

*If you are using a printed copy of this procedure, and not the on-screen version, then you **MUST** make sure the dates at the bottom of the printed copy and the on-screen version match. The on-screen version of the Collider-Accelerator Department Procedure is the Official Version. Hard copies of all signed, official, C-A Operating Procedures are available by contacting the **ESSHQ Procedures Coordinator, Bldg. 911A***

C-A OPERATIONS PROCEDURES MANUAL

ATTACHMENT

2.6.1.c Booster Ring Lockout/Tagout Checklist - CONTROLLED ACCESS

C-A-OPM Procedures in which this Attachment is used.		
2.6.1		
2.6.2		

Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
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Approved: _____ *Signature on File* _____
 Collider-Accelerator Department Chairman Date

P. Sampson

**BOOSTER Ring Lockout-Tagout Checklist
Controlled Access**

LOTO Applied		Date: _____	
RAP _____ Life # _____	SWV _____ Life # _____		
LOTO Removed			
Partial <input type="checkbox"/> Total <input type="checkbox"/> Date _____			
RAP _____ Life # _____	SWV _____ Life # _____		

LOTO items marked with an * before the MMPS. Remove LOTO from MMPS before *'d items.

Energy Control Device or Power supply	lock #	Key #	RAP on	SWV on	RAP off	SWV off	Verification Complete
Building 930 UEB							
930 UA	10L273	930U-01					N/A
Booster injection and LTB transport devices.	Locate an LTB transport device in rack 4607 or 4621 that has control power, i.e. can be put to standby in local control. View the six lights on the bottom right of racks 4617 and 4615 ensure that they are 'on' prior to LOTO. Once the switch is opened, attempt local operation of the LTB device selected above. See that the power lights for racks 4617 and 4615 are off. View that racks 4617, 4615, 4613,4611,4621 and 4607 have no power (no control lights). RETURN TO REMOTE WHEN TESTING IS COMPLETED.						
* 930 U-G	13L176	930U-05					N/A
Booster Bump, tune and extraction sextupoles supplies.	Prior to opening the disconnect, use the volt meters on the front of the b-qtrimh and b-qtrimv power supplies to determine the presence of AC input power (Check all three phases using the selector switch). After opening the disconnect re-check the meters to see that the voltages have gone to zero. Attempt to turn one of the supplies in local control. Examine the enclosures for B-sxr1, B-sxr2, B6 Bump, D1 Bump, C7 Bump, D4 Bump, E1 Bump and the D7 Bump and see that they have no power. NOTE: BE SURE TO PUT SUPPLIES BACK IN REMOTE WHEN DONE.						

Building 930A							
Energy Control Device or Power supply	lock #	Key #	RAP on	SWV on	RAP off	SWV off	Verification Complete
LOTO the BMMPs using OPM 2.6.3	Remove MCR 1A key from tree	KIRK KEY					N/A
930A-A	0400	930A-01					
Low Field Correctors	Ensure that power lights on each rack go out when disconnect is operated.						
V_TUNE_SUPPLY	SWV shall check that each of the supplies listed to the left cannot be operated in 'Local' mode. Enter a checkmark to the right as each supply is completed. NOTE: BE SURE TO PUT SUPPLIES BACK IN REMOTE WHEN DONE.						
H_TUNE.SUPPLY							
bd3-sptm-ps							
rtv1							
rth2							
CHROM_H_PS							
CHROM_V_PS							
ACTIVE_FILTER							
930AA	10L618	930A-02					N/A
D6 Septum	Check D6 for Local Operation. RETURN SUPPLY TO REMOTE WHEN FINISHED.						

Building 914							
Energy Control Device or Power supply	lock #	Key #	RAP on	SWV on	RAP off	SWV off	Verification Complete
914-1-3-3	10L268	914-05					N/A
SPTMF6	Check that supplies have power before opening the disconnect switch. Check for local operation after the switch is opened. Close the F6 shorting switch only after the F6 verification is complete. RETURN SUPPLY TO REMOTE WHEN FINISHED.						
F6 shorting switch	10L390	914-06					N/A
914-1-2a	10L496	914-04					N/A
KDHF3	Check F3 HV charging supply for Local Operation. RETURN SUPPLY TO REMOTE WHEN FINISHED.						
BTA Steerers, Booster Low field	Ensure that power lights on each rack go out when disconnect is operated.						
*Booster Extraction Bumps	Attempt Local Operation using Euro Crate controls. RETURN SUPPLY TO REMOTE WHEN FINISHED.						
Booster Token Box	10L716	Booster Token Box					N/A