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Date: February 2nd, 2012
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Date: 2/23/12
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Date: 2/23/2012

NSRL Check-Off List
(NSRL-12A, 12B, March 5th to June 30th, 2012)

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. _____ (LPN): LOTO D6 Magnet Power Supply in "OFF" position
Tag Number: 5819
Person: A.Rusek
Date and time: July 12th, 2011

2. _____ (LPN): LOTO Beam-Plug in Stub-Tunnel in "OFF" position
Tag Number: 5820
Person: A.Rusek
Date and time: July 12th, 2011

OR:

3. _____ (LPN): LOTO TTB
Device: _____
Tag Number: _____
Person: _____
Date and time: _____ 2011

Key Box: _____
Tag Number: _____
Person: A.Rusek
Date and time: _____ 2011

4. _____ (LPN): LOTO LTB
Device: _____
Tag Number: _____
Person: _____
Date and time: _____ 2011

Key Box: _____
Tag Number: _____
Person: A.Rusek
Date and time: _____ 2011

5. _____ (LPN): LOTO ETB
Device: _____
Tag Number: _____
Person: _____
Date and time: _____ 2011

Key Box: _____
Tag Number: _____
Person: A.Rusek
Date and time: _____ 2011

OR:

6. _____ (LPN): LOTO Booster Main Magnet Power Supply
Device: _____
Tag Number: _____
Person: _____
Date and time: _____ 2011

Key Box: _____
Tag Number: _____
Person: A.Rusek
Date and time: _____ 2011

If the key is locked in a key box in the terminal room (#222)

2. Check-Off Items

Radiation Control Division Items:

rcd.1 _____ (RCD) Service tunnel outer entrance-door (BGE2) posted:

**“Radioactive Material Area
Controlled Area
TLD Required for Entry
Activation Check”**

rcd.2 _____ (RCD) Automatic doors to target room posted:

**“Radioactive Material Area
Controlled Area
TLD Required for Entry
Activation Check”**

rcd.3 _____ (RCD) Gates and fence defining the berm enclosure posted:

“Controlled Area”

rcd.4 _____ (RCD) Quarterly and monthly monitor TLDs are in place.

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

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

acg.2 _____ (ACG) changes to prevent continuous CA gate releases have been added (as necessary) and tested. (this item approved to be completed for the NSRL-12C run)

acg.3 _____ (ACG) The D6 back-leg winding power supply current limited to 100A.

acg.4 _____ (ACG) Operator-less access system functional checks complete.

acg.5 _____ (ACG) Chipmunk interlocks tested with chipmunks in place.

acg.6 _____ (ACG) All bypasses or temporary jumpers in the interlocks have been reviewed with the RSC.

acg.7 _____ (ACG) All NSRL critical devices have orange tags (D6, RD1/RD2, Beam Plug).

acg.8 _____ (ACG) The RFID portion of the Operator-less Access System is tested and approved for operations (circle one: **Sirit/RuBee**).

Instrumentation Group Items (R. Atkins or Designee):

acig.1 _____ (ACIG) All NSRL chipmunks operational and in calibration period:

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

acig.2 _____ (ACIG) Trip levels on chipmunks set to:

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

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) 302 Ion Chamber in place.

lpn.3 _____ (LPN) No obstructions in the upstream end of the target rail.

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

lpn.5 _____ (LPN) Shielding and berm inspected.

NSRL Liaison Engineer Items (C.Pearson or Designee):

len.1 _____ (LEN) All NSRL critical devices have orange tags in a position that will prevent inadvertent work (D6, RD1/RD2, Beam Plug).

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

len.3 _____ (LPN) Shielding blocks in stub tunnel and service entrance in place

len.4 _____ (LPN) Cap inspection is current

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 Sign-off Items:

rs.1 _____ (LPN) NSRL ready for operation.

rs.2 _____ (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*)
- CME – Chief Mechanical Engineer (*J.Tuozzolo or Designee*)
- ACIG – Accelerator components and Instrumentation Group (*R. Atkins or Designee*)
- LPN – NSRL Liaison Physicist (*A.Rusek or Designee*)
- LEN – NSRL Liaison Engineer (*C.Pearson or Designee*)
- MCRGL – Main Control Room Group Leader (*P.Ingrassia or Designee*)
- OC – On Shift Operations coordinator
- RCD – Radiation Control Division (*P.Bergh or Designee*)
- RSC – Radiation Safety Committee (*D.Beavis or Designee*)