



# HAICU Safety & Gate reviews related to UBC systems

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UBC System presenting hazards	Mitigation	Question
Hydrogen gas (flammable gas)	Hydrogen bottle in gas shack (10-15 m line)+ ventilation near the source	Can the gas mixing cell be in the gas shack?
THG Cell (explosion due to high pressure)	Pressure relief valve	Can the pressure in the cell be <14 psi
Decelerator & bender (electrical shock)	Plexiglass doors, no exposed connectors	Exposed connectors on the source?
Source Turbo pump (failure)	Mounting system engineered by Colin and reviewed by TRIUMF engineer.	
Laser (fire+injury)	Enclosed beam as much as possible, interlocked enclosure, operated by trained personnel only.	
Source baking collars (injury)	Warning sign.	
Additional hazard ?	???	

Documents to produce for Gate 2/3:

- Decelerator and source hazard analysis
- Detailed budget

(how much you have spent, do you have enough to complete the project, any big item still to be purchased)

- Top Risks analysis and mitigation.
- TRIUMF resources + mitigation of you don't have support.
- Draft for commissioning plan
- ...

Laser Safety Analysis Report and training plan (post Gate 2/3, for laser commissioning)

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