Worker at Japanese Nuclear Plant Has Cancer from Radiation Exposure

In March 2011, an earthquake and tsunami destroyed Japan's Fukushima nuclear power plant. Sadly, a worker who helped install covers on damaged reactors at the plant from Oct. 2012 to Dec. 2013 was recently diagnosed with leukemia from radiation exposure. The worker, who wasn't identified, didn't work at the plant in the weeks immediately after the earthquake when radiation levels were the highest. And he'd also worked at several other nuclear plants. So medical experts couldn't determine whether his exposure at Fukushima was the direct cause of his cancer.

However, the worker's total radiation exposure was 19.8 millisievert, which is below the standard 100 millisievert annual limit for nuclear workers used in Japan and elsewhere. Almost 45,000 workers have taken part in cleaning up the Fukushima plant, which has been decommissioned. Steps are being taken to protect them from radiation exposure during this process. Canadian OHS laws also require employers to take steps to protect workers from exposure to radiation above designated levels. In fact, federal OHS law has special requirements for workers employed in nuclear power plants or exposed to nuclear energy.

As to other workers who could be exposed to radiation on the job, such as healthcare, veterinary and construction workers,

employers should generally take the following steps:

Step #1: Determine if Radiation Requirements Apply

The radiation requirements typically apply to any workplace where:

- Ionizing or non-ionizing radiation is used;
- Equipment emitting radiation is installed, operated or serviced; or
- There are sources of ultrasonic energy, non-ionizing and ionizing radiation. Examples of sources of radiation that could endanger workers include welding, lasers, certain types of lamps and power lines.

Step #2: If So, Inform Workers of Radiation Risks

You should generally inform workers at risk of exposure to radiation of such exposure, the related risks and the safety measures taken to protect them. In addition, you may need to post signs warning *all* workers and visitors of the risk of exposure to radiation in the workplace.

Step #3: Keep Worker Exposure to Radiation Below Acceptable Limits

The OHS and related laws usually specify radiation exposure limits for workers, which may vary depending on the type of radiation, equipment, body part and/or worker. You should keep workers' level of exposure to radiation as low as possible and certainly not exceed the designated limits. To do so, you must monitor their exposure. Monitoring is typically done through dosimeters, which are badges that measure the accumulated exposure to radiation over a period of time, usually three months.

Step #4: Develop Radiation Safety Rules

Develop rules to ensure that workers safely work on or with equipment that produces or emits radiation, including while

installing, repairing, operating, using, testing or otherwise maintaining such equipment.

Note: Because of the elevated dangers that exposure to radiation may pose to pregnant workers and their unborn children, the regulations may include special protections for such workers.

Step #5: Train Workers on Radiation Safety Rules

As with all safety rules, you must train workers on your radiation safety rules and ensure that workers understand these rules and comply with them on the job.

Step #6: Provide Appropriate PPE

Safe work rules may not be enough to protect workers from hazardous exposure to radiation. In some circumstances, you may also need to provide appropriate PPE, such as eye or face protection if there's a risk of irritation or injury to a worker's face or eyes from ultraviolet, visible or infrared radiation.

Step #7: Report Radiation Incidents or Overexposures

The OHS laws require employers to report various kinds of safety incidents, such as explosions, chemical spills and fatalities. These requirements may also apply to incidents involving radiation. So be sure that you have procedures in place for reporting such incidents, if required.