

Booster Radiation Safety Check-Off List for
operation with **Protons from Linac**
during (or immediately following)
operation with Ions from Tandem

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Prepared by: C.J. Gardner

Sign and Date: Chris J. Gardner 1/15/10

Reviewed by: D.R. Beavis

Sign and Date: Dana Beavis 1/15/10

Approved by: T. Roser

Sign and Date: DR 1/15/10

Protons from Linac may be injected and accelerated in Booster **only upon completion of this check-off list**. Before proceeding with the numbered check-off items, the **LTB Beamstops must be Inserted, Locked, and Tagged**. If necessary, equivalent devices and/or procedures may be substituted with appropriate LP and RSC approval.

The LTB Beamstop Lock and Tag are as follows:

_____ (LPB) LOTO Booster **LTB** Beamstop Enable Key (Bldg. 914):

Tag Number 5900

Lock Number 10L240

Person/Date: _____

The following items are to be initialed as complete:

1 Booster Operation Status

1. _____ (LPB) Radiation Safety Check-Off List for Booster operation with Ions from Tandem in effect.

2 Security System

1. _____ (ACG) Functional test of the High Intensity Source to ATR Interlock complete.
2. _____ (ACG) The B15 current transformer interlocks have been functionally tested.
3. _____ (B15SE) The B15 current transformer trip level has been set to 140 mA. This corresponds to 2.5×10^{12} protons in the AGS ring.
4. _____ (MCR) Procedure in place for the initial setup, calibration and periodic checking of the B15 current transformer.

3 Administrative Items

1. _____ (LPB) Procedure (OPM 2.5) which sets limits on losses at F6 Septum and B6 Dump reviewed.
2. _____ (LPB) Memo stating Booster Parameter Limits that are consistent with the Booster Operational Safety Limit in OPM 2.5 has been issued to MCR for required reading.
3. _____ (CME) Proton beam intensity limit established for B6 dump and given to MCR.

4 Booster Extraction to AGS

1. _____ (LPA) The AGS is ready to accept proton beam.

5 Booster Extraction to NSRL

Either Item 1 or Item 2 must be completed:

1. _____ (LPN) NSRL (R-line) is ready to accept beam.

OR

2. _____ (LPN) Booster Extraction to NSRL is LOTO:

Tag No. _____

Lock No. _____

Person/Date: _____

6 Verification and Permission

All of the above check-off items have been initialed as complete.

_____ (OC)

_____ (Date/Time) The RSC LOTO(s) that prevent
Linac proton beams from entering the Booster may be removed. The **LTB**
beamstop remote enable key (in Bldg. 914) may be inserted and turned (or
equivalent devices enabled) to allow beam enable from the MCR.

_____ (LPB)

_____ (Date/Time)

Abbreviations

LPA = Liaison Physicist AGS (**Haixin Huang** or designee)

LPB = Liaison Physicist Booster (**Chris Gardner** or designee)

LPN = Liaison Physicist NSRL (**Adam Rusek** or designee)

CME = Chief Mechanical Engineer, ME (**Joe Tuozzolo** or designee)

ACG = Access Control Group (**Jonathan Reich** or designee)

B15SE = B15 transformer System Engineer (**Michelle Wilinski** or
designee)

MCR = Main Control Room

OC = Operations Coordinator