

NSLS Town Meeting

November 10, 2011

Safety Update

A. Ackerman

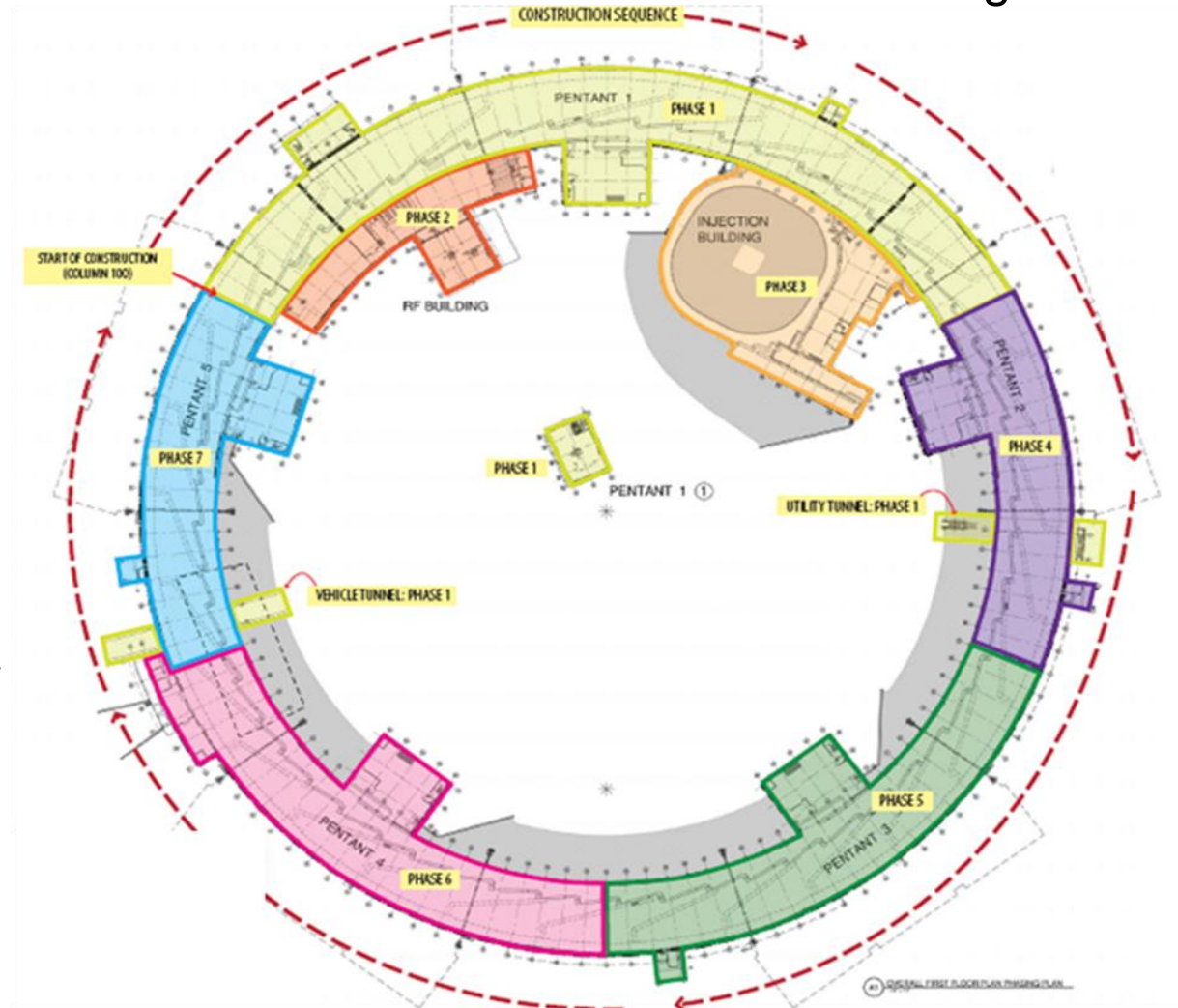
Building 740

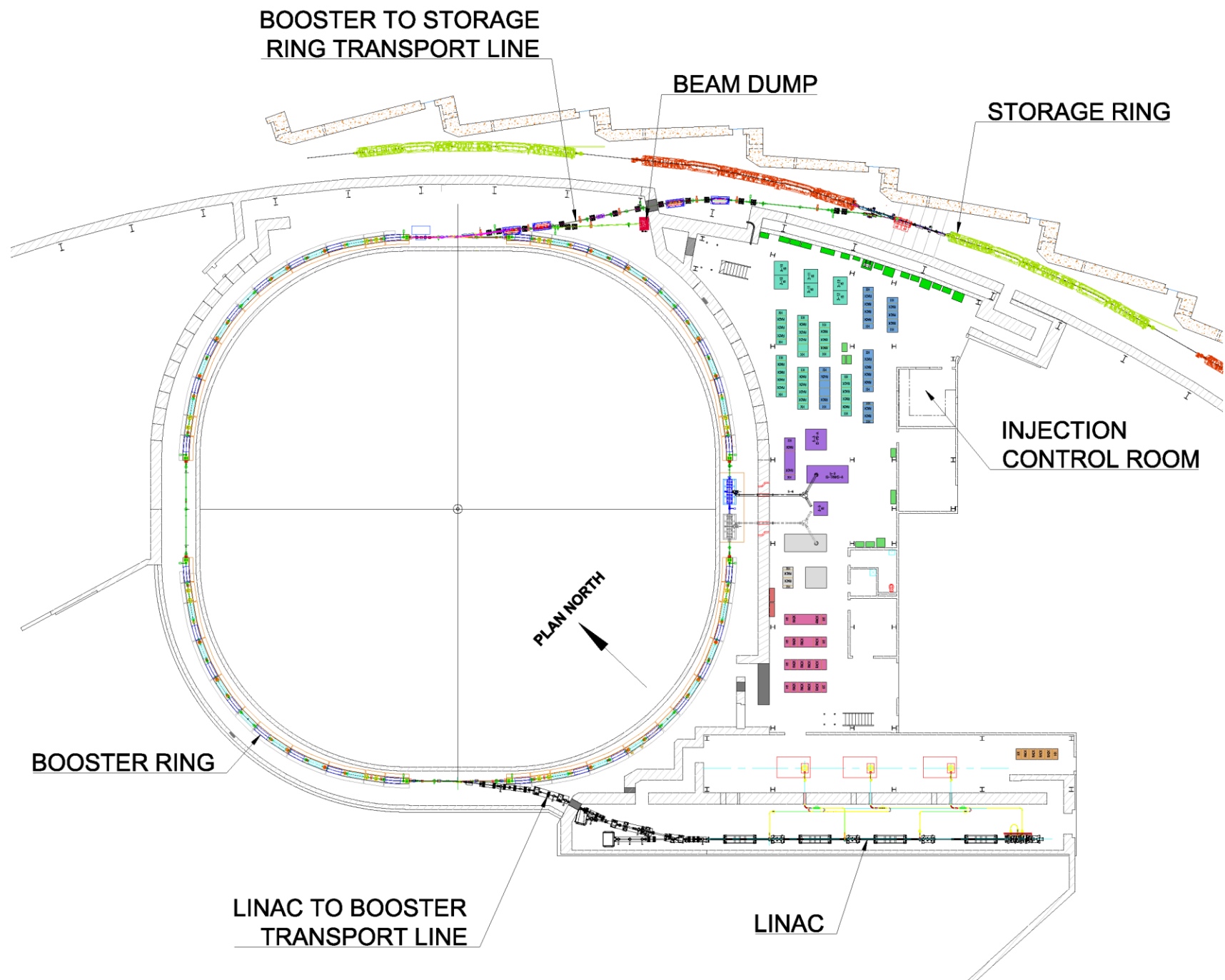
Beneficial Occupancy Readiness Evaluation
Update

> 3/5's 'Ready' for PSD Installation

Bldg. 740

- **BORE**
 - Life safety systems
 - Utilities
 - Habitable space
 - **Work Planning**
 - Installation work is 'construction – like'
 - Controls; worker qualification
 - **Coordination** is the real challenge:
- Construction & Installation
- **Access**
 - Restricted to 'safe zone'
 - Training, hard hats, safety shoes, eye protection
 - Visitor escorts





PLAN NORTH

HIGH
ENERGY SLIT

SAFETY
SHUTTER

EQUIPMENT RACKS

KLYSTRONS

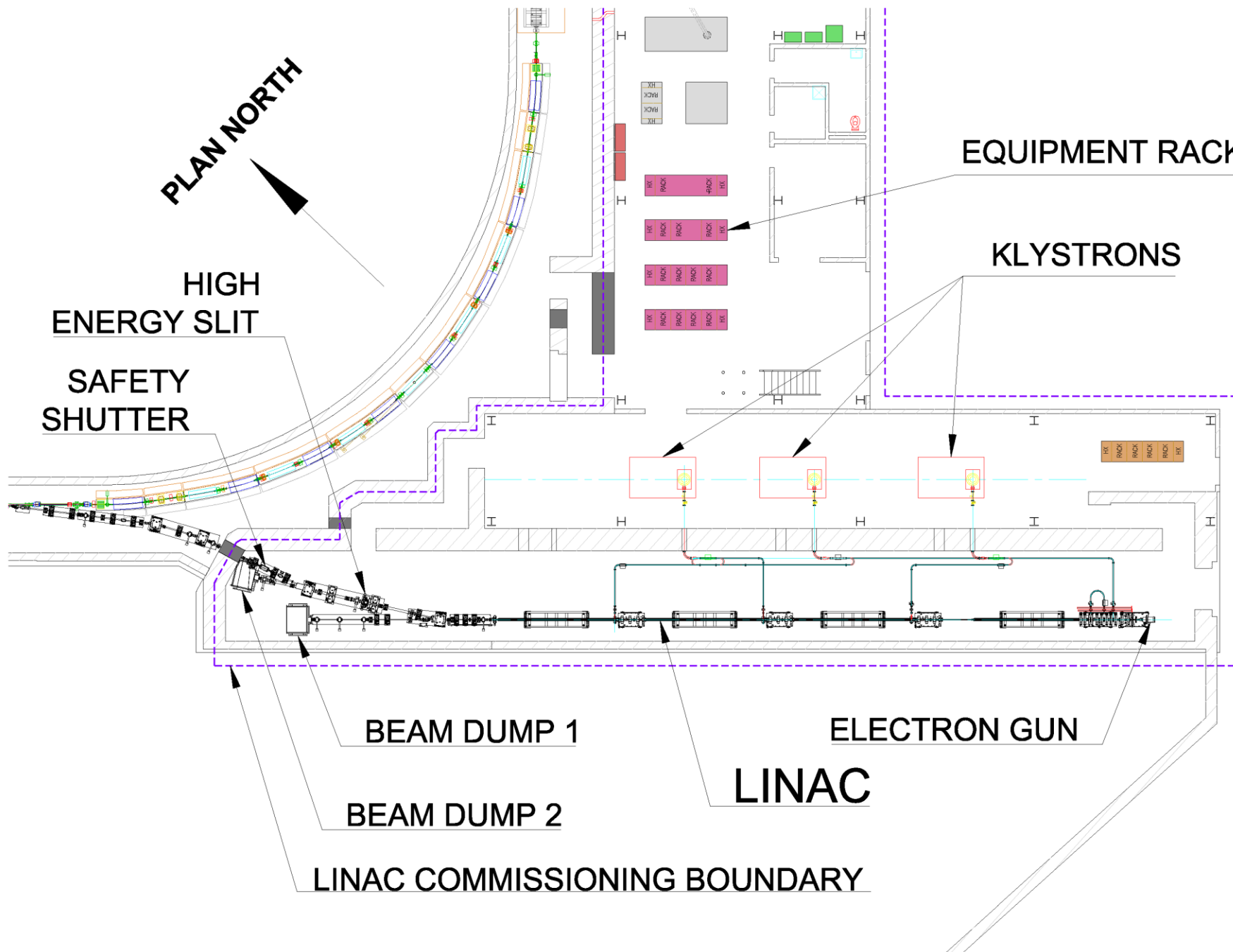
BEAM DUMP 1

BEAM DUMP 2

ELECTRON GUN

LINAC

LINAC COMMISSIONING BOUNDARY



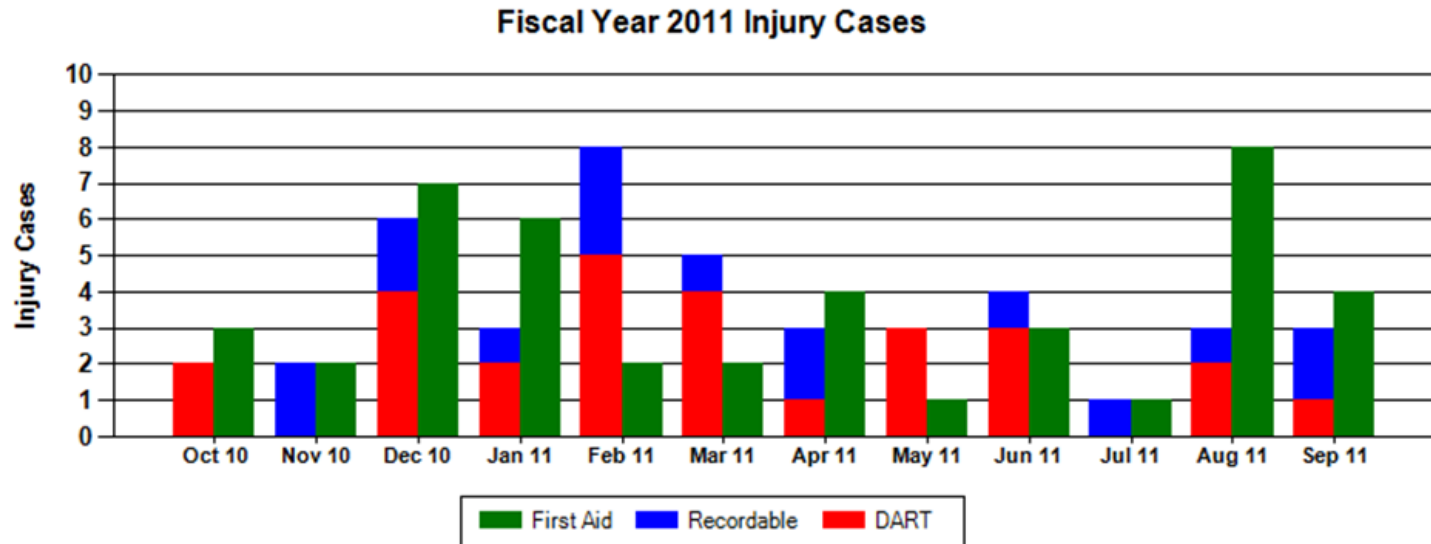


Injuries

BNL Injuries

FY 11

DART	Days Away, Restricted, or Transferred	(BNL FY11 Target: 6)
Recordable	More than just first aid	(BNL FY11 Target: 16)
First Aid	Minor treatment	



	YTD Cases	Rates
<u>DART:</u>	27	0.92
<u>Recordable:</u>	43	1.42
<u>First Aid:</u>	43	N/A

Total Injuries: 86

Rates As Of: August 2011

Most Recent Injury: 09/27/2011

PSD Injuries (Not Construction)

FY 11

10

(First Aid)

- | | | |
|---------------------------|--------------------------|---------------------|
| • Cut finger (razor) | User | 1 st Qtr |
| • Ankle strain | Staff | 1 st Qtr |
| • Cut finger (screw) | User | 2 nd Qtr |
| • Knee strain | Staff | 2 nd Qtr |
| • Bumped head | Beamline Staff (non-BNL) | 3 rd Qtr |
| • Cut finger (VME Crate) | Staff | 3 rd Qtr |
| • Ankle strain | User | 3 rd Qtr |
| • Back strain | Staff | 3 rd Qtr |
| • Cut finger (Cable Tray) | Contractor | 4 th Qtr |
| • Cut finger (razor) | User | 4 th Qtr |

No Recordable or DART

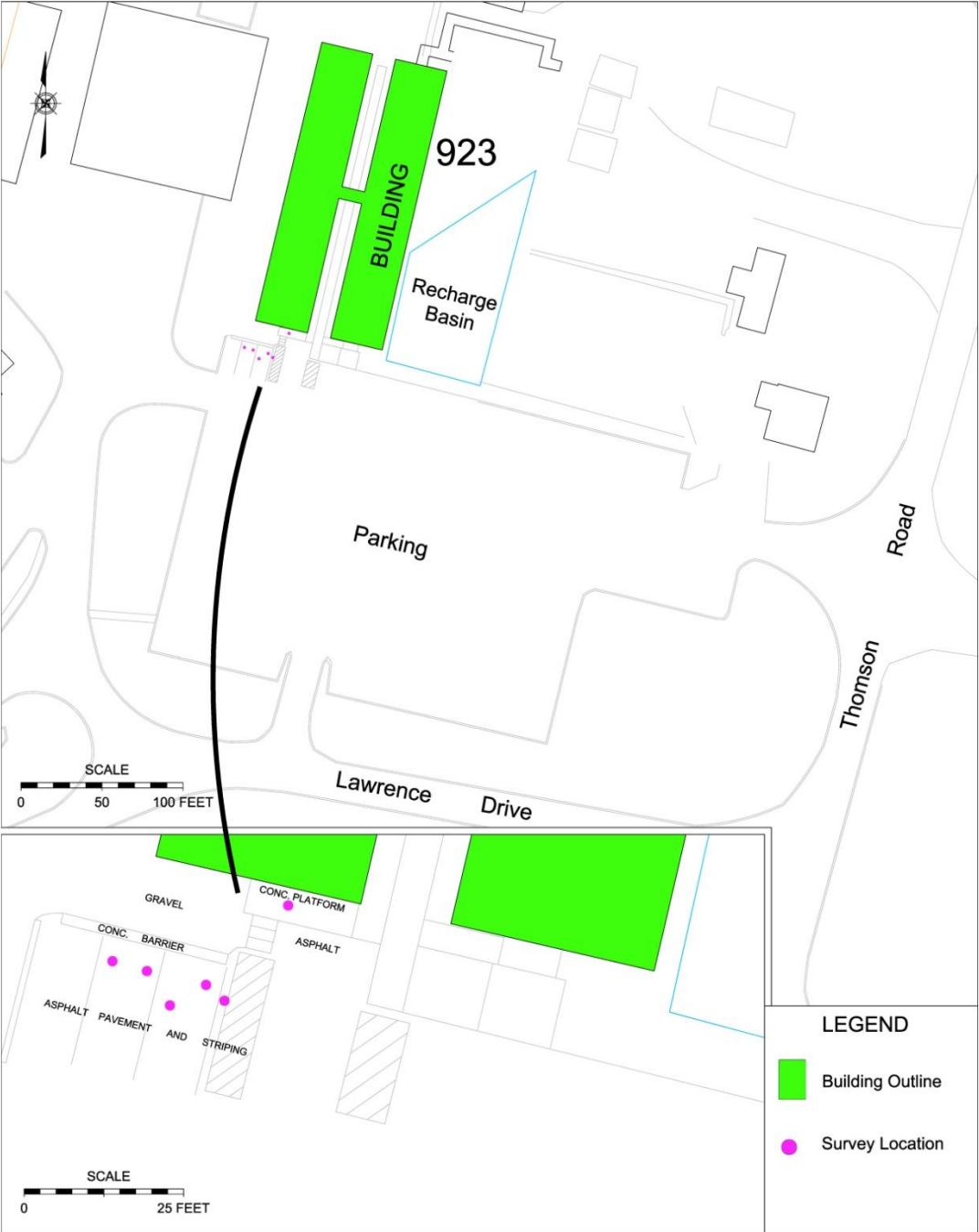
Cs-137

Cesium (Cs-137) Source Failure

Chipmunk field test device

- September 28th; ~16:00 hrs; contamination event discovered:
 - Two Radiological Control Technicians (RCTs)
 - Bldg 923: hallway, instrument room, and parking lot
 - Government vehicle used by the two RCTs
 - Personal vehicle; RCT was passenger
 - Several area radiation monitors previously tested with the source
- Contamination was from a Cs-137 (265 micro-curie) “sealed source” used to test area radiation monitors.
- Source is required to be leak checked semi-annually. Was last leak checked July 22, 2011 (passed with no leakage)



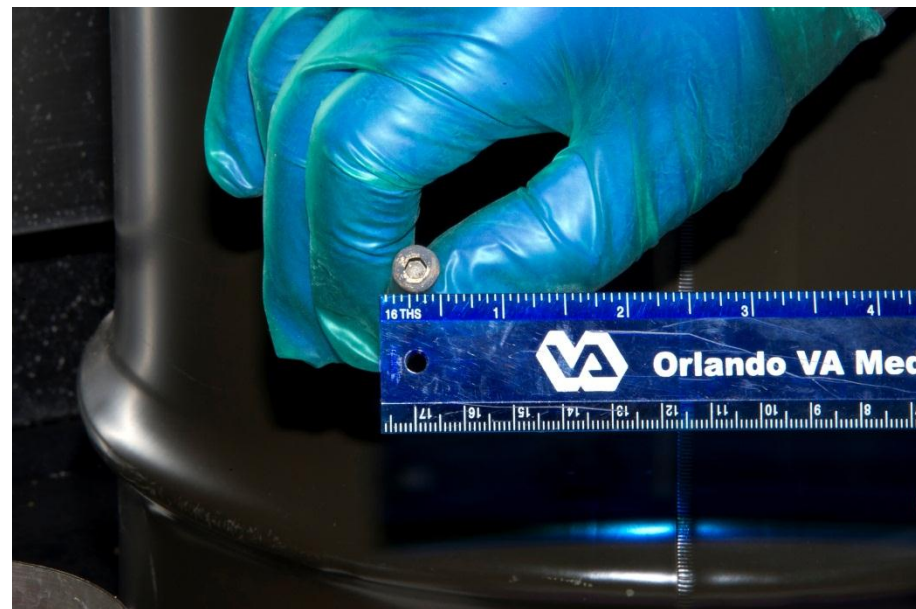


LEGEND

- Building Outline
- Survey Location

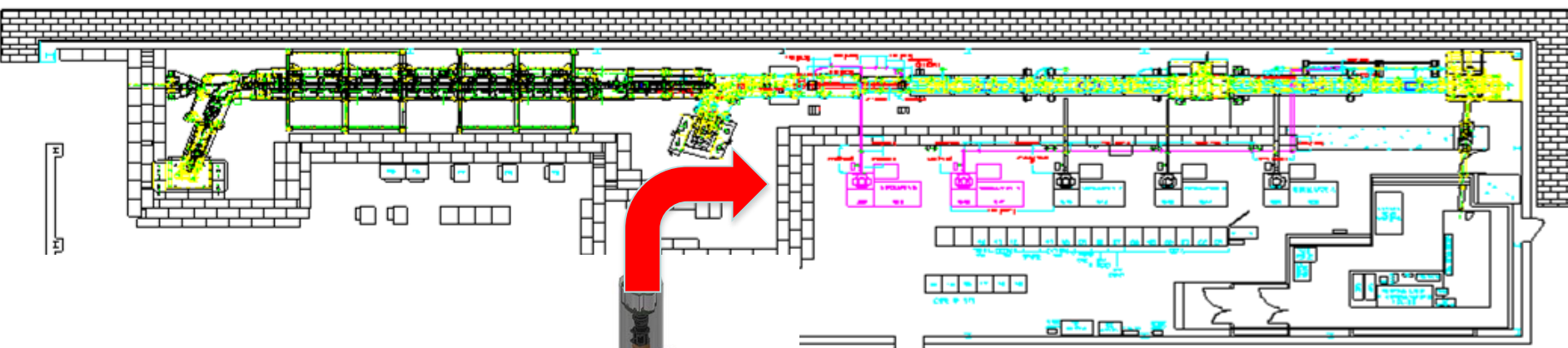


- Cs-137; 265 μ Ci
- CsCl particulate; old

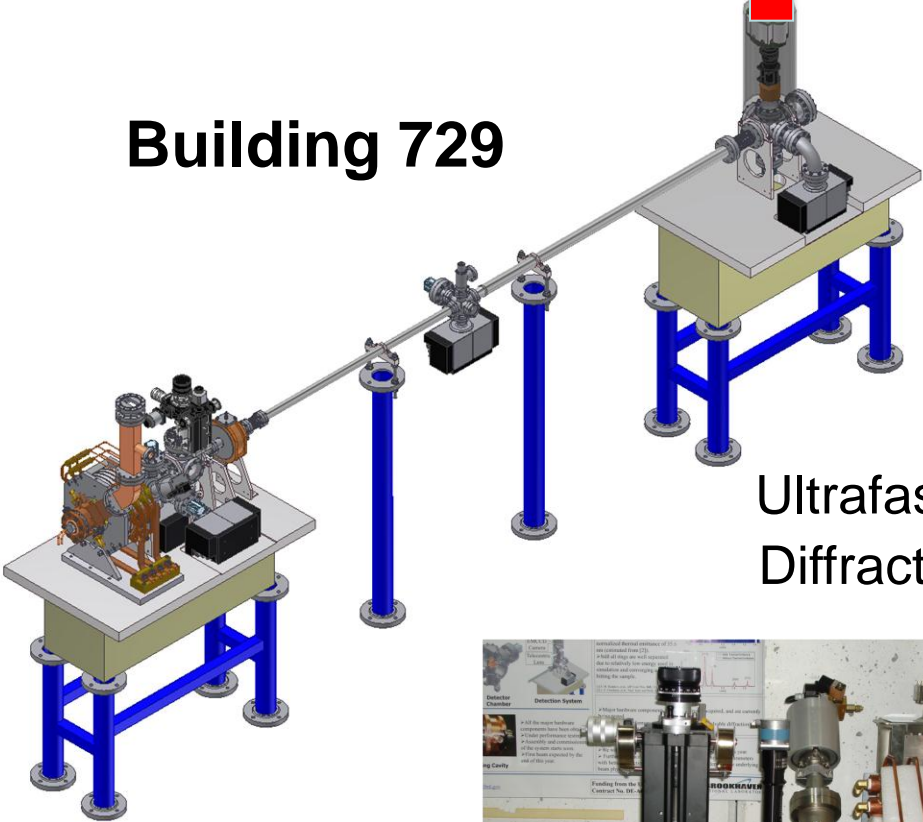


- NSLS II
 - Soil density gauge
- NSLS
 - 'Accountable': Five 1 mCi Am-241 = Pocket Synchrotrons
 - 'Non-accountable': ~ 50
 - Inventoried
 - No leak check
 - Many no longer useful – decay
- More to come
 - Better construction
 - Clarify rules
 - Tighten on 'non-accountable'

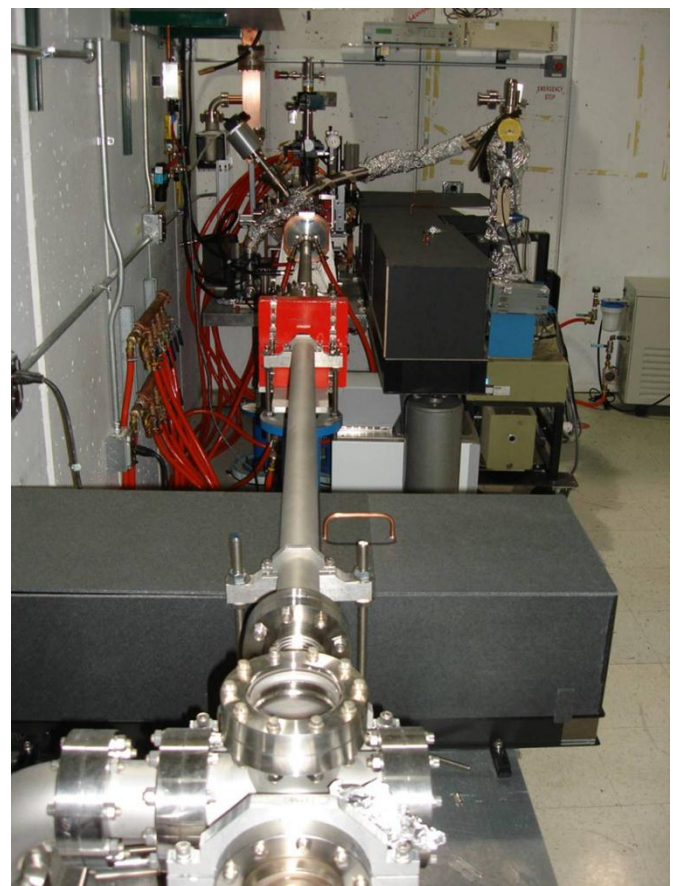
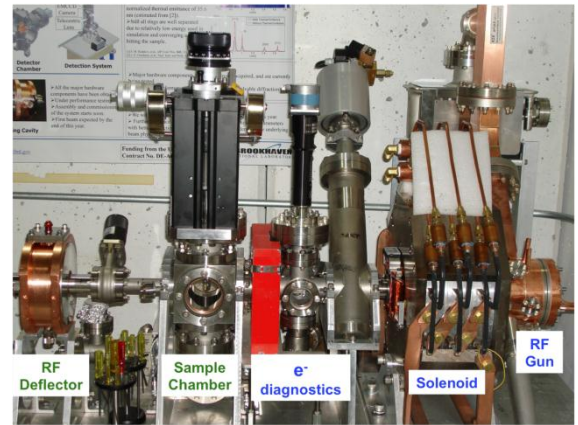
UED Interlock

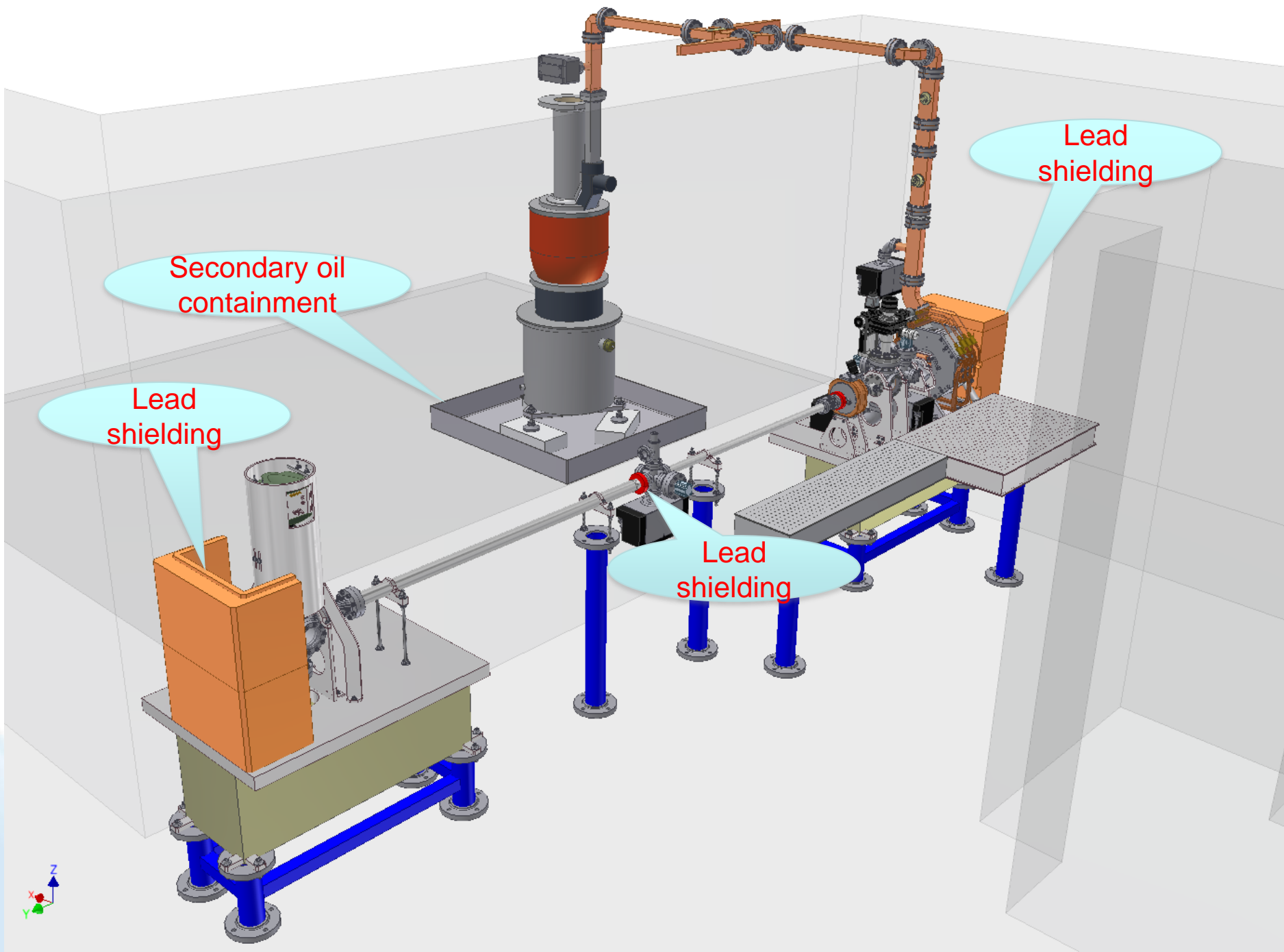


Building 729



Ultrafast Electron Diffraction (UED)





UED Interlock Mistake

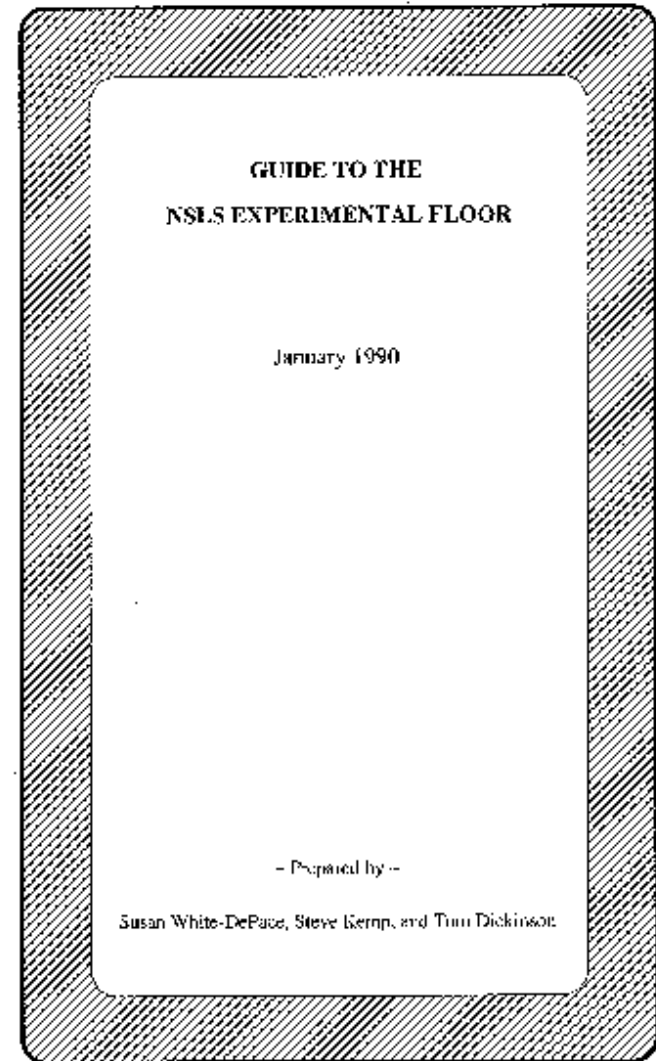
- Disconnected wire found
 - Power supply change out
 - Radiation control Personnel Protection System (PPS)
- Redundancy lost / Protection sustained
 - One of two 'chains'
 - Program succeeded
 - Configuration control failed
- Considerable effort into PPS configuration control
 - System identification – labeling
 - Procedure (power supply change)
 - Training
 - Single group access
 - Testing
 - Oversight – Operations
 - Culture

ANY ATTEMPT TO BYPASS THE
INTERLOCK SYSTEM IS PROHIBITED.

Such actions as bypassing door switches,
defeating Kirk locks, or deliberately leaving
someone inside an interlocked hutch may lead
to the expulsion of the offender from the
NSLS.

ANYONE WHO IS IN A POSITION TO
PREVENT SUCH ACTIONS IS OBLIGATED
TO DO SO.

- 1990 'Guide'



End