

*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

4.56.akl RHIC Zone 4z1 Sweep Checklist

Text Pages 2 through 4

C-A-OPM Procedures in which this Attachment is used.		
4.56		

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. Ingrassia

RHIC Zone 4z1 Sweep Checklist

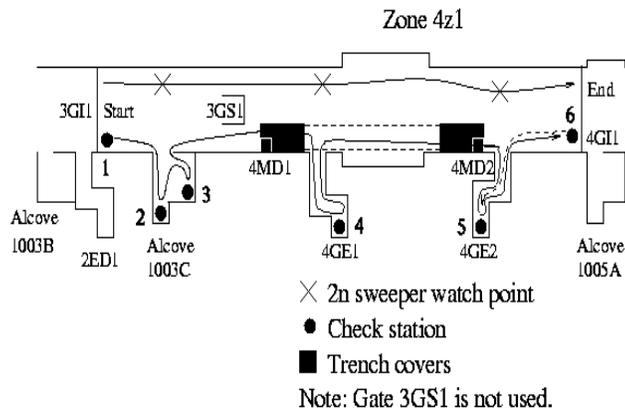
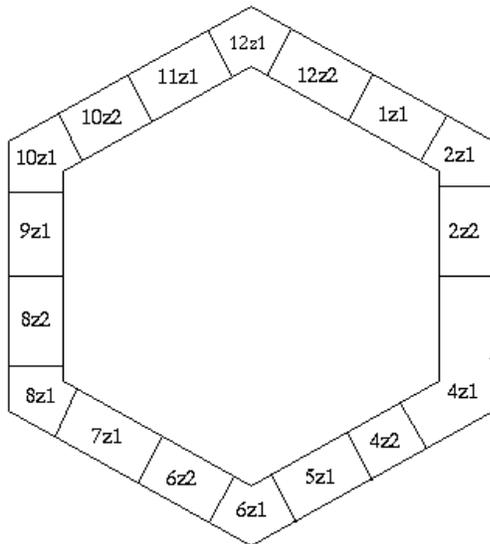
Team leader (TL) _____ Sweeper#2 (S2) _____

Time: _____ Date: _____

Warning:
IF any workers are encountered during the sweep, **THEN** contact the OC to see if the sweep should be aborted. Workers shall leave the enclosure **WITH** the sweep team. **IF** the workers crash out of the enclosure **AND** do not exit with the sweep team, **THEN** the sweep shall be re-started.

Prerequisites

- Two persons to perform the sweep,
- At least one sweeper not restricted from working at heights over five feet.
- RHIC Zone 4z1 -- RF -- Sweep Checklist (three pages)
- Required Tools: TLD's, Walkie-talkies, Flashlights,
- Chains and **APPROVED** padlocks (two each) for 4MD1 and 4MD2 trench gates.
- Two padlocks for Exhaust Fan Access Doors (may be in place)
- All Doors closed THEN 4z1 set to Controlled Access via PASS pushbutton panel at R4ACT7 in bldg 1004A or RHIC PanelView in MCR (bldg 911A).
- Following keys are located in Rf key tree in MCR (bldg 911A) or PASS panel R4ACT7 in bldg 1004A: S/R011 (sweep/reset key 2 each), CA010 (controlled access key 6 each), EB016 (transfer key 1 each).
- EB016 Transfer key is captured in PASS panel R4ACT7 in bldg 1004A or in Rf Key tree in MCR.
- Keys: Sweep Reset S/R011 (Team Leader), Controlled Access CA010 (Sweeper#2), padlock RG184 (MD Gate/North Area Security)
- RF Critical Devices are all safely off.



Note:
 References to positions in the tunnel are made using the RHIC magnets. The identity of the local magnet can be determined by looking up at the "lower" cable tray and reading the magnet name on a blue (B) or yellow (Y) label. For example, the convention used is: I-05Q17 (Inside, Q17) or O-05Q17 (Outside, Q17). References are for inside locations and are visible only by the Team Leader

CONTINUED ON REVERSE SIDE

Check

- ___1. Sweep team enters zone 4z1 from gate 4GE2.
- ___2. TL opens 4GE2 gate by turning the CA010 key clockwise in the Controlled Access keyswitch while operator in 1004A (911A-MCR) presses 4GE2 release button simultaneously at R4ACT7 panel (RHIC PanelView).

Note:

4MD1 and 4MD2 (trench) Gates must be reset before the 4z1 sweep may begin. IF both gates are padlocked, THEN the trench need not be padlocked or searched. **IF 4MD1 and 4MD2 are reset, THEN go to step 7.**

- ___3. TL closes, chains, and padlocks the 4MD1 trench gate and resets the 4MD1 trench gate by turning the S/R011 key in the RESET keyswitch, on the 4MD1 panel, and verifies yellow RESET lamp is lighted.
- ___4. Sweep team goes to 4MD2.
- ___5. Sweeper trained to enter Class I confined space goes down the ladder, walks down the tunnel to the ladder at 4MD1, sweeps back to 4MD2 and climbs back up the ladder, closes and padlocks the trench gate.
- ___6. TL closes, chains, and padlocks the 4MD2 gate, then resets the 4MD2 trench gate by turning the S/R011 key in the RESET keyswitch, on the 4MD2 panel, and verifies yellow RESET lamp is lighted.
- ___7. S2 crosses under the accelerators and goes CCW to the outer 3GI1 gate while TL goes to the inner 3GI1 gate.
- ___8. TL resets 3GI1 by turning the S/R011 key in the RESET keyswitch at 3GI1-I.
- ___9. TL observes RESET lamp light.
- ___10. TL STARTS SWEEP by turning the S/R011 key CW in the SWEEP keyswitch on 3GI1-I (3CS1).
- ___11. TL observes AREA SECURED lamp blink once.
- ___12. Sweep team sweeps Clockwise (CW) around RHIC.
- ___13. TL stops to check the Exhaust Fan Vent Barrier at I03Q17.
- ___14. Sweep team sweeps Clockwise (CW) around RHIC.
- ___15. S2 stands static watch at the electrical services alcove at I-03Q13.
- ___16. TL enters the alcove (1003C) and goes to the ladder at 3EL1.
- ___17. IF there is no mirror to verify no one is on the landing at the top of the ladder, THEN TL must climb the ladder to verify no one is on the landing and to check that 3EL1 is closed.
- ___18. TL resets door 3EL1 using the S/R011 key in the RESET keyswitch at the bottom of the ladder.
- ___19. IF 3EL1 will not reset, THEN TL climbs the ladder, closes 3EL1, then repeats step 18.
- ___20. TL observes RESET lamp lights after reset.
- ___21. TL sets second check station (3CS2) by turning S/R011 key in the SWEEP keyswitch.
- ___22. TL observes AREA SECURED lamp blink once.
- ___23. TL goes to the far corner of the alcove to 3CS3.
- ___24. TL sets third check station (3CS3) by turning S/R011 key in the SWEEP keyswitch.
- ___25. TL observes AREA SECURED lamp blink once.
- ___26. TL checks inside EVERY rack and then sweeps out the alcove and joins S2.
- ___27. TL checks fan vent barrier is in place in vent above S2's head and overhead barrier is in place.
- ___28. Sweep team sweeps Clockwise (CW) around RHIC.
- ___29. Sweep Team stops to check the inner and outer Exhaust Fan Vent Barriers at I03DU7/SIBERIAN SNAKE.
- ___30. Sweep Team sweeps Clockwise (CW) around RHIC.
- ___31. Sweep Team checks behind and above electrical service panels at I-03D5 including the overhead barrier.
- ___32. Sweep team sweeps Clockwise (CW) around RHIC.
- ___33. TL confirms padlock in place on Exhaust Fan Access Door (4XEF1) near I03Q3.
- ___34. S2 crosses under accelerators to stand static watch at I3WTCQ3.
- ___35. TL walks down 4GE1 labyrinth.

CONTINUED ON NEXT PAGE

- ___ 36. TL resets 4GE1 by turning the S/R011 key in the RESET keyswitch on the 4GE1-I gate box.
- ___ 37. Observe the yellow RESET lamp is lighted.
- ___ 38. TL sets fourth check station (4XCS2) by turning S/R011 key in the SWEEP keyswitch.
- ___ 39. TL observes AREA SECURED lamp blink once.
- ___ 40. TL sweeps up the labyrinth and joins S2.
- ___ 41. S2 crosses back under the accelerators to the "outside" of the tunnel.
- ___ 42. Sweep Team sweeps Clockwise around RHIC to the Vapor Barrier.
- ___ 43. S2 joins TL and both sweep through and close the vapor barrier door.
- ___ 44. TL goes down the stairs and stands static watch at a position where the area under the blocks supporting the "accelerators" can be seen.
- ___ 45. S2 crosses under the "accelerators" to the far side of the hall, climbs over the red pipe "fence", and searches under the raised floors using the flashlight.
- ___ 46. Sweep Team sweeps CW around the RHIC.
- ___ 47. S2 confirms padlock is in place on Exhaust Fan Access Door (4XEF2) at IC7B.
- ___ 48. TL checks ventilation barrier is in place at IC7B.
- ___ 49. S2 stands static watch opposite 4GE2 labyrinth.
- ___ 50. TL walks to 4GE2 gate.
- ___ 51. TL sets fifth check station (4XCS3) by turning S/R011 key in the SWEEP keyswitch.
- ___ 52. TL observes AREA SECURED lamp blink once.
- ___ 53. TL sweeps up labyrinth and joins S2.
- ___ 54. Sweep Team sweeps CW around the RHIC.
- ___ 55. Sweep Team checks behind and above the electrical panels at I4Q5D5 including the overhead barrier.
- ___ 56. Sweep Team sweeps CW around the RHIC.
- ___ 57. Sweep Team stops to check the inner and outer Exhaust Fan Vent Barriers at I04D8.
- ___ 58. Sweep Team sweeps Clockwise (CW) around RHIC to 4GI1 gates.
- ___ 59. TL resets 4GI1 by turning the S/R011 key in the RESET keyswitch on the 4GI1-I gate box.
- ___ 60. Observe the yellow RESET lamp is lighted.
- ___ 61. TL ends the sweep by setting the sixth check station (4XCS4) by turning S/R011 key in the SWEEP keyswitch.
- ___ 62. TL observes AREA SECURED lamp light amber.
- ___ 63. Sweep Team walks back to 4GE2.
- ___ 64. TL contacts Rf control room or MCR for simultaneous release for door 4GE2.
- ___ 65. Sweep Team sweeps out 4z1 through 4GE2 door.
- ___ 66. TL resets 4GE2 door by turning the S/R011 key in the RESET keyswitch.
- ___ 67. TL verifies area secured and gate reset lamps are lit.

Note:

IF the AREA SECURED and GATE RESET lamps are not lit, THEN contact Rf Control Room or MCR to verify sweep is good and gate(s) are reset.

- ___ 68. TL contacts Rf control room or MCR and confirms that gates are reset and 4z1 zone indicates sweep is good (lights on PASS panel at R4ACT7 or check RHIC PanelView). **IF gate reset and good sweep cannot be confirmed, then a re-sweep will be required.**
- ___ 69. Filing Checklists
 - 69a IF Rf group sweeps for RF testing, then file checklist in the binder in building 1004A.
 - 69b IF Rf group sweeps for beam, then file checklist in MCR when keys are returned to MCR.
 - 69c IF MCR./CAS sweeps for beam then file checklist in MCR.