

Operational Safety Procedure Form
(See [ES&H Manual Chapter 3310 Appendix T1](#)
[Operational Safety Procedure \(OSP\)](#) and
[Temporary OSP Procedure](#) for instructions.)

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For Word Doc

Title:	SHMS Heavy Gas Cherenkov (HGC)		
Location:	96 - Experimental Hall C – SHMS detector hut	Type:	<input checked="" type="checkbox"/> OSP <input type="checkbox"/> TOSP
Risk Classification (per Task Hazard Analysis attached) (See ESH&Q Manual Chapter 3210 Appendix T3 Risk Code Assignment .)		Highest Risk Code Before Mitigation	2
		Highest Risk Code after Mitigation (N, 1, or 2):	N
Owning Organization:	Physics Division / PHALLC	Date:	7/21/2019
Document Owner(s):	Brad Sawatzky <brads@jlab.org>		

DEFINE THE SCOPE OF WORK

1. **Purpose of the Procedure** – Describe in detail the reason for the procedure (what is being done and why).

This OSP covers the operation and filling of the SHMS Heavy Gas Cherenkov (HGC) in Hall C.

2. **Scope** – include all operations, people, and/or areas that the procedure will affect.

This document covers purging and filling the HGC tank as required by the experiment. Users will control the photomultiplier (PMT) high voltages (HV) through the standard Hall C HV control GUI.

3. **Description of the Facility** – include building, floor plans and layout of the experiment or operation.

The Heavy Gas Cherenkov is located in the SHMS detector stack in Hall C (standard equipment).

ANALYZE THE HAZARDS and IMPLEMENT CONTROLS

4. **Hazards identified on written Task Hazard Analysis**

Photomultiplier high voltage
Gas system

Details and mitigations in THA and HGC Procedures manual (attached)

5. **Authority and Responsibility:**

5.1 Who has authority to implement/terminate

B. Sawatzky, H. Fenker

5.2 Who is responsible for key tasks

B. Sawatzky, H. Fenker

5.3 Who analyzes the special or unusual hazards including elevated work, chemicals, gases, fire or sparks (See [ES&H](#)

[Manual Chapter 3210 Appendix T1 Work Planning, Control, and Authorization Procedure\)](#)

N/A

6. Personal and Environmental Hazard Controls Including:

6.1 Shielding

N/A

6.2 Barriers (magnetic, hearing, elevated or crane work, etc.)

N/A

6.3 Interlocks

N/A

6.4 Monitoring systems

Pressure and temperature are logged in EPICS

6.5 Ventilation

No special considerations beyond the air handling already in place in the SHMS detector hut

6.6 Other (Electrical, ODH, Trip, Ladder) (Attach related Temporary Work Permits or Safety Reviews as appropriate.)

PMTs are powered by standard high-voltage/low-current power supplies through appropriately rated SHV terminated RG-59 cables.

7. List of Safety Equipment:

7.1 List of Safety Equipment:

N/A

7.2 Special Tools:

N/A

8. Associated Administrative Controls

Only personnel approved by the System Owner (B. Sawatzky, H. Fenker) are permitted to fill/empty the HGC.

9. Training

9.1 What are the Training Requirements (See [List of Training Skills](#))

N/A

DEVELOP THE PROCEDURE

10. Operating Guidelines

See attached HGC procedures manual.

11. Notification of Affected Personnel (who, how, and when include building manager, safety warden, and area coordinator)

Inform Hall C Work Coordinator prior to fill/pump out of the HGC tank.

12. List the Steps Required to Execute the Procedure: from start to finish.

See attached HGC procedures manual.

13. Back Out Procedure(s) i.e. steps necessary to restore the equipment/area to a safe level.

N/A

14. Special environmental control requirements:

14.1 List materials, chemicals, gasses that could impact the environment (ensure these are considered when choosing Subject Mater Experts) and explore [EMP-04 Project/Activity/Experiment Environmental Review](#) below

N/A

14.2 Environmental impacts (See [EMP-04 Project/Activity/Experiment Environmental Review](#))

N/A

14.3 Abatement steps (secondary containment or special packaging requirements)

N/A

15. Unusual/Emergency Procedures (e.g., loss of power, spills, fire, etc.)

N/A

16. Instrument Calibration Requirements (e.g., safety system/device recertification, RF probe calibration)

N/A

17. Inspection Schedules

N/A

18. References/Associated/Relevant Documentation

HGC Procedures Manual (attached).
THA (attached).

19. List of Records Generated (Include Location / Review and Approved procedure)

Submit Procedure for Review and Approval (See [ES&H Manual Chapter 3310 Appendix T1 OSP & TOSP Instructions – Section 4.2 Submit Draft Procedure for Initial Review](#)):

- Convert this document to .pdf
- Open electronic cover sheet:
https://mis.jlab.org/mis/apps/mis_forms/operational_safety_procedure_form.cfm
- Complete the form
- Upload the pdf document and associated Task Hazard Analysis (also in .pdf format)

Distribution: Copies to Affected Area, Authors, Division Safety Officer

Expiration: Forward to ESH&Q Document Control

Form Revision Summary

Revision 1.5 – 04/11/18 – Training section moved from section 5 Authority and Responsibility to section 9 Training

Revision 1.4 – 06/20/16 – Repositioned “Scope of Work” to clarify processes

Qualifying Periodic Review – 02/19/14 – No substantive changes required

Revision 1.3 – 11/27/13 – Added “Owning Organization” to more accurately reflect laboratory operations.

Revision 1.2 – 09/15/12 – Update form to conform to electronic review.

Revision 1.1 – 04/03/12 – Risk Code 0 switched to N to be consistent with [3210 T3 Risk Code Assignment](#).

Revision 1.0 – 12/01/11 – Added reasoning for OSP to aid in appropriate review determination.

Revision 0.0 – 10/05/09 – Updated to reflect current laboratory operations

ISSUING AUTHORITY	FORM TECHNICAL POINT-OF-CONTACT	APPROVAL DATE	REVIEW DATE	REV.
ESH&Q Division	Harry Fanning	04/11/18	04/11/21	1.5

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