

Manual Section 3	Issue Date 03/17/16	Revision Date 06/15/21	Policy Number LLCP-031
	Ionizing Radiation		

Policy

No sources of ionizing radiation shall be used or transferred in such a manner as to cause any individual in a restricted area to receive in any period of one calendar quarter from sources in the employer's possession or control a dose in excess of the limits specified in Table G-18 in the OSHA regulation 1910.1096.

Scope

All LLC Companies including, Blanchard Industrial, LLC, GIS Engineering, LLC, Grand Isle Shipyard, Inc., and GWIS, Mack Steel, NuWave, Sun Industries; hereafter identified as “Company”.

Definitions

Radiation - includes alpha rays, beta rays, gamma rays, X-rays, neutrons, high-speed electrons, high-speed protons, and other atomic particles; but such term does not include sound or radio waves, or visible light, or infrared or ultraviolet light.

Radioactive material - means any material which emits, by spontaneous nuclear disintegration, corpuscular or electromagnetic emanations.

Restricted area - means any area access to which is controlled by the employer for purposes of protection of individuals from exposure to radiation or radioactive materials.

Unrestricted area - means any area access to which is not controlled by the employer for purposes of protection of individuals from exposure to radiation or radioactive materials.

Dose - means the quantity of ionizing radiation absorbed, per unit of mass, by the body or by any portion of the body. When the provisions in this section specify a dose during a period of time, the dose is the total quantity of radiation absorbed, per unit of mass, by the body or by any portion of the body during such period of time. Several different units of dose are in current use. Definitions of units used in this section are set forth in paragraphs (a)(6) and (7) of this section.

Rad - means a measure of the dose of any ionizing radiation to body tissues in terms of the energy absorbed per unit of mass of the tissue. One rad is the dose corresponding to the absorption of 100 ergs per gram of tissue (1 millirad (mrad)=0.001 rad).

Rem - means a measure of the dose of any ionizing radiation to body tissue in terms of its estimated biological effect relative to a dose of 1 roentgen (r) of X-rays (1 millirem (mrem)=0.001 rem). The relation of the rem to other dose units depends upon the biological effect under consideration and upon the conditions for irradiation. Each of the following is considered to be equivalent to a dose of 1 rem:

Survey - means an evaluation of the radiation hazards incident to the production, use, release, disposal, or presence of radioactive materials or other sources of radiation under a specific set of conditions. When appropriate, such evaluation includes a physical survey of the location of materials and equipment, and measurements of levels of radiation or concentrations of radioactive material present.

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Exposure of individuals to radiation in restricted areas

TABLE G-18

	Rems per calendar quarter
Whole body: Head and trunk; active blood-forming organs; lens of eyes; or gonads	1 1/4
Hands and forearms; feet and ankles	18 3/4
Skin of whole body	7 1/2

Precautionary Procedures and Personal Monitoring

Appropriate personnel monitoring equipment shall be supplied and used when working with Ionizing Radiation, such as film badges, pocket chambers, pocket dosimeters, or film rings, and shall require the use of such equipment.

Symbols shall use the conventional radiation caution colors (magenta or purple on yellow background). The symbol is the conventional three-bladed design. These symbols shall be posted when the possibility of exposure could occur.

Radiation areas shall be conspicuously posted with a sign or signs bearing the radiation caution symbol with the words: "Caution - Radiation Area".

All individuals working in or frequenting any portion of a radiation area shall be informed of the occurrence of radioactive materials, shall be instructed in the safety problems associated with exposure, precautions and devices to minimize exposure including but not limited to time, distance, shielding, and keeping exposure limits as low as possible (ALARA). They must also be instructed in the applicable provisions of this section for the protection of employees from exposure to radiation or radioactive materials, and shall be advised of reports of radiation exposure which employees may request a copy of. Every employer shall maintain records of the radiation exposure of all employees for whom personnel monitoring is required and advise each of his employees of his individual exposure on at least an annual basis.

All employees whose work may necessitate their presence in an area covered by a signal to notify them of possible radiation exposure shall be made familiar with the actual sound of the signal-preferably as it sounds at their work location.

Recordkeeping

The Company shall maintain records of the radiation exposure of all employees for whom personnel monitoring is required and advise each of his employees of his individual exposure on at least an annual basis.