	SAFE WORK PROCEDURE:	Doc No.		SWP-COE-08		
		Last Rev/Date		00	30 Mar 2010	
	Molecular Beam Epitaxy System	Current Rev/Date		00	30 Mar 2010	
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1. Application to:

All personnel working on the Molecular Beam Epitaxy System (MBE)

2. Pre-requisite for Operation of MBE:

- 2.1. Must have attended the operation and safety training.
- 2.2. Must know how to run MBE software and temperature controllers.
- 2.3. Must be physically fit.
- 2.4. Able to use Liquid Nitrogen (LN2) cooling to the system.
- 2.5. Able to operate vacuum pumps.

3. Hazards that may be present:

- 3.1. LN2 frostbite.
- 3.2. LN2 tanks push/pull can cause injury to hands and legs.


4. Personal Protection Required:

- 4.1. Safety Boots.
- 4.2. Goggles, Gloves

5. Procedures:

5.1. Operating the MBE

- 5.1.1. Put on the PPE as per section 4 before start work with LN2 process.
- 5.1.2. Study & understand all tolerance & critical area of the job.
- 5.1.3. Check vacuum level and cells temperature of the system before start LN2 cooling.
- 5.1.4. Turn on the LN2 solenoid power switch.
- 5.1.5. Ensure LN2 is properly supply to the machine.
- 5.1.6. Check the LN2 cooling whether flow rate is in proper condition or not.
- 5.1.7. Monitor the vacuum level according to LN2 cooling.
- 5.1.8. Identify MBE process steps/program and record in respective record.
- 5.1.9. Inform the super user /supervisor if encounter the problem.

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5.2 Maintenance of the MBE

5.2.1 Check cells temperature to keep at idle

5.2.2 Check the vacuum pumps efficiency.

5.2.3 Check the LN2 line leaking, thermal isolation efficiency.

6. Communication Frequency:

The regular communication is every one year. However, the Lab Supervisors shall arrange for this Safe Work Procedure to be communicated as & when required.

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