NC Job Risk Assessment

Name(s) of Risk Team Members:	Point Value → Parameter ↓	1	2	3	4	5
L. Davis, D. Elling, S. Hoey, W. Litzke, A. Piper						
Job Title: **Operation of a Laser in a laboratory** **Job Number or Job Identifier: NC-JRA-007**	Frequency (B)	≤once/year	≤once/month	≤once/week	≤once/shift	>once/shift
Job Description: This JRA evaluates operation of Lasers in NC laboratories. It covers use with Class II, Class IIIA, Class IIIB, IV lasers.	Severity (C)	First Aid Only	Medical Treatment	Lost Time	Partial Disability	Death or Permanent Disability
Training and Procedure List (Optional): Applicable Standing Operating Procedures	Likelihood (D)	Extremely Unlikely	Unlikely	Possible	Probable	Multiple
Approved by: S. Hoey Date: 12/24/07 Rev. #: 0						
Stressors (if applicable, please list all):		**Reason for Revision (if applicable):**			**Comments:**	

			Before Additional Controls						After Additional Controls					
Job Step / Task	**Hazard**	**Control(s)**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**Control(s) Added to Reduce Risk**	**Stressors Y/N**	**# of People A**	**Frequency B**	**Severity C**	**Likelihood D**	**Risk* AxBxCxD**	**% Risk Reduction**
Installation of external optical elements	Hand/body injury from cuts, bumps, scraps, strains, sprains, etc.	Working with hand tools, Laser SOP, Laser Specific Training Checklist, Laser User Qualification, LSO approval	N	1	1	2	2	4								

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Alignment and adjustment of external optical elements using laser beam	Eye injury from laser exposure	Laser power level, laser class, laser light frequency range, PPE, room/laser interlocks, laser SOP, work planning, Laser Specific Training Checklist, Laser User Qualification, Tier 1 inspection, housekeeping, design of optical path, postings	N	1	2	4	2	16									
	Skin burn from laser exposure		N	1	4	2	2	16									
Using Class IIIB & IV laser in experiments	Eye injury	Laser power level, laser class, laser light frequency range, PPE, room/laser interlocks, laser SOP, work planning, Laser Specific Training Checklist, Laser User Qualification, Tier 1 inspection, housekeeping, design of optical path, postings, beam stop, shield to prevent beam from reflecting, enclosed systems, approval/review by LSO	N	1	2	3	2	12									
	Skin burn from laser exposure		N	1	2	1	1	2									
	Fire (focused beams)		N	1	2	1	1	2									
	Injury from chemical exposure (laser dye/carrier)		N	1	1	5	2	10									
Testing laser interlocks (Only if laser actually fires during testing. Does not apply if laser is enabled for testing, but does not run).	Eye injury	Laser power level, laser class, laser light frequency range, PPE, room/laser interlocks, laser SOP, work planning, Laser Specific Training Checklist, Laser User Qualification, Tier 1 inspection, housekeeping, design of optical path, postings, beam stop, Approval/review by LSO	N	1	4	4	2	32									
	Skin burn		N	1	1	2	2	4									
	Fire due to laser igniting materials		N	1	1	1	2	2									
Further Description of Controls Added to Reduce Risk:																	

***Risk:**	**0 to 20**	**21 to 40**	**41-60**	**61 to 80**	**81 or greater**
	Negligible	**Acceptable**	**Moderate**	**Substantial**	**Intolerable**