

Accelerator Operator Training

Notes about this training:

1. * by Lecture # means that there is a test associated with this training;
see Shane Passmore for the test
2. Highlighted yellow with – **NLA** at the end means No longer applicable/superceded

Lecture Series: Introduction and Principles of Operation

| # | for Front-End Commissioning | Lecturer | Date Given |
|------------|---|-----------------------------|--------------------|
| 1* | Ion Source (pdf) (ppt) | Martin Stockli | August 9, 2002 |
| 2* | RFQ (pdf) (ppt) | Sasha Aleksandrov | August 16, 2002 |
| 3* | MPS (pdf) (ppt) | Coles Sibley | August 23, 2002 |
| 4* | PPS (pdf) (ppt) | Paul Wright | August 30, 2002 |
| 5* | Diagnostics – BCM and WS (pdf) (ppt) | Saeed Assadi | September 6, 2002 |
| 6* | High Power RF Systems (pdf) (ppt) | Ray Fuja | September 13, 2002 |
| 7* | MEBT (pdf) (ppt) | Sasha Aleksandrov | September 20, 2002 |
| 8 | Timing System (pdf) (ppt) - NLA | Eric Bjorklund | September 27, 2002 |
| 9 | Timing System (continued)- NLA | Eric Bjorklund | October 4, 2002 |
| 10* | Facilities Controls (pdf) (ppt) | John Cleaves | October 4, 2002 |
| 11* | Control System (pdf) (ppt) | Dave Gurd & Ernest Williams | October 11, 2002 |
| 12 | Control System - practical | Ernest Williams | October 11, 2002 |
| 13* | Fire Alarm System (pdf) (ppt) | Jim Eckroth | October 18, 2002 |
| 14 | Fire Alarm System - practical | Jim Eckroth | October 18, 2002 |
| 15 | Accelerator Safety Envelope and Operational Envelope (pdf) | George Dodson | October 25, 2002 |
| 16 | Emergency Procedures (pdf) (ppt) | Mario Giannella | October 25, 2002 |
| 17* | High Voltage Converter Modulator (pdf) (ppt) | David Anderson | December 6, 2002 |
| 18* | LEBT and MEBT Chopper Operation (pdf) (ppt) | Martin Stockli | December 20, 2002 |
| | | | |
| | DTL Commissioning | | |
| 1* | Timing System v.2 (pdf) (ppt) | Dave Thompson | April 11, 2003 |
| 2 | PPS for DTL 3(pdf) (ppt) | Paul Wright | April 15, 2003 |
| 3 | HPRF(pdf) (ppt) | Mike McCarthy | April 15, 2003 |
| 4 | PPS phase 0.3 Sweep & Access - NLA | Shane Passmore | April 15, 2003 |
| 5* | Drift Tube Linacs (pdf) (ppt) | Eugene Tanke | May 23, 2003 |
| 6 | Low Level RF System (pdf) (ppt) | Hengjie Ma | May 23, 2003 |
| 7 | LLRF High Power Protect Module (pdf) (ppt) | Mark Crofford | May 23, 2003 |
| 8* | Diagnostics -FC, BPM, BLM(pdf) (ppt) | Saeed Assadi | May 30, 2003 |
| 9* | Vacuum System Controls (pdf) (ppt) | Johnny Tang | May 30, 2003 |
| 10* | Vacuum System Operation (pdf) (ppt) | Peter Ladd | June 6, 2003 |
| 11* | RCCS (pdf) (ppt) | Derrick Williams | June 12,2003 |
| 12 | Diagnostics – D-Plate (pdf) (ppt) | Saeed Assadi | June 13, 2003 |
| 13 | PPS Phase 0.4 (pdf) Sweep, Access, and General Operation - NLA | Shane Passmore & Bill Stone | June 27, 2003 |
| 14* | DTL 1 Commissioning (pdf) (ppt) | Dong-O Jeon | July 11, 2003 |
| 15. | BLM Systems for Commissioning | Saeed Assadi | August 4, 2004 |

SNS-OPM Procedure training

| | | | |
|---|---|------------------------------------|------------------|
| * | <u>2.B-1 Accelerator Safety Envelope and Operational Envelope (pdf)</u> | Mario Giannella | June 13, 2003 |
| | <u>3.A-3.2 Access to Primary Beam Enclosures for Abnormal Situation Assessment</u> | Mario Giannella | June 20, 2003 |
| | <u>3.A-1.1 Responding to Beam Shutdown Station (BSS) Activations</u> | Mario Giannella | August 8, 2003 |
| * | <u>2.H-13. Hold for Radiation Safety (RS Hold) and attachments:</u> <u>2.H-13.a. Yellow Tag for Radiation Safety Hold (RS Hold)</u> <u>2.H-13.b. RS Hold Log Sheet</u> <u>2.H-13.c. Approved Radiation Safety Hold Points</u> <u>2.H-13.d. Removal of RS Hold By Others</u> | Mario Giannella | October 21, 2002 |
| * | <u>2.H-18.10. Responding to Chipmunk Alarms and Interlock Trips</u> | Mario Giannella | October 22, 2002 |
| * | <u>2.G-2. SNS Electrical Safety Implementation Plan</u> and attachment: <u>2.G-2.a. SNS Electrical Safety Officers</u> | Mario Giannella | October 23, 2002 |
| * | <u>2.H-4.6. Radiation Work Permit</u> | Mario Giannella | October 24, 2002 |
| * | <u>8.A-1. Ion Source Turn On Guidelines</u> | Shane Passmore or Ion Source Group | October 23, 2002 |
| * | <u>3.A-1. Operational Guide for the Front End, DTL1 and 3 PPS (Phase 0.4) - NLA</u> | Shane Passmore | Ongoing/various |

On the Job Training Sessions

| for Front-End Commissioning | | | |
|------------------------------------|---|----------------------------------|-------------------------|
| 1 | Ion Source Turn On/Off | Martin Stockli and Robert Welton | November 5-8, 2002 |
| 2 | PPS Operation | Operations Group | November 5-8, 2002 |
| 3 | Control System | Controls Group | November 5-8, 2002 |
| 4 | High Voltage Converter Modulator | Dave Anderson | December 13, 2002 |
| 5 | RF Transmitters (HPRF) | Mike McCarthy | December 13, 2002 |
| 6 | Low Level RF System (LLRF) | Mark Crofford | December 18, 2002 |
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| for DTL Commissioning | | | |
| 1 | HVCM for DTL 3 | Dave Anderson | April 22, 2003 |
| 2 | DTL 3 RF Processing Program | Carl Lionberger | April 22, 2003 |
| 3 | DTL RF Processing Overview | Leonid Kravchuk | April 22, 2003 |
| 4 | PPS phase 0.3 Sweep and Access | Shane Passmore | April 24-25, 2003 |
| 5. | Application Programs | John Galambos | June 1, 2003 to present |
| 6. | Emergency Procedures | David Brown | June 9, 2003 |
| 7. | EPICS Tools (archiver, StripTool, Probe, Display Parameter, etc.) | Ernest Williams | June 13, 2003 |
| 8. | Diagnostics | Saeed Assadi | June 16, 2003 |

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| 9. | Vacuum System | Johnny Tang | June 16, 2003 |
| 10. | PPS phase 0.4 Sweep and Access | Shane Passmore | July 8, 2003 |
| 11. | Low Level RF System | Hengji Ma | August 19, 2003 |
| 12. | RCCS | Derrick Williams | August 19, 2003 |
| 13. | Alarms Handler | John Munro | August 22, 2003 |
| 14. | Emittance Scanners(pdf) (word) | Delphy Nypaver | August 22, 2003 |
| 15. | DTL & Vac. Shutdown Guidelines | Dave Brown | August 22, 2003 |
| 16. | Channel Access Security(pdf) (ppt) | Ernest Williams | September 5, 2003 |
| 17. | PPS phase 0.4a Sweep and Access | Shane Passmore | March 12, 2004 |
| 18. | PPS phase 1.1 Sweep and Access | Shane Passmore | June 18, 2004 |
| 19. | RF Coupler Processing | Yoon Kang | August 9, 2004 |
| 20. | Response to ODH Alarms | Nick West | August 17, 2004 |
| 21. | PPS phase 1.2 Sweep and Access | Shane Passmore | August 24, 2004 |

Practical Training (with trainers or contacts):

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| 1. Front End, Linac, Klystron orientation - Sam McKenzie or Shane Passmore |
| 2. Red Cross First Aid certification – Sam McKenzie or through ORNL |
| 3. Red Cross CPR with Automatic Electronic Defibrillator certification – Sam McKenzie or through ORNL |
| 4. SNS Lockout/Tagout – Mario Giannella |
| 5. Linac Tunnel Access (TA002) (pdf) (ppt) – Sam McKenzie or Shane Passmore |
| 6. PPS Sweep and Access – Shane Passmore |

Web Training – [GoTrain.net](#) Courses:

(contact Sam McKenzie or Shane Passmore for signup or problems)

| Course Name: | Required frequency: |
|---|---------------------|
| 1. Back Safety | 2 years |
| 2. Electrical Safety Awareness | 2 years |
| 3. Industrial Ergonomics | 2 years |
| 4. Job Hazard Analysis | 1 year |
| 5. Ladder & Scaffolding Safety | 2 years |
| 6. Lockout/Tagout | 1 year |
| 7. Personnel Protection Equipment | 2 years |
| 8. Safe Work Practices | 2 years |
| 9. SNS Lockout/Tagout of Hazardous Energy Sources | 1 year |

ORNL Training:

| Course Name: | Required frequency: |
|---|---------------------|
| 1. ORNL Hazard Communication Training | Once |
| 2. General Employee Training | 2 years |
| 3. ORNL Host/Escort Training | 1 year |
| 4. Radiological Worker Level 1 or 2 Online Test and practical training information Radiological Worker 1 and 2 Study Guide (pdf) | 2 years |
| 5. Local Emergency Supervisor Training | 1 year |
| 6. RGD Custodian Training | 2 years |

**For SNS-OPM Procedure training List, see spreadsheet:
[SNS-OPM Status: Review, Approval and Training \(Excel\)](#)**

Other useful information:

- [Emittance Scanners \(pdf\) \(word\)](#)
- [Diagnostics Layout \(DTL-CCL-SCL\) \(pdf\)](#)
- [Channel Access Security\(pdf\) \(ppt\)](#)
- [Radiological Worker 1 and 2 Study Guide \(pdf\)](#)
- [MPS updated training information \(pdf\) \(ppt\)](#)
- [Physics applicatons training \(pdf\) \(word\)](#)
- [Bunch Shape Monitor manual \(pdf\) \(word\)](#)
- [Radiation Monitoring \(pdf\)](#)
- [Cryogenic Safety \(pdf\) \(ppt\)](#)
- [Fundamentals of Engineering reference handbook \(pdf\)](#)
- [Accelerator Safety \(LANL\) \(pdf\)](#)
- [Hydrogen Gas Safety \(LANL\) \(pdf\)](#)
- [X-Ray Safety \(LANL\) \(pdf\)](#)
- [Sealed Source Safety \(LANL\) \(pdf\)](#)

Useful web links: