

# Installation and Commissioning

## Scientific Manpower

| ST  | WEEK       | TASK NAME                                             | Duration | Start     | Finish    | Notes                                              |
|-----|------------|-------------------------------------------------------|----------|-----------|-----------|----------------------------------------------------|
| 387 | 1.46       | Installation & Commissioning                          | 115 days | Tue 19/04 | Fri 10/06 |                                                    |
| 388 | 1.46.01    | Hall B Upstream Beamline Installation                 | 47 days  | Tue 19/04 | Wed 10/05 |                                                    |
| 389 | 1.46.01.01 | Upstream beamline assembly                            | 1 day    | Tue 19/04 | Tue 19/04 | 1.46.01.01.01.01 Upstream beamline assembly        |
| 390 | 1.46.01.02 | Assembly, install, connect new grids                  | 1 day    | Tue 19/04 | Tue 19/04 | 1.46.01.01.02 Assembly, install, connect new grids |
| 391 | 1.46.01.03 | Pump down beamline                                    | 1 day    | Mon 05/05 | Mon 05/05 | 1.46.01.01.03 Pump down beamline                   |
| 392 | 1.46.01.04 | Diagnose/Beam Hubs monitors                           | 1 day    | Tue 19/04 | Tue 19/04 | 1.46.01.01.04 Diagnose/Beam Hubs monitors          |
| 393 | 1.46.01.05 | Connect/beam and HPS/PSD signals                      | 1 day    | Mon 05/05 | Tue 19/04 | 1.46.01.01.05 Connect/beam and HPS/PSD signals     |
| 394 | 1.46.01.06 | Hot checkout whole system                             | 1 day    | Mon 05/05 | Mon 05/05 | 1.46.01.01.06 Hot checkout whole system            |
| 395 | 1.46.02    | ECAL Installation                                     | 11 days  | Mon 05/05 | Mon 05/05 |                                                    |
| 396 | 1.46.02.01 | Install ECAL in the Hall                              | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 397 | 1.46.02.02 | ECAL connections                                      | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 398 | 1.46.02.03 | Survey                                                | 1 day    | Mon 05/05 | Mon 05/05 |                                                    |
| 399 | 1.46.02.04 | Commissioning of ECAL                                 | 1 day    | Mon 05/05 | Mon 05/05 |                                                    |
| 400 | 1.46.03    | Commissioning of ECAL                                 | 1 day    | Mon 05/05 | Mon 05/05 |                                                    |
| 401 | 1.46.03.01 | Run LMS calibration                                   | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 402 | 1.46.03.02 | Calibrate Run                                         | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 403 | 1.46.03.03 | Integrate Slow Control                                | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 404 | 1.46.03.04 | ECAL Ready for beam                                   | 1 day    | Mon 05/05 | Mon 05/05 |                                                    |
| 405 | 1.46.04    | Receive SVT, Assemble, Test in Clean Room             | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 406 | 1.46.04.01 | Receive and Unpack                                    | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 407 | 1.46.04.02 | Assembly                                              | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 408 | 1.46.04.03 | Power, Cooling, and DAQ                               | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 409 | 1.46.04.04 | Check out DAQ                                         | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 410 | 1.46.04.05 | Integrate DAQ with LAB DAQ                            | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 411 | 1.46.04.06 | Full Hot Checkout                                     | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 412 | 1.46.04.07 | SVT ready to be installed                             | 1 day    | Mon 05/05 | Tue 19/04 |                                                    |
| 413 | 1.46.05    | Commission Beamline                                   | 22 days  | Fri 10/06 | Mon 10/06 |                                                    |
| 414 | 1.46.05.01 | Transport beam to target dump                         | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 415 | 1.46.05.02 | Establish good spot sizes                             | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 416 | 1.46.05.03 | Measure halo                                          | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 417 | 1.46.05.04 | Bring beam to Hall B dump                             | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 418 | 1.46.05.05 | Turn on chokes and adjust as needed                   | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 419 | 1.46.05.06 | Check beam passage through Ecsl                       | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 420 | 1.46.05.07 | Check spots and halo (upstream of Frascati)           | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 421 | 1.46.06    | Beamline Commissioned                                 | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 422 | 1.46.07    | Install SVT                                           | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 423 | 1.46.07.01 | Bring Ecsl Vac up to air                              | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 424 | 1.46.07.02 | Remove Ecsl and Ecsl vac chamber                      | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 425 | 1.46.07.03 | Remove upstream beamline                              | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 426 | 1.46.07.04 | Move Hall Frascati upstream                           | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 427 | 1.46.07.05 | Install SVT Box                                       | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 428 | 1.46.07.06 | Align survey, and secure SVT Box                      | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 429 | 1.46.08    | Commission SVT                                        | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 430 | 1.46.08.01 | Replace SVT Vac box                                   | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 431 | 1.46.08.02 | Cable and Power                                       | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 432 | 1.46.08.03 | Cooling and Chiller                                   | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 433 | 1.46.08.04 | DAQ and Calibrate                                     | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 434 | 1.46.08.05 | Check Linear Shifts for target, u-channels            | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 435 | 1.46.08.06 | Restore Ecsl Vac and SVT Vac Flange and Bee           | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 436 | 1.46.08.07 | Pump down and check Vacuum                            | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 437 | 1.46.08.08 | SVT Ready for beam                                    | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 438 | 1.46.09    | Replace Ecsl survey, and check                        | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 439 | 1.46.10    | Complete HPS Checkout                                 | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 440 | 1.46.10.01 | Integrate SVT DAQ and TDAQ                            | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 441 | 1.46.10.02 | Check out all GLS and Slow Controls                   | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 442 | 1.46.10.03 | East SVT Calibration Ready                            | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 443 | 1.46.10.04 | Trigger Ready                                         | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 444 | 1.46.10.05 | Monitoring Ready                                      | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 445 | 1.46.10.06 | Check Interlocks                                      | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 446 | 1.46.10.07 | Check PSD                                             | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 447 | 1.46.11    | HPS ready for the beam                                | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 448 | 1.46.12    | Commission Electron Beam to Hall B Dump               | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 449 | 1.46.12.01 | Move detectors and collimators to safe position       | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 450 | 1.46.12.02 | Establish beam length, transverse position, spot size | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 451 | 1.46.12.03 | Establish trip monitors and trip diagnostics and      | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 452 | 1.46.12.04 | Study trigger rates vs current                        | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 453 | 1.46.12.05 | Study beam trips                                      | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 454 | 1.46.12.06 | Take safe position data                               | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 455 | 1.46.13    | Commission Electron Running                           | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 456 | 1.46.13.01 | Define entry run current and SVT position             | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |
| 457 | 1.46.13.02 | Take Data                                             | 1 day    | Fri 10/06 | Fri 10/06 |                                                    |

|        |    | PMBe | SVT | SVT | E  | TD  | Slo | Sof | I&C | CF |
|--------|----|------|-----|-----|----|-----|-----|-----|-----|----|
|        |    | am   | T   | C   | AQ | w   | tw  | are | TE  |    |
|        |    | line | D   | AL  | Co | ntr | ol  |     |     |    |
| M .    | IN |      |     |     |    |     |     |     | 0.  | 0. |
| Batta  | FN |      |     |     |    |     |     |     | 02  | 23 |
| glieri |    |      |     |     |    |     |     |     |     |    |
| A .    | IN |      |     |     |    |     |     |     | 0.  | 0. |
| Cele   | FN |      |     |     |    |     |     |     | 12  | 33 |
| ntano  |    |      |     |     |    |     |     |     |     |    |
| Stuar  | IN |      |     |     |    |     |     |     | 0.3 | 0. |
| t      | FN |      |     |     |    |     |     |     |     | 30 |
| Fegan  |    |      |     |     |    |     |     |     |     |    |
| A .    | IN |      |     |     |    |     |     |     | 0.  | 0. |
| D'An   | FN |      |     |     |    |     |     |     | 21  | 21 |
| gelo   |    |      |     |     |    |     |     |     |     |    |
| A .    | IN |      |     |     |    |     |     |     | 0.  | 0. |
| Rizzo  | FN |      |     |     |    |     |     |     | 12  | 33 |
| L .    | IN |      |     |     |    |     |     |     | 0.  | 0. |
| Cola   | FN |      |     |     |    |     |     |     | 52  | 73 |
| neri   |    |      |     |     |    |     |     |     |     |    |
| G .    | IN |      |     |     |    |     |     |     | 0.3 | 0. |
| Simi   | FN |      |     |     |    |     |     |     |     | 30 |
| N .    | IN |      |     |     |    |     |     |     | 0.2 | 0. |
| Rand   | FN |      |     |     |    |     |     |     |     | 20 |
| azzo   |    |      |     |     |    |     |     |     |     |    |
| M .    | IN |      |     |     |    |     |     |     | 0.2 | 0. |
| DeN    | FN |      |     |     |    |     |     |     |     | 20 |
| apoli  |    |      |     |     |    |     |     |     |     |    |
| R .    | IN |      |     |     |    |     |     |     | 0.1 | 0. |
| Devita | FN |      |     |     |    |     |     |     | 12  | 22 |
| M .    | IN |      |     |     |    |     |     |     | 0.4 | 0. |
| Carpi  | FN |      |     |     |    |     |     |     | 0.1 | 0. |
| nnelli |    |      |     |     |    |     |     |     |     | 50 |
| V .    | IN |      |     |     |    |     |     |     | 0.3 | 0. |
| Sipala | FN |      |     |     |    |     |     |     |     | 30 |
| M .    | IN |      |     |     |    |     |     |     | 0.2 | 0. |
| Osip   | FN |      |     |     |    |     |     |     |     | 20 |
| enko   |    |      |     |     |    |     |     |     |     |    |
| S .    | IN |      |     |     |    |     |     |     | 0.2 | 0. |
| Aiello | FN |      |     |     |    |     |     |     |     | 20 |

Marco's talk at the Collaboration Meeting June 2014

|                      |             |          |          |          |          |  |          |          |          |
|----------------------|-------------|----------|----------|----------|----------|--|----------|----------|----------|
| E .<br>Leonora       | IN<br>FN    |          |          |          | 0.2      |  |          |          | 0.<br>20 |
| D .<br>Calvo         | IN<br>FN    |          |          |          | 0.2      |  |          |          | 0.<br>20 |
| A .<br>Filippi       | IN<br>FN    |          |          |          |          |  | 0.3      |          | 0.<br>30 |
| C .<br>Ventura       | IN<br>FN    |          |          |          | 0.2      |  |          |          | 0.<br>20 |
| Raphael<br>Dupre     | IP<br>NO    |          |          |          | 0.<br>63 |  | 0.<br>08 | 0.<br>02 | 0.<br>74 |
| Gabriel<br>Charles   | IP<br>NO    |          |          |          | 0.<br>50 |  | 0.<br>50 |          | 1.<br>00 |
| Michel<br>Garcon     | CEA         |          |          |          | 0.<br>50 |  |          |          | 0.<br>50 |
| Stepan<br>Stepanian  | JL<br>AB    | 0.<br>05 | 0.10     |          | 0.<br>10 |  |          | 0.<br>10 | 0.<br>35 |
| Arne<br>Freyberg     | JL<br>AB    |          | 0.05     |          |          |  |          |          | 0.<br>05 |
| Hovanes<br>Heghyan   | JL<br>AB    |          |          |          |          |  | 0.21     | 0.<br>02 | 0.<br>23 |
| Serguei<br>Boyarinov | JL<br>AB    |          |          |          | 0.<br>25 |  |          |          | 0.<br>25 |
| Maurizio<br>Ungaro   | JL<br>AB    |          |          |          |          |  | 0.<br>10 |          | 0.<br>10 |
| F X<br>Girod         | JL<br>AB    |          | 0.40     |          |          |  |          |          | 0.<br>40 |
| Yuri<br>Gernstein    | Ru<br>tgers |          |          |          |          |  | 0.<br>21 |          | 0.<br>21 |
| Tim<br>Nelson        | SL<br>AC    |          | 0.<br>70 | 0.<br>25 |          |  |          | 0.<br>05 | 1.<br>00 |

|                                 |                       |  |      |          |          |          |  |  |          |          |          |
|---------------------------------|-----------------------|--|------|----------|----------|----------|--|--|----------|----------|----------|
| Per<br>Hans<br>son              | SL<br>AC              |  |      | 0.<br>35 | 0.<br>40 |          |  |  | 0.<br>20 | 0.<br>05 | 1.<br>00 |
| Sho<br>Uem<br>ura               | SL<br>AC              |  |      | 0.<br>20 | 0.<br>20 |          |  |  | 0.<br>20 | 0.<br>02 | 0.<br>62 |
| Matt<br>Grah<br>am              | SL<br>AC              |  |      |          |          |          |  |  | 0.<br>50 |          | 0.<br>50 |
| Jere<br>my<br>McC<br>ormi<br>ck | SL<br>AC              |  |      |          |          |          |  |  | 0.<br>20 |          | 0.<br>20 |
| Nor<br>man<br>Graf              | SL<br>AC              |  |      |          |          |          |  |  | 0.<br>50 |          | 0.<br>50 |
| John<br>Jaros                   | SL<br>AC <sup>1</sup> |  |      |          |          |          |  |  |          |          | 1.<br>00 |
| Hom<br>e r<br>Neal              | SL<br>AC              |  |      |          |          |          |  |  | 0.<br>08 |          | 0.<br>08 |
| Taka<br>shi<br>Maru<br>yama     | SL<br>AC              |  | 0.40 | 0.<br>35 |          |          |  |  | 0.<br>20 | 0.<br>05 | 1.<br>00 |
| Ken<br>Moff<br>eit              | SL<br>AC              |  | 1.00 |          |          |          |  |  |          |          | 1.<br>00 |
| Clive<br>Field                  | SL<br>AC              |  | 0.17 |          |          |          |  |  |          |          | 0.<br>17 |
| Vitali<br>y<br>Fade<br>yev      | U<br>CSC              |  |      | 0.<br>12 | 0.<br>04 |          |  |  |          |          | 0.<br>15 |
| Fores<br>t<br>McK<br>inney      | U<br>CSC              |  |      | 0.<br>18 |          |          |  |  |          |          | 0.<br>18 |
| Omar<br>More<br>no              | U<br>CSC              |  |      | 0.<br>13 | 0.<br>15 |          |  |  | 0.<br>21 | 0.<br>02 | 0.<br>51 |
| Kyle<br>McCa<br>rthy            | U<br>NH               |  |      |          |          | 0.<br>25 |  |  | 0.<br>25 |          | 0.<br>50 |
| Maur<br>i k<br>Holtr<br>op      | U<br>NH               |  |      |          |          |          |  |  | 0.<br>21 | 0.<br>02 | 0.<br>23 |

|                               |     |  |             |             |             |             |             |             |              |
|-------------------------------|-----|--|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Annie Simonyan                | Yes |  |             |             |             |             | 0.50        |             | 0.50         |
| Nersis Gevorgyan              | Yes |  |             |             |             |             | 0.50        |             | 0.50         |
| Holly Szumila-Vance           | W&M |  | 0.25        |             | 0.50        |             | 0.25        |             | 1.00         |
| <b>Total FTE by Subsystem</b> |     |  | <b>2.32</b> | <b>1.04</b> | <b>5.54</b> | <b>0.25</b> | <b>1.25</b> | <b>0.78</b> | <b>19.63</b> |

## Engineering Manpower

| Mechanical Engineering |      | PM Beamline | SVT  | SVTD AQ | ECAL | TD AQ | Slow Control | Software | I&C  | Total |
|------------------------|------|-------------|------|---------|------|-------|--------------|----------|------|-------|
| Marc Oriunno           | SLAC | 0.40        | 0.10 | 0.40    |      |       |              |          | 0.12 | 1.02  |
| Shawn Osier            | SLAC |             | 0.71 |         |      |       |              |          |      | 0.71  |
| Matt McCulloch         | SLAC | 0.02        | 0.60 |         |      |       |              |          |      | 0.62  |
| Bob Connolly           | SLAC |             | 0.15 |         |      |       |              |          |      | 0.15  |
| Reggie Rogers          | SLAC |             | 0.15 |         |      |       |              |          |      | 0.15  |
| MD                     | JLAB | 0.46        |      |         |      |       |              |          |      | 0.46  |
| ME                     | JLAB | 0.09        |      |         |      |       |              |          |      | 0.09  |
| ME Accelerator         | JLAB | 0.10        |      |         |      |       |              |          |      | 0.10  |

|                                                  |              |  |      |      |      |  |  |      |      |
|--------------------------------------------------|--------------|--|------|------|------|--|--|------|------|
| M T<br>Accel<br>erator<br>JLAB                   | JL<br>AB     |  | 0.70 |      |      |  |  |      | 0.70 |
| P .<br>Rosie<br>r                                | IP<br>NO     |  |      |      | 0.04 |  |  | 0.02 | 0.06 |
| E .<br>Rind<br>el                                | IP<br>NO     |  |      |      | 0.17 |  |  | 0.02 | 0.19 |
| F .<br>Prato<br>longo                            | IN<br>FN     |  |      |      | 0.13 |  |  |      | 0.13 |
| G .<br>Mini                                      | IN<br>FN     |  |      |      | 0.13 |  |  |      | 0.13 |
| M T<br>Hall-<br>B                                | JL<br>AB     |  |      |      | 0.06 |  |  |      | 0.06 |
|                                                  |              |  |      |      |      |  |  |      |      |
| <b>Elect<br/>rical<br/>Engi<br/>neeri<br/>ng</b> |              |  |      |      |      |  |  |      |      |
| Ryan<br>Herb<br>st                               | S<br>L<br>AC |  |      | 0.56 |      |  |  | 0.13 | 0.69 |
| Ben<br>Reese                                     | S<br>L<br>AC |  |      | 0.85 |      |  |  |      | 0.85 |
| Dave<br>Nels<br>on                               | S<br>L<br>AC |  |      | 0.15 |      |  |  |      | 0.15 |
| E T<br>SLAC                                      | S<br>L<br>AC |  | 0.30 |      |      |  |  |      | 0.30 |
| Ben<br>Rayd<br>o<br>(EE)                         | JL<br>AB     |  |      |      | 0.50 |  |  |      | 0.50 |
| E E<br>Hall-<br>B<br>JLAB                        | JL<br>AB     |  | 0.16 |      |      |  |  | 0.04 | 0.20 |
| E T<br>Hall-<br>B<br>JLAB                        | JL<br>AB     |  | 0.28 |      |      |  |  | 0.04 | 0.32 |
| C S<br>JLAB                                      |              |  | 0.25 |      |      |  |  |      | 0.25 |

|                                                |          |             |             |             |             |             |             |             |             |             |
|------------------------------------------------|----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| E E<br>Accel<br>erator<br>JLAB                 | JL<br>AB |             |             |             |             |             |             | 0.23        |             | 0.23        |
| Emm<br>anuel<br>Rauly                          | IP<br>NO |             |             |             |             |             |             |             | 0.02        | 0.02        |
|                                                |          |             |             |             |             | 0.13        |             |             |             | 0.13        |
| <b>Total<br/>FTE<br/>b y<br/>Subs<br/>ytem</b> |          | <b>0.40</b> | <b>2.16</b> | <b>2.31</b> | <b>1.56</b> | <b>0.52</b> | <b>0.50</b> | <b>0.23</b> | <b>0.38</b> | <b>8.07</b> |