

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

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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:

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

Tag Number 5019

(attached to LTB 042-5)

Lock Number 15L994

Person/Date: Chris Gardner 14 January 2014

The following items are to be initialed as complete:

1 LTB Status

1. _____ (LPL) No changes have been made to the physical configuration of LTB.

2 Booster Operational Status

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

3 Security System

1. _____ (ACG) All Booster interlocks have current functional checks.
2. _____ (ACG) Functional Test of HEBT-TTB Cross-Over interlocks complete. (These interlocks ensure that this region cannot be entered with the LTB, ETB, or TTB beamstops open.)
3. _____ (ACG) Any active bypasses have been discussed with the RSCC as allowed with proton startup.

4 Administrative Items

1. _____ (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.
2. _____ (CME) Linac proton beam may be put into the B6 dump at an average rate of no more than _____ protons per 4 second repetition period.

5 Booster Extraction to AGS

Either Item 1 or Item 2 must be completed:

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

OR

2. _____ (LPA) Booster Extraction to AGS is LOTO:

Tag No. _____

Lock No. _____

Person/Date: _____

6 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: _____

7 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 LPL = Liaison Physicist Linac (**Deepak Raparia** or designee)

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)

RSCC = Radiation Safety Committee Chair (**Dana Beavis** or designee)

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

MCR = Main Control Room

OC = Operations Coordinator