

# Town Meeting

March 11, 2016

## Safety Update

- Injuries
- Readiness
- Events

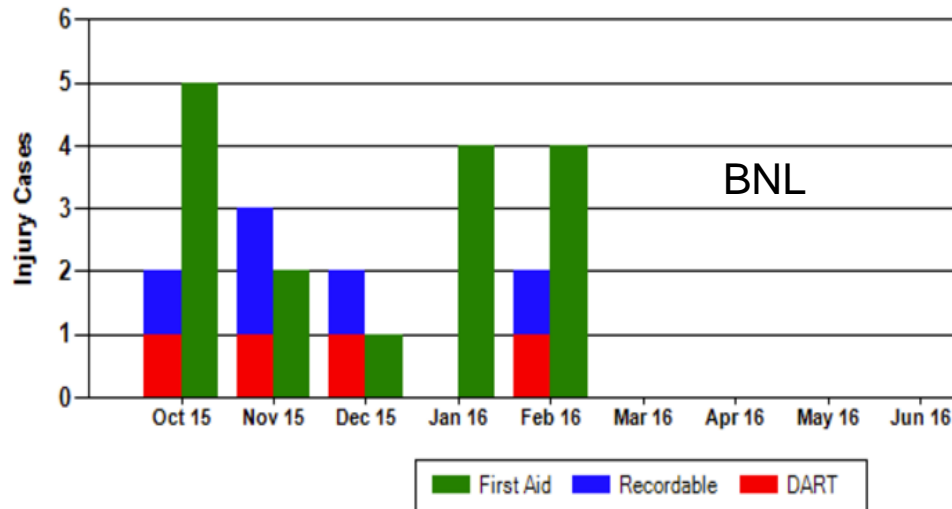
# Injuries

## FY 16

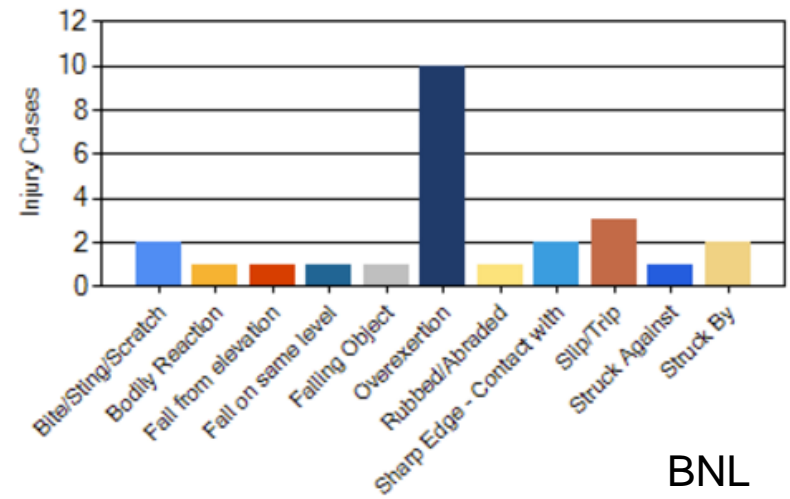
|            |                                       |
|------------|---------------------------------------|
| First Aid  | Minor treatment                       |
| Recordable | More than just first aid              |
| DART       | Days Away, Restricted, or Transferred |

**NSLS II**  
No Recordable  
1 First Aid: Finger; Feb.

Fiscal Year 2016 Injury Cases



FY2016 Injuries by Injury Cause



|                    | YTD Cases | Rates |
|--------------------|-----------|-------|
| <u>DART:</u>       | 4         | 0.38  |
| <u>Recordable:</u> | 9         | 0.85  |
| <u>First Aid:</u>  | 16        | N/A   |

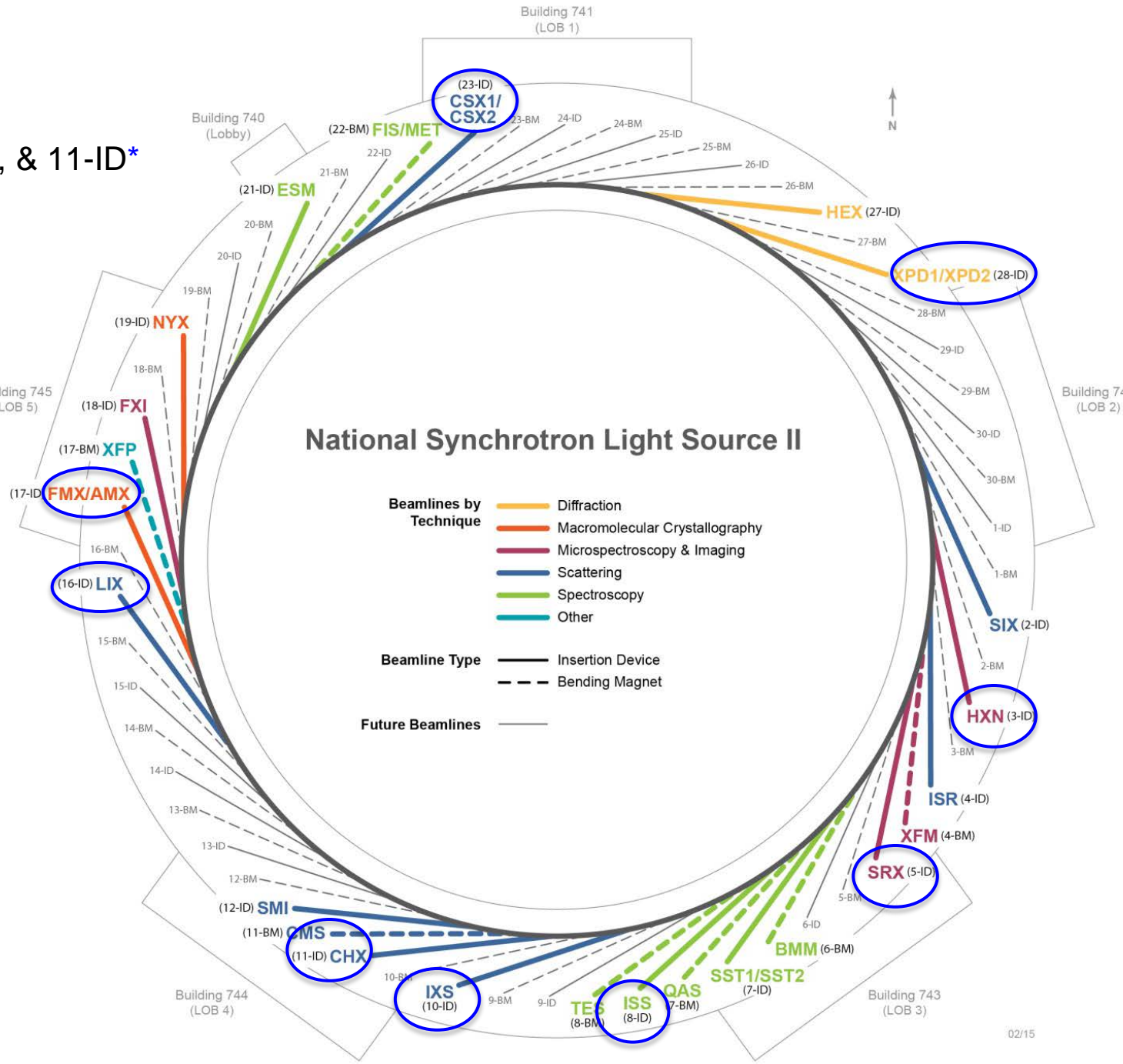
Total Injuries: 25

# Instrument Readiness

- 23-ID-1&2, 28-ID
  - 09/2014
- 03-ID, 05-ID, 10-ID\*, & 11-ID\*
  - 10/2014
- 16-ID\*
  - 10/2015
- 17-ID\* (AMX/FMX)
  - 03/2016
- 08-ID
  - 03/24/2016

\* Not User Ready

# NSLS-II Beamlines



# Events

# Recent Events at NSLS-II

- 3 recent events in the past month (unsecured labyrinth, uncontrolled energy release and failure to control energy process) has us very concerned
- All events to date have been low-level: no injuries, hazard exposure, damage to equipment or environmental releases
- These events are important. We must learn from them.

# Unsecured Cable Labyrinth

**Description:** While performing radiation surveys on Friday 1/29 for the 5-ID beamline, the radiation control technician noticed that a cable labyrinth wasn't secured. She brought this to the attention of ESH staff on the following Monday. ESH staff confirmed the labyrinth was not in its approved configuration. A violation of the NSLS-II Accelerator Safety Envelope was declared and the beamline disabled. A temporary work suspension was issued by the NSLS-II Director so the event could be discussed with all staff. The labyrinth had been taken out of service to permit installation of smoke detector cables. Installation of the smoke detector cables was authorized under a Safety System Work Permit. There were no injuries or exposures due to this event.

## **Cause(s):**

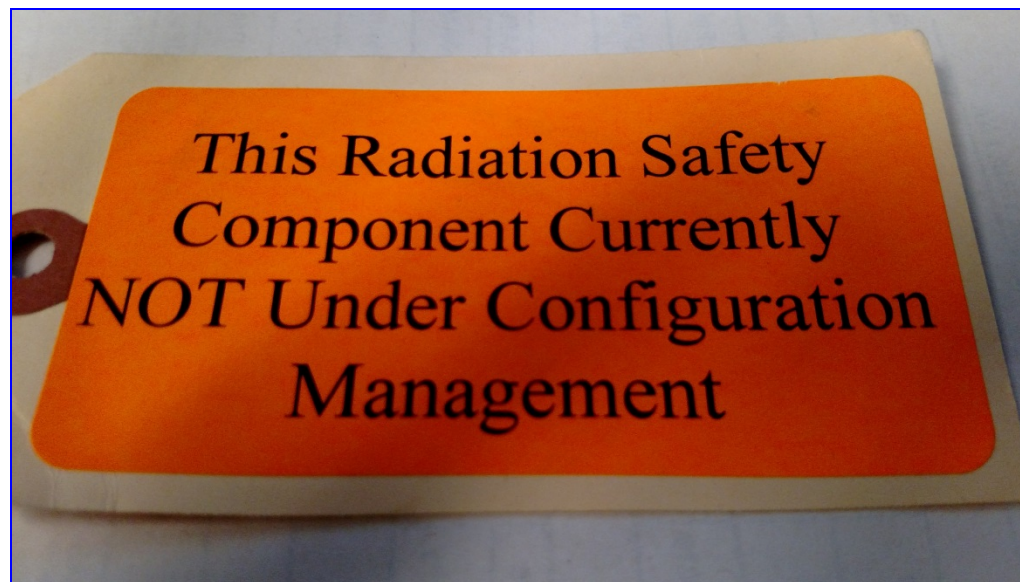
- Work description on the SSWP was incomplete and did not include cable installation in the B-hutch; consequently return to work inspection was not performed.
- Inspection by Lead Beamline Scientist failed to identify missing securing devices.

## **Corrective Actions:**

- Revised the SSWP procedure to include: sign-off by workers and beamline staff, minimize personnel permitted to remove/install configuration management tags, installation of a tell-tale marker when components are removed from approved configuration. **Complete.**
- Revise the Radiation Safety Component Inspection Checklist process to include verification. **In progress.**







Radiation Safety  
Component

Configuration  
Control

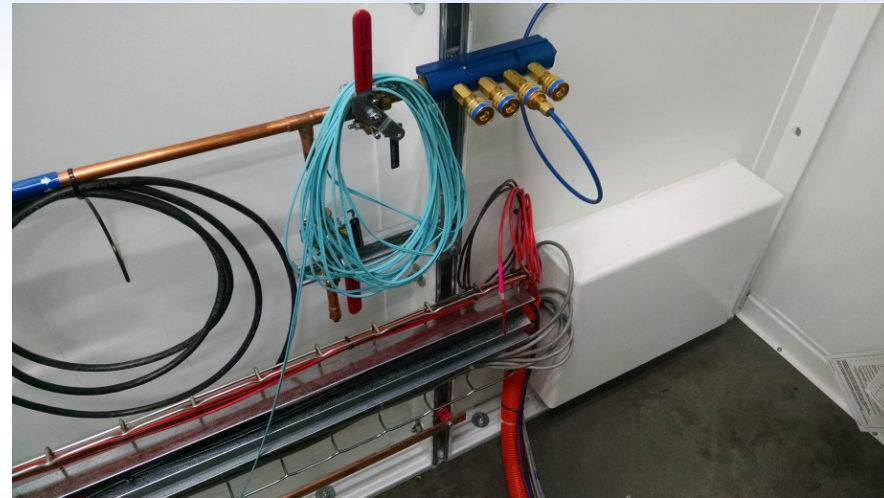


## PPS Configuration Control



# NSLS-II Uncontrolled Electrical Energy Event

**Description:** An unterminated High Voltage (HV) electrical cable was mistakenly energized resulting in arcing across exposed conductors at the intended instrument end of the circuit. There was no personnel contact and no equipment damage. Review of the power supply specifications and operation indicates no significant shock hazard was present. Although a low-risk event, a mistake in cable management resulted in loss of control of non-hazardous electrical energy.



## **Causes:**

- Two sets of cables were installed for the same instrument, both were labelled with the same number
- Change control was less than adequate since the installation of the second set of cables was not identified
- Communications between the two work groups (those installing and those terminating the cables) was less than adequate.

## **Corrective Actions:** Improve cable management by:

- Develop procedures for cable installation, termination, testing and placement into service. **In progress.**
- Complete an Extent of Condition to identify if other cable installation activities will benefit from a common procedure. **In progress.**
- Assure resources are assigned to support cable management improvements. **In progress.**

# Failure to Follow Energy Control Process

**Description:** During a DOE inspection of an applied LOTO in the Injection Service Building, a lock was noticed that still had its key engaged. There was no staff in the area so the DOE employee reported the observation to the Electrical Safety Subject Matter Expert. BNL LOTO practices include maintaining ownership of the key at all times when in LOTO. The person responsible for the deviation was questioned. He stated he had been working under LOTO labelling cables and developing a spare parts inventory list. After completing his work and when removing his key he became distracted and failed to take his lock and key with him. There were no injuries or exposures to hazardous energy.

## **Causes:**

Distraction caused the employee to forget to remove his lock and key when completing work.

## **Corrective Actions:**

- Employee's LOTO qualifications were pulled and the employee required to retake all LOTO training . **Complete.**
- Supervisors to hold tool-box safety talks to discuss the recent NSLS-II events and discuss ways staff can avoid work-place distractions . **In progress.**



# Additional Actions Taken to Date

In response to these events the following additional actions have been taken:

1. **Complete:** On February 2 a temporary halt to all work was ordered by the NSLS-II Director and a mandatory all-hands meeting was held to review the cable labyrinth event. The presentation from this session has been made mandatory training for all NSLS-II staff.
  - Staff are encouraged to report events as soon as they become known
  - Numerous suggestions made by staff on ways to improve operations
  - A vacuum technician reported the Uncontrolled Electrical Energy Event to his supervisor the following day
  - All but 7 NSLS-II employees have taken the training
2. **Complete:** Interim changes to procedures implemented to immediately address weaknesses in SSWP and HV cable installation/termination processes.
3. **Complete:** All beamline and accelerator inspection checklists were verified prior to resuming operations
4. **In progress:** Tool-box safety briefings initiated with all staff to review events and discuss improvements as well as ways to avoid distractions.
5. **In progress:** Small working group meetings have been initiated to have open communication between NSLS-II managers and workers to identify ways to avoid similar events and learn from them.

# Summary

- NSLS-II Senior leaders are concerned with all events
- All events to date have been low-level: no injuries, hazard exposure, damage to equipment or environmental releases
- NSLS-II managers encourage the continued reporting of low level events as opportunities to improve operations
- Staff are engaged and are working with supervisors and managers to identify ways to improve operations
- NSLS-II has been transparent with the investigation of these events and have requested BHSO staff participation

**END**