November 7, 2007

On November 7, 2007 a Pipeline X-Ray Inspection Technician was fatally overexposed to carbon monoxide levels while he was working in a pick-up truck, bed mounted camper shell-type dark room. The deceased had been working earlier the same day x-raying pipe welds and developing the film on a large pipeline project. At the time of the incident, the employee was working inside of the dark room developing a series of x-ray films that had been taken earlier in the morning on the same day. The deceased was an experienced technician in the industrial x-ray field with many years of experience.

**Significant Factors:**

- Employee was working in a dark room mounted in the bed of a pick-up truck, developing x-ray film, when he was overcome by carbon monoxide gas.

- The investigation was able to determine that the source of the carbon monoxide was a gas powered portable generator that was being used to power the small camper-shell type truck mounted dark room. Air sample testing revealed that the levels of carbon monoxide exceeded 500 ppm when working conditions were re-created by investigators. Another contributing factor was the weather conditions, specifically the wind direction in regards to the location of the working location. The dark room was located down wind from the placement of the portable generator, on the truck tailgate. The wind speed on the date of the accident was estimated to be 25-40 mph.

**Recommendations:**

- Brief all employees on the facts and circumstances of this fatal mishap.

- Brief/retrain all employees on the danger of working around equipment that produce carbon monoxide.

- Require that all portable gas generators that produce carbon monoxide gas to be located a minimum distance of five feet from structures having combustible walls and/or other combustible material. Keep exhaust gas from entering an area through windows, door ventilation intakes or other openings. Remind employees to note the wind direction and always maintain good ventilation by keeping carbon monoxide producing equipment down wind from the working area.

- Install carbon monoxide alarms in the camper shell-type dark rooms.