### Operations

Include the use of x-ray machines or radioisotopes to verify the integrity of the pipe welds to minimize the possibility of leaks or weakness at the weld. The percentage of welds to be x-rayed generally varies from 10% to 100% and is usually specified in the project specifications. The x-ray negatives are generally developed on-site for immediate evaluation. Welds found to be defective are either repaired or cut out, depending upon the severity of the fault.

## Scope

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

## **Basic Equipment**

- Internal or external x-ray machines and equipment, and
- A mobile lab for developing the negatives.

# **Common Injuries/Illnesses**

- Sprains/strains.
- Radiation burns.
- Radiation sickness.

## **Common Safety Hazards**

There are risks of exposure to radiation resulting from working with or around the x-ray equipment. This can cause various forms of illness and varying degrees of burns depending upon the type and duration of exposure.

### **Procedures and Requirements**

- Personnel shall use lead-lined gloves.
- Radiation warning signs and barricades shall be in place.
- The working area and equipment shall be checked regularly for radiation leaks.

### **Protective Devices/Precautions**

- Lead-lined gloves/clothing.
- Containers for radioisotopes.
- Equipment for handling radioisotopes.
- Check area regularly for radiation leaks.
- Don't leave pill containers unsealed.
- Radiation exposure badge.
- Radiation leak detectors.
- Check badges for exposure levels.
- Don't handle isotopes without proper equipment.

Note: Others usually do this procedure and the construction crew should not cross into the barricaded area.