

**ONLINE COPY RHIC OPERATIONS PROCEDURES MANUAL
- VALID FOR FIVE (5) WORKING DAYS**

RHIC Operations Procedures Manual

**4.401 PASS Subsystem Test: 4 O’Clock Gates
Semi-Annual Acceptance Tests for PEER 9**

Text Pages 1 through 6
Attachments 1, 2, 3, 4, 5, 6, 7, 8

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials
1	4/26/99	Att 4, pgs. 1, 2, 3, 18 - no McR light at this gate	SM
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RHIC Project Director

Date

Preparer: T. Robinson

RHIC-OPM 4.401

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Category A

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**4.401 PASS Subsystem Test: 4 O’Clock Gates
Semi-Annual Acceptance Tests for PEER 9**

1. Purpose and Scope

- 1.1 The purpose of this procedure is to test the area of the Collider covered by the PEER 9 (Sector 3/ 4 O’Clock Experimental Area/ Sector 4) portion of the RHIC Particle Accelerator Safety System (PASS) for proper operation of the entry and internal gates that form the perimeter of the Collider. Testing for this area is comprised of two modules; one for PEER 9 operation from the control panel in the MCR (Modes 2, 8 and 16) and the second for operation from the local RF control panel in bldg 1004A (Mode 18). Attachments to this OPM contain separate test procedures and checksheets for each of these two modules. Correct operation from each of the control panels must be tested separately.
- 1.2 Components of the system to be tested include indicator lights, key switches, card readers and physical installation of:
- 1.2.1 Eleven gates, grates and doors, as follows:
- A. **3GI1**; in Sector 3, the boundary between PEERS 9 and 11;
 - B. **3EL1**; vertical escape ladder in Alcove 3C;
 - C. **4GE1**; external entry gate into Zone 4Z1;
 - D. **4MD1 & 4MD2**; grates to the trench in 4 O’Clock Exp Area;
 - E. **4GE2**; external entry gate into the 4 O’Clock Experimental Area;
 - F. **4GI1**; the boundary between zones 4Z1 and 4Z2 in PEER 9;
 - G. **4GE3**; external entry gate into Zone 4Z2 from 1005S;
 - H. **4EL1**; vertical escape ladder in Alcove 5A;
 - I. **4ED1**; horizontal escape door in Alcove 5B;
 - J. **5GS1**; in Sector 5, the boundary between PEERS 7 and 9;

2. Responsibilities

- 2.1 Members of the RHIC Safety Systems Section shall, as designated:
- 2.1.1 conduct this test procedure;
 - 2.1.2 document tests performed, problems found, and repairs made in the PASS Maintenance Log Book;
 - 2.1.3 complete the Test Checklist items within the test procedure;
 - 2.1.4 inform the RHIC Safety Systems Section Head of any failures found.

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- 2.2 The RHIC Safety Systems Section Head shall:
- 2.2.1 ensure that this procedure is executed at intervals of not greater than six months, or at such times as required by the Radiation Safety Committee (RSC);
 - 2.2.2 review the test results and sign the completed test procedure;
 - 2.2.3 report any as-found unsafe failures to the Assistant to the RHIC Project Director for ES&H and the Chairman of the RSC.
- 2.3 The RSC Chairman (or designee) shall:
- 2.3.1 review the test results and sign the completed test procedure;
 - 2.3.2 determine if and when retesting is required after changes in hardware or software have been implemented.

3. Prerequisites

- 3.1 Before proceeding with these tests, RS LOTO of the RHIC Injection Critical Devices using RHIC/AGS OPM 9.1.16 is required!!

CAUTION

The possibility of beam being admitted into the area under test must be removed by properly securing the appropriate Critical Devices, or else a grave radiation hazard may result!

- 3.1.1 The Test Team Leader or the RHIC SSSH (or qualified designee) shall place an RS LOTO on the following devices located in Bldg 1000P to ensure that the collider is in a "safe off" condition:
- A. The W-Line 20° bend magnet power supply (PSWARC20), and
 - B. The W-Line switching magnet power supply (PSSWM)
- or:
- C. Other critical devices as specified by the RSC chair (or qualified designee)

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- 3.2 Before proceeding with these tests, RS LOTO of the RHIC RF Cavities using RHIC/AGS OPM 9.1.16 is required!!

CAUTION

The possibility of x-radiation being admitted into the area under test must be removed by properly securing the appropriate RF Critical Devices, or else a grave radiation hazard may result!

- 3.2.1 The Test Team Leader or the RHIC SSSH (or qualified designee) shall place an RS LOTO on each of the following RF cavity power supplies located in Bldg 1004A to ensure that the RF is in a “safe off” condition:

1	Y04-CAVA3.1
2	Y04-CAVA3.2
3	BI4-CAVA3.1
4	BI4-CAVA3.2
5	Y04-CAVS3.1
6	Y04-CAVS3.2
7	Y04-CAVS3.3
8	BI4-CAVS3.1
9	BI4-CAVS3.2
10	BI4-CAVS3.3
11	G4-CAVSX3.1
12	G4-CAVSX3.2
13	G4-CAVSX3.3
14	G4-CAVSX3.4

NOTE **Some of these power supplies may not yet be installed;
LOTO only those power supplies that are capable of being
attached to a cavity.**

- 3.3 Minimum Personnel

- 3.3.1 A minimum of two members of the RHIC Safety System Section, who will work in the field are required. Their qualifications and training requirements are:
- A. RWT-002, “RAD Worker 1”
 - B. RHIC Access Safety Training.
 - C. These members shall be designated “Inspector” and “Assistant”.

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- 3.3.2 One member of the RHIC Safety System Section to man the PASS System Operator Interface in the MCR is required. This member shall be qualified to:
- A. Operate the Operator Interface in the MCR.
 - B. Set the PASS System in the required operating Mode, and to direct the test effort. He shall record test results and make entries in the PASS Maintenance Log as required.
 - C. This member shall be designated "Test Team Leader".

3.4 Equipment required for the Inspector and Assistant(s)

- 3.4.1 TLD badges
- 3.4.2 RHIC Restricted Access (S) keys as required for testing
- 3.4.3 RHIC Controlled Access (#14) keys as required for testing.
- 3.4.4 RHIC Sweep/Reset (#15) keys as required for sweeping/resetting.
- 3.4.5 RHIC RF Controlled Access (#10) keys as required for testing.
- 3.4.6 RHIC RF Sweep/Reset (#11) keys as required for testing.
- 3.4.7 Blank PASS keys as required for testing
- 3.4.8 RHIC "Blue" entry passcard.
- 3.4.9 RHIC "Super Blue" entry passcard.
- 3.4.10 RHIC "Red" (PHENIX) entry passcard.
- 3.4.11 RHIC "Red" (STAR) entry passcard.
- 3.4.12 RHIC "Red" (PHOBOS) entry passcard.
- 3.4.13 RHIC "Red" (BRAHMS) entry passcard.
- 3.4.14 RHIC Safety System padlock keys for access to PASS gateboxes.
- 3.4.15 Large screwdriver to open PASS gateboxes.
- 3.4.16 Flashlight for inspection of gatebox interiors.

3.5 Posting

- 3.4.1 Prior to performing this series of tests, post all entrance gates with signs that the area is under test.

4. Precautions

None

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5. Procedure

5.1 Conduct Acceptance Tests as delineated in Attachments #4 or #8

NOTE 1 *If at any time either Division A or B equipment does not show the expected results, the test shall be halted and the necessary repairs made. The failure shall be noted on the Test Checklist. Details of the problem and repairs made shall be recorded in the PASS Maintenance Log Book and the PASS Trouble Log Tracking Sheet (Attachments #3 or #7) and reported to the RHIC Safety Systems Section Head. Repairs to wiring or software that could render previous test results invalid shall cause the test procedure to be restarted from the beginning; however mechanical re-alignment of switches, gates etc. shall not necessitate complete retesting following repair.*

NOTE 2 *The Test Team Leader shall check off the items on the Test Procedure form as each step is successfully completed (even if someone else has actually done the step.)*

- 5.1.1 Use only a pen with permanent, non-erasable black ink to fill in the test procedure responses; pencil or other erasable medium is not allowed.
- 5.1.2 Each line in the procedure has a checkoff box associated with it at the end of the line; each box must be checked.
- 5.1.3 Anomalies found during testing should be noted in the margins of the test procedure. Do not use the reverse side of the pages as the test results will be photocopied to expedite the review process and notes on the reverse sides of pages may be lost. Compile all unexpected test results on the PASS Trouble Log Tracking Sheet (Attachments #3 or #7) for ease of review. If repairs are required, they must also be entered into the PASS Maintenance Log Book (see Note #1 above)
- 5.1.4 Each major section of the test procedure has a signature line associated with it; each section must be signed off and dated as completed by the Test Team Leader.
- 5.1.5 At the completion of the test program, the Test Team Leader shall fill out the PASS Completion Checkoff List (Attachments #1 or #5). This list serves as a summary sheet for the test procedure, and has a row corresponding to each Section in the Test Procedure.

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- 5.1.6 Following successful completion of testing, the test results shall be reviewed by the RHIC SSSH and the RSC Chair, and/or their designees. Verification of their review and acceptance of the test results shall be signified by signatures of the test team members, the SSSH and RSC Chair on the Procedure Summary Signoff Sheet (Attachments #2 or #6).

6. Documentation

- 6.1 PASS Completion Checkoff List. Original to be permanently filed with the Accelerator Systems Group Leader (ASGL) following completion of testing.
- 6.2 PASS Trouble Log Tracking Sheet. Original to be permanently filed with the ASGL following completion of testing.
- 6.3 Procedure Summary Sign-off Sheet. Original to be permanently filed with the ASGL following completion of testing.
- 6.4 Test Procedure (Attachments #4 or #8 to this OPM). Original to be permanently filed with the ASGL following completion of testing.
- 6.5 PASS Maintenance Log Book

7. References

None

8. Attachments

1. PASS Completion Checkoff List Peer 9 (MCR)
2. Procedure Summary Sign-off Sheet Peer 9 (MCR)
3. PASS Trouble Log Tracking Sheet Peer 9 (MCR)
4. Test procedure to be executed (PEER 9 Gates (MCR))
5. PASS Completion Checkoff List Peer 9 (RF)
6. Procedure Summary Sign-off Sheet Peer 9 (RF)
7. PASS Trouble Log Tracking Sheet Peer 9 (RF)
8. Test procedure to be executed (PEER 9 Gates (RF))

Fill Out Reading Acknowledgment Form

Attachment 1

PEER 9 (MCR) GATES (4 O'Clock)

PASS ACCEPTANCE PROCEDURES; COMPLETION CHECKOFF LIST

Section	Description	Errors found?	Errors Corrected	Retesting complete	Procedure Complete	By	Notes
1.1	Gate 3GI1	Y N	___/___/___	___/___/___	___/___/___		
1.2	Door 3EL1	Y N	___/___/___	___/___/___	___/___/___		
1.3	Grate 4MD1	Y N	___/___/___	___/___/___	___/___/___		
1.4	Gate 4GE1	Y N	___/___/___	___/___/___	___/___/___		
1.5	Grate 4MD2	Y N	___/___/___	___/___/___	___/___/___		
1.6	Gate 4GE2	Y N	___/___/___	___/___/___	___/___/___		
1.7	Gate 4GI1	Y N	___/___/___	___/___/___	___/___/___		
1.8	Door 4EL1	Y N	___/___/___	___/___/___	___/___/___		
1.9	Gate 4GE3	Y N	___/___/___	___/___/___	___/___/___		
1.10	Door 4ED1	Y N	___/___/___	___/___/___	___/___/___		
1.11	Gate 5GS1	Y N	___/___/___	___/___/___	___/___/___		

Attachment 2

Test Procedure Summary Sign-off Sheet

PEER 9 (MCR) GATES (4 O'Clock)

Test Team Leader: Check one box.

No failures found

Failures were found (noted below)

Test Notes:

=====

Software Title and Revision, Date and Checksum; Division A: _____

Software Title and Revision, Date and Checksum; Division B: _____

Test Team Leader (sign): _____

Life No. _____ Date: / /

Inspector (sign): _____

Life No. _____ Date: / /

Assistant (sign): _____

Life No. _____ Date: / /

=====

Reviewed by Safety Systems Section Head: _____

Life No. _____ Date: / /

Approved by RSC: _____

Life No. _____ Date: / /

Attachment 3

PEER 9 (MCR) GATES (4 O'Clock)

PASS Acceptance Test; Trouble Log Tracking Sheet:

Sect	Pg	Problem Description	Proc	Hard ware	Soft ware	Rev	Fixed

PASS SEMI-ANNUAL ACCEPTANCE TEST PROTOCOL

**4 O’CLOCK (PEER 9 MCR) GATE TESTS
FROM MCR CONTROL PANEL
MODES 16, 8 & 2**

1. **Purpose:** To test the mechanical and electrical PASS functions of the gates for **PEER 9**. These tests are to be performed using the MCR control panel, and will cover Modes 16, 8 and 2.

1.0.1. Gates to be tested: **3GI1, 3EL1, 4MD1, 4GE1, 4MD2, 4GI1, 4GE2, 4EL1, 4GE3, 4ED1** and monitoring switches only for **5GS1**.

1.0.2. **Initial conditions: PEER 11** (adjacent PLC) is in **Restricted Access (Mode 8)**

1.1. **INTERNAL GATES (2) 3GI1: GATE BOX INDICATORS, LOCAL RESET, GATE WARNING LIGHTS:**

This test verifies the Operator Interface and local gate box indicators, verifies the local gate reset function and verifies individual Division A & Division B interaction with gate micro switch circuitry. NOTE: when testing outer ring gate, refer to indicator lights on the inner ring gatebox. NOTE: There are two differently colored entry passcards - BLUE for entry into the collider ring, and RED for entry into the experimental areas only. The standard BLUE card will not permit entry into the major experiments (PHENIX, & STAR). A second BLUE card, designated "SUPER BLUE", is for the use of specialized personnel who require entry into PHENIX and STAR (i.e., PASS personnel). The SUPER BLUE card will admit the holder into all areas of the collider, including all experimental areas. The RED Experimental Area cards come in four versions; one each for PHENIX, STAR, PHOBOS and BRAHMS. The RED cards will not allow admission of experimental personnel into the collider ring portions of the complex or into other experimental areas. NOTE: This gate is governed by "Z" transit rules, which will be tested separately in another test procedure.

1.1.1. **Test INNER GATE at 3GI1:**

VERIFY	that PEER 11 (adjacent PLC) is in Restricted Access	MODE 8	G
PLACE	PEER 9 in Controlled Access (MODE 16)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 16	G
INSPECT	The physical condition of the RING INNER gate. Check for proper mechanical operation and alignment of the position-sensing micro switches. Check for any damage to the wiring and crash glass.		G
INSPECT	The physical condition of the gateboxes. Check for integrity of switches and indicator lights. Check for any damage to the wiring.		G
VERIFY	that from an open position, the gate will self close and latch.		G
VERIFY	the gate box Controlled Access light is	ON	G
ATTEMPT	to open gate 3GI1 with the S-key. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 using S-key and simultaneous release. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with the #11 RF Sweep key. Attempt shall	FAIL	G
OPEN	gate 3GI1 using #11 RF Sweep key and sim rel. Entry shall be	SUCCESSFUL	G
ATTEMPT	to open gate 3GI1 with the #10 RF CA key. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 using #10 RF CA key and sim release. Attempt shall	FAIL	G
ATTEMPT	to operate the RA key switch with a blank key. Attempt shall	FAIL	G
ATTEMPT	to operate the CA key switch with a blank key. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a Super Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a BRAHMS Red card. Attempt shall	FAIL	G

OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
SECURE	the electric strike micro switch as	MADE	G
HOLD	both of the PEER 9 gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the Div A PEER 9 gate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the PEER 9 gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the Div B PEER 9 gate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the PEER 9 gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the electric strike micro switch		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	NOT RESET	G
VERIFY	the 4Z1 gate box Gate Reset light is	OFF	G
RESET	the gate with the #11 RF Sweep key at the 3GI1 inner gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4Z1 gate box Gate Reset light is	ON	G
OPEN	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	OPEN	G
VERIFY	the 4Z1 gate box Gate Reset light is	OFF	G
CLOSE	the gate.		G

CHECK for test acceptance of **3GI1 INNER RING GATE** G

1.1.2. **Test OUTER GATE at 3GI1:**

INSPECT	The physical condition of the RING OUTER gate. Check for proper mechanical operation and alignment of the position-sensing micro switches. Check for any damage to the wiring and crash glass.		G
INSPECT	The physical condition of the gateboxes. Check for integrity of any switches and indicator lights. Check for any damage to the wiring.		G
VERIFY	that from an open position, the gate will self close and latch.		G
OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
SECURE	the electric strike micro switch as	MADE	G
HOLD	both of the PEER 9 gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the Div A PEER 9 gate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the PEER 9 gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the Div B PEER 9 gate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the PEER 9 gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the electric strike micro switch		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	NOT RESET	G
VERIFY	the 4Z1 gate box Gate Reset light is	OFF	G

CHECK for test acceptance of **3GI1 OUTER RING GATE** G

- 1.2. **ESCAPE DOOR 3EL1: GATE BOX INDICATOR, LOCAL RESET.** This test verifies the Operator Interface and local door indicators, verifies the local gate reset function and verifies individual Division A & Division B interaction with door micro switch circuitry.

PLACE	PEER 9 in Controlled Access (MODE 16)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 16	G
INSPECT	the physical condition of the door. Check for proper mechanical operation and alignment of the position-sensing micro switches. Check for any damage to the wiring.		G
INSPECT	The physical condition of the gatebox. Check for integrity of switches and indicator lights. Check for any damage to the wiring.		G
VERIFY	that door cannot be opened from the outside.		G
OPEN	the door		G
VERIFY	that the Operator Interface sees the door as	OPEN	G
SECURE	the security bar micro switch as	MADE	G
HOLD	both of the door micro switches	MADE	G
VERIFY	that the Operator Interface sees the door as	NOT RESET	G
RELEASE	the Div A door micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the door micro switches	MADE	G
VERIFY	that the Operator Interface sees the door as	NOT RESET	G
RELEASE	the Div B door micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the door micro switches	MADE	G
VERIFY	that the Operator Interface sees the door as	NOT RESET	G
RELEASE	the security bar micro switch		G
VERIFY	that the Operator Interface sees the door	OPEN	G
CLOSE	the door and latch the security bar		G
VERIFY	the 3EL1 Door Reset light is	OFF	G
RESET	the door with the #11 RF Sweep key at the 3EL1 gate box.		G
VERIFY	that the Operator Interface indicates the 3EL1 door is	RESET	G
VERIFY	the 3EL1 Door Reset light is	ON	G
OPEN	the door		G
VERIFY	that the Operator Interface sees the door as	OPEN	G
VERIFY	that the door Reset light is	OFF	G
CLOSE	the door and latch the security bar		G
VERIFY	that the Operator Interface indicates the door is	NOT RESET	G
VERIFY	the door Reset light is	OFF	G

CHECK for test acceptance of **3EL1 DOOR:** G

1.3. **TRENCH GRATE 4MD1: GATE BOX INDICATORS, LOCAL RESET.** This test verifies the Operator Interface and local gate box indicators, verifies the local gate reset function and verifies individual Division A & Division B interaction with gate micro switch circuitry.

PLACE	PEER 9 in Controlled Access (MODE 16)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 16	G
INSPECT	The physical condition of the grate. Check for proper mechanical operation and alignment of the position-sensing micro switches. Check for any damage to the wiring.		G
INSPECT	The physical condition of the gatebox. Check for integrity of switches and indicator lights. Check for any damage to the wiring.		G
VERIFY	that from an open position, the grate will self close.		G
OPEN	the grate		G
VERIFY	that the Operator Interface sees the grate as	OPEN	G
HOLD	both of the grate micro switches	MADE	G
VERIFY	that the Operator Interface sees the grate as	NOT RESET	G
RELEASE	the Div A grate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the grate micro switches	MADE	G
VERIFY	that the Operator Interface sees the grate as	NOT RESET	G
RELEASE	the Div B grate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
CLOSE	the grate.		G
VERIFY	that the Operator Interface indicates the grate is	NOT RESET	G
VERIFY	the gate box Grate Reset light is	OFF	G
RESET	the grate with the #11 RF Sweep key		G
VERIFY	that the Operator Interface indicates the grate is	RESET	G
VERIFY	the gate box Grate Reset light is	ON	G
OPEN	the grate		G
VERIFY	that the Operator Interface sees the grate as	OPEN	G
VERIFY	that the gate box Grate Reset light is	OFF	G
CLOSE	the grate.		G

CHECK for test acceptance of **grate 4MD1** G

- 1.4. **ENTRY GATE 4GE1: GATE BOX INDICATOR, ELECTRIC STRIKE, LOCAL RESET, BUZZER.** This test verifies the Operator Interface and local gate box indicators, verifies the local gate reset function and verifies individual Division A & Division B interaction with gate micro switch circuitry.

PLACE	PEER 9 in Controlled Access (MODE 16).		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 16	G
INSPECT	The physical condition of the gate. Check for proper mechanical operation and alignment of the position-sensing micro switches. Check for any damage to the wiring and crash glass.		G
INSPECT	The physical condition of the gate boxes. Check for integrity of switches and indicator lights. Check for any damage to the wiring.		G
VERIFY	that from an open position, the gate will self close and latch.		G
VERIFY	the exterior gate box Controlled Access light is	ON	G
VERIFY	that the warning light on the inside of the gate indicates		
	CALL MCR FOR EXIT	AMBER	
		ON	G
ATTEMPT	to open gate 4GE1 with the S-key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 using S-key and simultaneous release. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with the #11 RF Sweep key. Attempt shall	FAIL	G
OPEN	gate 4GE1 using #11 RF Sweep key and sim release. Entry shall be	SUCCESSFUL	G
VERIFY	that the buzzer sounds with the simultaneous release.		G
ATTEMPT	to open gate 4GE1 with the #10 RF CA key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 using #10 RF CA key and sim release. Attempt shall	FAIL	G
ATTEMPT	to operate the RA key switch with a blank key. Attempt shall	FAIL	G
ATTEMPT	to operate the CA key switch with a blank key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a Super Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a BRAHMS Red card. Attempt shall	FAIL	G
OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
SECURE	the electric strike micro switch as	MADE	G
HOLD	both of the gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the Div A gate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the Div B gate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the electric strike micro switch		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	the gate		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RESET	the gate with the #11 RF Sweep key at the interior gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4GE1 gate box Gate Reset light is	ON	G
OPEN	the gate.		G

1.5. **TRENCH GRATE 4MD2: GATE BOX INDICATORS, LOCAL RESET.** This test verifies the Operator Interface and local gate box indicators, verifies the local gate reset function and verifies individual Division A & Division B interaction with gate micro switch circuitry.

PLACE	PEER 9 in Controlled Access (MODE 16)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 16	G
INSPECT	The physical condition of the grate. Check for proper mechanical operation and alignment of the position-sensing micro switches. Check for any damage to the wiring.		G
INSPECT	The physical condition of the gatebox. Check for integrity of switches and indicator lights. Check for any damage to the wiring.		G
VERIFY	that from an open position, the grate will self close		G
OPEN	the grate		G
VERIFY	that the Operator Interface sees the grate as	OPEN	G
HOLD	both of the grate micro switches	MADE	G
VERIFY	that the Operator Interface sees the grate as	NOT RESET	G
RELEASE	the Div A grate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the grate micro switches	MADE	G
VERIFY	that the Operator Interface sees the grate as	NOT RESET	G
RELEASE	the Div B grate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
CLOSE	the grate.		G
VERIFY	that the Operator Interface indicates the grate is	NOT RESET	G
VERIFY	the gate box Grate Reset light is	OFF	G
RESET	the grate with the #11 RF Sweep key		G
VERIFY	that the Operator Interface indicates the grate is	RESET	G
VERIFY	the gate box Grate Reset light is	ON	G
OPEN	the grate		G
VERIFY	that the Operator Interface sees the grate as	OPEN	G
VERIFY	that the gate box Grate Reset light is	OFF	G
CLOSE	the grate.		G

CHECK for test acceptance of **grate 4MD2** G

1.7. **INTERIOR GATES (2) 4GI1: GATE BOX INDICATORS, ELECTRIC STRIKE, BUZZER, LOCAL RESET.** This test verifies the Operator Interface and local gate box indicators, verifies the local gate reset function and verifies individual Division A & Division B interaction with gate micro switch circuitry. Complete tests for **INNER GATE and OUTER GATE** individually.

1.7.1. **Test INNER GATE at 4GI1:**

PLACE	PEER 9 in Controlled Access (MODE 16)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 16	G
INSPECT	The physical condition of the RING INNER gate. Check for proper mechanical operation and alignment of the position-sensing micro switches. Check for any damage to the wiring and crash glass.		G
INSPECT	The physical condition of the gate boxes. Check for integrity of switches and indicator lights. Check for any damage to the wiring.		G
VERIFY	that from an open position, the gate will self close and latch.		G
VERIFY	that the warning light on the 4Z1 side of the gate indicates: CALL MCR FOR CROSSOVER AMBER	ON	G
VERIFY	the 4Z2 gate box Controlled Access light is	ON	G
ATTEMPT	to open gate 4GI1 from 4Z2 with the S-key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 using S-key and simultaneous release. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with the #11 RF Sweep key. Attempt shall	FAIL	G
OPEN	gate 4GI1 with #11 RF Sweep key and sim release. Entry shall be	SUCCESSFUL	G
VERIFY	that the buzzer sounds with the simultaneous release		G
ATTEMPT	to open gate 4GI1 with the #10 RF CA key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 using #10 RF CA key and sim release. Attempt shall	FAIL	G
ATTEMPT	to operate the RA key switch with a blank key. Attempt shall	FAIL	G
ATTEMPT	to operate the CA key switch with a blank key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a Super Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a BRAHMS Red card. Attempt shall	FAIL	G
OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
SECURE	the electric strike micro switch as	MADE	G
HOLD	both of the gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the Div A gate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the Div B gate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the electric strike micro switch		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	the gate		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G

VERIFY	the 4Z1 gate box Gate Reset light is	OFF	G
RESET	the gate with the #11 RF Sweep key at the 4Z1 inner gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4Z1 gate box Gate Reset light is	ON	G
OPEN	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	OPEN	G
VERIFY	the 4Z1 gate box Gate Reset light is	OFF	G
CLOSE	the gate		G
VERIFY	the 4Z2 gate box Gate Reset light is	OFF	G
RESET	the gate with the #15 RC Sweep key at the 4Z2 inner gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4Z2 gate box Gate Reset light is	ON	G
OPEN	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	OPEN	G
VERIFY	the 4Z2 gate box Gate Reset light is	OFF	G
CLOSE	the gate		G
PLACE	PEER 9 in Restricted Access (MODE 8)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 8	G
VERIFY	the 4Z2 gate box Restricted Access light is	ON	G
VERIFY	that the warning light on the 4Z1 side of the gate indicates: CALL MCR FOR CROSSOVER AMBER	OFF	G
OPEN	gate 4GI1 from 4Z2 with the S-key. Entry shall be	SUCCESSFUL	G
OPEN	gate 4GI1 with the #11 RF Sweep key. Entry shall be	SUCCESSFUL	G
OPEN	gate 4GI1 with a Blue card. Entry shall be	SUCCESSFUL	G
OPEN	gate 4GI1 with a Super Blue card. Entry shall be	SUCCESSFUL	G
ATTEMPT	to open gate 4GI1 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a BRAHMS Red card. Attempt shall	FAIL	G
PLACE	PEER 9 in Safe Access (MODE 2)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 2	G
VERIFY	the 4Z2 gate box Controlled Access light is	ON	G
VERIFY	that the warning light on the 4Z1 side of the gate indicates: CALL MCR FOR CROSSOVER AMBER	ON	G
ATTEMPT	to open gate 4GI1 from 4Z2 with the S-key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 using S-key and simultaneous release. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with the #11 RF Sweep key. Attempt shall	FAIL	G
OPEN	gate 4GI1 using #11 RF Sweep key and sim release. Entry shall be	SUCCESSFUL	G
ATTEMPT	to open gate 4GI1 with a Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a Super Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a BRAHMS Red card. Attempt shall	FAIL	G

CHECK for test acceptance of **4GI1 INNER RING GATE** G

1.7.2. Test OUTER GATE at 4GI1:

PLACE	PEER 9 in Controlled Access (MODE 16)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 16	G
INSPECT	The physical condition of the RING OUTER gate. Check for proper mechanical operation and alignment of the position-sensing micro switches. Check for any damage to the wiring and crash glass.		G
INSPECT	The physical condition of the gate boxes. Check for integrity of switches and indicator lights. Check for any damage to the wiring.		G
VERIFY	that from an open position, the gate will self close and latch.		G
VERIFY	that the warning lights on both sides of the gate indicate		
	CALL MCR FOR CROSSOVER AMBER	ON	G
OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
SECURE	the electric strike micro switch as	MADE	G
HOLD	both of the gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the Div A gate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the Div B gate micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the gate micro switches	MADE	G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RELEASE	the electric strike micro switch		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	the gate		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G

CHECK for test acceptance of **4GI1 OUTER RING GATE** **G**

1.8. **ESCAPE DOOR 4EL1: GATE BOX INDICATOR, LOCAL RESET.** This test verifies the Operator Interface and local door indicators, verifies the local gate reset function and verifies individual Division A & Division B interaction with door micro switch circuitry.

PLACE	PEER 9 in Controlled Access (MODE 16)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 16	G
INSPECT	the physical condition of the door. Check for proper mechanical operation and alignment of the position-sensing micro switches. Check for any damage to the wiring.		G
INSPECT	The physical condition of the gate box. Check for integrity of switches and indicator lights. Check for any damage to the wiring.		G
VERIFY	that door cannot be opened from the outside.		G
OPEN	the door		G
VERIFY	that the Operator Interface sees the door as	OPEN	G
SECURE	the security bar micro switch as	MADE	G
HOLD	both of the door micro switches	MADE	G
VERIFY	that the Operator Interface sees the door as	NOT RESET	G
RELEASE	the Div A door micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the door micro switches	MADE	G
VERIFY	that the Operator Interface sees the door as	NOT RESET	G
RELEASE	the Div B door micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the door micro switches	MADE	G
VERIFY	that the Operator Interface sees the door as	NOT RESET	G
RELEASE	the security bar micro switch		G
VERIFY	that the Operator Interface sees the door	OPEN	G
CLOSE	the door and latch the security bar		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
VERIFY	the 4EL1 Door Reset light is	OFF	G
RESET	the door with the #15 RC Sweep key at the 4EL1 gate box.		G
VERIFY	that the Operator Interface indicates the 4EL1 door is	RESET	G
VERIFY	the 4EL1 Door Reset light is	ON	G
OPEN	the door		G
VERIFY	that the Operator Interface sees the door as	OPEN	G
VERIFY	that the door Reset light is	OFF	G
CLOSE	the door and latch the security bar		G
VERIFY	that the Operator Interface indicates the door is	NOT RESET	G
VERIFY	the door Reset light is	OFF	G

CHECK for test acceptance of **4EL1 DOOR** G

PLACE	PEER 9 in Restricted Access (MODE 8)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 8	G
VERIFY	the exterior gate box Restricted Access light is	ON	G
VERIFY	that the warning light on the inside of the gate indicates CALL MCR FOR EXIT AMBER	OFF	G
OPEN	gate 4GE3 with the S-key. Entry shall be	SUCCESSFUL	G
OPEN	gate 4GE3 with the #14 RC CA key. Entry shall be	SUCCESSFUL	G
OPEN	gate 4GE3 with a Blue card. Entry shall be	SUCCESSFUL	G
OPEN	gate 4GE3 with a Super Blue card. Entry shall be	SUCCESSFUL	G
ATTEMPT	to open gate 4GE3 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a BRAHMS Red card. Attempt shall	FAIL	G
PLACE	PEER 9 in Safe Access (MODE 2)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 2	G
VERIFY	the exterior gate box Controlled Access light is	ON	G
VERIFY	that the warning light on the inside side of the gate indicates CALL MCR FOR EXIT AMBER	ON	G
ATTEMPT	to open gate 4GE3 with the S-key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 using S-key and simultaneous release. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with the #14 RC CA key. Attempt shall	FAIL	G
OPEN	gate 4GE3 using #14 RC CA key and sim release. Entry shall be	SUCCESSFUL	G
ATTEMPT	to open gate 4GE3 with a Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a Super Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a BRAHMS Red card. Attempt shall	FAIL	G

CHECK for test acceptance of **gate 4GE3** G

- 1.10. **EXIT DOOR 4ED1: GATE BOX INDICATORS, LOCAL RESET.** This test verifies the Operator Interface and local gate box indicators, verifies the local door reset function and verifies individual Division A & Division B interaction with gate micro switch circuitry.

PLACE	PEER 9 in Controlled Access (MODE 16).		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 16	G
VERIFY	that the warning light on the inside of the door indicates CALL MCR FOR EXIT AMBER	ON	G
INSPECT	The physical condition of the door. Check for proper mechanical operation and alignment of the position-sensing micro switches.		G
INSPECT	The physical condition of the gate box. Check for integrity of switches and indicator lights. Check for any damage to the wiring.		G
VERIFY	that from open position the door will self-close and latch.		G
VERIFY	that the door can NOT be opened from the outside.		G
OPEN	the door		G
VERIFY	that the Operator Interface sees the door as	OPEN	G
HOLD	both of the door micro switches	MADE	G
VERIFY	that the Operator Interface sees the door as	NOT RESET	G
RELEASE	the Div A door micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
HOLD	both of the door micro switches	MADE	G
VERIFY	that the Operator Interface sees the door as	NOT RESET	G
RELEASE	the Div B door micro switch		G
VERIFY	that the Operator Interface indicates	DIV A not equal to DIV B	G
CLOSE	the door		G
VERIFY	that the Operator Interface indicates the door is:	NOT RESET	G
VERIFY	that the Door Reset light is	OFF	G
RESET	the door with the #15 RC Sweep key at the 4ED1 door box.		G
VERIFY	that the Operator Interface indicates the door is:	RESET	G
VERIFY	that the Door Reset light is	ON	G
OPEN	the door		G
VERIFY	that the Operator Interface sees the door as	OPEN	G
VERIFY	that the Door Reset light is	OFF	G
CLOSE	the door		G

CHECK for test acceptance of door **4ED1** G

1.11. **SECTIONALIZING GATE 5GS1: AUXILIARY GATE MICRO SWITCHES, CROSSOVER WARNING LIGHT.** NOTE: Gate **5GS1** is "owned" by **PEER 7**. Each gate (inner and outer) has a third auxiliary micro switch, monitored by **PEER 9** Division A and Division B. This test verifies the correct operation of these **PEER 9** auxiliary micro switches.

1.11.1. VERIFY	that PEER 7 (adjacent PLC) is in Restricted Access (Mode 8)		G
PLACE	PEER 9 in Controlled Access (MODE 16).		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 16	G

1.11.2. **Test INNER GATE at 5GS1:**

INSPECT	The physical condition of the gate. Check for proper mechanical operation and alignment of the auxiliary position-sensing micro switches.		G
----------------	---	--	---

OPEN	gate 5GS1-I		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	gate 5GS1-I		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G

CHECK for test acceptance of **5GS1-INNER RING GATE:** G

1.11.3. **Test OUTER GATE at 5GS1:**

INSPECT	The physical condition of the gate. Check for proper mechanical operation and alignment of the auxiliary position-sensing micro switches.		G
----------------	---	--	---

OPEN	gate 5GS1-O		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	gate 5GS1-O		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G

CHECK for test acceptance of **5GS1-OUTER RING GATE:** G

Sign and date for successful completion of **PEER 9 Gate Tests** _____

END OF MCR CONTROL PANEL GATE PROCEDURE
(MODES 16, 8 & 2)

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**END OF MCR PANEL TESTS;
BEGINNING OF RF PANEL TESTS**

Attachment 5

PEER 9(RF) GATES (4 O'Clock)

PASS ACCEPTANCE PROCEDURES; COMPLETION CHECKOFF LIST

Section	Description	Errors found?	Errors Corrected	Retesting complete	Procedure Complete	By	Notes
1.1	Gate 3GI1	Y N	___/___/___	___/___/___	___/___/___		
1.2	Door 3EL1	Y N	___/___/___	___/___/___	___/___/___		
1.3	Grate 4MD1	Y N	___/___/___	___/___/___	___/___/___		
1.4	Gate 4GE1	Y N	___/___/___	___/___/___	___/___/___		
1.5	Grate 4MD2	Y N	___/___/___	___/___/___	___/___/___		
1.6	Gate 4GE2	Y N	___/___/___	___/___/___	___/___/___		
1.7	Gate 4GI1	Y N	___/___/___	___/___/___	___/___/___		
1.8	Door 4EL1	Y N	___/___/___	___/___/___	___/___/___		
1.9	Gate 4GE3	Y N	___/___/___	___/___/___	___/___/___		
1.10	Door 4ED1	Y N	___/___/___	___/___/___	___/___/___		
1.11	Gate 5GS1	Y N	___/___/___	___/___/___	___/___/___		

Attachment 6

Test Procedure Summary Sign-off Sheet

PEER 9(RF) GATES (4 O'Clock)

Test Team Leader: Check one box.

No failures found

Failures were found (noted below)

Test Notes:

=====

Software Title and Revision, Date and Checksum; Division A: _____

Software Title and Revision, Date and Checksum; Division B: _____

Test Team Leader (sign): _____

Life No. _____ Date: / /

Inspector (sign): _____

Life No. _____ Date: / /

Assistant (sign): _____

Life No. _____ Date: / /

=====

Reviewed by Safety Systems Section Head: _____

Life No. _____ Date: / /

Approved by RSC: _____

Life No. _____ Date: / /

Attachment 7

PEER 9(RF) GATES (4 O'Clock)

PASS Acceptance Test; Trouble Log Tracking Sheet:

Sect	Pg	Problem Description	Proc	Hard ware	Soft ware	Rev	Fixed

PASS SEMI-ANNUAL ACCEPTANCE TEST PROTOCOL

**4 O'CLOCK (PEER 9RF) GATE TESTS
FROM RF CONTROL PANEL
MODE 18 ONLY**

1. **Purpose:** To test the mechanical and electrical PASS functions of the gates for **PEER 9**. These tests are to be performed using the RFcontrol panel in 1004A, and will cover only Mode 18.

1.0.1. Gates to be tested: **3GI1, 3EL1, 4MD1, 4GE1, 4MD2, 4GI1, 4GE2, 4EL1, 4GE3, 4ED1** and monitoring switches only for **5GS1**. Note that local simultaneous release is only available from the RF control panel for gate 4GE2.

1.0.2. **Initial conditions: PEER 11** (adjacent PLC) is in **Restricted Access (Mode 8)**

1.1. **INTERNAL GATES (2) 3GI1: GATE BOX INDICATORS, LOCAL RESET, GATE WARNING LIGHTS:**
This test verifies the Operator Interface and local gate box indicators and verifies the local gate reset function. NOTE: when testing outer ring gate, refer to indicator lights on the inner ring gatebox. NOTE: There are two differently colored entry passcards - BLUE for entry into the collider ring, and RED for entry into the experimental areas only. The standard BLUE card will not permit entry into the major experiments (PHENIX, & STAR). A second BLUE card, designated "SUPER BLUE", is for the use of specialized personnel who require entry into PHENIX and STAR (i.e., PASS personnel). The SUPER BLUE card will admit the holder into all areas of the collider, including all experimental areas. The RED Experimental Area cards come in four versions; one each for PHENIX, STAR, PHOBOS and BRAHMS. The RED cards will not allow admission of experimental personnel into the collider ring portions of the complex or into other experimental areas. NOTE: No entry allowed through this gate in Mode 18.

1.1.1. **Test INNER GATE at 3GI1:**

VERIFY	that PEER 11 (adjacent PLC) is in Restricted Access	MODE 8	G
PLACE	PEER 9 in Controlled Access (MODE 18)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
VERIFY	that the warning lights on both sides of the gate indicate: CALL MCR FOR CROSSOVER AMBER	ON	G
ATTEMPT	to open gate 3GI1 with the S-key. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with the #11 RF Sweep key. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with the #10 RF CA key. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a Super Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 3GI1 with a BRAHMS Red card. Attempt shall	FAIL	G
OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	NOT RESET	G
VERIFY	the 4Z1 gate box Gate Reset light is	OFF	G
RESET	the gate with the #11 RF Sweep key at the 3GI1 inner gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4Z1 gate box Gate Reset light is	ON	G
OPEN	the gate		G
VERIFY	that the Operator Interface indicates the gate is	OPEN	G
VERIFY	the 4Z1 gate box Gate Reset light is	OFF	G
CLOSE	the gate.		G

CHECK for test acceptance of **3GI1 INNER RING GATE** G

1.1.2. Test OUTER GATE at 3GI1:

VERIFY	that the warning lights on both sides of the gate indicate: CALL MCR FOR CROSSOVER	AMBER	ON	G
RESET	the gate with the #11 RF Sweep key at the 3GI1 inner gate box.			G
VERIFY	that the Operator Interface indicates the gate is		RESET	G
VERIFY	the 4Z1 gate box Gate Reset light is		ON	G
OPEN	the gate			G
VERIFY	that the Operator Interface sees the gate as		OPEN	G
VERIFY	the 4Z1 gate box Gate Reset light is		OFF	G
CLOSE	the gate.			G
VERIFY	that the Operator Interface indicates the gate is		NOT RESET	G

CHECK for test acceptance of 3GI1 OUTER RING GATE G

- 1.2. **ESCAPE DOOR 3EL1: GATE BOX INDICATOR, LOCAL RESET.** This test verifies the Operator Interface and local door indicators and verifies the local gate reset function.

PLACE	PEER 9 in Controlled Access (MODE 18)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
OPEN	the door		G
VERIFY	that the Operator Interface sees the door as	OPEN	G
CLOSE	the door and latch the security bar		G
VERIFY	that the Operator Interface indicates the door is	NOT RESET	G
VERIFY	the 3EL1 Door Reset light is	OFF	G
RESET	the door with the #11 RF Sweep key at the 3EL1 gate box.		G
VERIFY	that the Operator Interface indicates the 3EL1 door is	RESET	G
VERIFY	the 3EL1 Door Reset light is	ON	G
OPEN	the door		G
VERIFY	that the Operator Interface sees the door as	OPEN	G
VERIFY	that the Door Reset light is	OFF	G
CLOSE	the door		G

CHECK for test acceptance of **3EL1 DOOR:** G

- 1.3. **TRENCH GRATE 4MD1: GATE BOX INDICATORS, LOCAL RESET.** This test verifies the Operator Interface and local gate box indicators and verifies the local gate reset function.

PLACE	PEER 9 in Controlled Access (MODE 18)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
OPEN	the grate		G
VERIFY	that the Operator Interface sees the grate as	OPEN	G
CLOSE	the grate.		G
VERIFY	that the Operator Interface indicates the grate is	NOT RESET	G
VERIFY	the gate box Grate Reset light is	OFF	G
RESET	the grate with the #11 RF Sweep key		G
VERIFY	that the Operator Interface indicates the grate is	RESET	G
VERIFY	the gate box Grate Reset light is	ON	G
OPEN	the grate		G
VERIFY	that the Operator Interface sees the grate as	OPEN	G
VERIFY	that the gate box Grate Reset light is	OFF	G
CLOSE	the grate.		G

CHECK for test acceptance of **grate 4MD1** G

- 1.4. **ENTRY GATE 4GE1: GATE BOX INDICATOR, ELECTRIC STRIKE, LOCAL RESET.** This test verifies the Operator Interface and local gate box indicators and verifies the local gate reset function. NOTE: No entry allowed through this gate in Mode 18.

PLACE	PEER 9 in Controlled Access (MODE 18).		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
VERIFY	the exterior gate box Controlled Access light is	ON	G
VERIFY	that the warning light on the inside of the gate indicates		
	CALL MCR FOR EXIT	ON	G
	AMBER	FAIL	G
ATTEMPT	to open gate 4GE1 with the S-key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with the #11 RF Sweep key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with the #10 RF CA key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a Super Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE1 with a BRAHMS Red card. Attempt shall	FAIL	G
OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	the gate		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RESET	the gate with the #11 RF Sweep key at the interior gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4GE1 gate box Gate Reset light is	ON	G
OPEN	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	OPEN	G
VERIFY	the 4GE1 gate box Gate Reset light is	OFF	G
CLOSE	the gate		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
RESET	the gate with the #11 RF Sweep key at the exterior gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4GE1 gate box Gate Reset light is	ON	G
OPEN	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	OPEN	G
VERIFY	the 4GE1 gate box Gate Reset light is	OFF	G
CLOSE	the gate.		G

CHECK for test acceptance of **gate 4GE1** G

1.5. **TRENCH GRATE 4MD2: GATE BOX INDICATORS, LOCAL RESET.** This test verifies the Operator Interface and local gate box indicators and verifies the local gate reset function.

PLACE	PEER 9 in Controlled Access (MODE 18)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
OPEN	the grate		G
VERIFY	that the Operator Interface sees the grate as	OPEN	G
CLOSE	the grate.		G
VERIFY	that the Operator Interface indicates the grate is	NOT RESET	G
VERIFY	the gate box Gate Reset light is	OFF	G
RESET	the grate with the #11 RF Sweep key		G
VERIFY	that the Operator Interface indicates the grate is	RESET	G
VERIFY	the gate box Gate Reset light is	ON	G
OPEN	the grate		G
VERIFY	that the Operator Interface sees the grate as	OPEN	G
VERIFY	that the gate box Gate Reset light is	OFF	G
CLOSE	the grate.		G

CHECK for test acceptance of **grate 4MD2** G

1.6. **ENTRY GATE 4GE2: GATE BOX INDICATOR, ELECTRIC STRIKE, LOCAL RESET.** This test verifies the Operator Interface and local gate box indicators and verifies the local gate reset function. NOTE: Entry allowed through this gate in Mode 18 is only allowed with a #10 RF CA key and a local simultaneous release from the RF control panel..

PLACE	PEER 9 in Controlled Access (MODE 18).		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
VERIFY	the exterior gate box Controlled Access light is	ON	G
VERIFY	that the warning light on the inside of the gate indicates		
	CALL MCR FOR EXIT AMBER	ON	G
ATTEMPT	to open gate 4GE2 with the S-key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE2 with the #10 RF CA key. Attempt shall	FAIL	G
OPEN	gate 4GE2 with the #10 RF CA key and local Sim Rel. Entry shall be	SUCCESSFUL	G
ATTEMPT	to open gate 4GE2 with the #11 RF Sweep key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE2 with a Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE2 with a Super Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE2 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE2 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE2 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE2 with a BRAHMS Red card. Attempt shall	FAIL	G
OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	the gate		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
VERIFY	that the gate box Gate Reset light is	OFF	G
RESET	the gate with the #11 RF Sweep key at the 4GE2 gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4GE2 gate box Gate Reset light is	ON	G
OPEN	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	OPEN	G
VERIFY	the 4GE2 gate box Gate Reset light is	OFF	G
CLOSE	the gate		G

CHECK for test acceptance of **gate 4GE2** G

1.7. INTERIOR GATES (2) 4GI1: GATE BOX INDICATORS, ELECTRIC STRIKE, LOCAL RESET. This test verifies the Operator Interface and local gate box indicators and verifies the local gate reset function. Complete tests for **INNER GATE** and **OUTER GATE** individually. NOTE: No entry allowed through this gate in Mode 18.

1.7.1. Test **INNER GATE** at **4GI1**:

PLACE	PEER 9 in Controlled Access (MODE 18)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
VERIFY	that the warning light on the 4Z1 side of the gate indicates		
	CALL MCR FOR CROSSOVER AMBER	ON	G
VERIFY	the 4Z2 gate box Controlled Access light is	ON	G
ATTEMPT	to open gate 4GI1 with the S-key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with the #11 RF Sweep key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with the #10 RF CA key. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a Super Blue card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GI1 with a BRAHMS Red card. Attempt shall	FAIL	G
OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	the gate		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
VERIFY	the 4Z1 gate box Gate Reset light is	OFF	G
RESET	the gate with the #11 RF Sweep key at the 4Z1 inner gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4Z1 gate box Gate Reset light is	ON	G
OPEN	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	OPEN	G
VERIFY	the 4Z1 gate box Gate Reset light is	OFF	G
CLOSE	the gate		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G
VERIFY	the 4Z2 gate box Gate Reset light is	OFF	G
RESET	the gate with the #15 RC Sweep key at the 4Z2 inner gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4Z2 gate box Gate Reset light is	ON	G
OPEN	the gate.		G
VERIFY	that the Operator Interface indicates the gate is	OPEN	G
VERIFY	the 4Z2 gate box Gate Reset light is	OFF	G
CLOSE	the gate		G

CHECK for test acceptance of **4GI1 INNER RING GATE** G

1.7.2. Test OUTER GATE at 4GI1:

PLACE	PEER 9 in Controlled Access (MODE 18)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
VERIFY	that the warning light on the 4Z1 side of the gate indicates		
	CALL MCR FOR CROSSOVER AMBER	ON	G
RESET	the gate with the #15 RC Sweep key at the 4Z2 inner gate box.		G
VERIFY	that the Operator Interface indicates the gate is	RESET	G
VERIFY	the 4Z2 gate box Gate Reset light is	ON	G
OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
VERIFY	the 4Z2 gate box Gate Reset light is	OFF	G
CLOSE	the gate		G

CHECK for test acceptance of **4GI1 OUTER RING GATE** G

1.8. **ESCAPE DOOR 4EL1: GATE BOX INDICATOR, LOCAL RESET.** This test verifies the Operator Interface and local door indicators and verifies the local gate reset function.

PLACE	PEER 9 in Restricted Access (MODE 18)		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
OPEN	the door		G
VERIFY	that the Operator Interface sees the door as	OPEN	G
CLOSE	the door and latch the security bar		G
VERIFY	that the Operator Interface sees the door as	NOT RESET	G
VERIFY	the 4EL1 Door Reset light is	OFF	G

CHECK for test acceptance of **4EL1 DOOR** G

1.9. **ENTRY GATE 4GE3: GATE BOX INDICATOR, ELECTRIC STRIKE.** This test verifies the Operator Interface and local gate box indicators. NOTE: Only RA entry is allowed through this gate in Mode 18.

PLACE	PEER 9 in Restricted Access (MODE 18).		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
VERIFY	the exterior gate box Restricted Access light is	ON	G
VERIFY	that the warning light on the inside of the gate indicates		
	CALL MCR FOR EXIT AMBER	OFF	G
OPEN	gate 4GE3 with the S-key. Entry shall be	SUCCESSFUL	G
OPEN	gate 4GE3 with the #14 RC CA key. Entry shall be	SUCCESSFUL	G
OPEN	gate 4GE3 with a Blue card. Entry shall be	SUCCESSFUL	G
OPEN	gate 4GE3 with a Super Blue card. Entry shall be	SUCCESSFUL	G
ATTEMPT	to open gate 4GE3 with a PHENIX Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a STAR Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a PHOBOS Red card. Attempt shall	FAIL	G
ATTEMPT	to open gate 4GE3 with a BRAHMS Red card. Attempt shall	FAIL	G
OPEN	the gate		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	the gate		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G

CHECK for test acceptance of **gate 4GE3** G

- 1.10. **EXIT DOOR 4ED1: GATE BOX INDICATORS, LOCAL RESET.** This test verifies the Operator Interface and local gate box indicators and verifies the local door reset function.

PLACE	PEER 9 in Restricted Access (MODE 18).		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G
VERIFY	that the warning light on the inside of the door indicates CALL MCR FOR EXIT	OFF	G
	AMBER		
OPEN	the door		G
VERIFY	that the Operator Interface sees the door as	OPEN	G
CLOSE	the door		G
VERIFY	that the Operator Interface indicates the door is:	NOT RESET	G
VERIFY	that the Door Reset light is	OFF	G

CHECK for test acceptance of door **4ED1** G

- 1.11. **SECTIONALIZING GATE 5GS1: AUXILIARY GATE MICRO SWITCHES, CROSSOVER WARNING LIGHT.** NOTE: Gate **5GS1** is "owned" by **PEER 7**. Each gate (inner and outer) has a third auxiliary micro switch, monitored by **PEER 9** Division A and Division B. This test verifies the correct operation of these **PEER 9** auxiliary micro switches.

1.11.1. PLACE	PEER 9 in Restricted Access (MODE 18).		G
VERIFY	the Operator Interface indicates that PEER 9 is in	MODE 18	G

1.11.2. **Test INNER GATE at 5GS1:**

VERIFY	that the warning light on the 5Z1 side of the gate indicates CALL MCR FOR CROSSOVER	OFF	G
	AMBER		
OPEN	gate 5GS1-I		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	gate 5GS1-I		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G

CHECK for test acceptance of **5GS1-INNER RING GATE:** G

1.11.3. **Test OUTER GATE at 5GS1:**

VERIFY	that the warning light on the 5Z1 side of the gate indicates CALL MCR FOR CROSSOVER	OFF	G
	AMBER		
OPEN	gate 5GS1-O		G
VERIFY	that the Operator Interface sees the gate as	OPEN	G
CLOSE	gate 5GS1-O		G
VERIFY	that the Operator Interface sees the gate as	NOT RESET	G

CHECK for test acceptance of **5GS1-OUTER RING GATE:** G

Sign and date for successful completion of **PEER 9 Gate Tests** _____

END OF RF CONTROL PANEL GATE PROCEDURE (MODE 18)