

Test Facilities/ Training	
Title: AD103 – FACET Orientation AD-103	
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Scope

Course AD103: Facet Orientation is designed to provide a comprehensive orientation to activities in the Sector 20 Facet experimental area to enable individuals to safely enter and work unaccompanied. It distills basic SLAC requirements and discusses how they are met specifically in this environment.

Procedure:

Attached training materials include all of the items to be addressed during course AD103.

1. Instructor copies training materials: one for the instructor (including all pages), and additional copies of the training materials for all students.
2. Instructor completes training by reviewing all items on handout with Student.
3. Instructor records training completion using SLAC Easy Training, or completes the top section of the course roster (follows), photographs or scans course roster, and emails roster to address listed at bottom of roster.

Qualified instructors are listed on training course description found at:

https://www-internal.slac.stanford.edu/esh-db/training/slaconly/bin/catalog_item.asp?course=AD103

This document may be downloaded from:

<https://facet-ii.slac.stanford.edu/sites/default/files/2024-05/FACET-AD103.pdf>

Revision history:

R009, 05/09/2024	Changed pdf link, updated Experimental Coordinator name
R008, 03/30/2023	Edited FACET Experimental Coordinator and Area Manager names
R007, 11/15/2022	Add Stop Work, details on evacuation response, emphasis on procedures for return to work cases, remove construction area text (Sectors 0 -10 are no longer construction area since March 2022), add no loitering. Updated Area Manager
R006, 01/11/2022	Updated name of safety officer
R005, 07/17/2019	Add evacuation alarm and response
R004, 10/10/2018	Update construction area PPE
R003, 7/13/2018	Adiabatic improvements. Inclusion of Construction Area requirements
R002, 6/28/2018	Reorganization of materials; additional content: Safety Systems section
R001, 6/7/2016	Additional content

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Training Roster (Send scan to SLAC-TRAINING@SLAC.STANFORD.EDU)

Instructor Name: _____ Session Date: _____

Printed Name	Signature
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

Resources

FACET Experiment Coordinator: Ivan Rajkovic, x2992, rajkovic@slac.stanford.edu

Sector 0-20 Area Manager: Emad Hamrah, x3478, ehamrah@slac.stanford.edu

Test Facilities Safety Manager: Amy Ecclesine, x8553, amyecc@slac.stanford.edu

Emergency phone (for fire, injury, large toxic release): x911, then call SLAC Security x5555. Always use a wired “land-line” phone – do not call from a cell phone. Have someone meet responders outside the klystron gallery.

Non-emergency event (non-injury, small toxic release): SLAC Security x5555.

Notice something **strange or odd?** Even if you think it isn’t safety-related, tell us about it.

Phones for Facet may be found in the SLAC directory under “Facet”.

Scope of Orientation

This orientation program covers work in the B244 control room, the Klystron Gallery areas associated with the Facet experimental area in Sectors 19 and 20, and the beamline experimental areas in Sector 20.

Excluded from this orientation are the Facet Laser Room in Sector 20, or any Facet-II program equipment between sectors 10 and 19.

Safety Systems

Labeled Radiation Safety Items (e.g.: lead or concrete shielding, radiation detectors) are located in specific locations for safety reasons. Do not move or modify any safety item.

Safety items such as personnel access doors, door switches, water flow switches, emergency off buttons (and their red lights), laser interlocks, &etc. must not be defeated, adjusted, or modified. In particular, personnel access to emergency off buttons must not be impaired and red lights must not be covered.

Laser Safety: labeled beam blocks, barriers, and controls may only be adjusted or removed in specific accordance with the item's labeling.

During an **earthquake**, move out of the facility as quickly as possible. Exit once the shaking has stopped. Note any immobile people on your way out.

If there is a fire detected, the evacuation alarm will sound. This is an audible alarm and white lights flash at the bottom of the manway ladder in sector 20 and at the bottom of the stairs in sector 19.

Emergency exit is through the sector 19 staircase unless the adjacent red light is flashing. If the red light is flashing, this indicates that the fire is above, and the staircase is not to be used.

Use the Sector 18 or Sector 20 Housing doors as alternatives for emergency exit only. Use the Sector 20 ladder for emergency exit only. Do not use the ladder if the adjacent red light is flashing.

Following an earthquake or evacuation alarm: Meet in the informal dirt parking area across the road from the Facet Control Room B244. Call x5555 to notify SLAC Security whether all have been accounted for or whether there are people missing or immobile.

Note: The laser curtain automatically shuts down the laser when the curtain is opened. Open curtains as necessary to escape hazards.

Radiation Management

Everything in Facet (following beam operation) is "radiation exposed" and must be surveyed before removal from the building.

Items removed from the accelerator should be placed on the bookcase at the top of the stairway. All items **MUST BE LABELED** – attach a completed white tag to each item, bag, or box.

Trash must be segregated:

- Non-metals – e.g.: gloves, wipes, paper
- Aluminum foil
- Metals and any waste with metal parts

Remove everything you brought in except what *must* remain in the accelerator. Remember that items left in the housing while beam was on must be surveyed before removal.

Badges and Dosimeters: The control room and klystron gallery are posted Radiological Control

Areas (RCA) which require GERT training with Dosimeter. Your SLAC badge and dosimeter must be worn at all times.

Radiation Worker I (RWT-I) training is required before working: a) in the accelerator or b) with any labeled radioactive material in the control room.

Dosimeter Return: It is extremely important that your dosimeter be returned to SLAC before you leave and “return home”. If you expect to return to SLAC before the quarterly dosimeter expires, write your name on the dosimeter and store it in the container in Spencer Gessner’s office. Otherwise drop it off at the Guest House or at the Main Gate.

Food and Water

Food may be stored and eaten in the control-room area of B244. Please maintain a hygienic work area and avoid leaving food available to rodents.

Bringing water into the radiological areas is encouraged to avoid dehydration. Water (similar liquids) is only allowed in closed-top containers.

Attire and PPE

Closed-toe sensible shoes are always required. If your feet are at risk of being crushed, you must wear steel-toed shoes. A hard hat is required where those above you could drop something heavy.

Outside Facet

Control Room B244 is near the road on the north side of the gallery. Access to the building is by badged access. If your badge does not work, please contact Christine or Keith.

In the Klystron Gallery

Electric Carts in the klystron gallery are quiet and you are difficult for them to see. Use extreme care when walking into the gallery from outside.

Toilet: There is a toilet slightly downbeam of the control room in Sector 21. The outer door to this building area may be locked, however access may be gained by entering the klystron gallery at the control room.

Electronic Support Racks: Identify the location.

In Facet

All **Access** to the experimental area is through the Sector 19 staircase.

Identify the white tags and bookcase for materials requiring a survey.

If you raise/lower gear through a ladder way, use the buckets and ropes provided. Call loudly to clear the space in the alcove below while items are being lifted or lowered.

Use the Sector 19 stairway for access and primary egress. **USE THE HANDRAIL!** We had a slip accident at the top of the stairs: a worker lost some skin on both hands.

Walk with extreme care in Facet. This is an industrial area, the floor is uneven and there are many things you can trip over. Do not walk backwards!

Emergency Exit Paths: Point out Sector 20 ladder, Shield Wall Door, and Exit to the West (toward Sector 0). Identify the ladder’s “adjacent red light is flashing”.

While you work

Every worker performing any work in or on facilities managed by SLAC has the authority and responsibility to **stop work** for conditions that threaten imminent danger. There is no activity to be so urgent or important that standards for environmental protection, safety, or health may be compromised. All workers have the right and responsibility not to perform tasks or activities they feel pose undue risk to themselves, co-workers, or the environment.

Heed all **signs and barriers**. Equipment which is locked and/or tagged off must not be operated under any circumstances. Do not touch magnet barriers. Do not open laser components without lockout. Use caution around beryllium windows.

Do not touch beam components outside experiment tables.

Perform as much work as possible without crawling on the experiment tables. AT NO TIMES be more than 4 feet off the adjacent floor/platform (Exception: while working on a ladder).

Do not crawl under the light pipe except under experiment tables. (To access other areas under light pipe, call RPFO, x4299.)

Emergency lights may be unplugged (IF you plug them back in when you're through).

Plasma chamber may contain alkali metal. If you think the plasma chamber has been breached, evacuate immediately and contact the FACET Experiment Coordinator, Safety Manager or Area Manager.

Do not touch **lead**. If you feel you must, contact Spencer Gessner or Keith Jobe first as specific requirements apply.

Do not alter existing plumbing or electrical utilities.

To the extent possible, keep aisles clear to allow safe passage.

Leave the tunnel when not performing or supervising work.

Work Planning and Control

Has your work been **planned**? You must understand what you are going to do, and the potential hazards of doing it, before you begin. If the work changes while you are doing it you should stop and rethink if hazards have changed.

Are you working from a **written procedure**? Bring the procedure with you, and stick to it while working. If you deviate from the procedure, stop and think about whether you have introduced

some new hazard. This is particularly important for people coming back from an absence on site and more attention needs to be paid to the procedure to ensure a safe and efficient restoration of in the field abilities.

Is your work **authorized**? (Authorization comes from your supervisor or lead collaborator.)

Is your work **released**? (Release comes from the Sector 0-20 Area Manager, Emad Hamrah. This is best done through meeting or through contacting Emad Hamrah.)

Are you **trained**? SLAC GERT with Dosimeter and Facet Orientation are required to enter the accelerator housing. SLAC RWT-I is required to work on anything radioactive. You need more training for certain other activities.

Electronics and Chemicals:

Are the **electronics** you're installing listed by a Nationally Recognized Testing Laboratory (NRTL: including UL, CSA, etc. – *note: CE is not accepted*) or approved through the SLAC EEIP Program? Equipment powered at low voltage from listed power sources are generally exempt. If not, call Keith Jobe, x2084. Allow time for inspections.

Are you using/bringing **gas or chemicals**? Contact the Experiment Coordinator first.

Chemicals must be properly disposed of. **Batteries:** Small batteries that have not been exposed to beam can be disposed of in battery waste container.

Hazardous waste (chemical, radioactive, batteries, etc.) must be properly disposed of. Contact Keith Jobe.

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Assembly Areas:
Meet in the informal dirt parking area near the Facet Control Room B244.

