

NSLS OHSAS Job Risk Assessment

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Name(s) of Risk Team Members: Andrew Ackerman, Michael Sansone, Zhong Zhong	Point Value → Parameter ↓	1	2	3	4	5
Job Title: Mechanical assembly of accelerator or beam line components	Frequency (B)	≤once/year	≤once/month	≤once/week	≤once/shift	>once/shift
Job Number or Job Identifier: LS-JRA-0006						
Job Description: Assembly, positioning, installation, and testing of components	Severity (C)	First Aid Only	Medical Treatment	Lost Time	Partial Disability	Death or Permanent Disability
	Likelihood (D)	Extremely Unlikely <<1x/20yrs	Unlikely 1x/10-20yrs	Possible >1x/10-20yrs	Probable 1x/yr	Multiple >1x/yr
Training and Procedure List (Optional):						
Approved by: A. Ackerman Date: 7/02/07 Rev. # 2 Revision Log						
Stressors (if applicable, please list all):		Reason for Revision (if applicable):			Comments:	

Job Step / Task	Hazard	Before Controls					Initial Controls	After Initial Controls					Control(s) Added to Reduce Risk	After Additional Controls				
		Stressors Y/N	# of People A	Frequency B	Severity C	Likelihood D		Risk* AxBxCxD	# of People A	Frequency B	Severity C	Likelihood D		Risk* AxBxCxD	# of People A	Frequency B	Severity C	Likelihood D

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Vacuum system component assembly/disassembly	Bending, twisting, overexertion, dead-lifting, repetitive motion	N	1	3	3	4	36	Proper lifting techniques, back safety training (if applicable), coordination with co-workers, work planning	1	3	1	2	6						
	Stored energy from an unbalanced or uncontrolled load. Ex: Counter weight rotation during disassembly, hydraulic jack uncontrolled slip, bellows shift from vacuum loading results in equipment shift or fall.	N	1	3	3	4	36	Experienced workers. Management emphasis on attention to safety. Work planning. Adequate staffing. Beam line hazardous equipment lists. Hazard labeling. Design mitigation.	1	3	3	2	18						
	Over pressure from an uncontrolled bake out	N	1	3	3	3	27	Experienced workers. Management emphasis on attention to safety. Pressure relief valves	1	3	3	1	9						
	See LS-JRA-0014 for Hand Tool Use.																		
	See LS-JRA-0019 for Material Handling - mechanical																		
	See LS-JRA-0033 for Work with Lasers																		

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	See LS-JRA-0018 for Material Handling - manual																		
Work with ladders	See LS-JRA-0036 for work with portable ladders.																		
Solvent use	See LS-JRA-0020 for work with laboratory chemicals																		
Work with electrical components	See LS-JRA-0002 for Work on Electrical Equipment in Zero Energy State and LS-JRA-0003 for Troubleshooting Energized Electrical Equipment in Range B						Beam line hazardous equipment lists. Identification of energized equipment and associated power supplies.												
Installation and removal of lead bricks or sheet to access beamline components.	See LS-JRA-0025 for Work with Lead																		
Leak checking vacuum system	See LS-JRA-0009 for Work with Compressed Gas Cylinders or Systems																		
Baking out	See LS-JRA-0007 for Resistive Heating																		
Bleeding up vacuum systems	Use of liquid nitrogen boil-off from dewars	N	1	2	2	4	16	Insulated gloves, eye protection, appropriate clothing, knowledge of	1	2	1	2	4						

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								dewar use, Cryogen Safety CBT													
Work with Beryllium	Release of toxic materials due to vacuum failure e.g., Beryllium window	N	1	1	2	3	6	NSLS Beryllium Mgmt. PRM, work permit, window inspections, vacuum interlocks	1	1	2	2	4								
Further Description of Controls Added to Reduce Risk:																					
*Risk:	0 to 20 Negligible	21 to 40 Acceptable					41 to 60 Moderate					61 to 80 Substantial					81 or greater Intolerable				