

<b>Subject:</b>	<b>LINAC LOTO</b>		
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[Revision & Periodic Review Log](#)

**Purpose:** The LINAC Low Energy Beam Transport (LEBT) valve and the Low-Level RF S-Band Amplifier need to be safeguarded when performing radiological interlock tests for the VUV ring, X-Ray ring or the LINAC/Booster.

**Scope:** This procedure is applicable for radiation protection purposes for VUV & X-Ray ring, and LINAC/Booster interlock testing. Utilizing this procedure will permit the LINAC modulators to remain ON and allow LINAC/Booster area to remain secured. At no time shall anyone be permitted to enter the LINAC/Booster enclosure using this method of LOTO with the Modulators/Klystrons and Magnet Power Supplies On. Locking out the LINAC lockout switch will not permit these functions for testing - refer to procedure "[Radiation Safety LOTO](#)", [LS-ESH-0011](#) for further details. The NSLS Safety Officer, Safety Engineer, Interlock Engineer, Quality Manager are the only personnel authorized to carryout this procedure.

### **Procedure:**

1. Obtain 2 padlocks, 1 lock-tree or Plug Safe (depending on the amplifier installed), 2 Hold tags, and 2 cable-ties.
2. Inform the control room operator that the LEBT Valve and Low-level RF S-Band Amplifier will be Locked/Tagged.
3. Request the Operator to turn on the LINAC modulators and gun pulse (if not already on). Verify signal is obtained on BT3.
4. Close the LEBT valve by switching the disconnect switch to the OFF position. Verify that the signal on BT3 goes away.
5. Open the LEBT valve. Verify that the signal is obtained on BT3.
6. Turn OFF the Low-Level RF amplifier by either flipping the ON/OFF switch to the OFF position or disconnecting the power plug – method depends on the amplifier installed. Verify that the signal at BT3 goes away.
7. Place a lock & tag on the Low-level RF amplifier as follows:
  - Unit has ON/OFF switch: Place a Lock-Tree on the lockout bracket with the switch in the OFF position. Place Lock/Tag on Lock-tree.
  - Unit has No ON/OFF switch: Place the power cord plug in a Plug Safe. Place Lock/Tag on Plug Safe.
8. Close the LEBT valve and Lock/Tag the disconnect switch in the OFF position.
9. Request the Operator to turn off the Gun pulse and inform him/her that the LEBT valve and low-level RF amplifier is Locked/tagged.

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