



SLAC MEMORANDUM

Date: 12/15/2006

To: File

From: Henry Tran
Paul Miller

Handwritten signatures and date:
[Signature]
[Signature] 12-15-06

Subject: Draft BAS for NLCTA & Experimental Hall

On Friday 12/15/2006, a BAS for NLCTA & Experimental Hall was drafted. This BAS covers the operations for both the NLCTA and the Experimental Hall. This BAS will replace the existing BAS for the NLCTA Accelerator.

- E. Colby is the Safety Officer and Operation Manager for E-163.
- Added running and pre-running requirements for beam operations from NLCTA to Experimental Hall.
- Added shielding checklist for the Experimental Hall.
- This BAS is issued for a commissioning period of 3 months.

When issued, the responsible RP Physicist and the ADSO will approve this BAS.

Experiment:

NLCTA & E-163

Date of issue: 12/15/2006

Beam Authorization Sheet

OFFICIAL NLCTA COPY	RP COPY	ADSO COPY	SO COPY
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FROM: 01/22/2007 **TIME:** 00:00
TO: 04/22/2007 **TIME:** 24:00

ALL GENERAL PRE-RUNNING CONDITIONS MUST BE SIGNED OFF BEFORE RUNNING RF IN THE NLCTA.
All RF Pre-Running Conditions have been signed off:
OIC: _____ Date/Time: _____
ALL PRE-RUNNING CONDITIONS MUST BE SIGNED OFF BEFORE RUNNING BEAM IN THE NLCTA AND EXPERIMENTAL HALL.
All Pre-Running Conditions have been signed off:
OIC: _____ Date/Time: _____

APPROVAL	
RADIATION PROTECTION _____	H. Tran/ T. Sanami/ S. Rokni
ACCEL. DEPT. SAFETY OFFICE _____	P. Miller
NLCTA (S.O./O.M.) _____	K. Jobe
E-163 (S.O./O.M.) _____	E. Colby

Experiment:

NLCTA & E-163

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<h2>Beam Authorization Sheet</h2>

Check-off Boxes for Review of BAS: Read *Modifications* and *running conditions*

	Mon 01/22/07	Tues 01/23/07	Wed 01/24/07	Thurs 01/25/07	Fri 01/26/07	Sat 01/27/07	Sun 01/28/07
Shift							
Day							
Swing							
Owl							

	Mon 01/29/07	Tues 01/30/07	Wed 01/31/07	Thurs 02/01/07	Fri 02/02/07	Sat 02/03/07	Sun 02/04/07
Shift							
Day							
Swing							
Owl							

	Mon 02/05/07	Tues 02/06/07	Wed 02/07/07	Thurs 02/08/07	Fri 02/09/07	Sat 02/10/07	Sun 02/11/07
Shift							
Day							
Swing							
Owl							

	Mon 02/12/07	Tues 02/13/07	Wed 02/14/07	Thurs 02/15/07	Fri 02/16/07	Sat 02/17/07	Sun 02/18/07
Shift							
Day							
Swing							
Owl							

	Mon 02/19/07	Tues 02/20/07	Wed 02/21/07	Thurs 02/22/07	Fri 02/23/07	Sat 02/24/07	Sun 02/25/07
Shift							
Day							
Swing							
Owl							

	Mon 02/26/07	Tues 02/27/07	Wed 02/28/07	Thurs 03/01/07	Fri 03/02/07	Sat 03/03/07	Sun 03/04/07
Shift							
Day							
Swing							
Owl							

	Mon 03/05/07	Tues 03/06/07	Wed 03/07/07	Thurs 03/08/07	Fri 03/09/07	Sat 03/10/07	Sun 03/11/07
Shift							
Day							
Swing							
Owl							

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Check-off Boxes for Review of BAS: Read *Modifications* and *running conditions*

	Mon 03/18/06	Tues 03/19/06	Wed 03/20/06	Thurs 03/21/06	Fri 03/22/06	Sat 03/23/06	Sun 03/24/06
Shift							
Day							
Swing							
Owl							

	Mon 03/25/06	Tues 03/26/06	Wed 03/27/06	Thurs 03/28/06	Fri 03/29/06	Sat 03/30/06	Sun 03/31/06
Shift							
Day							
Swing							
Owl							

	Mon 04/01/06	Tues 04/02/06	Wed 04/03/06	Thurs 04/04/06	Fri 04/05/06	Sat 04/06/06	Sun 04/07/06
Shift							
Day							
Swing							
Owl							

	Mon 04/08/06	Tues 04/09/06	Wed 04/10/06	Thurs 04/11/06	Fri 04/12/06	Sat 04/13/06	Sun 04/14/06
Shift							
Day							
Swing							
Owl							

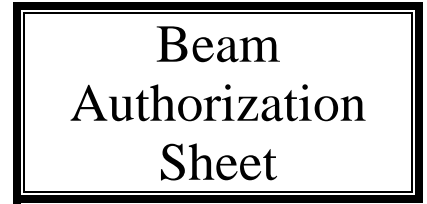
	Mon 04/15/06	Tues 04/16/06	Wed 04/17/06	Thurs 04/18/06	Fri 04/19/06	Sat 04/20/06	Sun 04/21/06
Shift							
Day							
Swing							
Owl							

	Mon 04/22/06						
Shift							
Day							
Swing							
Owl							

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Modifications to this BAS

Item	Date/ Time	Approvals			Changes or additions*
		RP	ADSO	OIC/SO	

* Items changed must be entirely rewritten and a single line drawn through items changed.

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Beam Authorization Sheet

ALLOWABLE BEAM TYPE: Electrons

ITEM	RUNNING CONDITIONS
	General
1	The OIC must confirm the integrity of all PPS components and radiation safety items in the NLCTA and Experimental Hall per the “Weekly NLCTA Checklist” procedures [02-03-12], [xxx], “PPS Interlock Checklist” procedure [02-03-03], and [xxx].
2	The OIC must review the appropriate Radiation Safety Work Control Forms for the NLCTA or Experimental Hall after work on radiation safety items are performed.
3	BSONLC 2, 3, 5, 6, 7, 8, 13 and 15 must be set to trip at 10 mrem/hr, BSONLC 4 must be set to trip at 4 mrem/hr above the internal source level, BSONLC 9, 10, and 14 must be set to trip at 100 mrem/hr. BSONLC 2 – 10, 13 - 15 must remain active at all times.
4	Instantaneous beam voltage limit for all X-band klystrons (including overshoot) is 450 kV.
5	Maximum pulse repetition rate for all X-band klystrons is 60 PPS.
	Unattended Operation (without beam)
6	When an NLCTA operator is not present: a) The Gun Modulator H.V. must remain locked off and b) The NLCTA Daily Inspection Checklist for Unattended Operation Without Beam (02-03-11) must be completed each weekday. c) The Experimental Hall stopper must be in and disable when no E-163 operator present.
	Operation with Beam
7	The Protection Ion Chambers IONC 1 through 8 must remain active at all times. The trip levels (set to 50nA or less) must be checked per the “Beam Containment Daily Checks” procedure [02-03-07].
8	Beam operation in the NLCTA is limited to 10 Hz or less. The rep rate limiting electronics must be checked as per the “Beam Containment Daily Checks” procedure [02-03-07].
9	The maximum allowable energy (unloaded) gain in NLCTA is 650 MeV.
10	For beam to the Experimental Hall: <ul style="list-style-type: none">• In the Commissioning/Tune-up Mode (70 MeV,10 Hz, 0.6 W) for up to ~200 hours.• In the Experimental Mode (70 MeV,10 Hz,0.03 W) for up to ~800 hours.

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Beam
Authorization
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ITEM	DATE/ TIME	CKD. BY	OIC ACKN.	INITIAL CHECKOUT
1				Test that PICs respond to beam after beam is established.

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<h2 style="margin: 0;">Beam Authorization Sheet</h2>
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NOTE: The stopper enable key may not be released until all pre-running conditions have been satisfied, except as required by PPS certification.

ITEM	DATE TIME	CKD. BY	OIC ACKN	<i>GENERAL PRE-RUNNING CONDITIONS</i>
1*				BSOICs must be calibrated and trip circuits checked per “NLCTA BSOIC Certification Checklist” [02-03-05].
2				Location of BSOICs must be checked by Radiation Protection.
3				The integrity of NLCTA and Experimental Hall enclosure (walls & roof) must be verified by Radiation Protection (note: the roof penetrations no longer are required to be shielded).
4				The roof blocks of the NLCTA must be chained and locked with an ADSO padlock.
5*				PPS must be certified by an approved member of the PPS group per procedures: - PPS NLCTA Initial Acceptance Interlock Test [18-29-05]. - PPS NLCTA Initial Acceptance Electrical Hazard Test [18-29-06]. - PPS NLCTA Initial Acceptance Radiation Test [18-29-07]. - PPS NLCTA Experimental Hall Initial Acceptance Test Procedure [18-29-11].
6				PPS interlock check per procedures [02-03-03] and [xxx].
7				The NLCTA and Experimental Hall roof areas are posted as a Radiation Area. A sign stating “ <i>For access to roof, please contact NLCTA OIC (x5482)</i> ” must be posted at the top of the stairs to the NLCTA and Experimental Hall roof areas.
8				Verify that that the 2-Pack waveguide (located on the roof of the NLCTA) to the NLCTA housing is terminated and locked with an ADSO lock.
9				Verify that that the L-band waveguide to the NLCTA housing is terminated (if installed) and locked with an ADSO lock. Verify penetration is filled with radiation shielding material.
10				Protection collimator downbeam of the stopper-pair for the experimental enclosure beamline must be in place.
11				All pertinent Radiation Safety Work Control forms have been reviewed.

* Valid for one year from the date shown. No need to recheck.

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Beam Authorization Sheet

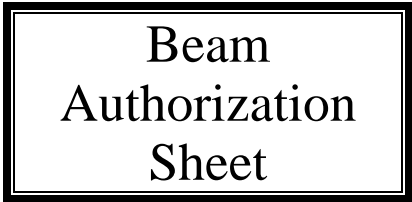
ITEM	DATE TIME	CKD. BY	OIC ACKN.	<i>BEAM PRE-RUNNING CONDITIONS</i>
1*				BCS must be certified per the "NLCTA BCS PIC Pre-run Checkout" procedure [18-08-80].
2				Gun Faraday Cup (flange on upward spectrometer beamline) must be in place.
3				Protection collimators at the first chicane bend (A on map) and at the spectrometer bend (B) must be in place ???
4				All unused roof penetrations into the accelerator area of the accelerator enclosure are blocked.
5				The items in the NLCTA & Experimental Hall shielding check list are verified by H. Tran or T. Sanami or S. Rokni.
6				All pertinent Radiation Safety Work Control forms have been reviewed.

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Item No.	Label	NLCTA & EXPERIMENTAL HALL SHIELDING CHECK LIST *	Checked By
		Girder 41 Shield Components	
1	1A	Front (Northwest) Plate - Inside	
2	1B	Front (Northwest Plate) - Outside	
3	2A	Downbeam wall - Top	
4	2B	Downbeam wall - Bottom	
5	3A	Roof plate - top	
6	3B	Roof plate - bottom	
7	4A	Rear (southeast) plate - Inside	
8	4B	Rear (southeast) plate - Outside	
		Girder 42 Shield Components	
9	5A	Front (North) plate-- West Section	
10	5B	Front (North) plate-- Center Section	
11	5C	Front (North) plate-- East Section	
12	6A	Roof plate-- Top Plate--West Section	
13	6B	Roof plate-- Bottom Plate--West Section	
14	6C	Roof plate-- Top Plate--Center Section	
15	6D	Roof plate-- Bottom Plate--Center Section	
16	6E	Roof plate-- Top Plate--East Section	
18	6F	Roof plate-- Bottom Plate--East Section	
19	7A	Downbeam wall -- Top	
20	7B	Downbeam wall -- Bottom	
21	8	Downbeam wall -- North 0.5" Lead Supplement Plate	
22	22A	Quad 7,8 North 1" plate - West (view from behind girder 42)	
23	22B	Quad 7,8 North 1" plate - East (view from behind girder 42)	
24	23A	Quad 7,8 North 3" plate - West (view from upbeam end)	
25	23B	Quad 7,8 North 3" plate - East (view from upbeam end)	
		Girder 44 Shield Components	
26	10A	Front (North) Plate - Inside	
27	10B	Front (North) Plate - Outside	
28	11	Front Block - West	
29	12	Straight Ahead Dump	
		East Wall Shelf Components	
30	13	Lead Dump (beneath steel retaining plate)	
31	14	12x12x8 Steel Block north of Lead Dump	
32	15	8x12x32 Steel block south of Lead Dump	
33	16A	Top Steel block behind column	
34	16B	Front Steel block behind column	

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Item No.	Label	NLCTA & EXPERIMENTAL HALL SHIELDING CHECK LIST * (Continued)	Checked By
35	16C	Bottom Steel block behind column	
36	17	Supplementary blocks to fill in behind column	
		North Wall Shelf Components	
37	18	Tungsten core of bend line dump	
38	19A	Dump steel top plate	
39	19B	Dump steel rear (South) plate	
40	19C	Dump steel middle plate	
41	19D	Dump steel front (North) plate	
		Spectrometer Protection Collimator Components	
42	20A	Upbeam copper collimator	
43	21A	Downbeam copper collimator	

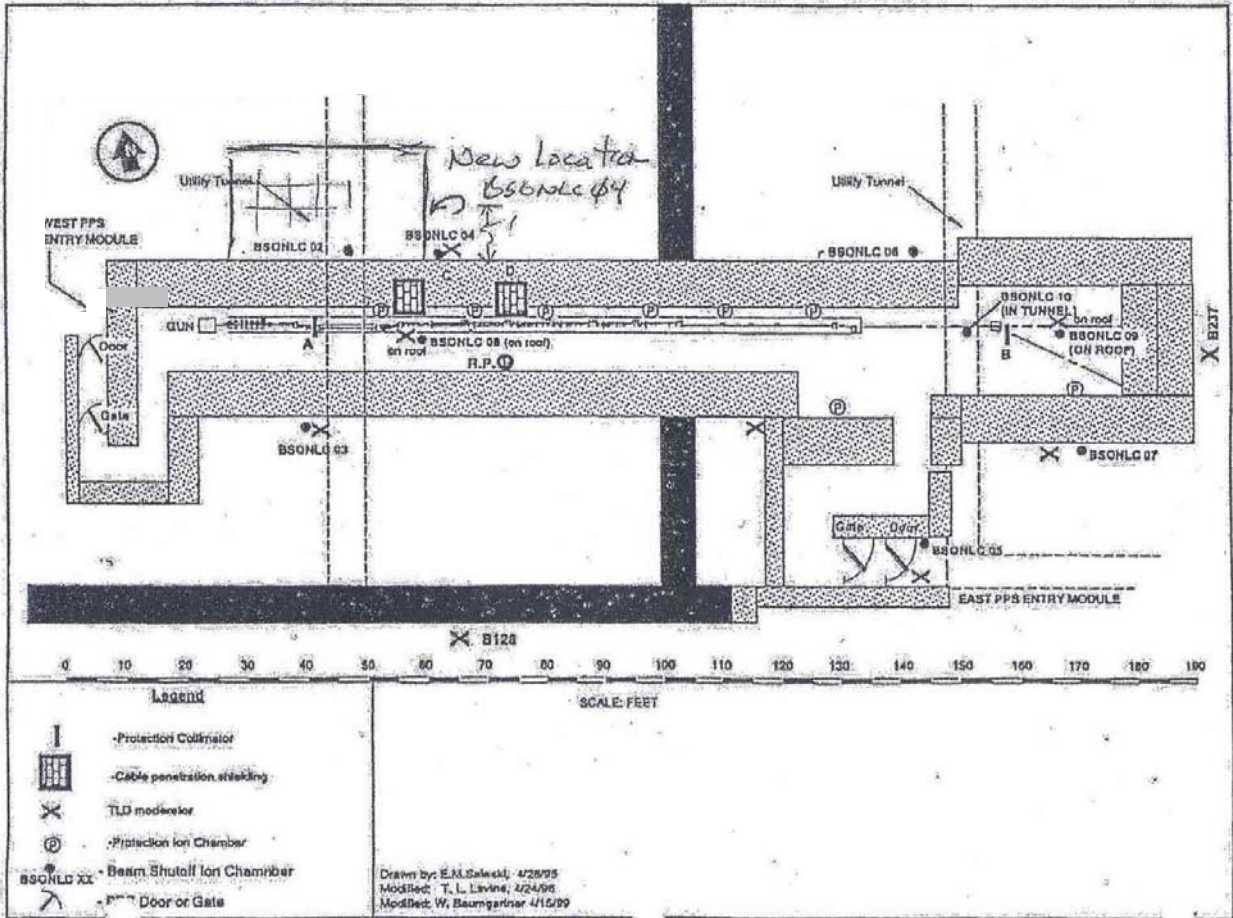
* Items marked with a (*) have been signed off on a previous BAS as dated and are still valid

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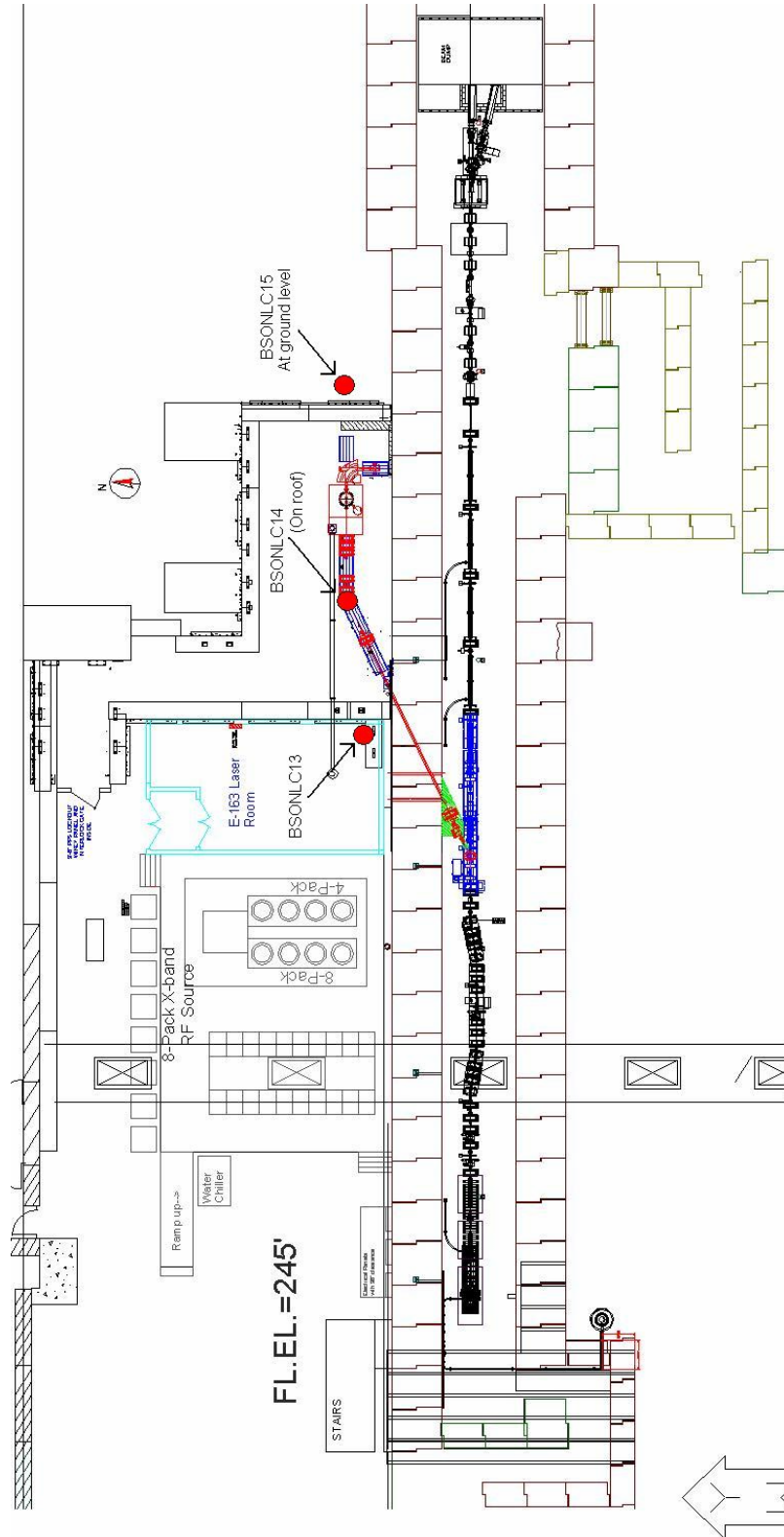


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