

Prepared by: A.Rusek

Date: January 31st, 2006

Reviewed by: *[Signature]*

Date: 2/13/06

Approved by: *[Signature]*

Date: 2/21/06

NSRL Check-Off List

This check-off list, intended for routine operations at NSRL, is to be completed before the beginning of every run period. It is divided into two sections, the first of which is the LOTO items which must be applied before the second section items may be checked off.

1. Lock-Out Tag-Out Items

All LOTO items in this section are to be completed by the NSRL liaison physicist (or designee) before moving on to section 2. The LOTO may be removed after section 2 items are checked off.

1. _____ (LPR): LOTO D6 Septum Power Supply in "OFF" position
(Building 930A)

Tag Number: _____

Person: _____

Date and time: _____

2. _____ (LPR): LOTO Beam-Plug in Stub-Tunnel in "OFF" position
(Building 956)

Tag Number: _____

Person: _____

Date and time: _____

OR:

3. _____ (LPR): LOTO TTB key in the key box (Building 914)

Tag Number: _____

Person: _____

Date and time: _____

4. _____ (LPR): LOTO LTB key in the key box (Building 914)

Tag Number: _____

Person: _____

Date and time: _____

2. Check-Off Items

Radiation Control Division Items:

rcd.1 _____ (RCD) Stub Tunnel Gate posted:

**“High Radiation Area
When Beam On in Booster
Contact MCR @ 4662
For Beam Status”**

rcd.2 _____ (RCD) Service tunnel outer entrance-door posted:

“Controlled Area”

rcd.3 _____ (RCD) Service tunnel inner entrance-door posted:

**“High Radiation Area
When Beam On
Radio Active Material Area
TLD required”**

rcd.4 _____ (RCD) Automatic Doors to Target Room posted:

**“High Radiation Area
When Beam On
Radio Active Material Area
TLD required”**

rcd.5 _____ (RCD) Gates and Fence defining the Berm enclosure posted:

Access Control Group Items (J.Reich or Designee):

acg.1 _____ (ACG) Interlock functional checks complete.

acg.2 _____ (ACG) All NSRL chipmunks operational:

- _____ NM130 (on the berm)
- _____ NM131 (target room labyrinth)
- _____ NM132 (service entrance labyrinth)

acg.3 _____ (ACG) Trip levels on chipmunks set to:

- _____ NM130 at 2.5 mrem/hour
- _____ NM131 at 2.5 mrem/hour
- _____ NM132 at 2.5 mrem/hour

acg.4 _____ (ACG) The D6 back-leg winding power supply current limited to 100A.

acg.5 _____ (ACG) Software and hardware functional checks for RD1/RD2 20° bend magnet critical device completed.

acg.6 _____ (ACG) Chipmunk NM133 (stub tunnel) active when target room allowed to be accessed.

acg.7 _____ (ACG) State Tables approved.

acg.8 _____ (ACG) Beam permit requires RD1/RD2 to be on, at set-point, for extraction to

Chief Electrical Engineer Items (J.Sandberg or Designee):

cee.1 _____ (CEE) Dual shut-off system for RD1/RD2 20° bend magnet reviewed and app

MCR Group Leader Items (P.Ingrassia or Designee):

NSRL Liaison Physicist Items (A.Rusek or Designee):

lpn.1 _____ (LPN) All NSRL chipmunks in correct locations:

- _____ NM130 (on the berm)
- _____ NM131 (target room labyrinth)
- _____ NM132 (service entrance labyrinth)

lpn.2 _____ (LPN) Shielding blocks in stub tunnel and service entrance in place.

lpn.3 _____ (LPN) 302 Ion Chamber inserted and control box LOTOed in "local" state.

lpn.4 _____ (LPN) Beam cutoff accomplished by RF and extraction bump (no beam du
RD1/RD2 20° bend magnet) .

On-Shift Operations Coordinator Items:

oc.1 _____ (OC) NSRL Berm fenced Area swept and secured.

oc.2 _____ (OC) The stub tunnel chipmunks (NM133, NM134) alarms turned off.

Readiness Signoff Items:

rs.1 _____ (RSC) Protons from LINAC to NSRL reviewed.

rs.2 _____ (LPN) NSRL ready for operation.

rs.3 _____ (OC) All check-off items signed off.

The LOTO from Section 1 may now be removed.

- ACG – Access Control Group (*J.Reich or Designee*)
- CEE – Chief Electrical Engineer (*J.Sandberg or Designee*)