

Documentation status: Safety and Ops manuals

Documentation needed before we run (or install?)

ESAD

OSPs for each device (including THA)

OPS manuals for each device

Brian Quinn Feb. 18/21

Ed Folts has prepared a ‘skeleton’ of the ESAD for GMn running period.

Attached to this talk on indico as “Chapter 4 for SBS experiments 11-18-1.docx”.

Needs input from collaborators (or staff) responsible for each system.

Extract and edit (in Word) your section.

Send it back to Ed who will add it to the ESAD.

ESAD

For each system ESAD gives

- Personnel responsible and contact person

- Very brief description

- List of all possible hazards

- Describes hazard mitigation used to reduce hazards to acceptable level

- Indicate (and point to) OSP, if applicable

Systems in ‘skeleton’ ESAD, arranged as shown:

4.2 Target

4.3 Beam line

4.3.1 Entrance Beam Line

4.3.2 Exit Beam Line **Due to being “NEW” equipment AN OSP WILL BE REQUIRED FOR THIS SYSTEM**

4.3.3 Removable configuration specific upstream sections

4.3.7 Corrector magnets **Due to being “NEW” equipment AN OSP WILL BE REQUIRED FOR THIS SYSTEM**

4.3.8 Support tower

4.3.9 Vacuum system

4.4 SBS Spectrometer

4.4.3 SBS Magnet System **Due to being “NEW” equipment AN OSP WILL BE REQUIRED FOR THIS SYSTEM** but can be part of the spectrometer OSP

4.4.4 Carriage and motion system **Due to being “NEW” equipment AN OSP WILL BE REQUIRED FOR THIS SYSTEM**

4.4.5 GMn Detector Package **Due to being “NEW” equipment AN OSP WILL BE REQUIRED FOR THIS SYSTEM**

{ Eliminate this section since HCal, GEN-RP polarimeter, and CD are each covered separately }

4.4.6 **GEN-RP Detector Package** **Due to being “NEW” equipment AN OSP WILL BE REQUIRED FOR THIS SYSTEM**

4.4.7 Hadron Calorimeter (HCAL-J) **Due to being “NEW” equipment AN OSP WILL BE REQUIRED FOR THIS SYSTEM**

4.4.8 Coordinate Detector **Due to being “NEW” equipment AN OSP WILL BE REQUIRED FOR THIS SYSTEM**

4.4.9 Electronics, shielding and Cabling

4.4.10 Gas systems **Due to being “NEW” equipment AN OSP WILL BE REQUIRED**

4.4.11 Big Bite Spectrometer

{ Change to separate sub-section 4.5 ? }

4.4.12 Big Bite Magnet System Due to having “NEW” equipment as part of this system **AN OSP WILL BE REQUIRED FOR THIS SYSTEM** but can be part of the spectrometer OSP

4.4.13 Big Bite Detector Package Due to being “NEW” equipment **AN OSP WILL BE REQUIRED FOR THIS SYSTEM**

4.4.14 Big Bite Electronics, shielding and Cabling

4.4.15 Big Bite Gas system Due to being “NEW” equipment **AN OSP WILL BE REQUIRED FOR THIS SYSTEM** but can be part of the spectrometer OSP

OSP required for each new process (or in our case... new hardware).

Guide to writing OSPs (from Ed Folts):

<https://www.jlab.org/physics/osp-guide>

Basic OSP Writing Guide and Examples

[Download the OSP Guide in a PDF.](#)

Instructions for when an Operational Safety (OSP) is required in the Physics division can be found in the Physics Division Work Planning Requirements at https://www.jlab.org/user_resources/PFX/NP-PFX/PhysicsDivisionWorkPlanningRequirements.pdf

The OSP process is divided into 3 parts:

1. The OSP form
2. The Task Hazard Analysis (THA) form
3. The Submission form

The official instructions for the OSP can be found at <https://www.jlab.org/ehs/ehsmanual/3310T1.htm>

1. Operational Safety Procedure (OSP) form

The OSP form can be found here <https://www.jlab.org/ehs/ehsmanual/3000.html> under section 3310 Operational Safety Procedure Form. Just click to the right for the word document.

Fill out the first section of the OSP with a descriptive title, an accurate location, owning organization (Hall or work group), and date. The first author will be the primary contact and must be Jlab staff, but you can add others. Don't worry about the risk codes yet. We will come back to that after we analyze the hazards.

1.1 Define the scope of work (or in our case new device)

Describe what you want to do and the equipment you want to use. This does not include your procedures or manuals. These will be part of the Develop the Procedures section done later.

1.2 Analyze the hazards

Along with filling out this section, this is where you want to do the Task Hazard analysis. Think of things that can cause damage to people, equipment or the environment within the scope of your test, equipment or experiment. Hazard areas include electrical, High voltage, oxygen deficiency (ODH has a separate form), fire, flammable or explosive gas (separate approval), cryogenics, material handling (possible lift plan), Radiation (possible RWP), chemicals, lasers (possible LOSP), the list goes on and on and can be found here <https://www.jlab.org/ehs/ehsmanual/2410T1.htm> along with the applicable EHS&Q manual chapter and the subject matter expert. See Par. 2 below for instructions how to fill out the Task Hazard Analysis form

1.3 Develop the Procedure

This is usually the easiest part to complete because you usually know what you want to do. This is where you spell it out. If you have documents you want to attach to the OSP, this is where you can reference them. We will attach them later on the submission page. Once this section is complete you should go back to the THA and make sure you captured all the hazards. It's much better to do it now than to have the document sent back to you. Save the OSP on your local computer

2. The Task Hazard Analysis (THA) form

The Task Hazard analysis form can be found here <https://www.jlab.org/ehs/ehsmanual/3000.html> under section 3210 Task Hazard analysis (THA) worksheet. Just click to the right for the word document.

Fill out the first section of the THA with the same information you have used for the OSP form (title, location, owning organization (Hall or work group), date...)

Mitigation already in place and Standard protecting measures means things like personal protective equipment, engineered controls and training. "Work Control documents" means overlapping OSPs and other permits. Here are links to use if you want to know more: <https://www.jlab.org/eshq/workcontrol>

Use table 1 at <https://www.jlab.org/ehs/ehsmanual/3210T3.htm> to get the Consequence level of the hazard. Use table 2 to get the Probability level and table 3 to get the risk code. Always attempt to get the risk code as low as reasonably achievable. How that is done is put in the box to the right. The next box to the right provides more types of mitigation and is self-explanatory. The final box in the row is risk code after mitigation. Do this for all of your hazards and put the highest pre and post mitigated codes at the bottom of their column. Save the completed document to your computer.

Once you have completed the THA you can go back to the first section of the OSP. Transfer the risk codes and fill out the Analyze Hazards and Implement controls section. Make sure the hazards in this section match the THA.

3. The Submission form

Open the web page <https://www.jlab.org/ehs/ehsmanual/3310T1.htm> , go to section 4.3 and click the Submit OSP for electronic signatures button. This will bring up the OSP submission page.

The next section gives you the subject matter experts that will review this OSP. Read them all and check all that apply but not more than apply. If you have a question as to if they apply look at the previously mentioned hazard list link at <https://www.jlab.org/ehs/ehsmanual/2410T1.htm> and give the subject matter experts a call. If you believe you have other hazards after looking at the list please add it at the bottom of this section. Make sure you have everything you want on the form and click "Submit". You will get a green confirmation at the top of the page.

If you have problems or question please contact me: Ed Folts (folts@jlab.org - 269 7857)

4. Example Documents *

[OSP for MRPC in Hall A.pdf](#)

[Fastbus test setup in TEDF High Bay.pdf](#)

[OSP for DVCS.pdf](#)

[PHY-02-002 Hall C beam tunnel.pdf](#)

*If you are having issues opening these examples please try right clicking each link and saving the files to your computer then open them from there.

RSAD – Radiological Safety Analysis Document (Done for GMn... others?)

COO – Conduct of Operations

ERG – Emergency Response Guide

Ops Manuals

Presently “every group for themselves”

Single document required for each system???

as opposed to eg. a wiki with a collection of pages and GUIs?

Is there a standard system for collecting/filing Ops manuals? Are they assembled into Hall A manual?

Message from Ed:

Hall safety walkthroughs will no longer be valid in the SBS configuration so EVERYONE will have to retake it and with the COVID restrictions that is going to be a pain.