

Task Hazard Analysis (THA) Worksheet

(See [ES&H Manual Chapter 3210 Appendix T1](#)
[Work Planning, Control, and Authorization Procedure](#))

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| | | | |
|---|--|---------------------------------|--|
| Author: Eugene Pasyuk | Date: March 16, 2016 | Task #: If applicable | |
| Complete all information. Use as many sheets as necessary | | | |
| Task Title: Operation of HYCAL | Task Location: Hall B | | |
| Division: Physics | Department: Hall B | Frequency of use: Daily | |
| Lead Worker: Eugene Pasyuk | | | |
| Mitigation already in place: Standard Protecting Measures Work Control Documents | Standard Hall B protective measures and appropriate personnel training including but not limited to SAF111 PRad COO, PRad ESAD | | |

| Sequence of Task Steps | Task Steps/Potential Hazards | Consequence Level | Probability Level | Risk Code (before mitigation) | Proposed Mitigation (Required for Risk Code >2) | Safety Procedures/ Practices/Controls/Training | Risk Code (after mitigation) |
|------------------------|--|-------------------|-------------------|----------------------------------|--|--|---------------------------------|
| 1 | Operation of HYCAL High Voltage for PMT. Potential hazards: <ul style="list-style-type: none"> Electrical shock from touching exposed wires Rapid heat buildup inside the HYCAL enclosure if chiller is not running may cause damages to the equipment. | H | L | 3 | <ul style="list-style-type: none"> Hardware interlocks, Personnel training, setting boundaries around equipment. | <ul style="list-style-type: none"> All maintenance and repair work inside HYCAL enclosure is done by trained personnel with the HV off. Interlocks disable HV when enclosure is open. Interlocks disable HV if the chiller is not running or excessive humidity in the HYCAL enclosure in case of coolant leak. | 1 |

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| Sequence of Task Steps | Task Steps/Potential Hazards | <u>Consequence Level</u> | <u>Probability Level</u> | <u>Risk Code</u> (before mitigation) | Proposed Mitigation (Required for <u>Risk Code</u> >2) | Safety Procedures/ Practices/Controls/Training | <u>Risk Code</u> (after mitigation) |
|------------------------|---|--------------------------|--------------------------|---|---|--|--|
| 2 | Operation of the HYCAL transporter. Potential hazards: <ul style="list-style-type: none"> • Unbalanced load on the drive train may cause HYCAL to fall off • Personnel may get injured in the vicinity of the moving HYCAL and its drive train | H | L | 3 | <ul style="list-style-type: none"> • Hardware interlocks • Personnel training • Setting boundaries around equipment • Visual monitoring while in motion | Transition of HYCAL between operational and storage position must be performed by authorized personnel only. | 1 |
| | | | | | | | |

Highest Risk Code before Mitigation:

3

Highest Risk Code after Mitigation:

1

When completed, if the analysis indicates that the Risk Code before mitigation for any steps is “medium” or higher (RC≥3), then a formal [Work Control Document](#) (WCD) is developed for the task. Attach this completed Task Hazard Analysis Worksheet. Have the package reviewed and approved prior to beginning work. (See [ES&H Manual Chapter 3310 Operational Safety Procedure Program](#).)

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Form Revision Summary

Periodic Review – 08/13/15 – No changes per TPOC

Revision 0.1 – 06/19/12 - Triennial Review. Update to format.

Revision 0.0 – 10/05/09 – Written to document current laboratory operational procedure.

| ISSUING AUTHORITY | TECHNICAL POINT-OF-CONTACT | APPROVAL DATE | REVIEW DATE | REV. |
|-------------------|-------------------------------|---------------|-------------|------|
| ESH&Q Division | Harry Fanning | 08/13/15 | 08/13/18 | 0.1 |

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For questions or comments regarding this form contact the Technical Point-of-Contact [Harry Fanning](#)

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