***If you are using a printed copy of this procedure, and not the on-screen version, then you MUST make sure the dates at the bottom of the printed copy and the on-screen version match.***
***The on-screen version of the Collider-Accelerator Department Procedure is the Official Version.***
***Hard copies of all signed, official, C-A Operating Procedures are available by contacting the ESSHQ Procedures Coordinator, Bldg. 911A***

C-A OPERATIONS PROCEDURES MANUAL

ATTACHMENT

4.120.124.j.e ATF Laser Facility Mode 24 Tests

| C-A OPM Procedures in which this Attachment is used. | | |
|---|---|---|
| 4.120.124 | | |
| | | |
| | | |

Hand Processed Changes

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

Approved: _____***Signature on File***_____ _____
Physics Department Chair Date

V. Castillo

**4.120.124.j.e ATF Mode 24 Tests**

## ATF 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: _____/_____/_____**

**LOTO Instructions**
**for Test Sections 1.1 thru 1.9**

**During these tests the Laser Power Supplies must be LOTOed by the ATF Laser Facility Manager or Designee and the Access Controls Security Group Leader or Designee.**

| | | | |
|---|---|---|---|
| ☐ | **Verify** | **Laser PowerSupplies are** | **LOTOed** |

**1.1 Verify conditions for YAG Room (YR): Pri CDs: Yag Laser shtter (YLS); LL2 to Yag Shttr (LY2S); LL3 to Yag Shttr (LY3S) and Rhb CDs: Yag Power supply (YPS) and Lab Laser Shttr (LLS) Enabled**

| | | | |
|---|---|---|---|
| | **CLOSE** | Yag Room to Vestibule 1 gate, **YV1G1** | |
| ☐ | **VERIFY** | **YV1G1** | **CLOSED** |
| | **CLOSE** | Yag Room to Laser Lab gate, **YL1G1** | |
| ☐ | **VERIFY** | **YL1G1** | **CLOSED** |
| | **CLOSE** | Exit Vestibule 1 gate, **EV1G1** | |
| ☐ | **VERIFY** | **EV1G1** | **CLOSED** |
| | **CLOSE** | Gun Hutch to Vestibule 1 gate, **GV1G1** | |
| ☐ | **VERIFY** | **GV1G1** | **CLOSED** |
| | **CLOSE** | Laser Lab to Vestibule 1 gate, **LV1G1** | |
| ☐ | **VERIFY** | **LV1G1** | **CLOSED** |
| ☐ | **VERIFY** | YR **SOR** is | **ON** |
| ☐ | **VERIFY** | Yag Room **Sweep** | **OK (Normal State)** |
| ☐ | **VERIFY** | Yag Room **Crash** | **OK** |
| ☐ | **VERIFY** | Yag Room **Blk I/O** | **OK** |
| ☐ | **VERIFY** | Atr Control Room **Crash** | **OK** |
| ☐ | **VERIFY** | Atr Control Room **Blk I/O** | **OK** |
| | **SWEEP** | LL | |
| ☐ | **VERIFY** | ACR sees LL **Sweep** | **OK (Normal State)** |
| ☐ | **VERIFY** | ACR sees on Critical Device Page **(CDP)** Pri CD Yag Laser Shutter **(YLS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD Yag Power Supply **(YPS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD LL2 to Yag Shttr **(LY2S)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD LL3 to Yag Shttr **(LY3S)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD LL Shttr **(LLS)** is | **ENABLED** |
| | **TEST** | Events to **Disable YLS, YLPS, LY2S, LY3S and LLS** using Tables 1.1 and 1.2 on pgs 4 and 5 resp, below | |

| Step | Set YR & LL to Normal State | Verify Pcd YLS Enabled | Verify Rcd YPS Enabled | Verify Pcd LY2S Enabled | Verify Pcd LY3S Enabled | Verify Rcd LLS Enabled | YR EVENTS' Tests | Verify ACR sees Pcd YLS | Verify ACR sees Rcd YLPS | Verify ACR sees Pcd LY2S | Verify ACR sees Pcd LY3S | Cont on Table 1.2 on pg 5, Step |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | ☐ | ☐ | ☐ | ☐ | ☐ | NA | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 1 |
| 2 | | ☐ | ☐ | ☐ | ☐ | ☐ | Open YV1G1 | **Dsab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | 2 |
| 3 | | ☐ | ☐ | ☐ | ☐ | ☐ | Open YV1G1 w/Pass | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 3 |
| 4 | | ☐ | ☐ | ☐ | ☐ | ☐ | Open YLG1 | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 4 |
| 5 | | ☐ | ☐ | ☐ | ☐ | ☐ | Open YV1G1 & EV1G1 w/Pass | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 5 |
| 6 | | ☐ | ☐ | ☐ | ☐ | ☐ | Open YV1G1 & GV1G1 w/Pass | **Dsab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | 6 |
| 7 | | ☐ | ☐ | ☐ | ☐ | ☐ | Open YV1G1 & LV1G1 w/Pass | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 7 |
| 8 | | ☐ | ☐ | ☐ | ☐ | ☐ | Press YR Crash | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | 8 |
| 9 | | ☐ | ☐ | ☐ | ☐ | ☐ | Drop YR Sweep w / Intlk Off P/B | **Dsab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | 9 |
| 10 | | ☐ | ☐ | ☐ | ☐ | ☐ | Drop LL Sweep w / Intlk Off P/B | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 10 |
| 11 | | ☐ | ☐ | ☐ | ☐ | ☐ | YR Ng Blk I/O in YR Main Panel - Ac Pwr | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | 11 |
| 12 | | ☐ | ☐ | ☐ | ☐ | ☐ | YLS Incor Respon YRBI/O - 2 In 7 | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | 12 |
| 13 | | ☐ | ☐ | ☐ | ☐ | ☐ | LY2S Incor Respon YRBI/O - 2 In 7 | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | 13 |
| 14 | | ☐ | ☐ | ☐ | ☐ | ☐ | LY3S Incor Respon YRBI/O - 2 In 7 | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | 14 |
| 15 | | ☐ | ☐ | ☐ | ☐ | ☐ | Press ACR Crash | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | 15 |

**Table -1.1 Yag Room Events' Tests**

| Step | YR EVENTS' Tests | Verify ACR sees Rcd LLS | Verify ACR sees YR Sweep | Verify ACR sees LL Sweep | Cont on Table 1.1 on Pg 4, Step |
|---|---|---|---|---|---|
| 1 | NA | **Enab** ☐ | Swp ☐ | Swp ☐ | 2 |
| 2 | Open YV1G1 | **Enab** ☐ | No Swp ☐ | Swp ☐ | 3 |
| 3 | Open YV1G1 w/Pass | **Enab** ☐ | Swp ☐ | Swp ☐ | 4 |
| 4 | Open YLG1 | **Dsab** ☐ | No Swp ☐ | No Swp ☐ | 5 |
| 5 | Open YV1G1 & EV1G1 w/Pass | **Enab** ☐ | No Swp ☐ | Swp ☐ | 6 |
| 6 | Open YV1G1 & GV1G1 w/Pass | **Enab** ☐ | No Swp ☐ | Swp ☐ | 7 |
| 7 | Open YV1G1 & LV1G1 w/Pass | **Dsab** ☐ | No Swp ☐ | No Swp ☐ | 8 |
| 8 | Press YR Crash | **Enab** ☐ | No Swp ☐ | Swp ☐ | 9 |
| 9 | Drop YR Sweep w / Intlk Off P/B | **Enab** ☐ | No Swp ☐ | Swp ☐ | 10 |
| 10 | Drop LL Sweep w / Intlk Off P/B | **Dsab** ☐ | Swp ☐ | No Swp ☐ | 11 |
| 11 | YR Ng Blk I/O in YR Main Panel - Ac Pwr | **Enab** ☐ | No Swp ☐ | Swp ☐ | 12 |
| 12 | YLS Incor Respon YRBI/O - 2 In 7 | **Enab** ☐ | Swp ☐ | Swp ☐ | 13 |
| 13 | LY2S Incor Respon LLBI/O In 14 | **Dsab** ☐ | Swp ☐ | Swp ☐ | 14 |
| 14 | LY3S Incor Respon LLBI/O - 2 In 0 | **Dsab** ☐ | Swp ☐ | Swp ☐ | 15 |
| 15 | Press ACR Crash | **Dsab** ☐ | No Swp ☐ | No Swp ☐ | End of Test |

**Table -1.2 Yag Room Events' Tests Contd**

☐ **Check for acceptance of test to Verify conditions for YAG Room (YR): Pri CDs: Yag Laser shtter (YLS); LL2 to Yag Shttr (LY2S); LL3 to Yag Shttr (LY3S) and Rhb CDs: Yag Power supply (YPS) and Lab Laser Shttr (LLS) Enabled**

**1.2 Verify conditions for Gun Hutch (GH): Pri CD, Yag to Gun Shutter (YGS) and Rhb CD, Yag Laser Shutter (YLS) Enabled**

| | | | |
|---|---|---|---|
| | **CLOSE** | Gun Hutch to Vestibule 1 gate, **GV1G1** | |
| ☐ | **VERIFY** | **GV1G1** | **CLOSED** |
| | **CLOSE** | Exit Vestibule 1gate, **EV1G1** | |
| ☐ | **VERIFY** | **EV1G1** | **CLOSED** |
| | **CLOSE** | Yag Room toVestibule 1 gate, **YV1G1** | |
| ☐ | **VERIFY** | **YV1G1** | **CLOSED** |
| | **CLOSE** | Laser Lab to Vestibule 1 gate, **LV1G1** | |
| ☐ | **VERIFY** | **LV1G1** | **CLOSED** |
| ☐ | **VERIFY** | GH **SOR** is | **ON** |
| ☐ | **VERIFY** | Yag Room **Sweep** | **OK** |
| ☐ | **VERIFY** | Gun Hutch **Sweep** | **OK** |
| ☐ | **VERIFY** | Gun Hutch **Crash** | **OK** |
| ☐ | **VERIFY** | Gun Hutch **Blk I/O** | **OK** |
| ☐ | **VERIFY** | Atr Control Room **Crash** | **OK** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD, Yag to Gun Shutter **(YGS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD, Yag Laser Shutter **(YLS))** is | **ENABLED** |
| | **TEST** | Events to **Disable YGS** and **YLS** using Table 2 below | |

| Step | Set GH & YR to Normal State | Verify Pcd YGS Enabled | Verify Rcd YLS Enabled | GH EVENTS' Tests | Verify ACR sees Pcd YGS | Verify Rcd YLS | Verify ACR sees GH Sweep | Verify ACR sees YR Sweep | Go to Step |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | ☐ | ☐ | NA | **Enabled** ☐ | **Enabled** ☐ | Swp ☐ | Swp ☐ | 2 |
| 2 | | ☐ | ☐ | Open GV1G1 | **Disabled** ☐ | **Enabled** ☐ | No Swp ☐ | Swp ☐ | 3 |
| 3 | | ☐ | ☐ | Open GV1G1 w/Pass | **Enabled** ☐ | **Enabled** ☐ | Swp ☐ | Swp ☐ | 4 |
| 4 | | ☐ | ☐ | Open GV1G1 & EV1G1 w/Pass | **Disabled** ☐ | **Enabled** ☐ | No Swp ☐ | Swp ☐ | 5 |
| 5 | | ☐ | ☐ | Open GV1G1 & YV1G1 w/Pass | **Enabled** ☐ | **Disabled** ☐ | No Swp ☐ | No Swp ☐ | 6 |
| 6 | | ☐ | ☐ | Open GV1G1 & LV1G1 w/Pass | **Disabled** ☐ | **Enabled** ☐ | No Swp ☐ | Swp ☐ | 7 |
| 7 | | ☐ | ☐ | Press GH Crash | **Disabled** ☐ | **Enabled** ☐ | No Swp ☐ | Swp ☐ | 8 |
| 8 | | ☐ | ☐ | Drop GH Sweep w / Intlk Off P/B | **Disabled** ☐ | **Enabled** ☐ | No Swp ☐ | Swp ☐ | 9 |
| 9 | | ☐ | ☐ | Drop YR Sweep w / Intlk Off P/B | **Enabled** ☐ | **Disabled** ☐ | Swp ☐ | No Swp ☐ | 10 |
| 10 | | ☐ | ☐ | GH Ng Blk I/O in GH Main Panel - Ac Pwr | **Disabled** ☐ | **Enabled** ☐ | No Swp ☐ | Swp ☐ | 11 |
| 11 | | ☐ | ☐ | YGS Incor Respon YRBI/O - 2 In 1 | **Disabled** ☐ | **Disabled** ☐ | Swp ☐ | Swp ☐ | 12 |
| 12 | | ☐ | ☐ | Press ACR Crash | **Disabled** ☐ | **Disabled** ☐ | No Swp ☐ | No Swp ☐ | End of Test |

**Table - 3 Gun Hutch Events' Tests**

☐ **Check for acceptance of test to Verify conditions for Gun Hutch (GH): Pri CD, Yag to Gun Shutter (YGS) Enabled and Open and Rhb CD, Yag Laser Shutter (YLS) Enabled**

**1.3 Verify conditions for Exp Hall (EH): Pri CDs: EH Laser Shutter (ELS); CO2 to EH Shutter (CES); Fel to BL3 Shutter (BL3S) and Rhb CDs: EH Laser Power supplies (ELPS); CO2 Laser Shutter (CLS); Fel Laser Shutter (FLS); Yag to Fel Shutter (YFS) and CO2 to Fel Shutter (CFS) Enabled**

| | | | |
|---|---|---|---|
| | **CLOSE** | Fel Room to Exp Hall gate, **FHG1** | |
| ☐ | **VERIFY** | **FHG1** | **CLOSED** |
| | **CLOSE** | Exit Exp Hall gate 1, **EHG1** | |
| ☐ | **VERIFY** | **EHG1** | **CLOSED** |
| | **CLOSE** | Exit Exp Hall gate 2, **EHG2** | |
| ☐ | **VERIFY** | **EHG2** | **CLOSED** |
| ☐ | **VERIFY** | EH **SOR** is | **ON** |
| ☐ | **VERIFY** | Yag Room **Sweep** | **OK** |
| ☐ | **VERIFY** | CO2 Room **Sweep** | **OK** |
| ☐ | **VERIFY** | Fel Room **Sweep** | **OK** |
| ☐ | **VERIFY** | Exp Hall **Sweep** | **OK** |
| ☐ | **VERIFY** | Exp Hall **Crash** | **OK** |
| ☐ | **VERIFY** | Exp Hall **Blk I/O** | **OK** |
| ☐ | **VERIFY** | Atr Control Room **Crash** | **OK** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD Exp Hall Laser Shutter **(ELS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD Exp Hall Power Supply **(ELPS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD CO2 to Exp Hall Shutter **(CES)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD Fel to BL3 Shutter **(BL3S)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD CO2 Laser Shutter **(CLS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD Fel Laser Shutter **(FLS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD Yag to Fel Shutter **(YFS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD CO2 to Fel Shutter **(CFS)** is | **ENABLED** |
| | **TEST** | Events to **Disable ELS**, **CES, BL3S, ELPS, CLS, FLS, YFS, and CFS** using Tables 4.1 and 4.2 on pgs 9 and 10 resp, below | |

| Step | Set EH, FR, C2R & YR to Normal State | Verify Pcd ELS Enabled | Verify Pcd CES Enabled | Verify Pcd BL3S Enabled | Verify Rcd ELPS Enabled | Verify Rcd CLS Enabled | Verify Rcd FLS Enabled | Verify Rcd YFS Enabled | Verify Rcd CFS Enabled | EH EVENTS' Tests | Verify Pcd ELS | Verify Pcd CES | Go to Table 4.2 Step |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | NA | **Enab** ☐ | **Enab** ☐ | 1 |
| 2 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Open FHG1 | **Dsab** ☐ | **Dsab** ☐ | 2 |
| 3 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Open FHG1 w/Pass | **Enab** ☐ | **Enab** ☐ | 3 |
| 4 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Open EHG1 | **Dsab** ☐ | **Dsab** ☐ | 4 |
| 5 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Open EHG1 w/Pass | **Enab** ☐ | **Enab** ☐ | 5 |
| 6 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Open EHG2 | **Dsab** ☐ | **Dsab** ☐ | 6 |
| 7 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Press EH Crash | **Dsab** ☐ | **Dsab** ☐ | 7 |
| 8 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Drop EH Sweep w / Intlk Off P/B | **Dsab** ☐ | **Dsab** ☐ | 8 |
| 9 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Drop C2R Sweep w / Intlk Off P/B | **Enab** ☐ | **Enab** ☐ | 9 |
| 10 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Drop FR Sweep w / Intlk Off P/B | **Enab** ☐ | **Enab** ☐ | 10 |
| 11 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | EH Ng Blk I/O in EH Main Panel - Ac Pwr | **Dsab** ☐ | **Dsab** ☐ | 11 |
| 12 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ELS Incor Respon EHBI/O – 2 In 1 | **Dsab** ☐ | **Enab** ☐ | 12 |
| 13 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | CES Incor Respon C2BI/O In 15 | **Enab** ☐ | **Dsab** ☐ | 13 |
| 14 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | BL3S Incor Respon FRBI/O – 4 In 1 | **Enab** ☐ | **Enab** ☐ | 14 |
| 15 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Press ACR Crash | **Dsab** ☐ | **Dsab** ☐ | 15 |

**Table -4.1 Exp Hall Events' Tests**

| Step | EH EVENTS' Tests | Verify Pcd BL3S | Verify Rcd ELPS | Verify Rcd CLS | Verify Rcd FLS | Verify Rcd YFS | Verify Rcd CFS | Verify ACR sees EH Sweep | Verify ACR sees C2R Sweep | Verify ACR sees FR Sweep | Verify ACR sees YR Sweep | Go to Table 4.1 Step |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | NA | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 2 |
| 2 | Open FHG1 | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | No Swp ☐ | Swp ☐ | No Swp ☐ | Swp ☐ | 3 |
| 3 | Open FHG1 w/Pass | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 4 |
| 4 | Open EHG1 | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 5 |
| 5 | Open EHG1 w/Pass | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 6 |
| 6 | Open EHG2 | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 7 |
| 7 | Press EH Crash | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 8 |
| 8 | Drop EH Sweep w / Intlk Off P/B | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 9 |
| 9 | Drop C2R Sweep w / Intlk Off P/B | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | No Swp ☐ | Swp ☐ | Swp ☐ | 10 |
| 10 | Drop FR Sweep w / Intlk Off P/B | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | Swp ☐ | Swp ☐ | No Swp ☐ | Swp ☐ | 11 |
| 11 | EH Ng Blk I/O in EH Main Panel - Ac Pwr | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 12 |
| 12 | ELS Incor Respon EHBI/O – 2 In 1 | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 13 |
| 13 | CES Incor Respon C2BI/O In 15 | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 14 |
| 14 | BL3S Incor Respon FRBI/O – 4 In 1 | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 15 |
| 15 | Press ACR Crash | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | No Swp ☐ | No Swp ☐ | No Swp ☐ | No Swp ☐ | End of Test |

**Table -4.2 Exp Hall Events' Tests Contd**

☐ **Check for acceptance of test to Verify conditions for Exp Hall (EH): Pri CDs: EH Laser Shutter (ELS); CO2 to EH Shutter (CES); Fel to BL3 Shutter (BL3S) and Rhb CDs: EH Laser Power supplies (ELPS); CO2 Laser Shutter (CLS); Fel Laser Shutter (FLS); Yag to Fel Shutter (YFS) and CO2 to Fel Shutter (CFS) Enabled**

**1.4 Verify conditions for Normal State for CO2 Room (C2R): Pri CDs: CO2 Laser Shutter (CLS), Yag to CO2 Shutter (YCS) and Rhb CDs: CO2 Laser Power Supply (CLPS) and Yag Laser Shutter (YLS) Enabled**

| | | | |
|---|---|---|---|
| | **CLOSE** | CO2 Room to Vestibule 2 gate, **CV2G1** | |
| ☐ | **VERIFY** | **CV2G1** | **CLOSED** |
| | **CLOSE** | Exit from CO2 Amp Room gate, **ECG1** | |
| ☐ | **VERIFY** | **ECG1** | **CLOSED** |
| | **CLOSE** | Exit Vestibule 2 gate, **EV2G1** | |
| ☐ | **VERIFY** | **EV2G1** | **CLOSED** |
| | **CLOSE** | Fel Room to Vestibule 2 gate, **FV2G1** | |
| ☐ | **VERIFY** | **FV2G1** | **CLOSED** |
| ☐ | **VERIFY** | C2R **SOR** is | **ON** |
| ☐ | **VERIFY** | CO2 Room **Sweep** | **OK** |
| ☐ | **VERIFY** | Yag Room **Sweep** | **OK** |
| ☐ | **VERIFY** | CO2 Room **Crash** | **OK** |
| ☐ | **VERIFY** | CO2 Room **Blk I/O** | **OK** |
| ☐ | **VERIFY** | Atf Control Room **Crash** | **OK** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD CO2 Laser Shutter **(CLS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD Yag to CO2 Shutter **(YCS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD CO2 Power Supply **(CLPS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD Yag Laser Shutter **(YLS)** is | **ENABLED** |
| | **TEST** | Events to **Disable CLS, YCS, CLPS and YLS** using Table 5 below | |

| Step | Set C2R state to Normal | Verify Pcd CLS Enabled | Verify Rcd CL PS Enabled | Verify Pcd YCS Enabled | Verify Rcd YLS Enabled | C2R EVENTS' Tests | Verify ACR sees Pcd CLS | Verify ACR sees Rcd CLPS | Verify ACR sees Pcd YCS | Verify ACR sees Rcd YLS | Verify ACR sees C2R Sweep | Verify ACR sees YR Sweep | Go to step |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | ☐ | ☐ | ☐ | ☐ | NA | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | 2 |
| 2 | | ☐ | ☐ | ☐ | ☐ | Open CV2G1 | **Dsab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 3 |
| 3 | | ☐ | ☐ | ☐ | ☐ | Open CV2G1 w/Pass | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | 4 |
| 4 | | ☐ | ☐ | ☐ | ☐ | Open EV2G1 | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | 5 |
| 5 | | ☐ | ☐ | ☐ | ☐ | Open CV2G1 & EV2G1 w/Pass | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 6 |
| 6 | | ☐ | ☐ | ☐ | ☐ | Open CV2G1 & FV2G1 w/Pass | **Dsab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 7 |
| 7 | | ☐ | ☐ | ☐ | ☐ | Open ECG1 | **Dsab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 8 |
| 8 | | ☐ | ☐ | ☐ | ☐ | Open ECG1 w/Pass | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | 9 |
| 9 | | ☐ | ☐ | ☐ | ☐ | Press C2R Crash | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 10 |
| 10 | | ☐ | ☐ | ☐ | ☐ | Drop C2R Sweep w / Intlk Off P/B | **Dsab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 11 |
| 11 | | ☐ | ☐ | ☐ | ☐ | Drop YR Sweep w / Intlk Off P/B | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | Swp ☐ | No Swp ☐ | 12 |
| 12 | | ☐ | ☐ | ☐ | ☐ | C2R Ng Blk I/O in C2R Main panel - Ac Pwr | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 13 |
| 13 | | ☐ | ☐ | ☐ | ☐ | CLS Incor Respon C2BI/O-2 In 4 | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | 14 |
| 14 | | ☐ | ☐ | ☐ | ☐ | YCS Incor Respon C2BI/O-6 In 4 | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | Swp ☐ | Swp ☐ | 15 |
| 15 | | ☐ | ☐ | ☐ | ☐ | Press ACR Crash | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | No Swp ☐ | No Swp ☐ | End of Test |

**Table -5 CO2 Room Events' Tests**

☐ **Check for acceptance of test to Verify conditions for Normal State for CO2 Room (C2R): Pri CDs: CO2 Laser Shutter (CLS), Yag to CO2 Shutter (YCS) and Rhb CDs: CO2 Laser Power Supply (CLPS) and Yag Laser Shutter (YLS) Enabled**

**1.5 Verify conditions for Normal State for Fel Room (FR): Pri CDs: Fel Laser Shutter (FLS); CO2 to Fel Shutter (CFS); Yag to Fel Shutter (YFS); BL1 to Fel Shutter (BL1S) and BL2 to Fel shutter (BL2S); and Rhb CDs: Fel Laser Power Supply (FLPS); CO2 Laser Shutter (CLS); Yag Laser Shutter (YLS) EH Laser Shutter (ELS); CO2 to EH Shutter (CES) and Yag to Gun Shutter (YGS) Enabled**

| | | | |
|---|---|---|---|
| | **CLOSE** | Fel Room to Vestibule 2 gate, **FV2G1** | |
| ☐ | **VERIFY** | **FV2G1** | **CLOSED** |
| | **CLOSE** | Fel Room to Exp Hall gate, **FHG1** | |
| ☐ | **VERIFY** | **FHG1** | **CLOSED** |
| | **CLOSE** | Exit Vestibule 2 gate, **EV2G1** | |
| ☐ | **VERIFY** | **EV2G1** | **CLOSED** |
| | **CLOSE** | CO2 Room to Vestibule 2 gate, **CV2G1** | |
| ☐ | **VERIFY** | **CV2G1** | **CLOSED** |
| ☐ | **VERIFY** | FR **SOR** is | **ON** |
| ☐ | **VERIFY** | Experimental Hall Sweep | **OK** |
| ☐ | **VERIFY** | CO2 Room **Sweep** | **OK** |
| ☐ | **VERIFY** | YR Room **Sweep** | **OK** |
| ☐ | **VERIFY** | Fel Room **Sweep** | **OK** |
| ☐ | **VERIFY** | Fel Room **Crash** | **OK** |
| ☐ | **VERIFY** | Fel Room **Blk I/O** | **OK** |
| ☐ | **VERIFY** | Atf Control Room **Crash** | **OK** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD Fel Laser Shutter **(FLS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD Fel Laser Power Supply **(FLPS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD CO2 to Fel Shutter **(CFS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD Yag to Fel Shutter **(YFS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD BL1 to Fel Shutter **(BL1S)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD BL2 to Fel Shutter **(BL2S)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD CO2 Laser Shutter **(CLS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD Yag Laser Shutter **(YLS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD EH Laser Shutter **(ELS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD CO2 to EH Shutter **(CES)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD Yag to Gun Shutter **(YGS)** is | **ENABLED** |
| | **TEST** | Events to **Disable FLS, CFS, YFS, BL1S, BL2S, FLPS, CLS, YLS, ELS, CES and YGS** using Tables 6.1, 6.2 and 6.3 on pgs 14, 15 and 16 resp, below | |

| Step | Set FR state to Normal | Verify Pcd FLS Enabled | Verify Rcd FLPS Enabled | Verify Pcd CFS Enabled | Verify Pcd YFS Enabled | Verify Pcd BL1S Enabled | Verify Pcd BL2S Enabled | Verify Rcd CLS Enabled | Verify Rcd YLS Enabled | Verify Rcd ELS Enabled | Verify Rcd CES Enabled | Verify Rcd YGS Enabled | FR EVENTS' Tests | Go to Table 6.2 pg 17 Step |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | NA | 1 |
| 2 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Open FV2G1 | 2 |
| 3 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Open FV2G1 w/Pass | 3 |
| 4 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Open FHG1 | 4 |
| 5 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | FHG1 w/Pass | 5 |
| 6 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Open FV2G1 & EV2G1 w/Pass | 6 |
| 7 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Open FV2G1 & CV2G1 w/Pass | 7 |
| 8 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Press FR Crash | 8 |
| 9 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Drop FR Sweep w / Intlk Off P/B | 9 |
| 10 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Drop C2R Sweep w / Intlk Off P/B | 10 |
| 11 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Drop YR Sweep w / Intlk Off P/B | 11 |
| 12 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | FR Ng Blk I/O in FR Main Panel - Ac Pwr | 12 |
| 13 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | FLS Incor Respon FRBI/O-4 In 3 | 13 |
| 14 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | CFS Incor Respon C2BI/O-2 In 2 | 14 |
| 15 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | YFS Incor Respon FRBI/O-4 In 5 | 15 |
| 16 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Bl1S Incor Respon EHBI/O-2 In 9 | 16 |
| 17 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | Bl2S Incor Respon EHBI/O-2 In 7 | 17 |
| 18 | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ACR Crash | 18 |

**Table -6.1 Fel Room Events' Tests**

| Step | FR EVENTS' Tests | Verify ACR sees Pcd FLS | Verify ACR sees Rcd FLPS | Verify ACR sees Pcd CFS | Verify ACR sees Pcd YFS | Verify ACR sees Pcd BL1S | Verify ACR sees Pcd BL2S | Verify ACR sees Rcd CLS | Verify ACR sees Rcd YLS | Verify ACR sees Rcd ELS | Verify ACR sees Rcd CES | Verify ACR sees Rcd YGS | Go to Table 6.3 pg 18 Step |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | NA | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 1 |
| 2 | Open FV2G1 | **Dsab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 2 |
| 3 | Open FV2G1 w/Pass | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 3 |
| 4 | Open FHG1 | **Dsab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | 4 |
| 5 | FHG1 w/Pass | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 5 |
| 6 | Open FV2G1 & EV2G1 w/Pass | **Dsab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 6 |
| 7 | Open FV2G1 & CV2G1 w/Pass | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 7 |
| 8 | Press FR Crash | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 8 |
| 9 | Drop FR Sweep w / Intlk Off P/B | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 9 |
| 10 | Drop C2R Sweep w / Intlk Off P/B | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 10 |
| 11 | Drop YR Sweep w / Intlk Off P/B | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 11 |
| 12 | FR Ng Blk I/O in FR Main Panel - Ac Pwr | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | 12 |
| 13 | FLS Incor Respon FRBI/O-4 In 3 | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 13 |
| 14 | CFS Incor Respon C2BI/O-2 In 2 | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 14 |
| 15 | YFS Incor Respon FRBI/O-4 In 5 | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | 15 |
| 16 | Bl1S Incor Respon EHBI/O-2 In 9 | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | 16 |
| 17 | Bl2S Incor Respon EHBI/O-2 In 7 | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | 17 |
| 18 | ACR Crash | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | 18 |

**Table -6.2 Fel Room Events' Tests**

| Step | FR EVENTS' Tests | Verify ACR sees FR Sweep | Verify ACR sees C2R Sweep | Verify ACR sees YR Sweep | Verify ACR sees EH Sweep | Verify ACR sees GH Sweep | Go to Table 6.1 pg 16 Step |
|---|---|---|---|---|---|---|---|
| 1 | NA | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 2 |
| 2 | Open FV2G1 | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 3 |
| 3 | Open FV2G1 w/Pass | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 4 |
| 4 | Open FHG1 | No Swp ☐ | Swp ☐ | Swp ☐ | No Swp ☐ | Swp ☐ | 5 |
| 5 | FHG1 w/Pass | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 6 |
| 6 | Open FV2G1 & EV2G1 w/Pass | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 7 |
| 7 | Open FV2G1 & CV2G1 w/Pass | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 8 |
| 8 | Press FR Crash | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 9 |
| 9 | Drop FR Sweep w / Intlk Off P/B | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 10 |
| 10 | Drop C2R Sweep w / Intlk Off P/B | Swp ☐ | No Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 11 |
| 11 | Drop YR Sweep w / Intlk Off P/B | Swp ☐ | Swp ☐ | No Swp ☐ | Swp ☐ | Swp ☐ | 12 |
| 12 | FR Ng Blk I/O in FR Main Panel - Ac Pwr | No Swp ☐ | Swp ☐ | Swp ☐ | No Swp ☐ | Swp ☐ | 13 |
| 13 | FLS Incor Respon FRBI/O-4 In 3 | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 14 |
| 14 | CFS Incor Respon C2BI/O-2 In 2 | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 15 |
| 15 | YFS Incor Respon FRBI/O-4 In 5 | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 16 |
| 16 | Bl1S Incor Respon EHBI/O-2 In 9 | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 17 |
| 17 | Bl2S Incor Respon EHBI/O-2 In 7 | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | Swp ☐ | 18 |
| 18 | ACR Crash | No Swp ☐ | No Swp ☐ | No Swp ☐ | No Swp ☐ | No Swp ☐ | **End of Test** |

**Table - 6.3 Fel Room Events' Tests**

☐ **Check for acceptance of test to Verify conditions for Normal State for CO2 Room (C2R): Pri CDs: CO2 Laser Shutter (CLS), Yag to CO2 Shutter (YCS) and Rhb CDs: CO2 Laser Power Supply (CLPS) and Yag Laser Shutter (YLS) Enabled**

**1.6 Verify conditions for Laser Lab (LL): Pri CDs: Laser Lab Shutter (LLS); Yag to LL Shutter (LY1S) and Rhb CDs: LL Power Supply (LLPS) and Yag Laser Shutter (YLS) Enabled**

| | | | |
|---|---|---|---|
| | **CLOSE** | Yag Room to Laser Lab gate, **YLG1** | |
| ☐ | **VERIFY** | **YLG1** | **CLOSED** |
| | **CLOSE** | Laser Lab to Vestibule 1 gate, **LV1G1** | |
| ☐ | **VERIFY** | **LV1G1** | **CLOSED** |
| | **CLOSE** | Exit Vestibule 1 gate, **EV1G1** | |
| ☐ | **VERIFY** | **EV1G1** | **CLOSED** |
| | **CLOSE** | Yag Room to Vestibule 1 gate, **YV1G1** | |
| ☐ | **VERIFY** | **YV1G1** | **CLOSED** |
| | **CLOSE** | Gun Hutch to Vestibule 1 gate, **GV1G1** | |
| ☐ | **VERIFY** | **GV1G1** | **CLOSED** |
| | **CLOSE** | Exit Laser Lab gate 1, **ELG1** | |
| ☐ | **VERIFY** | **ELG1** | **CLOSED** |
| | **CLOSE** | Exit Laser Lab gate 2, **ELG2** | |
| ☐ | **VERIFY** | **ELG2** | **CLOSED** |
| ☐ | **VERIFY** | LL **SOR** is | **ON** |
| ☐ | **VERIFY** | Laser Lab **Sweep** | **OK** |
| ☐ | **VERIFY** | Yag Room **Sweep** | **OK** |
| ☐ | **VERIFY** | Laser Lab **Crash** | **OK** |
| ☐ | **VERIFY** | Laser Lab **Blk I/O** | **OK** |
| ☐ | **VERIFY** | Atr Control Room **Crash** | **OK** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD Yag to Laser Lab Shutter **(LY1S)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** Rhb CD Yag Laser Shutter **(YLS)** is | **ENABLED** |
| | **TEST** | Events to **Disable LLS, LY1S, LLPS AND YLS** using Table 7 below | |

| Step | Set LL state to Normal | Verify Pcd LLS Enabled | Verify Pcd LY1S Enabled | Verify Rcd LLPS Enabled | Verify Rcd YLS Enabled | LL EVENTS' Tests | Verify ACR sees Pcd LLS | Verify ACR sees Pcd LY1S | Verify ACR sees Rcd LLPS | Verify ACR sees Rcd YLS | Verify ACR sees LL Sweep | Verify ACR sees YR Sweep | Go to step |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | ☐ | ☐ | ☐ | ☐ | NA | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | 2 |
| 2 | | ☐ | ☐ | ☐ | ☐ | Open LV1G1 | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 3 |
| 3 | | ☐ | ☐ | ☐ | ☐ | Open LV1G1 w/Pass | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | Swp ☐ | Swp ☐ | 4 |
| 4 | | ☐ | ☐ | ☐ | ☐ | Open YLG1 | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | No Swp ☐ | No Swp ☐ | 5 |
| 5 | | ☐ | ☐ | ☐ | ☐ | Open LV1G1 & EV1G1 w/Pass | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 6 |
| 6 | | ☐ | ☐ | ☐ | ☐ | Open LV1G1 & YV1G1 w/Pass | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | No Swp ☐ | No Swp ☐ | 7 |
| 7 | | ☐ | ☐ | ☐ | ☐ | Open LV1G1 & GV1G1 w/Pass | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 8 |
| 8 | | ☐ | ☐ | ☐ | ☐ | Open ELG1 | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 9 |
| 9 | | ☐ | ☐ | ☐ | ☐ | Open ELG2 | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 10 |
| 10 | | ☐ | ☐ | ☐ | ☐ | Press LL Crash | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 11 |
| 11 | | ☐ | ☐ | ☐ | ☐ | Drop LL Sweep w / Intlk Off P/B | **Dsab** ☐ | **Dsab** ☐ | **Enab** ☐ | **Enab** ☐ | No Swp ☐ | Swp ☐ | 12 |
| 12 | | ☐ | ☐ | ☐ | ☐ | Drop YR Sweep w / Intlk Off P/B | **Enab** ☐ | **Enab** ☐ | **Enab** ☐ | **Dsab** ☐ | Swp ☐ | No Swp ☐ | 13 |
| 13 | | ☐ | ☐ | ☐ | ☐ | LL Ng Blk I/O in LL Main panel - Ac Pwr | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | No Swp ☐ | Swp ☐ | 14 |
| 14 | | ☐ | ☐ | ☐ | ☐ | LY1S Incor Respon LLBI/O In 12 | **Enab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | Swp ☐ | Swp ☐ | 15 |
| 15 | | ☐ | ☐ | ☐ | ☐ | Press ACR Crash | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | **Dsab** ☐ | No Swp ☐ | No Swp ☐ | End of Test |

**Table -7 Lab Laser Room Events' Tests**

☐ **Check for acceptance of test to Verify conditions for Laser Lab (LL): Pri CD, Yag to Laser Lab Shutter (LY1S) Enabled and Open and Rhb CD, Yag Laser Shutter (YLS) Enabled**

**1.7 Verify For Room to Room Shutters (RRS), Shutters are enabled: with both Source and Destination rooms not Swept; with Source room not Swept and Destination room Swept; and with both Source and Destination rooms Swept**

| | | | |
|---|---|---|---|
| ☐ | **VERIFY** | **ACR** sees **Yag Room is** | **NO SWEEP** |
| ☐ | **VERIFY** | **ACR** sees **Laser Lab** is | **NO SWEEP** |
| ☐ | **VERIFY** | **ACR** sees **CO2 Room** is | **NO SWEEP** |
| ☐ | **VERIFY** | **ACR** sees **Fel Room** is | **NO SWEEP** |
| ☐ | **VERIFY** | **ACR** sees **Exp Hall** is | **NO SWEEP** |
| ☐ | **VERIFY** | **ACR** sees **SOR** for: **YR ☐, LL ☐, CO2 ☐, FR ☐ and EH ☐** is | **OK** |
| ☐ | **VERIFY** | ACR sees on **CDP** RRS LL2 to Yag **(LY2S)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** RRS LL3 to Yag **(LY3S)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** RRS Yag to Gun **(YGS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** RRS Yag to CO2 **(YCS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** RRS CO2 to EH **(CES)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** RRS Fel to BL3 **(BL3S)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** RRS CO2 to Fel **(CFS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** RRS Yag to Fel **(YFS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** RRS BL1 to Fel **(BL1S)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **CDP** RRS BL2 to Fel **(BL2S)** is | **ENABLED** |
| | **TEST** | RRS **Enable/Disable** using **Tables 8.1 and 8.2** on pages 20 and 21 resp. below | |

| Step | RRS | Verify Srce Rm No Swp | Verify Dstn Rm No Swp | Verify RRS Enab | Sweep Srce Rm | Verify Srce Rm Swp ok | Verify RRS Dsab | Go to pg 21 Table 8.2 Step |
|---|---|---|---|---|---|---|---|---|
| 1 | LY2S | ☐ | ☐ | ☐ | | ☐ | ☐ | 1 |
| 2 | LY3S | ☐ | ☐ | ☐ | | ☐ | ☐ | 2 |
| 3 | YGS | ☐ | ☐ | ☐ | | ☐ | ☐ | 3 |
| 4 | LY1S | ☐ | ☐ | ☐ | | ☐ | ☐ | 4 |
| 5 | YCS | ☐ | ☐ | ☐ | | ☐ | ☐ | 5 |
| 6 | CES | ☐ | ☐ | ☐ | | ☐ | ☐ | 6 |
| 7 | BL3S | ☐ | ☐ | ☐ | | ☐ | ☐ | 7 |
| 8 | CFS | ☐ | ☐ | ☐ | | ☐ | ☐ | 8 |
| 9 | YFS | ☐ | ☐ | ☐ | | ☐ | ☐ | 9 |
| 10 | BL1S | ☐ | ☐ | ☐ | | ☐ | ☐ | 10 |
| 11 | BL2S | ☐ | ☐ | ☐ | | ☐ | ☐ | 11 |

**Table 8.1 Test of Room to Room Shutters Enable / Disable**

| Step | RRS | Sweep Dstn Rm | Verify Dstn Rm Swp ok | Verify RRS Enab | Rmv Sweep from Srce Rm | Verify Srce Rm no Swp | Verify RRS Enab | Go to pg 20 Table 8.1 Step |
|---|---|---|---|---|---|---|---|---|
| 1 | LY2S | | ☐ | ☐ | | ☐ | | 2 |
| 2 | LY3S | | ☐ | ☐ | | ☐ | | 3 |
| 3 | YGS | | ☐ | ☐ | | ☐ | | 4 |
| 4 | LY1S | | ☐ | ☐ | | ☐ | | 5 |
| 5 | YCS | | ☐ | ☐ | | ☐ | | 6 |
| 6 | CES | | ☐ | ☐ | | ☐ | | 7 |
| 7 | BL3S | | ☐ | ☐ | | ☐ | | 8 |
| 8 | CFS | | ☐ | ☐ | | ☐ | | 9 |
| 9 | YFS | | ☐ | ☐ | | ☐ | | 10 |
| 10 | BL1S | | ☐ | ☐ | | ☐ | | 11 |
| 11 | BL2S | | ☐ | ☐ | | ☐ | | End of Test |

**Table 8.2 Test of Room to Room Shutters Enable / Disable contd.**

☐ **Check for acceptance of test to Verify For Room to Room Shutters (RRS), Shutters are enabled: with both Source and Destination rooms not Swept; with Source room not Swept and Destination room Swept; and with both Source and Destination rooms Swept**

**1.8 Verify opening ECGI with pass-thru CO2 Laser Shutter, CLS, will Close, if Opened, and Reopen when ECGI is Closed**

| | | | |
|---|---|---|---|
| | **SWEEP** | **C2R** | |
| ☐ | **VERIFY** | ACR sees **C2R** sweep | **SWEEP OK** |
| ☐ | **VERIFY** | ACR sees on **CDP** Pri CD CO2 Laser Shutter **(CLS)** is | **ENABLED** |
| | **OPEN** | **CLS** | |
| ☐ | **VERIFY** | ACR sees on CDP **CLS** is | **OPEN** |
| | **OPEN** | ECGI with pass-thru | |
| ☐ | **VERIFY** | ACR sees ECGI is | **OPEN** |
| ☐ | **VERIFY** | ACR sees on CDP **CLS** is | **CLOSED** |
| ☐ | **VERIFY** | ACR sees **C2R** sweep | **SWEEP OK** |
| ☐ | **VERIFY** | ACR sees ECGI is | **CLOSED** |
| ☐ | **VERIFY** | ACR sees on CDP **CLS** is | **OPEN** |
| ☐ | **VERIFY** | ACR sees **C2R** sweep is | **SWEEP OK** |

☐ **Check for acceptance of test to Verify opening ECGI with pass-thru CO2 Laser Shutter, CLS, will Close, if Opened, and Reopen when ECGI is Closed**

**1.9 Verify opening ECGI with pass-thru Room to Room Shutter Yag to CO2, YCS, will Close, if Opened, and Reopen when ECGI is Closed**

| | | | |
|---|---|---|---|
| | **SWEEP** | **C2R** | |
| ☐ | **VERIFY** | ACR sees **C2R** sweep is | **SWEEP OK** |
| | **SWEEP** | **YR** | |
| ☐ | **VERIFY** | ACR sees **YR** sweep is | **SWEEP OK** |
| ☐ | **VERIFY** | ACR sees on CDP **YCS** is | **ENABLED** |
| | **OPEN** | **YCS** | |
| ☐ | **VERIFY** | ACR sees on CDP **YCS** is | **OPEN** |
| | **OPEN** | ECGI with pass-thru | |
| ☐ | **VERIFY** | ACR sees ECGI is | **OPEN** |
| ☐ | **VERIFY** | ACR sees on CDP **YCS** is | **CLOSED** |
| ☐ | **VERIFY** | ACR sees **C2R** sweep is | **SWEEP OK** |
| ☐ | **VERIFY** | ACR sees **YR** sweep is | **SWEEP OK** |
| ☐ | **VERIFY** | ACR sees ECGI is | **CLOSED** |
| ☐ | **VERIFY** | ACR sees on CDP **YCS** is | **OPEN** |
| ☐ | **VERIFY** | ACR sees **C2R** sweep is | **SWEEP OK** |
| ☐ | **VERIFY** | ACR sees **YR** sweep is | **SWEEP OK** |

☐ **Check for acceptance of test to Verify opening ECGI with pass-thru Room to Room Shutter Yag to CO2, YCS, will Close, if Opened, and Reopen when ECGI is Closed**

**LOTO Instructions for**
**Test Sections 1.10 thru 1.13**

**During these tests the <u>All Shutter Keys</u> must be LOTOed by the ATF Facility Manager or Designee and the Access Controls Security Group Leader or Designee.**

| | | | |
|---|---|---|---|
| ☐ | **Verify** | **All Shutter Keys are in** | **KEYBOX** |

**1.10 Verify Yag Power supply (YPS), under power, will be Disabled with a YR Crash**

| | | | |
|---|---|---|---|
| | **CLOSE** | Yag Room to Vestibule 1 gate, **YV1G1** | |
| ☐ | **VERIFY** | **YV1G1** | **CLOSED** |
| | **CLOSE** | Yag Room to Laser Lab gate, **YL1G1** | |
| ☐ | **VERIFY** | **YL1G1** | **CLOSED** |
| | **CLOSE** | Exit Vestibule 1 gate, **EV1G1** | |
| ☐ | **VERIFY** | **EV1G1** | **CLOSED** |
| | **CLOSE** | Gun Hutch to Vestibule 1 gate, **GV1G1** | |
| ☐ | **VERIFY** | **GV1G1** | **CLOSED** |
| | **CLOSE** | Laser Lab to Vestibule 1 gate, **LV1G1** | |
| ☐ | **VERIFY** | **LV1G1** | **CLOSED** |
| ☐ | **VERIFY** | YR **SOR** is | **ON** |
| ☐ | **VERIFY** | ACR sees on **OVP** Rhb CD Yag Power Supply **(YPS)** is | **ENABLED** |
| ☐ | **VERIFY** | Yag Room **Sweep** | **OK** |
| ☐ | **VERIFY** | Yag Room **Crash** | **OK** |
| ☐ | **VERIFY** | Yag Room **Blk I/O** | **OK** |
| ☐ | **VERIFY** | Atf Control Room **Crash** | **OK** |
| ☐ | **VERIFY** | Atf Control Room **Blk I/O** | **OK** |
| ☐ | **VERIFY** | ACR sees on Over-view Page **(OVP)** Pri CD Yag Laser Shutter **(YLS)** is | **ENABLED** |
| | **HAVE** | ATF Operator **Turn On** YPS | |
| ☐ | **VERIFY** | **YPS** is | **ON** |
| | **PRESS** | YR Crash **P/B** | |
| ☐ | **VERIFY** | **ACR** sees **YR** is | **CRASH** |
| ☐ | **VERIFY** | **ACR** sees YR **SOR** is | **OFF** |
| ☐ | **VERIFY** | **ACR** sees YR **Sweep** is | **NO SWEEP** |
| ☐ | **VERIFY** | **ACR** sees **YPS** is | **DISABLED** |
| ☐ | **VERIFY** | **YPS** is | **OFF** |
| ☐ | **VERIFY** | **Attempt to Turn On** YPS | **FAIL** |
| | **REARM** | YR Crash **P/B** | |
| ☐ | **VERIFY** | **Attempt to Turn On** YPS | **FAIL** |
| | **RESET** | YR **SOR** | |
| ☐ | **VERIFY** | **ACR** sees YR **SOR** is | **ON** |
| ☐ | **VERIFY** | **ACR** sees YR **Crash** is | **OK** |
| ☐ | **VERIFY** | **ACR** sees **YPS** is | **ENABLED** |
| ☐ | **VERIFY** | **Attempt to Turn On** YPS is | **SUCCESSFUL** |
| ☐ | **VERIFY** | **YPS** is | **ON** |
| | **HAVE** | ATF Operator **Leave** YPS | **ON** |

☐ **Check for acceptance of test to Verify Yag Power supply (YPS), under power, will be Disabled with a YR Crash**

**1.11 Verify Laser Lab Power Supply (LLPS = Osc Supply + Diode Supply), under power, will be Disabled with a LL Crash**

| | | | |
|---|---|---|---|
| | **CLOSE** | Yag Room to Laser Lab gate, **YLG1** | |
| ☐ | **VERIFY** | **YLG1** | **CLOSED** |
| | **CLOSE** | Laser Lab to Vestibule 1 gate, **LV1G1** | |
| ☐ | **VERIFY** | **LV1G1** | **CLOSED** |
| | **CLOSE** | Exit Vestibule 1 gate, **EV1G1** | |
| ☐ | **VERIFY** | **EV1G1** | **CLOSED** |
| | **CLOSE** | Yag Room to Vestibule 1 gate, **YV1G1** | |
| ☐ | **VERIFY** | **YV1G1** | **CLOSED** |
| | **CLOSE** | Gun Hutch to Vestibule 1 gate, **GV1G1** | |
| ☐ | **VERIFY** | **GV1G1** | **CLOSED** |
| | **CLOSE** | Exit Laser Lab gate 1, **ELG1** | |
| ☐ | **VERIFY** | **ELG1** | **CLOSED** |
| | **CLOSE** | Exit Laser Lab gate 2, **ELG2** | |
| ☐ | **VERIFY** | **ELG2** | **CLOSED** |
| ☐ | **VERIFY** | LL **SOR** is | **ON** |
| ☐ | **VERIFY** | Laser Lab **Sweep** is | **NO SWEEP** |
| ☐ | **VERIFY** | Laser Lab **Crash** | **OK** |
| ☐ | **VERIFY** | Laser Lab **Blk I/O** | **OK** |
| ☐ | **VERIFY** | Atf Control Room **Crash** | **OK** |
| ☐ | **VERIFY** | ACR sees on **OVP** Pri CD Laser Lab Power Supply **(LLPS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **OVP** Rhb CD Yag Laser Shutter **(YLS)** is | **DISABLED** |
| | **HAVE** | ATF Operator **Turn On** LLPS (OSc & Diode Supplies) | |
| ☐ | **VERIFY** | **Operator** confirms **Osc Supply** ☐ and **Diode Supply** ☐ are | **ON** |
| | **PRESS** | LL Crash **P/B** | |
| ☐ | **VERIFY** | **ACR** sees **LL** is | **CRASH** |
| ☐ | **VERIFY** | **ACR** sees LL **SOR** is | **OFF** |
| ☐ | **VERIFY** | **ACR** sees LL **Sweep** is | **NO SWEEP** |
| ☐ | **VERIFY** | **ACR** sees **LLPS** is | **DISABLED** |
| ☐ | **VERIFY** | **Osc Supply** ☐ and **Diode Supply** ☐ are | **OFF** |
| ☐ | **VERIFY** | **Attempt to Turn On Osc Supply** ☐ and **Diode Supply** ☐ | **FAIL** |
| | **REARM** | LL Crash **P/B** | |
| ☐ | **VERIFY** | **Attempt to Turn On Osc Supply** ☐ and **Diode Supply** ☐ still | **FAIL** |
| | **RESET** | LL **SOR** | |
| ☐ | **VERIFY** | **ACR** sees LL **SOR** is | **ON** |
| ☐ | **VERIFY** | **ACR** sees LL **Crash** is | **OK** |
| ☐ | **VERIFY** | **ACR** sees **LLPS** is | **ENABLED** |
| ☐ | **VERIFY** | **Attempt to Turn On Osc Supply** ☐ and **Diode Supply** ☐ | **SUCCESSFUL** |
| | **SWEEP** | **LL** | |
| ☐ | **VERIFY** | **ACR** sees LL **Sweep** is | **OK** |
| ☐ | **VERIFY** | **ACR** sees **LLPS** is still | **ENABLED** |
| ☐ | **VERIFY** | **Osc Supply** ☐ and **Diode Supply** ☐ are still | **ON** |
| | **HAVE** | ATF Operator **Turn Off Osc Supply** and **Diode Supply** | |
| ☐ | **VERIFY** | **Osc Supply** ☐ and **Diode Supply** ☐ are | **OFF** |
| ☐ | **VERIFY** | **ACR** sees **LLPS** is still | **ENABLED** |

☐ **Check for acceptance of test to Verify Laser Lab Power Supply (LLPS), under power, will be Disabled with a LL Crash**

**1.12 Verify CO2 Laser Power Supply (CLPS), under power, will be Disabled with a C2R Crash**

| | | | |
|---|---|---|---|
| | **CLOSE** | CO2 Room to Vestibule 2 gate, **CV2G1** | |
| ☐ | **VERIFY** | **CV2G1** | **CLOSED** |
| | **CLOSE** | Exit from CO2 Amp Room gate, **ECG1** | |
| ☐ | **VERIFY** | **ECG1** | **CLOSED** |
| | **CLOSE** | Exit Vestibule 2 gate, **EV2G1** | |
| ☐ | **VERIFY** | **EV2G1** | **CLOSED** |
| | **CLOSE** | Fel Room to Vestibule 2 gate, **FV2G1** | |
| ☐ | **VERIFY** | **FV2G1** | **CLOSED** |
| ☐ | **VERIFY** | C2R **SOR** is | **ON** |
| | **SWEEP** | **C2R** | |
| ☐ | **VERIFY** | ACR sees **C2R** sweep | **SWEEP OK** |
| ☐ | **VERIFY** | ACR sees on **OVP** Rhb CD Yag to CO2 Shutter **(CLPS)** is | **ENABLED** |
| ☐ | **VERIFY** | CO2 Room **Sweep** | **OK** |
| ☐ | **VERIFY** | CO2 Room **Crash** | **OK** |
| ☐ | **VERIFY** | CO2 Room **Blk I/O** | **OK** |
| ☐ | **VERIFY** | Atf Control Room **Crash** | **OK** |
| ☐ | **VERIFY** | ACR sees on **OVP** Pri CD Yag to CO2 Shutter **(CLS)** is | **ENABLED** |
| | **HAVE** | ATF Operator **Turn On** CLPS | |
| ☐ | **VERIFY** | **ACR** sees **CLPS** is | **ON** |
| | **PRESS** | C2R Crash **P/B** | |
| ☐ | **VERIFY** | **ACR** sees **C2R** is | **CRASH** |
| ☐ | **VERIFY** | **ACR** sees C2R **SOR** is | **OFF** |
| ☐ | **VERIFY** | **ACR** sees C2R **Sweep** is | **NO SWEEP** |
| ☐ | **VERIFY** | **ACR** sees **CLPS** is | **DISABLED** |
| ☐ | **VERIFY** | **CLPS** is | **OFF** |
| ☐ | **VERIFY** | **Attempt to Turn On** CLPS | **FAIL** |
| | **REARM** | C2R Crash **P/B** | |
| ☐ | **VERIFY** | **Attempt to Turn On** CLPS | **FAIL** |
| | **RESET** | C2R **SOR** | |
| ☐ | **VERIFY** | **ACR** sees C2R **SOR** is | **ON** |
| ☐ | **VERIFY** | **ACR** sees C2R **Crash** is | **OK** |
| ☐ | **VERIFY** | **ACR** sees **CLPS** is | **ENABLED** |
| ☐ | **VERIFY** | **Attempt to Turn On** CLPS | **SUCCESSFUL** |
| | **SWEEP** | **C2R** | |
| ☐ | **VERIFY** | **ACR** sees C2R **Sweep** is | **OK** |
| ☐ | **VERIFY** | **ACR** sees **CLPS** is still | **ENABLED** |
| ☐ | **VERIFY** | **ACR** sees **CLPS** is still | **ON** |
| | **HAVE** | ATF Operator **Turn Off** CLPS | |
| ☐ | **VERIFY** | **ACR** sees **CLPS** is still | **ENABLED** |
| ☐ | **VERIFY** | **Operator** sees **CLPS** is | **OFF** |

☐ **Check for acceptance of test to Verify CO2 Laser Power Supply (CLPS), under power, will be Disabled with a C2R Crash**

**1.13 Verify EH Alignment Laser Power supply (ELPS), under power, will be Disabled with an EH Crash**

| | | | |
|---|---|---|---|
| | **CLOSE** | Fel Room to Exp Hall gate, **FHG1** | |
| ☐ | **VERIFY** | **FHG1** | **CLOSED** |
| | **CLOSE** | Exit Exp Hall gate 1, **EHG1** | |
| ☐ | **VERIFY** | **EHG1** | **CLOSED** |
| | **CLOSE** | Exit Exp Hall gate 2, **EHG2** | |
| ☐ | **VERIFY** | **EHG2** | **CLOSED** |
| ☐ | **VERIFY** | EH **SOR** is | **ON** |
| ☐ | **VERIFY** | Exp Hall **Sweep** | **OK** |
| ☐ | **VERIFY** | Exp Hall **Crash** | **OK** |
| ☐ | **VERIFY** | Exp Hall **Blk I/O** | **OK** |
| ☐ | **VERIFY** | Atr Control Room **Crash** | **OK** |
| ☐ | **VERIFY** | ACR sees on **OVP** Pri CD Exp Hall Laser Shutter **(ELS)** is | **ENABLED** |
| ☐ | **VERIFY** | ACR sees on **OVP** Rhb CD Exp Hall Power Supply **(ELPS)** is | **ENABLED** |
| | **HAVE** | ATF Operator **Turn On** ELPS | |
| ☐ | **VERIFY** | **Operator** sees **ELPS** is | **ON** |
| | **PRESS** | EH Crash **P/B** | |
| ☐ | **VERIFY** | **ACR** sees **EH** is | **CRASH** |
| ☐ | **VERIFY** | **ACR** sees EH **SOR** is | **OFF** |
| ☐ | **VERIFY** | **ACR** sees EH **Sweep** is | **NO SWEEP** |
| ☐ | **VERIFY** | **ACR** sees **ELPS** is | **DISABLED** |
| ☐ | **VERIFY** | **ELPS** is | **OFF** |
| ☐ | **VERIFY** | **Attempt to Turn On** ELPS | **FAIL** |
| | **REARM** | EH Crash **P/B** | |
| ☐ | **VERIFY** | **Attempt to Turn On** ELPS | **FAIL** |
| | **RESET** | EH **SOR** | |
| ☐ | **VERIFY** | **ACR** sees EH **SOR** is | **ON** |
| ☐ | **VERIFY** | **ACR** sees EH **Crash** is | **OK** |
| ☐ | **VERIFY** | **Attempt to Turn On** ELPS | **SUCCESSFUL** |
| ☐ | **VERIFY** | **Operator** sees **ELPS** is | **ON** |
| | **HAVE** | ATF Operator **Turn Off** ELPS | |
| ☐ | **VERIFY** | **ACR** sees **ELPS** is still | **ENABLED** |
| ☐ | **VERIFY** | **Operator** sees **ELPS** is | **OFF** |

☐ **Check for acceptance of test to Verify EH Alignment Laser Power supplies (ELPS), under power, will be Disabled with an EH Crash**

**END OF TEST PROCEDURE**

**TTL: Sign for completion of initial testing: _____**

**Date: _____/____/_____**

**TTL: Sign for completion of final testing: _____**

**Date: _____/_____/_____**