

# Audit for departments with high hazard activities



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**Office of Safety, Health  
and Environment**

# Background

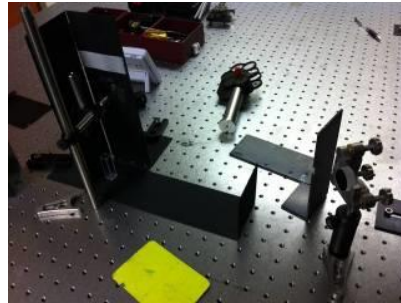
- High profile incidents since 2011
- Measures to create sustainable safety culture on campus set by senior management:
  1. Unannounced Inspections
  2. KPIs for Deans & HoDs
  3. Departments that are conducting high hazard activities or have a higher frequency /severity of incident shall be subjected to biennial audit of their department safety management system

May 2011

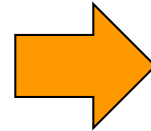


Chemical explosion in  
CeLs

Nov 2012



Exposure to Class 4  
LASER in FoS



Cleanroom Fire  
SERIS @ B1k E3A

Aug 2012



Lab Fire  
EW2

Apr 2014

# Principles behind the Criteria

1. Potential to results in fatality, multiple cases of hospitalization, permanent disability, chronic (irreversible) illness
2. Potential for regulatory actions that could impact on business process & University reputation e.g revoking of operational licenses or court proceedings
3. Potential extensive financial loss arising out of accident e.g fire incident

# Hazard Profile Table

Types of Hazards	High	Medium	Low
	Criteria		
<b>Chemical (Gas)</b>	Storage of pyrophoric, toxic, flammable and liquefied flammable gases	Storage of oxidizing and/or inert gas only	No gas storage
<b>Chemical (Liquid)</b>	Storage of PFM per lab unit ( $\geq 250$ litres) $\geq 250$ L – Require more than 1 flammable cabinet	Storage of PFM per lab unit ( $\geq 10$ and $< 250$ litres) 250L – Allowable Qty in 1 flammable cabinet	Storage of PFM per lab unit ( $< 10$ litres) 10L – Minor Storage limit (SS532)
<b>Radiation</b>	<ol style="list-style-type: none"> <li>1. Handling radio-isotopes emitting Gamma ray</li> <li>2. Open beam ionizing radiation apparatus</li> <li>3. Working with open beam Class 3B &amp; 4 laser</li> </ol>	<ol style="list-style-type: none"> <li>1. Handling radio-Isotopes emitting Alpha/Beta particles</li> <li>2. Enclosed/Self-shielded ionizing radiation apparatus</li> <li>3. Working with enclosed beam Class 3B &amp; 4 laser</li> <li>4. NIR Equipment requiring N2 licence to keep or possess, but does not require a N3 licence to use</li> </ol>	No regulated ionizing & non-ionizing radiation source
<b>Biological</b>	<ol style="list-style-type: none"> <li>1. BSL2+ and above</li> <li>2. ABSL2+ and above</li> <li>3. Live Non-Human primates (NHP)</li> </ol>	<ol style="list-style-type: none"> <li>1. BSL2</li> <li>2. ABSL2</li> </ol>	BSL 1
<b>Physical</b>	Activities requiring regulatory Permit-To-Work (PTW) System. E.g <ol style="list-style-type: none"> <li>1. Work at height <math>&gt; 3</math>m</li> <li>2. Work in confined space</li> <li>3. Heavy lifting operation</li> <li>4. Hot-work</li> </ol>	Activities that do not require PTW System	

# Classification of High Risk Department

		Frequency / Severity of Incident		
Hazard Level		No high impact incident	1 high impact incident	≥ 2 high impact incident
	High	HIGH	HIGH	HIGH
	Medium	MODERATE	HIGH	HIGH
	Low	LOW	MODERATE	HIGH

## High Impact incident refers to:

1. Incident subjected to Committee of Inquiry (COI)
2. Incident resulting to regulatory action e.g fines, revocation of licence etc.
3. Incident resulting to financial loss > \$500K