

Town Meeting 10/28/14



725 Stabilization Safety

Hazards in 725

- Lots of equipment moves
 - Ergonomics
 - Get help moving heavy items.
 - Use mechanical means whenever possible
 - Avoid awkward postures and reaching
 - PPE
 - Wear gloves – protect your hands
 - Wear safety shoes when moving/disassembling items or when near areas where that work is being done
 - Wear safety glasses when using tools.

Disposal of Hazardous Materials

- Chemicals can be dropped off at one of the labs for disposal, following the procedure. Drop off times are listed in the procedure, and at the 725 entrance doors.
- Cylinders should be brought to the West Roll-up door collection rack.
- Starting in November, staff from the Waste Management Program will begin collecting chemicals from the 725 experimental floor.

LEAD

- There is a lot of painted and unpainted lead in 725
 - Objective – keep lead contamination to a minimum
 - Don't bring lead home



LEAD

- What is the risk?
 - OSHA sets limits for airborne lead contamination (50 ug/m³ for an 8 hour exposure)
 - This limit will keep blood level below hazardous levels
 - All regulation is meant to keep lead out of the blood stream and body where it can accumulate and damage organs
 - OSHA has no regulations regarding surface contamination

LEAD

- BNL has imposed HUD surface contamination levels for all facilities.
 - These limits are conservative
 - They are intended to keep contamination to a minimum to protect workers and the public
- Past sampling at beamline computer workstations has occasionally shown levels above the BNL/HUD limits.
 - Could be a concern due to experimenters consuming food at the beamlines

LEAD

- Past sampling at many locations around 725 has shown detectable levels nearly everywhere
- It is important to wear the proper personal protective equipment (PPE) in order to protect your health, your family's health, and the cleanliness of the facility. Be careful in removing PPE, and follow contamination control guidelines
- If you are unsure of the proper PPE for the task you are to perform, ask!

LEAD MEASUREMENT

- So how do we measure for lead contamination?
 - Official sampling is done on a 1 ft² area, and the wipe sample is sent to an outside lab for analysis
 - Because of the component geometries, our samples are approximate areas.
 - We have found a correlation between the direct reading XRF meter and lab analysis.
 - The XRF tends to read low (about half of the lab analysis), and is not an exact measure.
 - The XRF is better at detecting very low or very high levels

LEAD Conclusions

- The BNL surface contamination limit is 250 ug/ft² for an industrial area (40 ug/ft² for general public).
- At these levels it is nearly impossible to get airborne levels above OSHA limits
- There is very little risk of ingesting significant quantities of lead.
- Blood lead sampling for lead workers at NSLS in the past has not shown any indication of elevated lead.

LEAD Conclusions

- Due to the inherent inaccuracies of the sampling areas and the XRF meter, there is some flexibility in accepting components with minimal lead contamination.
- Most components coming to NSLS-II will be installed in areas with little personnel activity
- Components going to other facilities must comply with their regulations.
- Most DOE facilities have similar or more restrictive limits.
- Any workers that have concerns about lead exposure can receive blood testing at OMC.

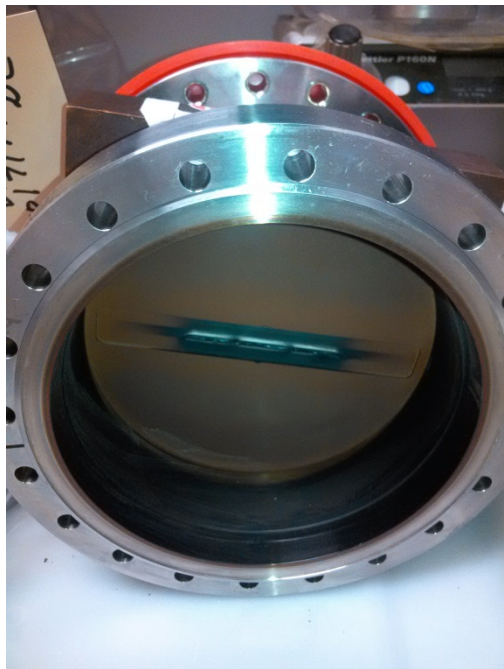
Radiological Issues

- The experimental floor has been down posted from radiological requirements. There is no GERT or radiological training required for the experimental floor.
- The accelerator enclosures (LINAC, booster, and accelerator) are still posted as Controlled Area, and GERT is the minimum training required.
- TLDs are not required anywhere in the building
- There are still radiological sealed sources within the building
 - These are locally posted.
 - Training may be required to use the sources

Beryllium

- Inhalation of Beryllium dust can cause Chronic Beryllium Disease (CBD) and/or beryllium sensitization
- DOE has strict regulations regarding operations which may cause exposure to Beryllium dust.
- Beryllium articles (anything with $> 0.1\%$ Be) generally do not have surface contamination, however some articles have come in contaminated
- Incoming wipe tests are done to confirm

Beryllium



Recognizing Beryllium



U.S. DEPARTMENT OF
ENERGY

Beryllium

- Beryllium is brittle and breaks easily. DO NOT try to clean up broken articles. Call ESH
- It is important to know where these articles are so that they can be protected
- We are in the process of labeling and identifying all known articles in 725.
- It's imperative to let future workers know where these articles are so that they are not damaged.

Beryllium

- Beryllium articles found in beamline disassembly can be disposed as hazardous waste, following the disposal procedure.
- Be very careful handling legacy Beryllium articles, as they could have oxidized, and may have contamination
- Handle all Beryllium articles with gloves.
- Beryllium specific training may be required.

Beryllium

- Beryllium articles being brought to NSLS-II need to be included in the BNL inventory database
- All Beryllium articles need to be covered or inaccessible, and labeled
- Any workers that have concerns about exposure to Beryllium can request medical surveillance

Magnetic Fields

- There are still many areas in 725 with permanent magnets.
- The walkway from the Lobby to the X-ray floor has Klystrons
- Ion pumps have stray fields within 6-9 inches