



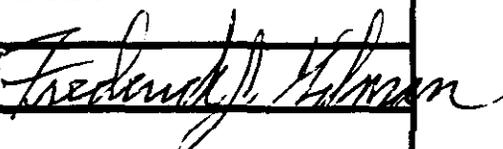
Laser Operation Procedures for the TTR

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Abstract:

This procedure is to establish general requirements for the normal operation of the laser experiment of the TTR.

SSC LABORATORY PROCEDURE	NUMBER GEM-TN-92-156	REV	PAGE 1 of 3
	EFFECTIVE DATE 10-9-92	SUPERSEDES	
	SPONSORING FUNCTION GEM		
	APPROVED BY F. Gilman 		
SUBJECT Laser Operation Procedures for the TTR			

1.0 PURPOSE

This procedure is to establish general requirements for the normal operation of the laser experiment of the TTR.

2.0 SCOPE

The scope of this procedure is limited to the routine operation of the laser experiment. It allows the safe use of the laser, the safe initiation of the flow of test gases and the safe application of high voltage into the Test Chambers.

3.0 DEFINITIONS

Test Chamber - one of many detection chambers that are to used in the laser experiment
TTR - Texas Test Rig

4.0 PROCEDURE

The following are the general procedures for starting up one of the Test technologies for the TTR. They are divided into two sections: start up and shut down.

Note: GEM-TN-92-152, TTR Emergency Procedures, will be followed as the situation warrants.

4.1 Starting up the laser experiment

4.1.1 Test Chamber Purging

4.1.1.1 The Test Chambers shall be purged in accordance with GEM-TN-92-154, TTR Purging Procedures.

WARNING: Failure to purge or an inadequate purging may result in a potentially flammable mixture inside the Test Chamber.

4.1.1.2 Purging will be a nominal 6 volume changes of the test chamber.

4.1.2 The Test Chambers shall be leak checked and repaired if necessary, in accordance with GEM-TN-92-155.

WARNING: Failure to leak check, with associated repairs, may result in a potential flammable mixture at the leak point.

4.1.3 Electrical Connections

4.1.3.1 Check proper installation and attachment of proper electrical connections.

4.1.3.2 Inspect cables and wiring for breaks, cuts, or chaffing. Repair as required.

WARNING: Failure to correct electrical deficiencies may result in a shock hazard or damaged equipment.

4.1.4 Align Laser

4.1.4.1 Secure laser to table or provide a non-reflective curtain around laser experiment area.

WARNING: Failure to secure or isolate laser may cause eye damage.

4.1.4.2 Align laser beam by positioning the tilt of the front assembly, the tilt of the back mirror, and the output coupler.

WARNING: Failure to wear laser goggles, rated for the type and class laser being used, during laser alignment may cause eye damage.

4.1.5 Position one gas leak sensor (Houston detection system) on each end of the chamber being used.

4.1.6 Start flow of test gases.

- a. Establish appropriate mixture.
- b. Set pressure of Test Chamber gas(es) to test pressure.
- c. Flow gas(es) for a nominal of 5 to 6 volume changes to ensure proper mixture in the samtest chamber
- d. Adjust flow to test settings.

WARNING: Do not exceed 150 psig for the laser experiment gas chamber. This may result in structural failure of the chamber, causing injury to personnel and damage to equipment.

4.1.7 Slowly apply high voltage to the Test Chambers per values established for test.

4.1.8 Turn on power to the appropriate electronics for the laser experiment.

4.1.9 Perform experiment as required.

4.2 Shut down of laser experiment.

Follow shut down procedures per GEM-TN-92-159, TTR Shut Down Procedures for Test Chambers.

5.0 RESPONSIBILITIES

It is the sole responsibility of the TTR Project Manager to ensure the proper implementation of this procedure.

6.0 REFERENCES

GEM-TN-92-155 TTR Leak Check Procedures
GEM-TN-92-154 TTR Purging Procedures
GEM-TN-92-152 TTR Emergency Procedures
Applicable TTR Test Chamber Log Book