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| **THA Author:** | | Marcy Stutzman | | | | |
| **Date:** | 4/23/08 | | **Task #:** |  | **Frequency of use:** | Frequently |
| **Complete all information. Use as many sheets as necessary** | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Task Location:** | | | | EEL118, Test cave, Inj Tunnel | | **Task Title:** | Venting and pumping down vacuum systems | | | |
| **Division:** | ACC | | | | | **Prepared by:** | | Marcy Stutzman | | |
| **Department:** | | | CIS | | | **Reviewed by (employee):** | | | |  |
| **Supervisor:** | | Matt Poelker | | | | **Approved by:** | | |  | |
| **Standard Requirements:**  **(PPE, TOSPs, SOPs, etc.)** | | | | |  | | | | | |

| **Sequence of Job Steps** | **Potential Hazards** | **Risk Code**  **before mitigation** | **Proposed Mitigation**  **Safe Procedures/Practices/Controls** | **Risk Code**  **after mitigation** |
| --- | --- | --- | --- | --- |
| Attach rough pump | Moving equipment | 0 |  | 0 |
| Backfill and pump line 3x | Pressurized nitrogen gas | 2 | Room ventilation is sufficient to prevent ODH hazards. If room ventilation is not on (power outage), do not use pressurized nitrogen. | 0 |
| Laser light exposure | On systems that include lasers, when the vacuum system is opened there is a possibility of laser exposure | 2 | LOTO devices with personal danger tags will be applied to all systems where laser light could potentially harm workers | 0 |
| Vent chamber with Nitrogen gas | Overpressure of chamber | 1 | Relief valves on all CIS pump carts prevent pressure from exceeding 3 psi. All vacuum venting will include a system with an inline pop-off valve | 0 |
| Assemble vacuum components | Lifting, pinch points, opening gasket packets with knife | 1 | * Lift safely, using assistance (mechanical or human) when needed. * Talk through the job before starting to anticipate when and where extra hands will be needed. * Have all necessary tools handy before starting (wrenches, gasket puller/pusher, gaskets, clean wipes and foil) * Use care for opening gasket packets | 1 |
| Pump down | Pump damage if improperly used | 0 | Only people familiar with equipment will use it | 0 |
| Disconnect roughing pump | If pinchoff valve is used, sharp edge will exist | 2 | Use care, tape sharp edges with glass cloth tape ASAP | 1 |
| Turn on ion pump power supplies | Damage to pumps if “start” circuitry is used and current to high | 1 | Do not leave pump with I>3mA unattended – watch for pump heating | 0 |

When completed if the analysis indicates that the Risk Code before mitigation for any of the steps of this task is “medium” or higher (RC≥3), then develop a formal Work Control Document (WCD) (See [ES&H Manual Chapter 3310 Work Control Documents](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-16134)) for the task, attach this THA, have it reviewed and approved prior to beginning the work in accordance to [ES&H Manual Chapter 3310 Work Control Documents](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-16134).