

TSW for LBNE Photon Detection Testing at TallBo (PAB)

APPENDIX III: - HAZARD IDENTIFICATION CHECKLIST

Items for which there is anticipated need *should be* checked. See next page for detailed descriptions of categories. *(There is NO need to list existing Facility infrastructure you might be using)*

Flammable Gases or Liquids		Other Gas Emissions		Hazardous Chemicals		Other Hazardous /Toxic Materials	
Type:		Type:			Cyanide plating materials	List hazardous/toxic materials planned for use in a beam line or an experimental enclosure:	
Flow rate:		Flow rate:			Hydrofluoric Acid		
Capacity:		Capacity:			Methane		
Radioactive Sources		Target Materials			photographic developers		
	Permanent Installation		Beryllium (Be)		PolyChlorinatedBiphenyls		
	Temporary Use		Lithium (Li)		Scintillation Oil		
Type:			Mercury (Hg)		TEA		
Strength:			Lead (Pb)		TMAE		
Lasers			Tungsten (W)		Other: Activated Water?		
	Permanent installation		Uranium (U)				
	Temporary installation		Other:	Nuclear Materials			
	Calibration	Electrical Equipment		Name:			
	Alignment	X	Cryo/Electrical devices	Weight:			
Type:			Capacitor Banks	Mechanical Structures			
Wattage:		X	High Voltage (50V)		Lifting Devices		
MFR Class:			Exposed Equipment over 50 V		Motion Controllers		
		X	Non-commercial/Non-PREP		Scaffolding/ Elevated Platforms		
			Modified Commercial/PREP	X	Other: Equipment on Adjustable Cart		
Vacuum Vessels		Pressure Vessels		Cryogenics			
Inside Diameter:		Inside Diameter:			Beam line magnets		
Operating Pressure:		Operating Pressure:			Analysis magnets		
Window Material:		Window Material:			Target		
Window Thickness:		Window Thickness:			Bubble chamber		

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OTHER GAS EMISSION

Greenhouse Gasses (Need to be tracked and reported to DOE)

- Carbon Dioxide, including CO₂ mixes such as Ar/CO₂
- Methane
- Nitrous Oxide
- Sulfur Hexafluoride
- Hydro fluorocarbons
- Per fluorocarbons
- Nitrogen Trifluoride

NUCLEAR MATERIALS

Reportable Elements and Isotopes / Weight Units / Rounding

Name of Material	MT Code	Reporting Weight Unit Report to Nearest Whole Unit	Element Weight	Isotope Weight	Isotope Weight %
Depleted Uranium	10	Whole Kg	Total U	U-235	U-235
Enriched Uranium	20	Whole Gm	Total U	U-235	U-235
Plutonium-242 ¹	40	Whole Gm	Total Pu	Pu-242	Pu-242
Americium-241 ²	44	Whole Gm	Total Am	Am-241	–
Americium-243 ²	45	Whole Gm	Total Am	Am-243	–
Curium	46	Whole Gm	Total Cm	Cm-246	–
Californium	48	Whole Microgram	–	Cf-252	–
Plutonium	50	Whole Gm	Total Pu	Pu-239+Pu-241	Pu-240
Enriched Lithium	60	Whole Kg	Total Li	Li-6	Li-6
Uranium-233	70	Whole Gm	Total U	U-233	U-232 (ppm)
Normal Uranium	81	Whole Kg	Total U	–	–
Neptunium-237	82	Whole Gm	Total Np	–	–
Plutonium-238 ³	83	Gm to tenth	Total Pu	Pu-238	Pu-238
Deuterium ⁴	86	Kg to tenth	D ₂ O	D ₂	
Tritium ⁵	87	Gm to hundredth	Total H-3	–	–
Thorium	88	Whole Kg	Total Th	–	–
Uranium in Cascades ⁶	89	Whole Gm	Total U	U-235	U-235

¹ Report as Pu-242 if the contained Pu-242 is 20 percent or greater of total plutonium by weight; otherwise, report as Pu 239-241.

² Americium and Neptunium-237 contained in plutonium as part of the natural in-growth process are not required to be accounted for or reported until separated from the plutonium.

³ Report as Pu-238 if the contained Pu-238 is 10 percent or greater of total plutonium by weight; otherwise, report as plutonium Pu 239-241.

⁴ For deuterium in the form of heavy water, both the element and isotope weight fields should be used; otherwise, report isotope weight only.

⁵ Tritium contained in water (H₂O or D₂O) used as a moderator in a nuclear reactor is not an accountable material.

⁶ Uranium in cascades is treated as enriched uranium and should be reported as material type 89.

TSW for [Experiment Title]

The following people have read this TSW:

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