

Subject:	Photon Sciences Environment, Safety, and Health (ESH) Briefing (Course Code PS-ESH-BRIEF)		
Number:	PS-TRN-CRM-0016	Revision:	D
Effective:	05/02/2012	Page 1 of 9	

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[Revision Log](#)

1.0 PURPOSE

To provide an environment, safety, and health briefing to meet one of the minimum requirements for unescorted access to buildings and facilities in the Photon Sciences (PS) complex.

2.0 SCOPE

This briefing is intended for all workers who require access to a building in the Photon Sciences complex, except general users of the NSLS Facility. For employees whose primary work location is Building 725 and for NSLS Facility Beamline Staff, training is required once. For all others, training is valid for two years. Some of the links contained in this document are intranet only and may not be accessible; they are not required for completion of this briefing.

3.0 EMERGENCY INFORMATION

All employees and guests must read and maintain awareness of [BNL Emergency Information](#) for reporting and handling emergencies, responding to alarms, and the procedures to stop work if an imminent danger to personnel, equipment, or the environment is encountered.

3.1 Emergency Stations

Note the locations of any existing fire alarm pull boxes, fire extinguishers, nearest exits, phones, automated external defibrillators (AEDs), and eyewash shower stations, near your work location.

3.2 Injuries or Illness

Report any injuries immediately to your BNL Supervisor, BNL Contact or Host. If it is an emergency, call x2222 or 911 from a laboratory phone. If calling from a cell phone, call (631) 344-2222.

If an injury occurs at Bldg 725 (NSLS Facility), then also call the Control Room at x2550.

If you are not feeling well or have a minor injury during normal working hours (8 a.m. to 5 p.m.), notify your supervisor and go to the BNL Occupational Medicine Clinic (OMC) in Building 490. After hours, go to the Firehouse in Bldg 599.

3.3 Assembly Areas

Be familiar with the assembly areas in the buildings you work at or visit:

Outside Assembly Areas: If you hear building alarms, exit the building using the nearest building exit, and go to the outdoor assembly area for the building:

Building	Outdoor Assembly Area
535	Parking lot in front of Bldg 535
703	Main parking lot on the north side of the building
725	NSLS Facility: Lawn at the front of the NSLS Facility
726, 727, 728M, 729	Parking lot adjacent to Brookhaven Ave
740-747	North parking lot and central assembly area near the cooling tower

Subject:	Photon Sciences Environment, Safety, and Health (ESH) Briefing (Course Code PS-ESH-BRIEF)		
Number:	PS-TRN-CRM-0016	Revision: D	Effective: 05/02/2012
			Page 2 of 9

749	Parking area south of Bldg 749
817A, 817B, 820, 820M	Lawn at the front of Bldg 830
830M (north, south)	Lawn in front of Bldg 817
832	Lawn southwest of Bldg 832
902 and 905	Lawn at the front of Bldg 902
945	Lawn at the front of the building

Indoor Assembly Areas: If you hear a site-wide siren with a constant pitch, go to the indoor assembly area of the building you are located in:

Building	Indoor Assembly Area
703	Seminar Room adjacent to the ground floor lobby
725 (NSLS Facility), 726, 727, 728M, 729, 535C	Main Lobby in the NSLS Facility (Bldg 725) and, when full, the Seminar Room
740-747	Storage ring tunnel in the middle of each pentant near the service building entrance
749	Lobby adjacent to the south/main door
817A	Large Conference Room 4
817B	Aisle between center of cubicles
820	Inside tunnel
830, 830M (north)	Hallway off the Lobby by Office 16
830M (south)	Main Lobby in Bldg 830
832	Hallway adjacent to west entrance
902 and 905	Front Lobby of 902
945	Center of building

Site-Wide Evacuation: If you hear a site-wide, intermittent siren (pitch rises and falls), leave the BNL site immediately.

Shelter-In-Place: If a "Shelter-In-Place" emergency is declared, go to the "Shelter in Place" listed below:

Building	Shelter In Place Area
703	Seminar Room adjacent to the ground floor lobby
725 and 535 basement	VUV Ring Perimeter in Bldg 725
726, 727, 728M, 729, 740-747	North end of Building 726 Storage ring tunnel in the middle of each pentant near the service building entrance
749	Inside corridors of Bldg 735 (CFN) near rear loading dock, or if necessary, overflow to the 2nd floor Mechanical Equipment Room (MER)
817A	Large Conference Room 4
817B	Aisle between center of cubicles
820	Inside tunnel
830 and 830M (north)	Hallway off the Lobby by Office 16
830M (south)	Hallway outside Conference Room 32
Bldg 832	Hallway adjacent to west entrance (High bay and main corridor intersection)
902, 905	Area below the catwalk in the Bldg 902 South High Bay
945	Center of building, away from windows

Subject: **Photon Sciences Environment, Safety, and Health (ESH) Briefing
(Course Code PS-ESH-BRIEF)**

Number: PS-TRN-CRM-0016 **Revision:** D **Effective:** 05/02/2012 **Page 3 of 9**

4.0 FACILITY INFORMATION

4.1 Facility Contacts

- Building 725: Bob Kiss (x3476) and the NSLS Control Room (x2550)
- Building 729: Xijie Wang (x5791), SDL (x5350), Bob Kiss (x3476)
- Buildings 740-747 and 749: Townsend Anschutz (x4248)
- All Other Photon Sciences buildings: Tony Mendez (x7637)

4.2 Local Emergency Coordinators

The acting Local Emergency Coordinator (LEC) for Building 725 is the NSLS Control Room (x2550). Refer to BNL's list of [Local Emergency Coordinators](#) for other buildings.

4.3 Hours of Operation

The NSLS Facility Control Room in Bldg 725 is staffed 24 hours per day, 7 days per week during operations. Staffing schedules vary during long maintenance periods (usually May and early December to early January) and on holidays. All other buildings are accessible during normal working hours.

5.0 BNL POLICIES AND REQUIREMENTS

5.1 Environment, Safety & Health (ESH) Requirements

- Read the [BNL Environmental, Safety, Security, and Health Policy](#).
- Obey all ESH requirements that apply to your work.
- Read and obey all signs.
- Contact your supervisor, BNL Contact or Host with questions about requirements that affect your work.
- Contact your supervisor, BNL Contact or Host, the PS ESH Coordinator, the BNL Safety Hotline (x8800), or the Department of Energy local office (x4089) with ESH questions or concerns.

5.2 Human Performance Improvement

- If you see any condition, activity, or situation that may lead to an incident or error, report it to your supervisor or any PS Directorate ESH personnel.
- If you think of better or safer ways to perform an activity, discuss it with your supervisor.

5.3 Unsafe Conditions

- You have a Right to a Safe and Healthful Workplace ([Title 10 CFR 851](#))
- Do not prop open fire or access doors to the building.
- Do not pour anything down a drain unless you are sure it is permitted by work planning.
- Report any unsafe conditions or activities to your supervisor, BNL Contact or Host, or a member of the PS Directorate ESH Staff.

5.4 Your Responsibilities

ID Badge: Wear your BNL ID badge on outer clothing at all times. When your BNL work assignment is over, you must return your badge to your BNL Contact or the Badging Office.

Subject:	Photon Sciences Environment, Safety, and Health (ESH) Briefing (Course Code PS-ESH-BRIEF)					
Number:	PS-TRN-CRM-0016	Revision:	D	Effective:	05/02/2012	Page 4 of 9

Smoking: No smoking is permitted in any building or laboratory vehicle onsite.

Prohibited Activities: Alcohol consumption, illegal drug use, sexual harassment, and any forms of discrimination are prohibited. Professional conduct and ethical behavior are expected and required at all times.

Equipment and Computer Use: Do not use a computer or any other BNL equipment unless you are authorized for its use and handling. Inappropriate use may constitute fraud, waste, or abuse of government property.

Access to BNL: You may access the BNL site for the performance of your BNL work assignment, authorized or permitted visit only. Any other purpose is prohibited.

Unattended Packages: Do not leave packages, luggage or equipment unattended. Make sure they are clearly labeled with your name and institution.

5.5 Clothing and Food in Non-Office Areas

Attire: Proper attire is required in all non-office areas (laboratories, technical, industrial, and experimental areas):

- Long pants or long skirt or dress extending to the ankles
- Short-sleeve shirt (long sleeves are preferred)
- Shoes that enclose the entire foot

Personal Protective Equipment (PPE)

- Wear the proper personal protective equipment (PPE) specified in the area placard or work planning document (e.g., Electronic Safety Review form, Safety Approval Form, Work Permit)
- Contact one of the ESH staff members for appropriate PPE for other tasks or areas

Food: Food preparation, storage, and consumption is prohibited in laboratory areas

5.6 Traffic Rules

- Wear seatbelts while driving
- Speed limit is 30 mph (unless posted otherwise) and is enforced by radar
- Make a full stop at all stop signs
- Give pedestrians the right-of-way
- Vehicles are subject to police inspection
- Park in designated parking areas only; yellow-painted curbs are "no parking" zones
- Slow down for deer, geese, turkeys, and other wildlife
- Observe all traffic rules; violations are subject to disciplinary actions
- Bicyclists must wear helmets

6.0 POTENTIAL HAZARDS

Magnetic Fields: Magnets are used and magnetic fields are present in many types of equipment at PS facilities.

- At the NSLS, magnetic fields are present on the VUV and Xray experimental floors, and particularly along the corridor just inside the entrance of the X-ray ring floor; those with medical electronic or ferromagnetic implants (e.g., pacemaker, insulin pump, aneurism clip) are not permitted to use this entrance; notify the ESH Coordinator for guidance.

Electrical: Equipment often uses high voltage and currents, especially at industrial, technical, and experimental facilities within the Photon Sciences Directorate complex. Do not touch or disconnect any equipment you are not familiar with.

Subject:	Photon Sciences Environment, Safety, and Health (ESH) Briefing (Course Code PS-ESH-BRIEF)					
Number:	PS-TRN-CRM-0016	Revision:	D	Effective:	05/02/2012	Page 5 of 9

Lasers: Lasers of various classifications are used at Photon Sciences Directorate facilities. Do not attempt to defeat any interlocks.

Chemicals/Gases: Experiments use a wide variety of chemicals and gases.

Lead: Lead is used extensively for shielding on the experimental floor. Minimize lead handling and wash your hands frequently to avoid ingestion.

Hazardous Material Disposal and Spills: Unauthorized disposal or release of oil or hazardous materials is forbidden. If you witness a spill onto soil or into a water stream or drain, call 2222 immediately to report it. Contractors should also report spills to their BNL Contact.

Oxygen Deficiency Hazard (ODH) Areas: ODH areas exist at several Photon Sciences Directorate facilities. If an ODH alarm is activated, leave the area immediately. Do not stop to troubleshoot any problem. If needed, call BNL Emergency Services at x2222. If an ODH alarm at the NSLS Facility is activated, also call the NSLS Facility Control Room at x2550. ODH Alarms at the NSLS Facility are located at the Liquid Nitrogen fill station near the West Roll Up Door (Rm. 1-151A) and Mechanical Equipment Rm (MER) A. Training is required for entry into MER A.

7.0 RADIOLOGICAL CONTROLLED AREAS

If you will not be entering a radiological controlled area, you may skip this section.

Radiological areas are posted with yellow and magenta or yellow and black signs. Training and authorization is required for access to these areas. If you are unsure if you can enter an area, ask your BNL Contact, Host, or Supervisor.

7.1 Visitors Under Escort in Controlled Areas

- Every person who enters a Controlled Area must be properly trained or must be escorted by fully-trained personnel at all times while in the Controlled Area.
- Visitors and escorts must sign Visitor/Escort forms at the entrance to the Controlled Area.
- Visitors and contractors must remain in constant sight of their escort.

7.2 Radiological Procedures for Entering Controlled Areas

Employees, guests and contractors must comply with the following radiological procedures and requirements while in a Controlled Area:

TLDs (radiation dosimeters)

- In general, personnel who are not permanently assigned to Bldg 725 (NSLS Facility) or Bldg 729 (SDL) are not required to wear a radiation dosimeter (TLD).
- Personnel permanently assigned to the Bldg 725 (NSLS Facility) and Bldg 729 (SDL) Controlled Areas must wear a TLD.
- Persons working with radioactive materials, including sealed sources, dispersible materials, or working with radiation generating devices must wear a TLD.
- Minors performing research in the controlled areas of Bldg 725 (NSLS Facility) or Bldg 729 (SDL) must wear a TLD.
- TLDs are to be worn on the front of your body, color bar facing out.

Radiation Areas

- Do not enter posted Radiation Areas unless you are signed in on the Radiation Work Permit (RWP).
- Do not work in a posted Radiation Area unless you meet the qualifications and are signed in on the appropriate Radiological Work Permit.

Subject:	Photon Sciences Environment, Safety, and Health (ESH) Briefing (Course Code PS-ESH-BRIEF)						
Number:	PS-TRN-CRM-0016	Revision:	D	Effective:	05/02/2012	Page	6 of 9

- Nothing is to be removed from posted Radioactive Material Areas without a radiological survey.

Shielding

- Do not climb over any shielding walls or radiation barriers.
- Do not move any lead or concrete shielding or work on any beamline hutches unless this has been defined in a Work Permit and a "Safety System Permit" has been posted at the location.

Synchrotron Radiation at NSLS Building 725

- Synchrotron beams contain radiation and are therefore enclosed in hutches at the NSLS.
- When the NSLS machine is operating, no significant radiation is expected.
- XRay Ring Injections: Announcements are made during beam injections.
- VUV Ring Injections: Move away from the front ends of the VUV Beamlines, the transport line, and Beamline U4IR during injections and fills. Announcements will be made and you will hear a siren during these times – typically around 3:30 am, 8:00 am, 12:30 pm, 5:30 pm, and 10:30 pm. If you are working above the VUV Floor (e.g., on an aerial lift or a high step ladder) or on the roof above the VUV Ring, notify the NSLS Facility Control Room Operator prior to this work and maintain contact regarding ring fills or at the end of the job.

8.0 CONTRACTORS WORKING ON ELECTRICAL EQUIPMENT

If you will not be working on electrical equipment, you may skip this section.

Contractors who will work with or on electrical equipment must take the following precautions:

- The equipment must be unplugged before any work is started
- The plug must be in your full view at all times.
- Any repair work must be performed in a de-energized state (no work is permitted on exposed, energized parts or components).
- After the repair, all parts must be properly re-installed, in their proper functional state, and the cover must be replaced before energizing the equipment.
- If additional repair is necessary after the equipment is re-energized, repeat the steps listed above.
- If you are bringing any electrically powered equipment that is not approved by a Nationally Recognized Testing Laboratory (NRTL), you must read and follow the [NRTL Guidelines](#).
- If you have any electrical questions whatsoever, please contact Al Boerner (631) 344-5990.

9.0 FOOD DELIVERIES

If you are not a food service employee or food vendor, you may skip this section.

This section applies to food service employees and food vendors who require access to controlled areas in Building 725 (NSLS Facility).

Enter the building through the front lobby, the west roll-up door, or the north entrance. Follow the corridors to reach the food vending or food delivery areas. Food machines are located in the NSLS front lobby, Rooms 1-129 and 1-133, and in the hall outside Room 1-179.

[Map of NSLS Facility Experimental Floor](#)

10.0 WORK PLANNING

All work must be planned. Potentially hazardous operations require planning before work can be performed. Think about possible hazards prior to performing any work. Do not interfere with

Subject:	Photon Sciences Environment, Safety, and Health (ESH) Briefing (Course Code PS-ESH-BRIEF)		
Number:	PS-TRN-CRM-0016	Revision:	D
		Effective:	05/02/2012
			Page 7 of 9

equipment or experimental areas unless this work is defined in your Work Planning process. A work permit may be required for your work. Refer to the [PS Work Planning and Control Procedure](#) for more information.

11.0 ADDITIONAL TRAINING

The following operations require additional training:

- User experiments
- Machine Shop operations
- Working with lead
- Vacuum systems work
- Electrical/mechanical assembly
- Laser operations
- Forklift operations
- Crane operations
- Electrical work
- Compressed gas handling and use
- Cryogen use
- Confined space entry
- High noise areas
- Disposal of hazardous materials
- Operations that may impair fire protection systems
- Tasks performed in radiological areas
- Working with radiological sources or radiation generating devices
- Working inside or outside Bldg 729 (SDL)

12.0 IN-PERSON WALKTHROUGH REQUIRED

Access to all Photon Sciences Directorate facilities requires an in-person walk-through or tour to ensure that you are familiar with the exits, indoor and outdoor assembly areas, and the shelter-in-place location for the building(s) you will access. Follow the instructions below that apply to you.

Building	Contact
725 (NSLS)	Contact Bob Kiss (x3476) if you are an employee or contractor who performs building maintenance, construction services, or capital project installations, or you are food service employee or a food vendor.
725 (NSLS)	Contact Bob Chmiel (x8141) if you are a Laboratory Protection or Emergency Services employee. All others should contact Lori Stiegler (x5366).
729 (SDL)	Yuzhen Shen (x5172), Mike Fulkerson (x5194)
749, T972	Townsend Anschutz (x4248)
740-747	ESH Tour is online (PS-ESH-TOUR-740-R6) through BNL Training web courses.
820	Karl Kusche (x3116)
All other buildings	Tony Mendez (x7637)

13.0 ENCODING YOUR BADGE FOR ACCESS TO NSLS OR SDL

For encoded access to Building 725 (NSLS) or Building 729 (SDL), follow all instructions below:

- Ensure that all training required for access has been completed, including the walk-through.
- Then contact the [Training Manager](#) (x2295) with your name, company or BNL department, and the purpose for access so that the correct Job Training Assessment (JTA) can be applied for training and access.
- Contact [User Administration](#) (x8737) to encode your badge for access.

Subject: **Photon Sciences Environment, Safety, and Health (ESH) Briefing
(Course Code PS-ESH-BRIEF)**

Number: PS-TRN-CRM-0016 | **Revision:** D | **Effective:** 05/02/2012 | **Page 8 of 9**

14.0 RECOMMENDED READING

For NSLS Users

- [NSLS User Access Policy](#)
- [NSLS User Access Procedures](#)
- [NSLS Services](#)
- [NSLS User Support Staff](#)

NSLS Maps

- [Map of NSLS Facility Experimental Floor](#)
- [Map of NSLS Facility Second Floor](#)

Staff Information

- [Photon Sciences Directorate Staff Directory](#)
- [Photon Sciences Directorate Environment, Safety, Health \(ESH\) Staff](#)
- [Photon Sciences Committees](#)

The only official copy of this file is the one on-line in the Photon Sciences Training website. Before using a printed copy, verify that it is the most current version by checking the document effective date on the PS Training website.

Brookhaven National Laboratory/ Photon Sciences Directorate

Subject:	Photon Sciences Environment, Safety, and Health (ESH) Briefing (Course Code PS-ESH-BRIEF)		
Number:	PS-TRN-CRM-0016	Revision:	D
		Effective:	05/02/2012
			Page 9 of 9

Document Review Frequency	
3	Years

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PHOTON SCIENCES DIRECTORATE REVISION LOG		
Document Number:	PS-TRN-CRM-0016	
Subject	Photon Sciences Environment, Safety, and Health (ESH) Briefing (Course Code PS-ESH-BRIEF)	
Rev	Description	Date
A	Initial document in the PS Controlled Documents system. This file (in Word and PDF) replaces Controlled Document LS-TRN-CRM-0016 (previously html based). Purpose, scope, and additional section headings added for fast reference. Content re-arranged for PDF viewing.	11/29/2011
B	Corrected Bldg 728 to 728M in Outdoor Assembly Areas, Indoor Assembly Areas, and Shelter in Place. Separated 817 into 817A and 817B under Outdoor Assembly Area. No other changes.	12/12/2011
C	Updated course code to PS-ESH-BRIEF and updated assembly areas and contacts for Bldg 740-747.	04/03/2012
D	Updated hyperlinks to PS website.	05/02/2012