# Hall A Standard Equipment Hazards

**Radiation**

Note and obey radiation signs at Beam line, Target, and Beam Dump.

**Electrical**

All Known Electrical connections are guarded by physical barriers, or distance.
Lock and Tag Training is required PRIOR to working on Electrical Equipment.

**Cryo target**

Hall A uses a 3 loop cryogenic target. One of these loops has the ability to be used as a high-pressure loop. It should be noted that this loop system may operate at a higher pressure than the other 2. Special care should be taken when working near the target chamber due to the thin aluminum windows.

**Thin Vacuum Windows**

All Vacuum Windows are guarded by Signage, physical barriers, and or distance.

**Magnetic Fields**

Most Magnetic fields are contained by the magnet's iron, however noticeable fringe fields may be present when magnets are at high power, most notably on Q1.

**Explosive Gasses**

Hydrogen and Deuterium are present in the Hall A cryo target system. Ethane is used in the detectors and is supplied from the Hall A gas shed. These gasses are guarded by explosive gas detectors, signage, physical barriers, and or distance.

**Moving Equipment**

Both Hall spectrometers rotate about the pivot. A beeping tone, and flashing amber beacons signal this movement.

**Oxygen Deficiency**

ODH is a minimal hazard in Hall A unless working above the crane rail or on a cold Cryo system. However ODH training is required prior to entry.

**Welding**

The most likely hazard from welding in Hall A is the flash that occurs when a person looks directly at the arc produced during the welding process. This arc is normally shielded from personnel by a welding screen or by distance. However, due to the nature of the construction of the Hall equipment there may be times that this is impossible. At these times, a warning will be posted at the entrances of the Hall. There is also a burn hazard associated with welding, if you see welding equipment in an area of the Hall, it is safe to assume that there is something hot in that area.

**Fire**

Smoke and Heat detectors as well as water sprinklers are located throughout Hall A. Fire extinguishers are located at the exits and scattered throughout the Hall.

**Trip**

Isolated detectors may be located at any position on the Hall floor. The cables for these detectors must pass from the Detectors to the Hall pivot. The Spectrometers also present a possible trip hazard due to their many stairs and catwalks. The truck ramp should also be considered a trip hazard.

**Overhead crane**

Hall A contains a 20 ton crane that may be in use at any time when the Hall is open. When the crane is in use, floor stanchions are placed at the entrances of the Hall and a loud claxon will sound when the crane is turned on or is in motion.