

NSLS OHSAS Job Risk Assessment

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Name(s) of Risk Team Members: M. Buckley, B. Chmiel, R. Church, P. Marino, B. Podobedov, P. Zuhoski	Point Value → Parameter ↓	1	2	3	4	5
Job Title: Operate an Accelerator	Frequency (B)	≤once/year	≤once/month	≤once/week	≤once/shift	>once/shift
Job Number or Job Identifier: LS-JRA-0030	Severity (injury/ rad event) (C)	First Aid Only/ Rad stop work, RAR*	Medical Treatment/ ORPS threshold exceeded*	Lost Time/ NTS report filed with DOE*	Partial Disability/ DOE enforcement action levied against BNL*	Death or Permanent Disability/ DOE mandated rad ops stand down*
Job Description: Operating conditions are established and maintained to provide satisfactory performance of the accelerator's intended function. Studies are periodically performed to determine operating characteristics under different operating conditions or with different equipment. As a part of operating the accelerator, visits are made to accelerator and experimental floor.	Likelihood (D)	Extremely Unlikely	Unlikely	Possible	Probable	Multiple
Training and Procedure List (Optional):						
Approved by: A. Ackerman Rev. # 4	Date: 09/22/2010 Revision Log					
Stressors (if applicable, please list all): Shift work, Time pressures when the machine is down		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	Risk* AxBxCxD	% Risk Reduction
Operation of machine in normal mode	Unusual radiation levels caused by misteering or mistuning of beam	Y	5	5	3	3	225	SAD, ASE, operator training, procedures, radiation monitoring, equipment design, configuration control	5	5	1	2	50							

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Operation of machine in normal mode	Fire and or smoke caused by equipment malfunction or mis-use	N	5	5	5	2	250	SAD, Operator training, procedures, fire detection systems	1	5	5	1	25							
	Ergonomics	N	1	5	3	3	45	Special seating design, Proper body position, frequent breaks.	1	5	3	2	30							
Operation of beam position flags (insertion into the electron beam)	Unusual radiation levels caused by scatter off the flag.	N	1	4	3	3	36	Surveys, shielding, procedures	1	4	3	2	24							
Emergency response by Operator or OpCo	Exposure to chemicals resulting from spill or release	N	1	5	2	3	30	Operator training, procedures, PPE	1	5	2	2	20							
	Exposure to smoke or fire resulting from equipment malfunction	N	1	5	5	3	75	Operator training, procedures	1	5	5	2	50							
	Oxygen deficiency hazards (asphyxiation)	N	1	4	5	3	60	ODH alarms (local and remote), postings, ventilation, training	1	4	1	2	8							
Operation of disconnects and circuit breakers	Electrocution	N	1	3	5	5	75	Proper grounding, proper equipment design (NRTL approved)	1	3	5	1	15							
	Electrical Shock	N	1	3	3	5	45	Proper grounding, proper equipment design (NRTL approved)	1	3	3	1	9							

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	Arc Flash	N	1	3	5	5	75	Training, proper grounding, proper equipment design (NRTL approved), NFPA 70E compliant PPE, standards & procedures	1	3	4	1	12									
Surveillance of equipment	Exposure to magnetic fields	N	1	3	1	4	12	Training, postings	1	3	1	4	12									
Floor surveillance	Trips, Slips, falls	N	1	5	3	3	45	Inspections, training, awareness building	1	5	3	2	30									
Floor surveillance	Injury from unsafe condition (e.g. electrical shock, lasers)	N	1	5	3	2	30	Inspections, training, awareness building, Postings, interlocks	1	5	3	2	30									
Opening and closing plug doors	See Manual material handling LS-JRA-0018							See Manual material handling LS-JRA-0018														
	Being crushed by an object	N	1	2	5	3	30	Training, procedures	1	2	5	2	20									
	Being struck by an object (air pressure)	N	1	2	4	3	24	Training, equipment inspection	1	2	4	2	16									
	Ergonomics	N	1	2	3	3	18	Proper equipment lifting & handling techniques	1	2	3	2	12									
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				

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Document Review Frequency	
3	Years

Review signatures on file
with master copy of
controlled document

LIGHT SOURCES DIRECTORATE REVISION LOG		
Document Number:	LS-JRA-0030	
Subject	Operate an Accelerator	
Rev	Description	Date
1	Original Document	7/27/05
2	Added 'Ergonomics' to "Opening and closing plug doors." This was due to a worker who experienced a muscle spasm conducting this type of work.	10/18/05
3	Reviewed the document for accuracy The only modifications that were made were to the "approved by" and risk team members' names.	07/02/08
4	Added "lasers" in example of floor surveillance hazard and "Postings and Interlocks" in the initial controls.	09/22/2010