SNS OPERATIONS PROCEDURES MANUAL



SNS-OPM-ATTACHMENT - 2.H-7.7.a SNS Shielding Under Configuration Control

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SNS OPM Procedures in which this Attachment is used.

2.H-7.7

	Hand	Processed Changes		
HPC N	o. <u>Date</u>	Page Nos.	Initial	<u>s</u>
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Approved	d: Block C- Y SNS Instrument Ope	erations Manager		// -/5 Date
Approved	d: RAD Accelerator O	perations Manager	2-	-11-15 Date
Approve	d: SNS Radiation Safe	ty Officer (y <u> </u>	Fab 2015 Date

Contact: SNS Radiation Safety Officer

SNS-OPM Editor

SNS-OPM-ATTACHMENT - 2.H-7.7.a SNS Shielding Under Configuration Control

Shield No. **Location / Description Secured By** Front End Only Mode (No Required Shielding) Front End (Linac Mode Shielding ↓) Front End/Linac steel sliding door **Bolted** 1 2 Blocks above the Front End/Tunnel entrance Stacked 3 Front End Plug Door Trapped key 4 Stacked blocks beside Plug Door Moveable Stacked borosilicon "wall" at DTL1 5 Moveable South Wall Penetration (upstream) - blocks Stacked 6 South Wall Penetration (middle) - shot bags & bricks 7 Stacked 8 South Wall Penetration (downstream) - shot bags & bricks Stacked 9 South Wall Penetration (Chiller Room) - shot bags Stacked 10 Stacked block in Front End labyrinth alcove Stacked Linac, HEBT, and Klystron Gallery 11 Alignment penetration in ceiling at DTL2 - blocks in crawl space Labeled 12 Stacked block at bottom of Pene. 1-2 (DTL3-4) Stacked 13 Stacked block at bottom of Pene. 5 (DTL4) Stacked 14 Stacked block at bottom of Pene. 5-6 (DTL5-6) Stacked 15 Stacked block at bottom of Pene. 8-9 (CCL1) Stacked Stacked block shadow shield in tunnel at CCL1 16 Stacked 17 Stacked block shadow shield in tunnel at CCL4 (CM 1) Stacked 18 Pellet-filling and blocked opening at base of Pene. 26 (CM 1) Secured 19 Pellet-filling and blocked opening at base of Pene. 27 (CM 1) Secured 20 Stacked block wall (Klystron Bldg.) at CM1 (Pene. 26, 27) Stacked 21 Pellet-filling and blocked opening at base of Pene. 28 (CM 2) Secured 22 Pellet-filling and blocked opening at base of Pene. 29 (CM 2) Secured Block shield (Klystron Bldg.) at CM2 (Pene. 28, 29) Stacked 23 24 Pellet-filling and blocked opening at base of Pene. 30 (CM 3) Secured 25 Pellet-filling and blocked opening at base of Pene. 31 (CM 3) Secured 26 Block shield (Klystron Bldg.) at CM3 (Pene. 30, 31) Stacked 27 Pellet-filling and blocked opening at base of Pene. 32 (CM 4) Secured 28 Pellet-filling and blocked opening at base of Pene. 33 (CM 4) Secured 29 Block shield (Klystron Bldg.) at CM4 (Pene. 32, 33) Stacked 30 Pellet-filling and blocked opening at base of Pene. 36 (CM 5) Secured 31 Pellet-filling and blocked opening at base of Pene. 37 (CM 5) Secured 32 Block shield (Klystron Bldg.) at CM5 (Pene. 36, 37) Stacked Pellet-filling and blocked opening at base of Pene. 39 (CM 6) 33 Secured Pellet-filling and blocked opening at base of Pene. 40 (CM 6) Secured 34 35 Block shield (Klystron Bldg.) at CM6 (Pene. 39, 40) Stacked 36 Pellet-filling and blocked opening at base of Pene. 41 (CM 7) Secured

Shield No.	Location / Description	Secured By
	Linac, HEBT, and Klystron Gallery	
37	Pellet-filling and blocked opening at base of Pene. 42 (CM 7)	Secured
38	Block shield (Klystron Bldg.) at CM7 (Pene. 41, 42)	Stacked
39	Pellet-filling and blocked opening at base of Pene. 43 (CM 8)	Secured
40	Pellet-filling and blocked opening at base of Pene. 44 (CM 8)	Secured
41	Block shield (Klystron Bldg.) at CM8 (Pene. 43, 44)	Stacked
42	Pellet-filling and blocked opening at base of Pene. 47 (CM 9)	Secured
43	Pellet-filling and blocked opening at base of Pene. 48 (CM 9)	Secured
44	Block shield (Klystron Bldg.) at CM9 (Pene. 47, 48)	Stacked
45	Pellet-filling and blocked opening at base of Pene. 49 (CM 10)	Secured
46	Pellet-filling and blocked opening at base of Pene. 50 (CM 10)	Secured
47	Block shield (Klystron Bldg.) at CM10 (Pene. 49, 50)	Stacked
48	Pellet-filling and blocked opening at base of Pene. 51 (CM 11)	Secured
49	Pellet-filling and blocked opening at base of Pene. 52 (CM 11)	Secured
50	Block shield (Klystron Bldg.) at CM11 (Pene. 51, 52)	Stacked
51	Pellet-filling and blocked opening at base of Pene. 55 (CM 12)	Secured
52	Block shield (Klystron Bldg.) at CM12 A,B (Pene. 55)	Stacked
53	Pellet-filling and blocked opening at base of Pene. 56 (CM 12)	Secured
54	Block shield (Klystron Bldg.) at CM12 C,D (Pene. 56)	Stacked
55	Pellet-filling and blocked opening at base of Pene. 59 (CM 13)	Secured
56	Block shield (Klystron Bldg.) at CM13 A,B (Pene. 59)	Stacked
57	Pellet-filling and blocked opening at base of Pene. 60 (CM 13)	Secured
58	Block shield (Klystron Bldg.) at CM13 C,D (Pene. 60)	Stacked
59	Pellet-filling and blocked opening at base of Pene. 61 (CM 14)	Secured
60	Block shield (Klystron Bldg.) at CM14 A,B (Pene. 61)	Stacked
61	Pellet-filling and blocked opening at base of Pene. 62 (CM 14)	Secured
62	Block shield (Klystron Bldg.) at CM14 C,D (Pene. 62)	Stacked
63	Pellet-filling and blocked opening at base of Pene. 63 (CM 15)	Secured
64	Block shield (Klystron Bldg.) at CM15 A,B (Pene. 63)	Stacked
65	Pellet-filling and blocked opening at base of Pene. 64 (CM 15)	Secured
66	Block shield (Klystron Bldg.) at CM15 C,D (Pene. 64)	Stacked
67	Pellet-filling and blocked opening at base of Pene. 67 (CM 16)	Secured
68	Block shield (Klystron Bldg.) at CM16 A,B (Pene. 67)	Stacked
69	Pellet-filling and blocked opening at base of Pene. 68 (CM 16)	Secured
70	Block shield (Klystron Bldg.) at CM16 C,D (Pene. 68)	Stacked
71	Ceiling alignment penetration at CM17 (Pene. 73)	Covered
72	Pellet-filling and blocked opening at base of Pene. 73 (CM 17)	Secured
73	Block shield (Klystron Bldg.) at CM17 A,B (Pene. 73)	Stacked
74	Pellet-filling and blocked opening at base of Pene. 74 (CM 17)	Secured
75	Block shield (Klystron Bldg.) at CM17 C,D (Pene. 74)	Stacked
76	Pellet-filling and blocked opening at base of Pene. 77 (CM 18)	Secured

Shield No.	Location / Description	Secured By
	Linac, HEBT, and Klystron Gallery	
77	Block shield (Klystron Bldg.) at CM18 A,B (Pene. 77)	Stacked
78	Pellet-filling and blocked opening at base of Pene. 78 (CM 18)	Secured
79	Block shield (Klystron Bldg.) at CM18 C,D (Pene. 78)	Stacked
80	Pellet-filling and blocked opening at base of Pene. 80 (CM 19)	Secured
81	Block shield (Klystron Bldg.) at CM19 A,B (Pene. 80)	Stacked
82	Pellet-filling and blocked opening at base of Pene. 81 (CM 19)	Secured
83	Block shield (Klystron Bldg.) at CM19 C,D (Pene. 81)	Stacked
84	Pellet-filling and blocked opening at base of Pene. 82 (CM 20)	Secured
85	Block shield (Klystron Bldg.) at CM20 A,B (Pene. 82)	Stacked
86	Pellet-filling and blocked opening at base of Pene. 83 (CM 20)	Secured
87	Block shield (Klystron Bldg.) at CM20 C,D (Pene. 83)	Stacked
88	Pellet-filling and blocked opening at base of Pene. 86 (CM 21)	Secured
89	Block shield (Klystron Bldg.) at CM21 A,B (Pene. 86)	Stacked
90	Pellet-filling and blocked opening at base of Pene. 87 (CM 21)	Secured
91	Block shield (Klystron Bldg.) at CM21 C,D (Pene. 87)	Stacked
92	Pellet-filling and blocked opening at base of Pene. 88 (CM 22)	Secured
93	Block shield (Klystron Bldg.) at CM22 A,B (Pene. 88)	Stacked
94	Pellet-filling and blocked opening at base of Pene. 89 (CM 22)	Secured
95	Block shield (Klystron Bldg.) at CM22 C,D (Pene. 89)	Stacked
96	Pellet-filling and blocked opening at base of Pene. 90 (CM 23)	Secured
97	Block shield (Klystron Bldg.) at top of Pene. 90	Stacked
98	Pellet-filling and blocked opening at base of Pene. 91 (CM 23)	Secured
99	Block shield (Klystron Bldg.) at top of Pene. 91	Stacked
100	Pellet-filling and blocked opening at base of Pene. 94	Secured
101	Block shield (Klystron Bldg.) at top of Pene. 94	Stacked
102	Pellet-filling and blocked opening (both ends) of Pene. 95	Secured
103	Cover Plate at top of Pene. 95	Secured
104	Pellet-filling and blocked opening (both ends) of Pene. 96	Secured
105	Pellet-filling and blocked opening (both ends) of Pene. 97	Secured
106	Pellet-filling and blocked opening (both ends) of Pene. 98	Secured
107	Pellet-filling and blocked opening (both ends) of Pene. 99	Secured
108	Pellet-filling and blocked opening at base of Pene. 102	Secured
109	Block shield (Klystron Bldg.) at top of Pene. 102	Secured
110	Pellet-filling and blocked opening (both ends) of Pene. 103	Secured
111	Pellet-filling and blocked opening (both ends) at Pene. 104	Secured
112	Pellet-filling and blocked opening (both ends) at Pene. 105	Secured
113	Pellet-filling and blocked opening (both ends) at Pene. 106	Secured
114	Pellet-filling and blocked opening (both ends) at Pene. 107	Secured
115	Pellet-filling and blocked opening (both ends) at Pene. 110	Secured
116	Pellet-filling and blocked opening (both ends) at Pene. 111	Secured

Shield No.	Location / Description	Secured By		
	Linac, HEBT, and Klystron Gallery			
117	Pellet-filling and blocked opening (both ends) at Pene. 112	Secured		
118	Pellet-filling and blocked opening (both ends) at Pene. 113	Secured		
119	Pellet-filling and blocked opening (both ends) at Pene. 116	Secured		
120	Pellet-filling and blocked opening (both ends) at Pene. 117	Secured		
121	Linac-HEBT Gate	PPS Controlled		
122	Pellet-filling and blocked opening at base of Pene. 118	Secured		
123	HEBT Collimator Shielding (upstream)	Bolted		
124	HEBT Collimator Shielding (downstream)	Bolted		
125	Alignment penetration at HEBT truck entrance - pellets and cover	Covered		
126	Stacked steel at HEBT truck entrance	Trapped key		
127	Linac Dump Window Shield	RS-Hold		
128	Momentum Dump stacked shielding (blocks)	Stacked		
129	HEBT/Ring stacked block labyrinth	Stacked		
	Ring and RTBT (Ring Mode Shielding ↓)			
130	Alignment penetration at Ring SW corner (poly & cover)	Covered		
131	Ring/RSB penetration bank (some filled with poly)	Noted feature		
132	Injection Dump Gamma Blocker	PPS controlled		
133	Stacked steel over Injection Dump in Inj Dump Bldg	Under floor		
134	Alignment penetration at Ring NW corner (poly & cover)	Covered		
135	Ring/RSB penetration bank (with bends, no fill material)	Noted feature		
136	Ring North Collimator shielding (upstream)	Bolted		
137	Ring North Collimator shielding (middle)	Bolted		
138	Ring North Collimator shielding (downstream)	Bolted		
139	Alignment penetration at Ring NE corner (poly & cover)	Covered		
140	Ring/RSB penetration bank (some filled with poly)	Noted feature		
141	Alignment penetration at Ring SE corner (poly & cover)	Covered		
142	Ring/RSB penetration banks (some filled with poly)	Noted feature		
	Extraction Mode Shielding ↓			
143	Alignment Pene. at RTBT Tunnel/Truck (poly & cover)	Covered		
144	Stacked steel at RTBT Truck entrance	Trapped key		
145	Extraction Dump stacked shielding	Stacked		
146	RTBT/RTBT Service Bldg penetrations	Noted feature		
	Target Mode Shielding ↓			
147	RTBT Collimator shielding (upstream)	Bolted		
148	RTBT Collimator shielding (downstream)	Bolted		
149	Alignment penetration at RTBT Emer. Exit (poly & cover)	Covered		
150	Target Gamma Blocker	PPS controlled		
Target High Bay				
151	High Bay upstream key block over RTBT Tunnel	RS-Hold		
152	Stacked Steel between RTBT Tunnel and High Bay (upstream)	Under floor		
153	High Bay downstream key block over RTBT Tunnel	RS-Hold		
154	Stacked Steel between RTBT Tunnel and High Bay (downstream)	Under floor		

Shield No.	Location / Description	Secured By
	Target High Bay	
155	High Bay T-Beam 1 over Target (Shine Shield)	RS-Hold
156	High Bay T-Beam 3 over Target (Shine Shield)	RS-Hold
157	High Bay T-Beam 5 over Target (Shine Shield)	RS-Hold
158	High Bay T-Beam 7A over Target (Shine Shield)	RS-Hold
159	High Bay T-Beam 7B over Target (Shine Shield)	RS-Hold
160	High Bay T-Beam 7C over Target (Shine Shield)	RS-Hold
161	High Bay T-Beam 9 over Target (Shine Shield)	RS-Hold
162	High Bay T-Beam 11 over Target (Shine Shield)	RS-Hold
163	High Bay T-Beam 13 over Target (Shine Shield)	RS-Hold
164	Delay Tank Cover Block 1	Trapped key
165	Delay Tank Cover Block 2	Trapped key
166	Delay Tank Cover Block 3	Trapped key
167	Delay Tank Cover Block 4	Trapped key
168	Delay Tank Cover Block 5	RS-Hold
169	Downstream Water System Cover 1	RS-Hold
170	Downstream Water System Cover 2	RS-Hold
171	Downstream Water System Cover 3	RS-Hold
172	Service Bay Cover Beam 2	Moveable (Label)
173	Service Bay Cover Beam 4	Moveable (Label)
174	Service Bay Cover Beam 6	Moveable (Label)
175	Service Bay Cover Beam 8	Moveable (Label)
176	Service Bay Downstream Cover Beam 1	Moveable (Label)
177	Service Bay Downstream Cover Beam 3	Moveable (Label)
178	Service Bay Further Downstream Cover Beam 2	Moveable (Label)
179	Service Bay Cask Access Port and Block	RS-Hold
180	Maintenance Bay Cover Beam 2	Moveable (Label)
181	Maintenance Bay Cover Beam 4	Moveable (Label)
182	Major Shielding Pieces in Shutter Drive Equipment Room	Under shield
183	Operating Shutter for Beam Line 1	Operational
184	Operating Shutter for Beam Line 2	Operational
185	Operating Shutter for Beam Line 3	Operational
186	Operating Shutter for Beam Line 4	Operational
187	Operating Shutter for Beam Line 5	Operational
188	Operating Shutter for Beam Line 6	Operational
189	Operating Shutter for Beam Line 7	Operational
190	Concrete Shutter for Beam Line 8	Installed
191	Concrete Shutter for Beam Line 9	Operational
192	Concrete Shutter for Beam Line 10	Installed
193	Operating Shutter for Beam Line 11	Operational
194	Operating Shutter for Beam Line 12	Operational
195	Operating Shutter for Beam Line 13	Operational

Shield No.	Location / Description	Secured By
	Target High Bay	
196	Operating Shutter for Beam Line 14	Operational
197	Operating Shutter for Beam Line 15	Operational
198	Operating Shutter for Beam Line 16	Operational
199	Operating Shutter for Beam Line 17	Operational
200	Operating Shutter for Beam Line 18	Operational
	Instruments – Beam Line 1	
201	Beam Line 1 Installed shielding	Locks/RS-Hold
202	Beam Line 1 Bonus Block	Locks/RS-Hold
203	Beam Line 1A Shielding Front Penetration	Socks
204	Beam Line 1A Double Hatch	Locks/RS-Hold
205	Beam Line 1A Single Hatch	Admin. Lock
206	Beam Line 1A Fence	Labeled
207	Beam Line 1A Sample Beam Stop	Labeled
208	Beam Line 1A Secondary (Sample) Shutter	Locks/RS-Hold
209	Beam Line 1A Detector	Installed
210	Beam Line 1A Primary Beam Stop	Installed
211	Beam Line 1B Get-Lost tube	Trapped keys (2)
212	Beam Line 1B Detector tank rear door	Trapped key
213	Beam Line 1B Beam Stop	Installed
214	Beam Line 1-2 Interface crack blocks	Labeled
	Instruments – Beam Line 2	
215	Beam Line 2 Installed shielding past shutter	Locks/RS-Hold
216	Beam Line 2 Plate on shielding vertical surface (BL1 side)	Labeled
217	Beam Line 2 Beam Stop	Lock/RS-Hold
218	Beam Line 2-3 Seam Shielding	Labeled
	Instruments – Beam Line 3	
219	Beam Line 3 Installed shielding pieces past shutter	Locks/RS-Hold
220	Beam Line 3 Addl. shielding (2 long pieces blocking cracks)	Labeled/Bolted
221	Beam Line 3 Addl. shielding (3 small blocks near cave roof)	Labeled/Bolted
222	Beam Line 3 Addl. shielding (U-shaped piece on cave front wall)	Labeled/Bolted
223	Beam Line 3 Cave cover plates	Trapped key
224	Beam Line 3 Cave access hatch	Trapped key
225	Beam Line 3 Get-Lost Tube	Removed
226	Beam Line 3 Beam Stop (poured concrete)	Permanent
227	Beam Line 3-4 Seam Shielding	Labeled
	Instruments – Beam Line 4	
228	Beam Line 4 Beam Line shielding past shutter	Locks/RS-Hold
229	Beam Line 4 Roof air vent - forward of caves	Labeled/Bolted
230	Beam Line 4B Roof air vent (over cave)	Labeled/Bolted
231	Beam Line 4B Air vent over cave entrance	Labeled/Bolted
232	Beam Line 4B Beam Stop	Permanent
233	Beam Line 4A Roof air vent (over cave on beam's right)	Labeled/Bolted

Shield No.	Location / Description	Secured By		
	Instruments – Beam Line 4			
234	Beam Line 4A Roof air vent (over cave on beam's left)	Labeled/Bolted		
235	Beam Line 4A Beam Stop	Labeled/Bolted		
236	Beam Line 4-5 Seam shielding	Labeled		
	Instruments – Beam Line 5			
237	Beam Line 5 Installed shielding in Experiment Hall	Locks/RS-Hold		
238	Beam Line 5 Installed shielding in 8705	Locks/RS-Hold		
239	Gate over chasm to beam's left (8705)	Admin. Lock		
240	Sample environment access gates in fencing (2) in 8705	Trapped key		
241	Fencing in 8705	Installed		
	Instruments – Beam Line 6			
242	Beam Line 6 Installed shielding	Locks/RS-Hold		
243	Beam Line 5-6 Crack blocks	Labeled		
244	Beam Line 6 Sample carousel (phone booth)	PPS controlled		
245	Personnel access fence on floor level (2 entrances)	Admin. lock		
246	Beam Line 6 Socks around neutron guide (metal cover)	Labeled		
247	Beam Line 6 Shield on sample chamber (beam left)	Labeled		
248	BL 6 Shielding around beam pipe upstream of sample chamber	Screws, Labels		
249	Beam Line 6 Tank movement	RS-Hold		
250	Beam Line 6 Beam Stop	Trapped key		
	Instruments – Beam Line 7			
251	Beam Line 7 Installed shielding in Experiment Hall	Locks/RS-Hold		
252	Beam Line 6-7 Crack blocks	Labeled		
253	Beam Line 7-8 Yellow blocks	Labeled		
254	Beam Line 7 Shield pieces on front wall of sample vault in 8707	Labeled		
255	Sample Vault roof beams in 8707	Locks/RS-Hold		
256	Beam Line 7 Beam Stop	Lock/RS-Hold		
	Instruments – Beam Line 8			
257	Beam Line 8 Stacked blocks, plates, and bricks	Labeled		
	Instruments – Beam Line 9			
258	Beam Line 9 Installed shielding upstream of hutch	Locks/RS-Hold		
259	Beam Line 9 Roof beams	Locks/RS-Hold		
260	Cave Floor Shielding (mezzanine level)	Locks/RS-Hold		
261	Ladder Between Floors Inside Cave	Trapped Key		
262	Sample Cover Plate	IPPS		
263	Storage Area in Cave	Trapped Key		
264	Detector Tank Door with absorbing plates	IPPS		
265	Ladder to Roof	Admin. Lock		
266	Beam Line 9 Beam Stop	Locks/RS-Hold		
	Instruments – Beam Line 10			
267	Beam Line 10 Stacked blocks and bricks	Labeled		
268	Beam Line 10 Outer Barrier	Labeled		

Shield No.	Location / Description	Secured By	
	Instruments – Beam Line 11		
269	Yellow shielded blocks on 10-11 interface	Labeled	
270	Beam Line 11 Installed shielding in Expt. Hall	Locks/RS-Hold	
271	Beam Line 11B Optics table cover	Labeled	
272	Beam Line 11B Access port in sample cave floor	Trapped key	
273	Beam Line 11B Beam Stop Entrance Plate	Labeled	
274	Beam Line 11B Beam Stop	Lock/RS-Hold	
275	Bldg 8711 Installed shielding	Locks/RS-Hold	
276	Bldg 8711 Floor plates on mezzanine level	Special hex key	
277	Bldg 8711 Shadow shield plate in sample area	Removed	
278	Bldg 8711 PPS area fencing inside detector chamber	Trapped key / Labels	
279	Bldg 8711 - BL 11A Beam Stop	Lock/RS-Hold	
	Instruments – Beam Line 12		
280	Beam Line 12 Installed shielding	Locks/RS-Hold	
281	Beam Line 12 Cave roof panels	Trapped key	
282	Beam Line 12 Beam Stop	Installed	
	Instruments – Beam Line 13		
283	Beam Line 13 Installed shielding	Locks/RS-Hold	
284	Beam Line 13A Beam Stop plate	RS-Hold	
285	Beam Line 13A Crystal	RS-Hold	
286	Beam Line 13B Upstream limiting apertures	Labeled	
287	Beam Line 13B Downstream cylindrical shield	Labeled	
288	Beam Line 13B Fence / Personnel Access Gate	Label / Trapped key	
289	Beam Line 13B Poly door	Labeled	
290	Beam Line 13B Beam Stop	Installed	
291	Yellow blocks along BL 13-14 interface	Labeled	
	Instruments – Beam Line 14		
292	Beam Line 14A - 14B Yellow Shield Blocks	Labeled	
293	Beam Line 14 Installed shielding	Locks/RS-Hold	
294	Bldg. 8714 Installed shielding	Locks/RS-Hold	
295	Bldg. 8714 Tank Rotation Limit	Welded	
296	Bldg. 8714 Sample chamber lid	Locks/RS-Hold	
297	Bldg. 8714 Personnel Access Fences (4)	Labeled	
298	Bldg. 8714 N-absorbing plates along wall	Labeled	
299	Bldg. 8714 N-absorbing gate section	Trapped Key	
	Instruments – Beam Line 15		
300	Beam Line 15 Installed shielding	Locks/RS-Hold	
301	Beam Line 15 Beam Stop	Installed/Labeled	
	Instruments – Beam Line 16		
302	Beam Line 16 Installed shielding	Locks/RS-Hold	
303	Beam Line 16A Beam Plug	Under shielding	
304	Beam Line 16A – 16B Stacked Yellow Blocks	Labeled	
305	Beam Line 16B Roof Penetration Cover	Locks/RS-Hold	

Shield No.	Location / Description	Secured By
	Instruments – Beam Line 16	
305	Beam Line 16B Roof Penetration Cover	Locks/RS-Hold
306	Beam Line 16B Cave Front Shield Socks (bkgnd reduction)	Not Controlled
307	Beam Line 16B Cave Front Beam Cover	Labeled
308	Beam Line 16B Upstairs Pass-Thru Port	Labeled
	Instruments – Beam Line 17	
309	Beam Line 17 Installed shielding	Locks/RS-Hold
310	Beam Line 17 Detector roof hatch	IPPS controlled
311	Beam Line 17 Beam Stop	Locks/RS-Hold
312	Beam Line 17-18 crack blocks	Locks/RS-Hold
	Instruments – Beam Line 18	
313	Beam Line 18 Installed shielding past shutter	Locks/RS-Hold
314	Beam Line 18 Cave Floor Shields	Special tool
315	Beam Line 18 Fence between PPS areas	Admin. key control
316	Beam Line 18 Shield on basement chamber entrance	Labeled
317	Beam Line 18 Detector Tank bottom port	Trapped Key
318	Beam Line 18 Beam Stop Top Plug	Lock/RS-Hold
319	Beam Line 18 Beam Stop	Poured
	RF Test Facility Cave	
320	Shield Door	PPS interlock
321	Labyrinth Gate	PPS interlock
322	Stacked Blocks/Cover around waveguide penetration	Bolted/Labeled
323	Stacked Blocks/Cover around cryogenic penetration	Bolted/Labeled
324	Shot bags in ceiling vent penetration	No credit taken
	Vertical Test Assembly (VTA)	
325	VTA Pit Lid	PPS Interlock
	Integrated Test Stand (ITSF)	
326	ITSF Beam Stop	Future
327	ITFS Fence/Gate	Future
	Features of Radiological Interest	
328	Emergency Exit (at CM14 and Pene. 62)	PPS controlled
329	He penetrations to CHL (4) - CM16-17 at Pene. 68-73	Access blocked
330	Air vent to Berm (CM8-9 at Pene. 44)	Access blocked
331	Air vent to Berm (CM23-24 at Pene. 91)	Access blocked
332	EVS Supply duct to Berm (North HEBT wall)	Access blocked
333	Laser port to HEBT Service Building	Minor penetrations
334	Penetration banks from HEBT to HEBT Serv. Bldg. (2)	Minor penetrations
335	Linac Dump Steel Shielding	Under berm
336	Air Exhaust ducts in East & West Ring straights	Access blocked
337	Penetration bank from RTBT to RTBT Service Bldg.	Minor penetrations
338	Extraction Dump Steel Shielding	Under berm
339	Penetrations to Ring Service Building	Minor penetrations