

From Stepan's talk: HPS specific documentation

- Procedures for running each sub-system (SVT, ECal, beamline, DAQ):
 - TOSPs for subsystems (SVT and ECal)
 - operation manual
 - for subsystem experts
 - for shift leader
 - for shift taker or worker
 - How-to-pages (wiki?)
 - Emergency procedures
 - Shift policy
-
- Should define responsible parties for above as soon as possible
 - Must have the first complete draft of all documentation by the collaboration meeting

General PAC Instructions

http://www.jlab.org/user_resources/PFX/NP-PFX/text.html#vii

VII. Preparation for Running the Experiment

A. Submit to the Jefferson Lab DSO documentation on personnel and procedures at least one month before the start of the experiment:

1. Submit final ESAD.
2. Submit final [RSAD](#).
3. Submit COO (Conduct of Operations Document). In the COO describe Experiment Responsibilities, Collaboration Organization, Operations Personnel, Training Required, etc.
4. Submit Safety Check lists.
5. Submit ERG (Emergency Response Guidelines).
6. Submit experimental procedures, both for shift leaders and shift takers (in the form of how-to's or on wiki pages) and for experts (in the form of an operations manual and/or OSPs).

(Note: The bulk of the experiment procedures will be in the form of an operations manual for the major experimental equipment that will be referenced by the COO.)

B. Pre-operation checkout of equipment installation and procedures by experiment collaboration can be done with work control documents. This serves to verify operability after installation and to review integration to the extent possible without the use of beam.

C. Jefferson Lab review of the safety of the installed equipment prior to its use with beam.

(This review will be carried out by Division Safety Officer in collaboration with subject matter experts, further EH&S Personnel, and the assigned Liaison Physicist, verifying conformance to the ESAD and checking functionality of safety aspects of the apparatus and items and issues specifically identified on the Experiment Installation Checklist by the RC review.)

D. Experiment Readiness Clearance (ERC) issued by AD for Physics.

(Note: This will include a verification that all reviews are in place, as denoted in the Experiment Readiness Checklist. It also verifies that the experiment installation check has been completed, as documented on the Experiment Installation Checklist, and that all issues and concerns have been satisfactorily resolved, as detailed in the Issue/Concern Checklist.)

SVT/SVT DAQ Documents Needed for Readiness Review

Drafts needed by Collaboration Meeting. Final version end June.
Subsystem leaders present for review on July 10 at JLAB.

1. Operations/procedures manuals for SVT/SVT DAQ
one for shifters:
one for experts:
CLAS examples here: <http://clasweb.jlab.org/shift/> see TOF and DC
2. Commissioning, installation, and survey plans and procedures
3. **TOSP** (Temporary Operational Safety Procedures)
an ESH work control document giving scope, hazard analysis, procedures,
authorities, etc.
<http://www.jlab.org/ehs/ehsmanual/3310T1.htm>
have example from Test Run
4. Small Parts of **COO** (Conduct of Operations) tbd by Stepan
<http://clasweb.jlab.org/shift/eg6/>
e.g. checklists, other?

Operations Manual for Shifters and Experts

- Brief description of systems: cooling, vacuum, temp monitoring, power, HV, positioning,
- Cooling
- Power and HV
- Interlocks (experts?)
- Calibration/Timing (experts?)
- Motion Control and Wire Scans
- Monitoring
- More???

CLAS examples here: <http://clasweb.jlab.org/shift/> see TOF and DC

TOSP

- **Hazards to equipment**
 - outgassing and virtual leaks
 - cooling system leaks
 - cooling system failures
 - radiation damage to Si, hybrid, FE
 - positioning errors
 - what else???
- **Hazards to personnel**
 - HV
 - LV
 - magnet
 - vac
 - activation
- **Mitigations and procedures**

Operational Safety Procedure Form

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

Click
For Word Doc

Serial Number: _____
(Assigned by [ESH&Q Document Control](#) #7277)

OSP TOSP

This document is written to mitigate **hazard issues** that are (check all that apply):

Unable to comply with ESH&Q Manual requirements as written.

New/anticipated/previously unrecognized.

Determined to have an unmitigated **Risk Code** of 3 or 4.

Issue Date: 04/19/2012 **Expiration Date:** _____
(No more than three years from Issue Date except TOSP which is three months from Issue Date)

Title: HPS test run using the Hall-B pair spectrometer

Location: Hall-B

Risk classification (See ESH&Q Manual Chapter 3210 Appendix T3 Risk Code Assignment)	Without mitigation measures (3 or 4):	2
	With mitigation measures in place (0, 1, or 2):	1

Document Owner(s): Stepan Stepanyan **Date:** 04/18/2012

Supplemental Technical Validations:

Hazard Reviewed (per ESH&Q Manual 2410-T3):	Subject Matter Experts Signature:	Date:
Safety	Bert <u>Manzlak</u>	_____
Electrical	Charles Hightower	_____
Cooling inside the vacuum	Tim <u>Michaleski</u>	_____
Mechanical	Dave <u>Kashy</u>	_____
Interlocks	Kristen <u>Bruhwal</u>	_____

Approval Signatures:	Print	Signature	Date:
Division Safety Officer:	Javier Gomez	_____	_____
Department or Group Head:	Volker Burkert	_____	_____
Safety Warden of Area:	Doug <u>Tilles</u>	_____	_____
Other Approval(s):	Bert <u>Manzlak</u>	_____	_____

Document History:

Revision:	Reason for revision or update:	Serial number of superseded document

Distribution: Copies to: affected area, authors, Division Safety Officer, ESH&Q Document Control
After expiration: Forward original and log sheet of trained personnel to ESH&Q Document Control.

Operational Safety Procedure Form

Serial Number: _____
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- Purpose of the Procedure**
To test Si-tracker from SLAC together with calorimeter
- Scope - include operations, people, and/or areas where procedure applies:**
Si-tracker (see attached document) will be installed inside the Hall-B pair spectrometer vacuum chamber for testing the full HPS test run apparatus using secondary particles produced from interaction of the photon beam with pair spectrometer pair converter. Work scope will include installation and alignment of the SVT, connection of the power lines, signal cables and cooling system. Hall-B engineering group will perform installation, JLAB survey group will perform alignment, and HPS collaborators will make connections and tests before closing and pumping vacuum. All the elements of the SVT are tested for magnet and vacuum compatibility. Data taking will use standard Hall-B DAQ system.
- Description of the Facility: (include floor plans and layout of a typical experiment or operation)**
Installation and operation of the HPS SVT system will be done in Hall-B using the Hall-B pair spectrometer and PS vacuum chamber.
- Authority and Responsibility:**
 - Who has authority to implement/terminate**
John Jaros
Stepan Stepanyan
Doug Tilles
Tim Nelson
 - Who is responsible for key tasks**
Doug Tilles
Tim Nelson
Stepan Stepanyan
- Who analyzes the special or unusual hazard: (See [ESH&Q Manual Chapter 3210 Appendix T1 Work Planning, Control, and Authorization Procedure](#))**
[Start Typing Here]
- Personal and environmental hazard controls including:**
 - Shielding**
NA
 - Interlocks**
Chiller shutdowns in an event of flow drop or loss of vacuum
Beam excursions, temperature changes, loss of vacuum or chiller shutdown will initiate HV/LV shutdown through EPICS

Completion/installation/survey/commissioning

- **Completion** is just the newly revised schedule, updated as appropriate for the review.
- **Installation.** SVT should think through installation plans and present them at the beamline meeting by May 26
- **Survey.** Ditto.
- **Commissioning.** SVT/SVT DAQ should develop commissioning plans for apparatus, and electron beam commissioning plans for first turning on the SVT with beams.