazard control program consist of all steps necessary to protect workers from exposure to a harmful substance or system, and the procedures required to monitor worker exposure and their health to hazards such as hazardous chemicals, materials or substance, or other types such as noise and vibration. A written workplace hazard control program will outline which methods are being used to control the exposure and how these controls will be monitored for effectiveness.

Hazard control provides a means by which risks can be systematically evaluated against a set of control options, known as the “hierarchy of controls” to determine the most effective control methods for the risks associated with each hazard. This process involves analyzing the data collected during the hazard identification and risk assessment processes, and developing a strategic plan to control the risks identified.

**Use of hierarchy of controls:** The Hierarchy of Control is a list of control measures, in priority order, that shall be used to eliminate or minimize exposure to the hazard. The hierarchy of control provides a sequence of options which offer a number of ways to approach the hazard control process. The subcontractor’s worker’s protection program

**-Elimination of hazards:** An option use to get rid of the hazard altogether. The best way to eliminate the risk is to completely remove the hazard. It is the first line of defense for eliminating employee exposure. Subcontractors shall fully exercise this option at every opportunity when feasible or practical.

**-Substitution of hazards:** Substitution involves replacing a highly toxic substance or hazardous work practice with a less toxic substance / hazardous one. Use this option when feasible.

**-Use of engineering controls:** If the hazard cannot be eliminated, substituted or isolated, an engineering control is the next preferred option. It involves such things as guards, introducing remote stop and start buttons, and use of muffling to (WPP) shall reference the use of the hierarchy controls for controlling workplace hazards. reduce noise levels. Use this option when feasible and practical.

**-Use of work practices and administrative controls to limit exposure:** Includes the use of warning signs, regular rest breaks for employees exposed to hot environments,

## ATTACHMENT 2

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reducing employee exposure to noisy machines by using a worker rotation policy, and providing supervision and employee training on the associated hazards.

**-Personal protective equipment (PPE)** should be considered only when other control measures are not practical. Employees must be trained in the proper inspection, use, fitting, donning and doffing, cleaning, maintenance and storage of PPE.