

Building Number/Name: 2707-SX
Date prepared: Jan 29, 2012
Responsible Contractor: WRPS
Contact: C M Smith; E A Hill

PAST OPERATIONS

Beryllium brought in facility: YES

Form of beryllium: SOLID

Period of beryllium operations (dates): Start: Early 1980s End: Mid 1990s

Location(s) in facility that contained beryllium materials: Shop

Description of beryllium activities: In July 2003, employees reported Beryllium tools (beryllium-copper alloy containing about 2% beryllium) may have been stored in the shop in the past. In the early 1990s, the building was used as a shop to build glove bags. In the mid 1990s, the shop was remodeled and used as an electrician's shop supporting the construction contractor. In the late 1990s, the shop was remodeled and equipped as a carpenter shop. The beryllium tools were used in the Tank Farms and then returned to the shop, and may have small amounts of dust containing beryllium on them. Based on contacts with tool manufacturers, the potential for significant airborne exposure to beryllium from these tools is very low. However, because air sampling was not performed prior to 2003, nor were measures taken to reduce the potential for employee exposure, the potential exists for exposure to low levels of airborne beryllium dust. As such, the shop is being considered a potential source of past airborne beryllium exposure.

Building monitoring data summary: None identified.

Personnel monitoring data summary: None identified.

Specify Engineering/Administrative controls used during operations: None identified.

CURRENT OPERATIONS

Building still present: YES

BCF: YES

BERYLLIUM SAMPLING DATA

2707SX was not included in the 1999 Hanford Beryllium (Be) survey as a legacy facility.

2003 Sample Results

In July, 2003, 59 wipe samples were collected in 2707SX; 4 locations showed results above the DOE release criterion for wipe samples of 0.2 micrograms of Be per 100 square centimeters ($\mu\text{g}/100\text{ cm}^2$): the angle irons supporting the roof in the NW corner (two location), on top of a space heater, and on top of the Stanley screw cabinet. The shop was cleaned and 12 follow-up samples were collected in September, 2003. Be was not detected in the follow-up samples. The Stanley Screw cabinet was removed and relocated. Analytical data from 2003 indicated a reporting level of 0.2 μg , twice the stated method detection limit (MDL) of 0.1 μg . Because of the reporting protocol, sample results reported as $<0.2\ \mu\text{g}/100\text{ cm}^2$ may be interpreted as $<0.1\ \mu\text{g}/100\text{ cm}^2$, which is below the Hanford Trigger Level for wipe samples of 0.1 $\mu\text{g}/100\text{ cm}^2$.

The facility was not de-posted after cleaning in 2003 and has remained Be-controlled. The angle iron in the NW corner and the location where the screw cabinet used to be are currently posted as Be Controlled Areas, even though the screw cabinet itself is no longer present.

2010 Beryllium Characterization

On July 7 and 8, 2010, 22 wipe samples and 9 bulk samples were collected in 2707SX to determine surface concentrations of Be. 2010 Sample results were compared with the Hanford Be Trigger Levels of 0.1 $\mu\text{g}/100\text{cm}^2$ for wipe samples and 1 part per million (ppm) for bulk samples, as reported in WRPS-1002778. All 2010 sample results were below the Trigger Levels and indicate Be surface levels are consistent with natural soil background.