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 kept on file in the C-A ESHQ Training Office, Bldg. 911A.

C-A OPERATIONS PROCEDURES MANUAL

ATTACHMENT

4.120.4.h 4 O'Clock (PEER 9) ODH Tests from MCR

C-A-OPM Procedures in which this Attachment is used.		
4.120.4		

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials
_____	_____	_____	_____
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_____	_____	_____	_____

Approved: _____***Signature on File***_____ _____
Collider-Accelerator Department Chairman Date

V. Castillo

4.120.4.h 4 O'Clock (PEER 9) ODH Tests from MCR

PASS ANNUAL ACCEPTANCE TEST PROTOCOL

Division A Software Filename and Checksum: Title:_____ Checksum: _____

Division B Software Filename and Checksum: Title:_____ Checksum: _____

Initial testing complete:

Test Team Leader's Name (Print): _____ Life Number: _____

Test Team Leader's Name (Sign): _____ Date: _____/____/_____

Acceptance test procedure complete (following repairs and retesting if required):

Test Team Leader's Name (Print): _____ Life Number:_____

Test Team Leader's Name (Sign): _____ Date: _____/____/_____

Test results reviewed by:

Safety Section Head's Name (Print):_____ Life Number: _____

Safety Section Head's Name (Sign):_____ Date: _____/____/_____

Test results accepted by Radiation Safety Committee:

RSC Member's Name (Print):_____ Life Number: _____

RSC Member's Name (Sign):_____ Date: _____/____/_____

1.1 Conduct a visual check on Peer 9 Crash and Crash/ODH boxes following Table 1 below
√ = ok, x = problem

BOXES		Verify mechan condn. ok	Verify elec. condn. ok	Crash/ODH boxes only				Verify all X's corrected
				Division A		Division B		
CRASH	Crash/ODH			Lcd Rdg	Tp2 – Tp4 Vltg	Lcd Rdg	Tp2 – Tp4 Vltg	
3CB1		☐	☐	N/A	N/A	N/A	N/A	☐
	3CB2	☐	☐	%	V	%	V	☐
3CB3		☐	☐	N/A	N/A	N/A	N/A	☐
	3CB4	☐	☐	%	V	%	V	☐
4XCB1		☐	☐	N/A	N/A	N/A	N/A	☐
	4XCB2	☐	☐	%	V	%	V	☐
4XCB3		☐	☐	N/A	N/A	N/A	N/A	☐
	4XCB4	☐	☐	%	V	%	V	☐
	4XCB5	☐	☐	%	V	%	V	☐
4XCB6		☐	☐	N/A	N/A	N/A	N/A	☐
	4CB1	☐	☐	%	V	%	V	☐
	4CB2	☐	☐	%	V	%	V	☐
	4XCB7 in 1004B	☐	☐	%	V	%	V	☐

Table 1 – Summary of visual check on Crash and Crash/ODH boxes in Peer 9

1.2 Verification of valid calibration of ODH sensors in Peer 9, following Table 2 below
√ = ok, x = problem

ODH sensor	Verify valid calibration	Record calibration date	Verify all x's corrected	Record new calibration date
3AS1	☐	____/____/_____	☐	____/____/_____
3AS2	☐	____/____/_____	☐	____/____/_____
4XAS1	☐	____/____/_____	☐	____/____/_____
4XAS2	☐	____/____/_____	☐	____/____/_____
4XAS3	☐	____/____/_____	☐	____/____/_____
4XAS4	☐	____/____/_____	☐	____/____/_____
4AS1	☐	____/____/_____	☐	____/____/_____
4AS2	☐	____/____/_____	☐	____/____/_____

Table 2 – Verification of valid calibration of ODH sensors in Peer 9

1.3 Test of ODH sensor 3AS1 in 3CB2

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **3AS1**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **3AS1 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **3AS1 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **3CB2** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **3CB2** are	**SOUNDING**
☐	**VERIFY**	Fan **3EF2** is	**ON**
☐	**VERIFY**	Vent **3AV1** is	**OPEN**
☐	**VERIFY**	Vent **3AV2** is	**OPEN**
☐	**VERIFY**	**MCR** sees **Peer 9** is in **Safe Mode**	**MODE 2**
	HALT	**Flow** of gas on **3AS1**	
	WAIT	For **3AS1** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **3CB2** are	**OFF**
☐	**VERIFY**	Fan **3EF2** is	**OFF**
☐	**VERIFY**	Vent **3AV1** is	**CLOSED**
☐	**VERIFY**	Vent **3AV2** is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**
☐		**Check for Test Acceptance of sensor 3AS1**	

1.4 Test of ODH sensor 3AS2 in 3CB4

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **3AS2**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **3AS2 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **3AS2 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **3CB4** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **3CB4** are	**SOUNDING**
☐	**VERIFY**	Fan **4XEF1**is	**ON**
☐	**VERIFY**	Vent **3AV2** is	**OPEN**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
☐	**VERIFY**	**MCR** sees **Peer 9** is in **Safe Mode**	**MODE 2**
	HALT	**Flow** of gas on **3AS2**	
	WAIT	For **3AS2** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **3CB4** are	**OFF**

☐	**VERIFY**	Fan **3EF2** is	**OFF**
☐	**VERIFY**	Vent **3AV2** is	**CLOSED**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**
☐		**Check for Test Acceptance of sensor 3AS2**	

1.5 Test of ODH sensor 4XAS1 in 4XCB2

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **4XAS1**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **4XAS1 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4XAS1 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **4XCB2** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **4XCB2** are	**SOUNDING**
☐	**VERIFY**	Fan **4XEF1** is	**ON**
☐	**VERIFY**	Vent **3AV2** is	**OPEN**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
☐	**VERIFY**	**MCR** sees **Peer 9** is in **Safe Mode**	**MODE 2**
	HALT	**Flow** of gas on **4XAS1**	
	WAIT	For **4XAS1** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **4XCB2** are	**OFF**
☐	**VERIFY**	Fan **4XEF1** is	**ON**
☐	**VERIFY**	Vent **3AV2** is	**CLOSED**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**
☐		**Check for Test Acceptance of sensor 4XAS1**	

1.6 Test of ODH sensor 4XAS2 in 4XCB4

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **4XAS2**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **4XAS2 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4XAS2 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **4XCB4** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **4XCB4** are	**SOUNDING**

☐	**VERIFY**	Fan **4XEF2** is	**ON**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**OPEN**
☐	**VERIFY**	**MCR** sees **Peer 9** is in **Safe Mode**	**MODE 2**
	HALT	**Flow** of gas on **4XAS2**	
	WAIT	For **4XAS2** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **4XCB4** are	**OFF**
☐	**VERIFY**	Fan **4XEF2** is	**OFF**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**CLOSED**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 4XCB4**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 4XCB4**	
	TURN	Bypass Switch **to** Bypass	
☐	**VERIFY**	**Strobes ☐, Sonalerts ☐**	**STOP**
	TURN	Bypass Switch **from** Bypass	
☐	**VERIFY**	**Strobes ☐, Sonalerts ☐**	**CONTINUE**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 4XCB4**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 4XCB4**	
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of sensor 4XAS2**

1.7 Test of ODH sensor 4XAS3 in 4XCB5

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **4XAS3**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **4XAS3 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4XAS3 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **4XCB5** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **4XCB5** are	**SOUNDING**
☐	**VERIFY**	Fan **4EF1**is	**ON**
☐	**VERIFY**	Fan **4XEF2** is	**ON**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**OPEN**
☐	**VERIFY**	**MCR** sees **Peer 9** is in **Safe Mode**	**MODE 2**
	HALT	**Flow** of gas on **4XAS3**	
	WAIT	For **4XAS3** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **4XCB5** are	**OFF**
☐	**VERIFY**	Fan **4EF1**is	**OFF**
☐	**VERIFY**	Fan **4XEF2** is	**OFF**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**CLOSED**

☐	**VERIFY**	Locally, Vent 4XAV3 is	**CLOSED**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 4XCB5**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 4XCB5**	
	TURN	Bypass Switch **to** Bypass	
☐	**VERIFY**	**Strobes ☐, Sonalerts ☐**	**STOP**
	TURN	Bypass Switch **from** Bypass	
☐	**VERIFY**	**Strobes ☐, Sonalerts ☐**	**CONTINUE**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 4XCB5**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 4XCB5**	
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of sensor 4XAS3**

1.8 Test of ODH sensor 4AS1 in 4CB1

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **4AS1**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **4AS1 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4AS1 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **4CB1** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **4CB1** are	**SOUNDING**
☐	**VERIFY**	Fan **4EF1** is	**ON**
☐	**VERIFY**	Locally, Vent 4AV1 is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**OPEN**
☐	**VERIFY**	**MCR** sees **Peer 9** is in **Safe Mode**	**MODE 2**
	HALT	**Flow** of gas on **4AS1**	
	WAIT	For **4AS1** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **4CB1** are	**OFF**
☐	**VERIFY**	Fan **4EF1** is	**OFF**
☐	**VERIFY**	Locally, Vent 4AV1 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of sensor 4AS1**

1.9 Test of ODH sensor 4AS2 in 4CB2

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **4AS2**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **4AS2 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4AS2 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **4CB2** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **4CB2** are	**SOUNDING**
☐	**VERIFY**	Fan **5EF1** is	**ON**
☐	**VERIFY**	Locally, Fan 5EF2 is	**ON**
☐	**VERIFY**	Fan **5EF3** is	**ON**
☐	**VERIFY**	Fan **5EF4** is	**ON**
☐	**VERIFY**	Locally, Vent 4AV1 is	**OPEN**
☐	**VERIFY**	Locally, Vent 5AV1 is	**OPEN**
☐	**VERIFY**	Vent **5AV2** is	**OPEN**
☐	**VERIFY**	Vent **5AV3** is	**OPEN**
☐	**VERIFY**	**MCR** sees **Peer 9** is in **Safe Mode**	**MODE 2**
	HALT	**Flow** of gas on **4AS2**	
	WAIT	For **4AS2** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **4CB2** are	**OFF**
☐	**VERIFY**	Fan **5EF1** is	**OFF**
☐	**VERIFY**	Locally, Fan 5EF2 is	**OFF**
☐	**VERIFY**	Fan **5EF3** is	**OFF**
☐	**VERIFY**	Fan **5EF4** is	**OFF**
☐	**VERIFY**	Locally, Vent 4AV1 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 5AV1 is	**CLOSED**
☐	**VERIFY**	Vent **5AV2** is	**CLOSED**
☐	**VERIFY**	Vent **5AV3** is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of sensor 4AS2**

1.10 10-minute Activation test of sensor 3AS1 in sector 3

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 3CB2**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 3CB2**	
☐	**VERIFY**	**MCR** sees **Peer 9** is in	**MODE 2**
☐	**VERIFY**	**MCR** sees **3AS1 Div A**	**TRIPPED**

☐	**VERIFY**	**MCR** sees **3AS1 Div B**	**TRIPPED**
☐	**VERIFY**	Fan **3EF2** is **immediately**	**ON**
☐	**VERIFY**	Vent **3AV1** is **immediately**	**OPEN**
☐	**VERIFY**	Vent **3AV2** is **immediately**	**OPEN**
	AFTER	**~ 30 secs**	
	TURN	Bypass Switch **to** Bypass	
☐	**VERIFY**	**Strobes** ☐, **Sonalerts** ☐ and **Fans** (after ~90secs) ☐	**STOP**
	TURN	Bypass Switch **from** Bypass	
☐	**VERIFY**	**Strobes** ☐, **Sonalerts** ☐ and **Fans** (after ~30secs) ☐	**CONTINUE**
	BEGIN	**10-minute timer**	
	AFTER	**~ 10 minutes**	
	RECORD	**Duration of timer**	**_____ mins**
☐	**VERIFY**	Fan **2EF1** is	**ON**
☐	**VERIFY**	Fan **2EF2** is	**ON**
☐	**VERIFY**	Fan **3EF1** is	**ON**
☐	**VERIFY**	Fan **4XEF1** is	**ON**
☐	**VERIFY**	Vent **2AV1** is	**OPEN**
☐	**VERIFY**	Vent **2AV2** is	**OPEN**
☐	**VERIFY**	Vent **2XAV2** is	**OPEN**
☐	**VERIFY**	Vent **3AV3** is	**OPEN**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 3CB2**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 3CB2**	
☐	**VERIFY**	Fan **3EF2** is	**OFF**
☐	**VERIFY**	Vent **3AV1** is	**CLOSED**
☐	**VERIFY**	Vent **3AV2** is	**CLOSED**
☐	**VERIFY**	Fan **2EF1** is	**OFF**
☐	**VERIFY**	Fan **2EF2** is	**OFF**
☐	**VERIFY**	Fan **3EF1** is	**OFF**
☐	**VERIFY**	Fan **4XEF1** is	**OFF**
☐	**VERIFY**	Vent **2AV1** is	**CLOSED**
☐	**VERIFY**	Vent **2AV2** is	**CLOSED**
☐	**VERIFY**	Vent **2XAV2** is	**CLOSED**
☐	**VERIFY**	Vent **3AV3** is	**CLOSED**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of 10-minute Activation Test of sensor 3AS1 in sector 3**

1.11 Test Activation of multiple sensors, 3AS2 and 4XAS1, in sector 3

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 3CB4**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 3CB4**	
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 4XCB2**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 4XCB2**	
☐	**VERIFY**	**MCR** sees **Peer 9** is in	**MODE 2**
☐	**VERIFY**	**MCR** sees **3AS2 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **3AS2 Div B**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4XAS1 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4XAS1 Div B**	**TRIPPED**
☐	**VERIFY**	Fan **2EF1** is	**ON**
☐	**VERIFY**	Fan **2EF2** is	**ON**
☐	**VERIFY**	Fan **3EF1** is	**ON**
☐	**VERIFY**	Fan **3EF2** is	**ON**
☐	**VERIFY**	Fan **4XEF1** is	**ON**
☐	**VERIFY**	Vent **2AV1** is	**OPEN**
☐	**VERIFY**	Vent **2AV2** is	**OPEN**
☐	**VERIFY**	Vent **2XAV2** is	**OPEN**
☐	**VERIFY**	Vent **3AV1** is	**OPEN**
☐	**VERIFY**	Vent **3AV2** is	**OPEN**
☐	**VERIFY**	Vent **3AV3** is	**OPEN**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
	AFTER	~ **30 secs**	
	TURN	Bypass Switch **to** Bypass	
☐	**VERIFY**	**Strobes** ☐, **Sonalerts** ☐ and **Fans** (after ~90secs) ☐	**STOP**
	TURN	Bypass Switch **from** Bypass	
☐	**VERIFY**	**Strobes** ☐, **Sonalerts** ☐ and **Fans** (after ~30secs) ☐	**CONTINUE**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 3CB2**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 3CB2**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 3CB4**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 3CB4**	
☐	**VERIFY**	Fan **2EF1** is	**OFF**
☐	**VERIFY**	Fan **2EF2** is	**OFF**
☐	**VERIFY**	Fan **3EF1** is	**OFF**
☐	**VERIFY**	Fan **3EF2** is	**OFF**
☐	**VERIFY**	Fan **4XEF1** is	**OFF**
☐	**VERIFY**	Vent **2AV1** is	**CLOSED**
☐	**VERIFY**	Vent **2AV2** is	**CLOSED**
☐	**VERIFY**	Vent **2XAV2** is	**CLOSED**
☐	**VERIFY**	Vent **3AV1** is	**CLOSED**
☐	**VERIFY**	Vent **3AV2** is	**CLOSED**
☐	**VERIFY**	Vent **3AV3** is	**CLOSED**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**

	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of Activation of multiple sensors 3AS2 and 4XAS1 in sector 3**

1.12 10-minute Activation test of sensor 4AS1 in sector 4

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 4CB1**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 4CB1**	
	BEGIN	**10-minute timer**	
☐	**VERIFY**	**MCR** sees **Peer 9** is in	**MODE 2**
☐	**VERIFY**	**MCR** sees **4AS1 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4AS1 Div B**	**TRIPPED**
☐	**VERIFY**	Fan **4EF1** is **immediately**	**ON**
☐	**VERIFY**	Locally, Vent 4AV1 is **immediately**	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV2 is **immediately**	**OPEN**
	AFTER	**~ 10 minutes**	
	RECORD	**Duration of timer**	**_____ mins**
☐	**VERIFY**	Fan **4XEF2** is	**ON**
☐	**VERIFY**	Fan **5EF1** is	**ON**
☐	**VERIFY**	Locally, Fan 5EF2 is	**ON**
☐	**VERIFY**	Fan **5EF3** is	**ON**
☐	**VERIFY**	Fan **5EF4** is	**ON**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**OPEN**
☐	**VERIFY**	Locally, Vent 5AV1 is	**OPEN**
☐	**VERIFY**	Vent **5AV2** is	**OPEN**
☐	**VERIFY**	Vent **5AV3** is	**OPEN**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 4CB1**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 4CB1**	
☐	**VERIFY**	Fan **4EF1** is	**OFF**
☐	**VERIFY**	Locally, Vent 4AV1 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**CLOSED**
☐	**VERIFY**	Fan **4XEF2** is	**OFF**
☐	**VERIFY**	Fan **5EF1** is	**OFF**
☐	**VERIFY**	Locally, Fan 5EF2 is	**OFF**
☐	**VERIFY**	Fan **5EF3** is	**OFF**
☐	**VERIFY**	Fan **5EF4** is	**OFF**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 5AV1 is	**CLOSED**

☐	**VERIFY**	Vent **5AV2** is	**CLOSED**
☐	**VERIFY**	Vent **5AV3** is	**CLOSED**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**
☐		**Check for Test Acceptance of 10-minute Activation Test of sensor 4AS1 in sector 4**	

1.13 Test Activation of multiple sensors 4AS1 and 4AS2 in sector 4.

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 4CB1**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 4CB1**	
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 4CB2**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 4CB2**	
☐	**VERIFY**	**MCR** sees **Peer 9** is in	**MODE 2**
☐	**VERIFY**	**MCR** sees **4AS1 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4AS1 Div B**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4AS2 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4AS2 Div B**	**TRIPPED**
☐	**VERIFY**	Fan **4EF1** is	**ON**
☐	**VERIFY**	Fan **4XEF2** is	**ON**
☐	**VERIFY**	Fan **5EF1** is	**ON**
☐	**VERIFY**	Locally, Fan 5EF2 is	**ON**
☐	**VERIFY**	Fan **5EF3** is	**ON**
☐	**VERIFY**	Fan **5EF4** is	**ON**
☐	**VERIFY**	Locally, Vent 4AV1 is	**OPEN**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**OPEN**
☐	**VERIFY**	Locally, Vent 5AV1 is	**OPEN**
☐	**VERIFY**	Vent **5AV2** is	**OPEN**
☐	**VERIFY**	Vent **5AV3** is	**OPEN**
☐	**VERIFY**	**MCR** sees **Peer 9** is in **Safe Mode**	**MODE 2**
	AFTER	~ **30 secs**	
	TURN	Bypass Switch **to** Bypass	
☐	**VERIFY**	**Strobes** ☐, **Sonalerts** ☐ and **Fans** (after ~90secs) ☐	**STOP**
	TURN	Bypass Switch **from** Bypass	
☐	**VERIFY**	**Strobes** ☐, **Sonalerts** ☐ and **Fans** (after ~30secs) ☐	**CONTINUE**
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 4CB1**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 4CB1**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div A pcb in 4CB2**	
	REMOVE	**Jumper** between **Tp2 and Tp4** on the **Div B pcb in 4CB2**	
☐	**VERIFY**	Fan **4EF1** is	**OFF**
☐	**VERIFY**	Fan **4XEF2** is	**OFF**

☐	**VERIFY**	Fan **5EF1** is	**OFF**
☐	**VERIFY**	Locally, Fan 5EF2 is	**OFF**
☐	**VERIFY**	Fan **5EF3** is	**OFF**
☐	**VERIFY**	Fan **5EF4** is	**OFF**
☐	**VERIFY**	Locally, Vent 4AV1 is	**CLOSED**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 5AV1 is	**CLOSED**
☐	**VERIFY**	Vent **5AV2** is	**CLOSED**
☐	**VERIFY**	Vent **5AV3** is	**CLOSED**

RESET **ODH** in **MCR**

☐ **VERIFY** **MCR** sees **ODH** as **RESET**

☐ **Check for Test Acceptance of Activation of multiple sensors 4AS1 and 4AS2 in sector 4**

1.14 Test Manual fan ON/OFF controls in Alcove 3C

PLACE **Peer 9** in **Mode 8**

☐ **VERIFY** **Peer 9** is in **Restricted Access** **MODE 8**

PRESS Fan **ON** button in **Alcove 3C**
BEGIN **90-sec timer**

☐	**VERIFY**	Fan **3EF2** is	**ON**
☐	**VERIFY**	Fan **4XEF1** is	**ON**
☐	**VERIFY**	Vent **3AV1** is	**OPEN**
☐	**VERIFY**	Vent **3AV2** is	**OPEN**
☐	**VERIFY**	Vent **3AV3** is	**OPEN**

PRESS Fan **OFF** button in **Alcove 3C**
AFTER **90 secs** from **ON** command

☐	**VERIFY**	Fan **3EF2** is	**OFF**
☐	**VERIFY**	Fan **4XEF1** is	**OFF**
☐	**VERIFY**	Vent **3AV1** is	**CLOSED**
☐	**VERIFY**	Vent **3AV2** is	**CLOSED**
☐	**VERIFY**	Vent **3AV3** is	**CLOSED**

☐ **Check for Test Acceptance of Manual fan ON/OFF controls in Alcove 3C**

1.15 Test Manual fan ON/OFF controls at Experimental area fan control box

PLACE **Peer 9** in **Mode 8**

☐ **VERIFY** **Peer 9** is in **Restricted Access** **MODE 8**

PRESS Fan **ON** button in **Experimental area fan control box**
BEGIN **90-sec timer**

☐	**VERIFY**	Fan **4XEF2** is	**ON**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**

PRESS Fan **OFF** button in **Experimental area fan control box**
AFTER **90 secs** from **ON** command

☐ **VERIFY** Fan **4XEF2** is **OFF**
☐ **VERIFY** Vent **4XAV1** is **CLOSED**
☐ **Check for Test Acceptance of Manual fan ON/OFF controls at Experimental area fan control box**

1.16 Test Manual fan ON/OFF controls in Alcove 5A

PLACE **Peer 9** in **Mode 8**
☐ **VERIFY** **Peer 9** is in **Restricted Access** **MODE 8**

PRESS Fan **ON** button in **Alcove 5A**
BEGIN **90-sec timer**

☐ **VERIFY** Fan **4EF1** is **ON**
☐ **VERIFY** Fan **5EF1** is **ON**
☐ **VERIFY** Locally, Fan 5EF2 is **ON**
☐ **VERIFY** Fan **5EF3** is **ON**
☐ **VERIFY** Fan **5EF4** is **ON**
☐ **VERIFY** Locally, Vent 4AV1 is **OPEN**
☐ **VERIFY** Locally, Vent 4XAV2 is **OPEN**
☐ **VERIFY** Locally, Vent 4XAV3 is **OPEN**
☐ **VERIFY** Locally, Vent 5AV1 is **OPEN**
☐ **VERIFY** Vent **5AV2** is **OPEN**
☐ **VERIFY** Vent **5AV3** is **OPEN**

PRESS Fan **OFF** button in **Alcove 5A**
AFTER **90 secs** from **ON** command

☐ **VERIFY** Fan **4EF1** is **OFF**
☐ **VERIFY** Fan **5EF1** is **OFF**
☐ **VERIFY** Locally, Fan 5EF2 is **OFF**
☐ **VERIFY** Fan **5EF3** is **OFF**
☐ **VERIFY** Fan **5EF4** is **OFF**
☐ **VERIFY** Locally, Vent 4AV1 is **CLOSED**
☐ **VERIFY** Locally, Vent 4XAV2 is **CLOSED**
☐ **VERIFY** Locally, Vent 4XAV3 is **CLOSED**
☐ **VERIFY** Locally, Vent 5AV1 is **CLOSED**
☐ **VERIFY** Vent **5AV2** is **CLOSED**
☐ **VERIFY** Vent **5AV3** is **CLOSED**
☐ **Check for Test Acceptance of Manual fan ON/OFF controls in Alcove 5A**

1.17 Test Manual fan ON/OFF controls in Alcove 5B

PLACE **Peer 9** in **Mode 8**
☐ **VERIFY** **Peer 9** is in **Restricted Access** **MODE 8**

PRESS Fan **ON** button in **Alcove 5B**

BEGIN **90-sec timer**

☐	**VERIFY**	Fan **4EF1** is	**ON**
☐	**VERIFY**	Fan **5EF1** is	**ON**
☐	**VERIFY**	Locally, Fan 5EF2 is	**ON**
☐	**VERIFY**	Fan **5EF3** is	**ON**
☐	**VERIFY**	Fan **5EF4** is	**ON**
☐	**VERIFY**	Locally, Vent 4AV1 is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**OPEN**
☐	**VERIFY**	Locally, Vent 5AV1 is	**OPEN**
☐	**VERIFY**	Vent **5AV2** is	**OPEN**
☐	**VERIFY**	Vent **5AV3** is	**OPEN**

PRESS Fan **OFF** button in **Alcove 5B**
AFTER **90 secs** from **ON** command

☐	**VERIFY**	Fan **4EF1** is	**OFF**
☐	**VERIFY**	Fan **5EF1** is	**OFF**
☐	**VERIFY**	Locally, Fan 5EF2 is	**OFF**
☐	**VERIFY**	Fan **5EF3** is	**OFF**
☐	**VERIFY**	Fan **5EF4** is	**OFF**
☐	**VERIFY**	Locally, Vent 4AV1 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 5AV1 is	**CLOSED**
☐	**VERIFY**	Vent **5AV2** is	**CLOSED**
☐	**VERIFY**	Vent **5AV3** is	**CLOSED**

☐ **Check for Test Acceptance of Manual fan ON/OFF controls in Alcove 5B**

1.18 Test of Manual fan OFF controls in MCR

PRESS Fan **ON** button in **Alcove 3C**
PRESS Fan **ON** button in **Alcove 5A**
PRESS Fan **ON** button in **Experimental area fan control box**

BEGIN **90-sec timer**

☐	**VERIFY**	Fan **3EF2** is	**ON**
☐	**VERIFY**	Fan **4EF1** is	**ON**
☐	**VERIFY**	Fan **4XEF1** is	**ON**
☐	**VERIFY**	Fan **4XEF2** is	**ON**
☐	**VERIFY**	Fan **5EF1** is	**ON**
☐	**VERIFY**	Locally, Fan **5EF2** is	**ON**
☐	**VERIFY**	Fan **5EF3** is	**ON**
☐	**VERIFY**	Fan **5EF4** is	**ON**
☐	**VERIFY**	Vent **3AV2** is	**OPEN**
☐	**VERIFY**	Vent **3AV3** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4AV1 is	**OPEN**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**OPEN**

☐	**VERIFY**	Locally, Vent 4XAV3 is	**OPEN**
☐	**VERIFY**	Locally, Vent 5AV1 is	**OPEN**
☐	**VERIFY**	Vent **5AV2** is	**OPEN**
☐	**VERIFY**	Vent **5AV3** is	**OPEN**

PRESS Fan **OFF** button in **MCR**
AFTER **90 secs** from **ON** command

☐	**VERIFY**	Fan **3EF2** is	**OFF**
☐	**VERIFY**	Fan **4EF1** is	**OFF**
☐	**VERIFY**	Fan **4XEF1** is	**OFF**
☐	**VERIFY**	Fan **4XEF2** is	**OFF**
☐	**VERIFY**	Fan **5EF1** is	**OFF**
☐	**VERIFY**	Locally, Fan **5EF2** is	**OFF**
☐	**VERIFY**	Fan **5EF3** is	**OFF**
☐	**VERIFY**	Fan **5EF4** is	**OFF**
☐	**VERIFY**	Vent **3AV2** is	**CLOSED**
☐	**VERIFY**	Vent **3AV3** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4AV1 is	**CLOSED**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 5AV1 is	**CLOSED**
☐	**VERIFY**	Vent **5AV2** is	**CLOSED**
☐	**VERIFY**	Vent **5AV3** is	**CLOSED**

☐ **Check for Test Acceptance of Manual fan OFF controls in MCR**

1.19 Test of Emergency fan ON/OFF controls at 4GE2

PRESS **Emergency** fan **ON** button at gate **4GE2**

BEGIN **90-sec timer**

☐	**VERIFY**	Fan **3EF2** is	**ON**
☐	**VERIFY**	Fan **4EF1** is	**ON**
☐	**VERIFY**	Fan **4XEF1** is	**ON**
☐	**VERIFY**	Fan **4XEF2** is	**ON**
☐	**VERIFY**	Fan **5EF1** is	**ON**
☐	**VERIFY**	Locally, Fan **5EF2** is	**ON**
☐	**VERIFY**	Fan **5EF3** is	**ON**
☐	**VERIFY**	Fan **5EF4** is	**ON**
☐	**VERIFY**	Vent **3AV1** is	**OPEN**
☐	**VERIFY**	Vent **3AV2** is	**OPEN**
☐	**VERIFY**	Vent **3AV3** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4AV1 is	**OPEN**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**OPEN**

☐	**VERIFY**	Locally, Vent 5AV1 is	**OPEN**
☐	**VERIFY**	Vent **5AV2** is	**OPEN**
☐	**VERIFY**	Vent **5AV3** is	**OPEN**

PRESS **Emergency** fan **OFF** button at gate **4GE2**
AFTER **90 secs** from **ON** command

☐	**VERIFY**	Fan **3EF2** is	**OFF**
☐	**VERIFY**	Fan **4EF1** is	**OFF**
☐	**VERIFY**	Fan **4XEF1** is	**OFF**
☐	**VERIFY**	Fan **4XEF2** is	**OFF**
☐	**VERIFY**	Fan **5EF1** is	**OFF**
☐	**VERIFY**	Locally, Fan **5EF2** is	**OFF**
☐	**VERIFY**	Fan **5EF3** is	**OFF**
☐	**VERIFY**	Fan **5EF4** is	**OFF**
☐	**VERIFY**	Vent **3AV1** is	**CLOSED**
☐	**VERIFY**	Vent **3AV2** is	**CLOSED**
☐	**VERIFY**	Vent **3AV3** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4AV1 is	**CLOSED**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 5AV1 is	**CLOSED**
☐	**VERIFY**	Vent **5AV2** is	**CLOSED**
☐	**VERIFY**	Vent **5AV3** is	**CLOSED**

☐ **Check for Test Acceptance of Emergency fan OFF controls at gate 4GE2**

1.20 Test of MCR reset of Emergency fan ON/OFF at 4GE2

PRESS **Emergency** Fan **ON** button at gate **4GE2**

BEGIN **90-sec timer**

☐	**VERIFY**	Fan **3EF2** is	**ON**
☐	**VERIFY**	Fan **4EF1** is	**ON**
☐	**VERIFY**	Fan **4XEF1** is	**ON**
☐	**VERIFY**	Fan **4XEF2** is	**ON**
☐	**VERIFY**	Fan **5EF1** is	**ON**
☐	**VERIFY**	Locally, Fan **5EF2** is	**ON**
☐	**VERIFY**	Fan **5EF3** is	**ON**
☐	**VERIFY**	Fan **5EF4** is	**ON**
☐	**VERIFY**	Vent **3AV1** is	**OPEN**
☐	**VERIFY**	Vent **3AV2** is	**OPEN**
☐	**VERIFY**	Vent **3AV3** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4AV1 is	**OPEN**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**OPEN**
☐	**VERIFY**	Locally, Vent 5AV1 is	**OPEN**
☐	**VERIFY**	Vent **5AV2** is	**OPEN**

☐	**VERIFY**	Vent **5AV3** is	**OPEN**
	PRESS	**Emergency** fan **OFF** button in **MCR**	
	AFTER	**90 secs** from **ON** command	
☐	**VERIFY**	Fan **3EF2** is	**OFF**
☐	**VERIFY**	Fan **4EF1** is	**OFF**
☐	**VERIFY**	Fan **4XEF1** is	**OFF**
☐	**VERIFY**	Fan **4XEF2** is	**OFF**
☐	**VERIFY**	Fan **5EF1** is	**OFF**
☐	**VERIFY**	Locally, Fan **5EF2** is	**OFF**
☐	**VERIFY**	Fan **5EF3** is	**OFF**
☐	**VERIFY**	Fan **5EF4** is	**OFF**
☐	**VERIFY**	Vent **3AV1** is	**CLOSED**
☐	**VERIFY**	Vent **3AV2** is	**CLOSED**
☐	**VERIFY**	Vent **3AV3** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4AV1 is	**CLOSED**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 5AV1 is	**CLOSED**
☐	**VERIFY**	Vent **5AV2** is	**CLOSED**
☐	**VERIFY**	Vent **5AV3** is	**CLOSED**

☐ **Check for Test Acceptance of MCR reset of Emergency fan ON/OFF at 4GE2**

1.21 Test of ODH sensor 4XAS4 in 4XCB7 in 1004B service building

	PLACE	**Peer 9** in **Mode 8**	
☐	**VERIFY**	**Peer 9** is in **Restricted Access**	**MODE 8**
	FLOW	**Helium (or Nitrogen)** gas across **4XAS4**	
	RECORD	**Oxygen** trip level for **Div A**	**_____ %**
	RECORD	**Oxygen** trip level for **Div B**	**_____ %**
☐	**VERIFY**	**MCR** sees **4XAS4 Div A**	**TRIPPED**
☐	**VERIFY**	**MCR** sees **4XAS4 Div B**	**TRIPPED**
☐	**VERIFY**	**Div A & B strobes** on **4XCB7** are	**FLASHING**
☐	**VERIFY**	**Div A & B sonalerts** on **4XCB7** are	**SOUNDING**
☐	**VERIFY**	**1004B fans: PS ☐, VBxNo ☐** and **VBxSo ☐** are	**ON**
☐	**VERIFY**	**1004B vents: PS ☐, VBxNo ☐** and **VBxSo ☐** are	**OPEN**
	HALT	**Flow** of gas on **4XAS4**	
	WAIT	For **4XAS4** to clear (level ~ trip-level above)	
☐	**VERIFY**	**Div A & B strobes** and **sonalerts** on **4XCB7** are	**OFF**
☐	**VERIFY**	**1004B fans: PS ☐, VBxNo ☐** and **VBxSo ☐** are	**OFF**
☐	**VERIFY**	**1004B vents: PS ☐, VBxNo ☐** and **VBxSo ☐** are	**CLOSED**
	JUMPER	**Tp2 and Tp4** on the **Div A pcb in 4XCB7**	
	JUMPER	**Tp2 and Tp4** on the **Div B pcb in 4XCB7**	
☐	**VERIFY**	**Div A & B strobes** on **4XCB7** are	**FLASHING**

☐	**VERIFY**	**Div A & B sonalerts** on **4XCB7** are	**SOUNDING**
☐	**VERIFY**	**1004B fans: PS ☐, VBxNo ☐** and **VBxSo ☐** are	**ON**
☐	**VERIFY**	**1004B vents: PS ☐, VBxNo ☐** and **VBxSo ☐** are	**OPEN**
	TURN	Bypass Switch **to** Bypass	
☐	**VERIFY**	**Strobes ☐, Sonalerts ☐** and (after ~90secs) **1004B fans: PS ☐, VBxNo ☐** and **VBxSo ☐**	**STOP**
	RESET	**ODH** in **MCR**	
☐	**VERIFY**	**MCR** sees **ODH** as	**RESET**

☐ **Check for Test Acceptance of sensor 4XAS4 in 4XCB7 in 1004B service building**

1.22 Test of Manual fan controls at 1004B

	PRESS	Fan **ON button** at Fan Control box	
☐	**VERIFY**	**1004B fans: PS ☐, VBxNo ☐** and **VBxSo ☐** are	**ON**
	SHUT	**1004B fans OFF** with **MCR** Fan OFF control	
☐	**VERIFY**	**Attempt** to shut **1004B fans OFF** with **MCR** Fan OFF control	**FAIL**
	SHUT	**1004B fans OFF** with **4GE2** Fan OFF control	
☐	**VERIFY**	**Attempt** to shut **1004B fans OFF** with **4GE2** Fan OFF control	**FAIL**
	PRESS	Fan **OFF button** at Fan Control box	
☐	**VERIFY**	**1004B fans: PS ☐, VBxNo ☐** and **VBxSo ☐** are	**OFF**
☐		**Check for Test Acceptance of Manual fan controls at 1004B**	

1.23 Test air flow at fan intakes and vents in sector 4

	PRESS	Emergency fan **ON** button at gate **4GE2**	
	BEGIN	**90-sec timer**	
☐	**VERIFY**	Fan **3EF2** is	**ON**
☐	**VERIFY**	Fan **4EF1** is	**ON**
☐	**VERIFY**	Fan **4XEF1** is	**ON**
☐	**VERIFY**	Fan **4XEF2** is	**ON**
☐	**VERIFY**	Fan **5EF1** is	**ON**
☐	**VERIFY**	Locally, Fan **5EF2** is	**ON**
☐	**VERIFY**	Fan **5EF3** is	**ON**
☐	**VERIFY**	Fan **5EF4** is	**ON**
☐	**VERIFY**	Vent **3AV1** is	**OPEN**
☐	**VERIFY**	Vent **3AV2** is	**OPEN**
☐	**VERIFY**	Vent **3AV3** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4AV1 is	**OPEN**
☐	**VERIFY**	Vent **4XAV1** is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**OPEN**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**OPEN**
☐	**VERIFY**	Locally, Vent 5AV1 is	**OPEN**
☐	**VERIFY**	Vent **5AV2** is	**OPEN**
☐	**VERIFY**	Vent **5AV3** is	**OPEN**

RECORD	**Volume of air-flow** at the inlet of fan **3EF2**	_____	**LFM**
	Target flow value (± 10%)	***2078 LFM***	
RECORD	**Volume of air-flow** at the inlet of fan **4EF1**	_____	**LFM**
	Target flow value (± 10%)	***1592 LFM***	
RECORD	**Volume of air-flow** at the inlet of fan **4XEF1**	_____	**LFM**
	Target flow value (± 10%)	***1592 LFM***	
RECORD	**Volume of air-flow** at the **upper** inlet of fan **4XEF2**	_____	**LFM**
	Target flow value (± 10%)	***1592 LFM***	
RECORD	**Volume of air-flow** at the inlet of fan **5EF1**	_____	**LFM**
	Target flow value (± 10%)	***1923 LFM***	
RECORD	**Volume of air-flow** at the **lower** inlet of fan **4XEF2**	_____	**LFM**
	Target flow value (± 10%) is the sum of both ducts	***2169 LFM***	

☐	**VERIFY**	Air flow at tell-tale of vent **3AV2** is	**ADEQUATE**

☐	**VERIFY**	Air flow at tell-tale of vent **3AV3** is	**ADEQUATE**
☐	**VERIFY**	Air flow at tell-tale of Locally, Vent 4AV1 is	**ADEQUATE**
☐	**VERIFY**	Air flow at tell-tale of vent **4XAV1** is	**ADEQUATE**
☐	**VERIFY**	Air flow at tell-tale of Locally, Vent 4XAV2 is	**ADEQUATE**
☐	**VERIFY**	Air flow at tell-tale of Locally, Vent 4XAV3 is	**ADEQUATE**
	PRESS	Emergency fan **OFF** button at gate **4GE2**	
☐	**VERIFY**	Fan **3EF2** is	**OFF**
☐	**VERIFY**	Fan **4EF1** is	**OFF**
☐	**VERIFY**	Fan **4XEF1** is	**OFF**
☐	**VERIFY**	Fan **4XEF2** is	**OFF**
☐	**VERIFY**	Fan **5EF1** is	**OFF**
☐	**VERIFY**	Locally, Fan **5EF2** is	**OFF**
☐	**VERIFY**	Fan **5EF3** is	**OFF**
☐	**VERIFY**	Fan **5EF4** is	**OFF**
☐	**VERIFY**	Vent **3AV1** is	**CLOSED**
☐	**VERIFY**	Vent **3AV2** is	**CLOSED**
☐	**VERIFY**	Vent **3AV3** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4AV1 is	**CLOSED**
☐	**VERIFY**	Vent **4XAV1** is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV2 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 4XAV3 is	**CLOSED**
☐	**VERIFY**	Locally, Vent 5AV1 is	**CLOSED**
☐	**VERIFY**	Vent **5AV2** is	**CLOSED**
☐	**VERIFY**	Vent **5AV3** is	**CLOSED**

☐ **Check for Test Acceptance of air-flow at fan intakes and vents in sector 4**

END OF TEST PROCEDURE

TTL: Sign for completion of initial testing: _____

Date: _____/____/_____

TTL: Sign for completion of final testing: _____

Date: _____/_____/_____