Jefferson Lab
Thomas Jefferson National Accelerator Facility

Task Hazard Analysis (THA) Worksheet

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

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Author:	Paul Brindza	**Date:**	10/11/16	**Task #:** If applicable	OSP 63388

Complete all information. Use as many sheets as necessary

Task Title:	Q2Q3D Acceptance Testing			**Task Location:**	Hall C SHMS
Division:	Physics	**Department:**	Hall C	**Frequency of use:**	36 months
Lead Worker:	Paul Brindza				
Mitigation already in place: Standard Protecting Measures Work Control Documents	OSP 63388				

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
	Magnetic field	low	low	1	High Magnetic fields not accessible, external low magnetic fields to be measured, Posting Magnetic fields greater than 50 Gauss possible, Access control	NA	NA
	Electrical voltages 270 V high currents 3500 Amps Hipot testing 500 V	Low	Med	2	NEMA enclosures, guards, rated cables, Hipot testing, equipment has earth ground	Elec worker training, OSP 63388. Q2Q3D ERR Review	1
	Pressure, 6 Atm	Low	Med	2	ASME vessel rating, ASME relief devices, Analysis	OSP 63388, Q2Q3D ERR Review, JLAB pressure system design authority review	1
	Cryogenic, LHE, LN2, ODH	Low	Low	1	Cryogens not accessible, relief devices not accessible	OSP 63388, ODH training, Hall C ODH Analysis	Na

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	Magnet cool down	Low	Low	1	Cool down controlled and interlocked to limit magnet delta T internal to < 50 Kelvin to avoid thermal stress	OSP63388, Q2Q3D ERR review	NA
	Magnet Quench	Low	Med	2	Active quench detection and protection prevent magnet overheating by fast energy removal, Magnet design precludes excessive heating by design	OSP 63388, Q2Q3D ERR review	1

Highest Risk Code before Mitigation:	2	**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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