

Resource loaded schedule: UK

A. Grant, K. Long

MICE-UK work package managers:

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T. Bradshaw, S. Watson, R. Preece, K. Ronald,
[D. Colling, P. Kyberd]





Outline:

- Status as at last MPB
- Constraints and assumptions
- Milestones and decision points
- Integration of Step IV
- TIARA
- Integration of Step V/VI
- Conclusions

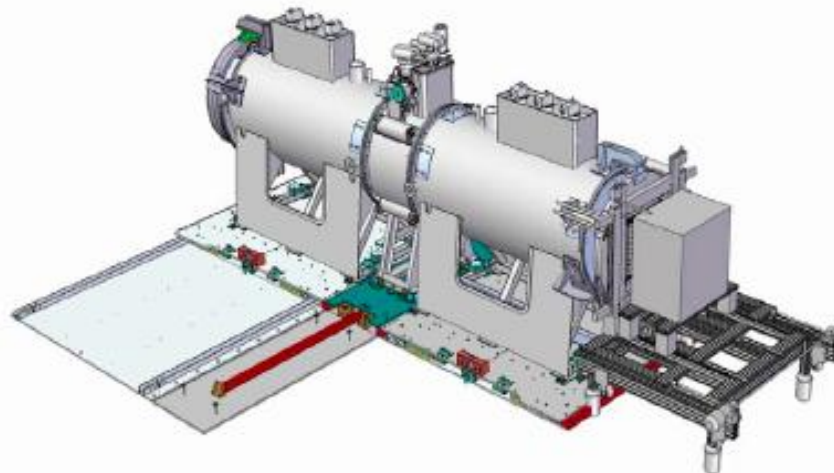
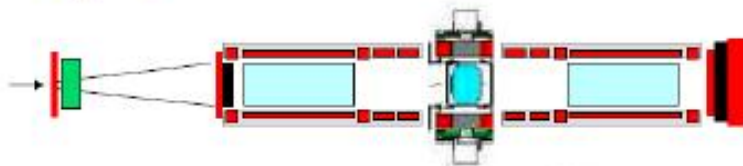


STATUS AT LAST MPB [08MAR12]

Highlights at Mar12:



STEP IV



A. Nichols, MPB 08 Mar 12

| Subsystem | Date |
|--------------------------------|------------|
| Spectrometer solenoid #1 + #2 | Sept'12 |
| Fibre tracker #1 + #2 | Ready |
| Focus coil #1 | Apr'12 |
| LH ₂ system A | June '12 |
| Solid absorber(s) | June '12 |
| Liquid absorber | Ready |
| Diffuser | Aug'12 |
| Virostek plate & TOF cage assy | April. '12 |
| Substation upgrade | Ready |
| EMR installation | May'12 |
| Radiation shutter | June '12 |
| AFC Moving platform #1 | Ready |
| SS platforms Installation | June '12 |

Step IV ready... Q1, 2013





Highlights at Mar12:

| A. Nichols, MPB 08 Mar 12 | |
|--------------------------------|------------|
| Subsystem | Date |
| Spectrometer solenoid #1 + #2 | Sept '12 |
| Fibre tracker #1 + #2 | Ready |
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| Substation upgrade | Ready |
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| Radiation shutter | June '12 |
| AFC Moving platform #1 | Ready |
| SS platforms Installation | June '12 |

- Liquid-hydrogen R&D-system test:
 - Expected Jun12
 - Completed Aug12
- Focus coil:
 - Anticipated Apr12;
 - Delivered Oct12;
- Diffuser:
 - Anticipated Aug12;
 - Ready (in Oxford)
- Virostek plate/TOF cage fit-up:
 - Expected Apr12
 - Complete
- Radiation shutter:
 - Expected Jun12
 - Testing underway
- Spectrometer solenoid platform installation:
 - Expected Jun12
 - Complete



CONSTRAINTS AND ASSUMPTIONS



Constraints

- Combined effect of:
 - Cost of university staff larger than original estimate
 - Revision to laboratory staff over-head charging; and
 - Close out of old encumbrances (going back as far as 2010) and revised FC stage-payment plan

resulted in a significant projected, in-year over-spend ('12)

- Require to “recover” this projected over-spend in year.
- Reacting to:
 - Delay in spectrometer-solenoid delivery schedule; and
 - Mitigation of stray magnetic field

has resulted in the development of a revised staff profile that will be presented to the UK Oversight Committee on the 5th November 2012

- The schedules presented below take these considerations into account

Assumptions

- Integration of Step IV and Step V/VI is resource driven:
 - Flat/flat funding at ~£3M/year
 - Integration of Step IV has priority;
 - I.e. resource management so as to introduce as little additional delay to the integration of Step IV as possible at the expense of preparations for Steps V and VI
 - NB: financial year 2013/14 now the “Step IV integration year”
 - » Implies delay to start of (most of) the preparations for Step V/VI
- Step IV integration:
 - Both spectrometer solenoids will be shipped together and full training and magnetic field mapping will be carried out “in series”
 - Discussion on field mapping options that may allow Step IV integration complete date to be advanced
 - Retraining of magnets will be required before running Step IV

Project Management & Project Office

- Host lab responsibility
- Have established an effective, combined, project-planning methodology *and the personnel to carry it out*
 - Still needs work:
 - What we have:
 - Coordinated, resource-loaded Gantt charts
 - Concept for the overall plan for operations (and resources identified in the UK and across the project);
 - What we have still to complete:
 - Commissioning plans need to be further developed once unknowns become resolved
 - Combined costing tool:
 - » Framework exists and initial data-entry done
 - First iteration almost complete
 - What must still be put on a proper financial footing:
 - Cost of, and cost-sharing for, operations support
- Risk/concern:
 - Budgetary pressure puts the excellent start and emerging good working relationship in the project planning at risk

Status of combined costing sheet

| Work package | | 2013/14 | | 2014/15 | | 2015/16 | | 2016/17 | | 2017/18 | | 2018/19 | | Total | |
|--|---------------------------------------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|----------|----------|
| Id | Name | Fraction | £k | Fraction | £k | Fraction | £k | Fraction | £k | Fraction | £k | Fraction | £k | Fraction | £k |
| Staff effort, summary by institute | | | | | | | | | | | | | | | |
| <i>MICE-UK</i> | | | | | | | | | | | | | | | |
| | Staff sub-totals | 40.50 | 2293.18 | 39.67 | 2294.22 | 40.39 | 2376.01 | 38.56 | 2484.52 | 36.34 | 2525.86 | 31.49 | 2309.80 | 226.95 | 14283.60 |
| <i>MICE-US</i> | | | | | | | | | | | | | | | |
| | Staff sub-totals | 25.65 | 1831.79 | 25.65 | 1895.91 | 24.15 | 1847.51 | 24.15 | 1912.17 | 24.15 | 1979.10 | 24.15 | 2048.37 | 147.90 | 11514.86 |
| | Staff totals | 66.15 | 4124.98 | 65.32 | 4190.13 | 64.54 | 4223.53 | 62.71 | 4396.70 | 60.49 | 4504.96 | 55.64 | 4358.17 | 374.85 | 25798.46 |
| Non-staff cost summary | | | | | | | | | | | | | | | |
| <i>MICE-UK</i> | | | | | | | | | | | | | | | |
| | Non-staff sub-totals | | 927.47 | | 841.38 | | 864.41 | | 554.31 | | 1118.83 | | 1217.42 | | 5523.82 |
| <i>MICE-US</i> | | | | | | | | | | | | | | | |
| | Non-staff sub-totals | | 535.69 | | 548.33 | | 561.29 | | 574.57 | | 588.18 | | 602.14 | | 3410.17 |
| | Non-staff totals | | 1463.15 | | 1389.71 | | 1425.70 | | 1128.88 | | 1707.01 | | 1819.56 | | 8934.00 |
| Total staff and non-staff by work package | | | | | | | | | | | | | | | |
| <i>MICE-UK</i> | | | | | | | | | | | | | | | |
| 1 | Project management and project office | | 703.38 | | 724.94 | | 728.60 | | 750.91 | | 773.95 | | 797.72 | | 4479.50 |
| 2 | Mechanical integration | | 286.05 | | 166.06 | | 179.72 | | 154.84 | | 33.28 | | 34.44 | | 854.40 |
| 3 | Electrical Integration | | 153.49 | | 23.50 | | 90.16 | | 99.76 | | 41.78 | | 43.24 | | 451.92 |
| 4 | Focus-coil module | | 168.44 | | 87.77 | | | | 40.39 | | 519.08 | | 585.41 | | 1401.00 |
| 5 | Hydrogn Delivery System | | 290.92 | | 143.81 | | 336.91 | | 97.86 | | 62.49 | | 58.95 | | 990.98 |
| 6 | RF power | | 258.68 | | 571.48 | | 422.58 | | 421.15 | | 704.82 | | 457.17 | | 2835.88 |
| 7 | Software and computing | | 378.39 | | 354.26 | | 370.68 | | 364.75 | | 377.17 | | 380.02 | | 2225.25 |
| 8 | Operations and analysis | | 981.29 | | 1063.79 | | 1111.79 | | 1109.18 | | 1132.13 | | 1170.28 | | 6568.42 |
| | Sub-totals | | 3220.65 | | 3135.60 | | 3240.43 | | 3038.84 | | 3644.69 | | 3527.22 | | 19807.42 |
| <i>MICE-US</i> | | | | | | | | | | | | | | | |
| 1 | Operations and experimental support | | | | | | | | | | | | | | |
| 2 | RF fabrication and testing | | | | | | | | | | | | | | |
| 3 | Magnet fabrication and testing | | | | | | | | | | | | | | |
| | Sub-totals | | | | | | | | | | | | | | |
| Grand totals | | | | | | | | | | | | | | | |

- **Mechanics:**
 - Sheet reads data in £, \$ (and in principle €, CHF etc.);
 - Internal calculations in £;
 - Summary sheets in £, \$ (and in principle €, CHF etc.);
 - Can be extended to operations
- **Status of data entry:**
 - UK costs updated at 12Oct12: still some leveling to do
 - US costs presenting included to test macros only!
 - I.e. do not read them as accurate estimates
- **NB:**
 - Schedules prepared by UK and US teams reflect anticipated flat/flat funding

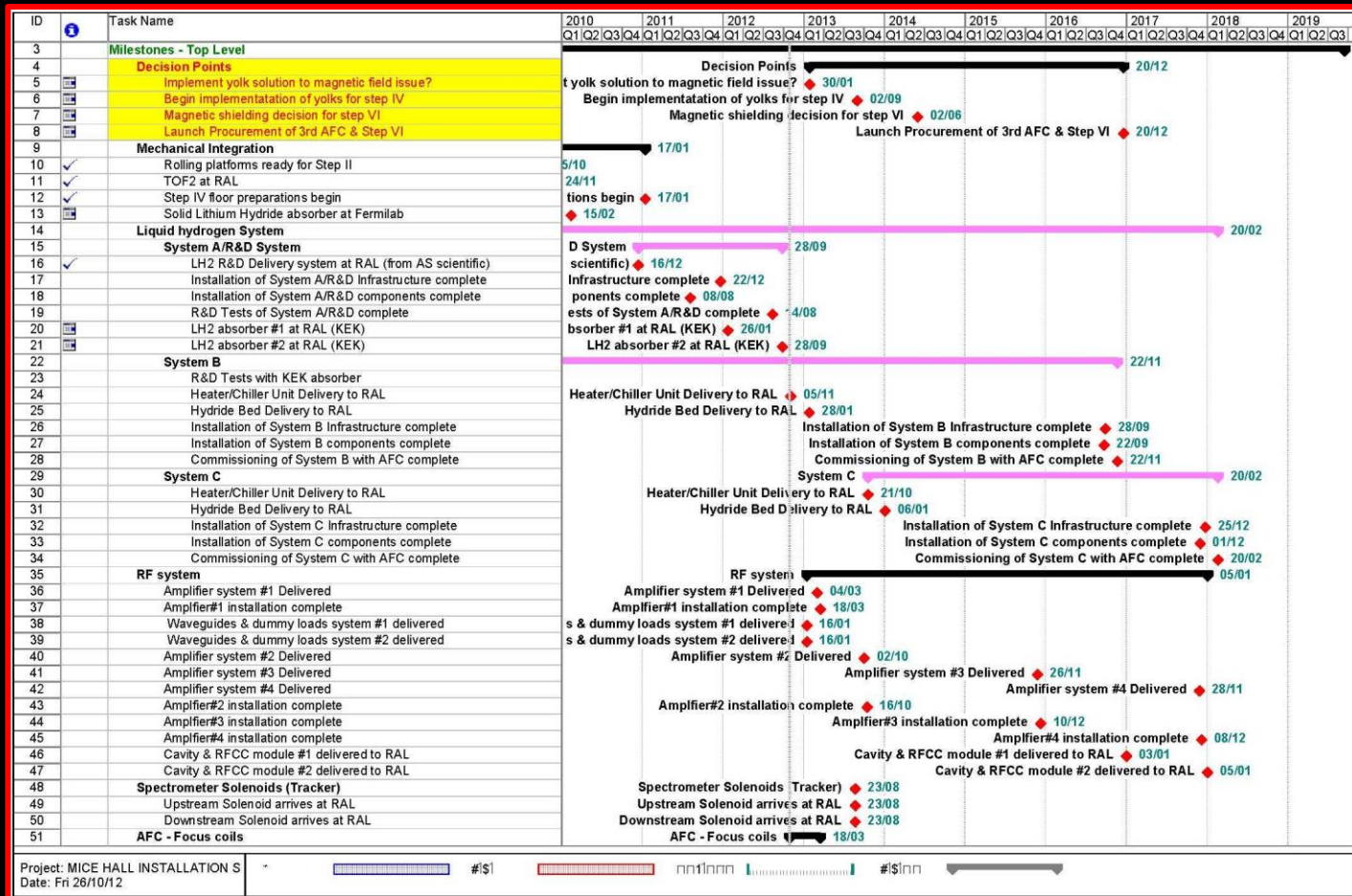
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MILESTONES AND DECISION POINTS

MICE Milestones [1]

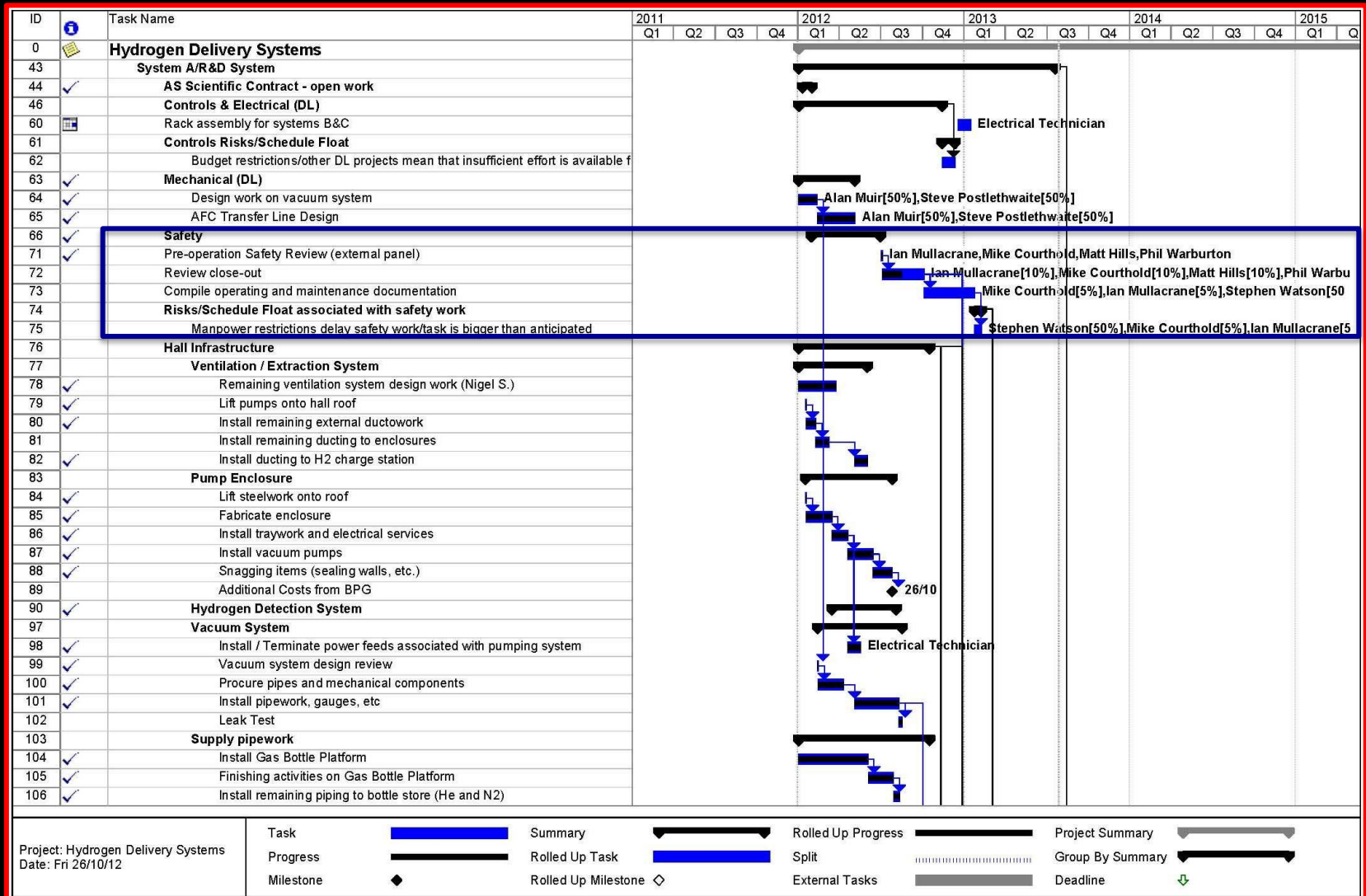


- If partial return yoke solution is chosen [Jan13], installation schedule will have to be revised;
 - Strong likelihood of end of Step IV integration going beyond the start of the 2014 ISIS shutdown

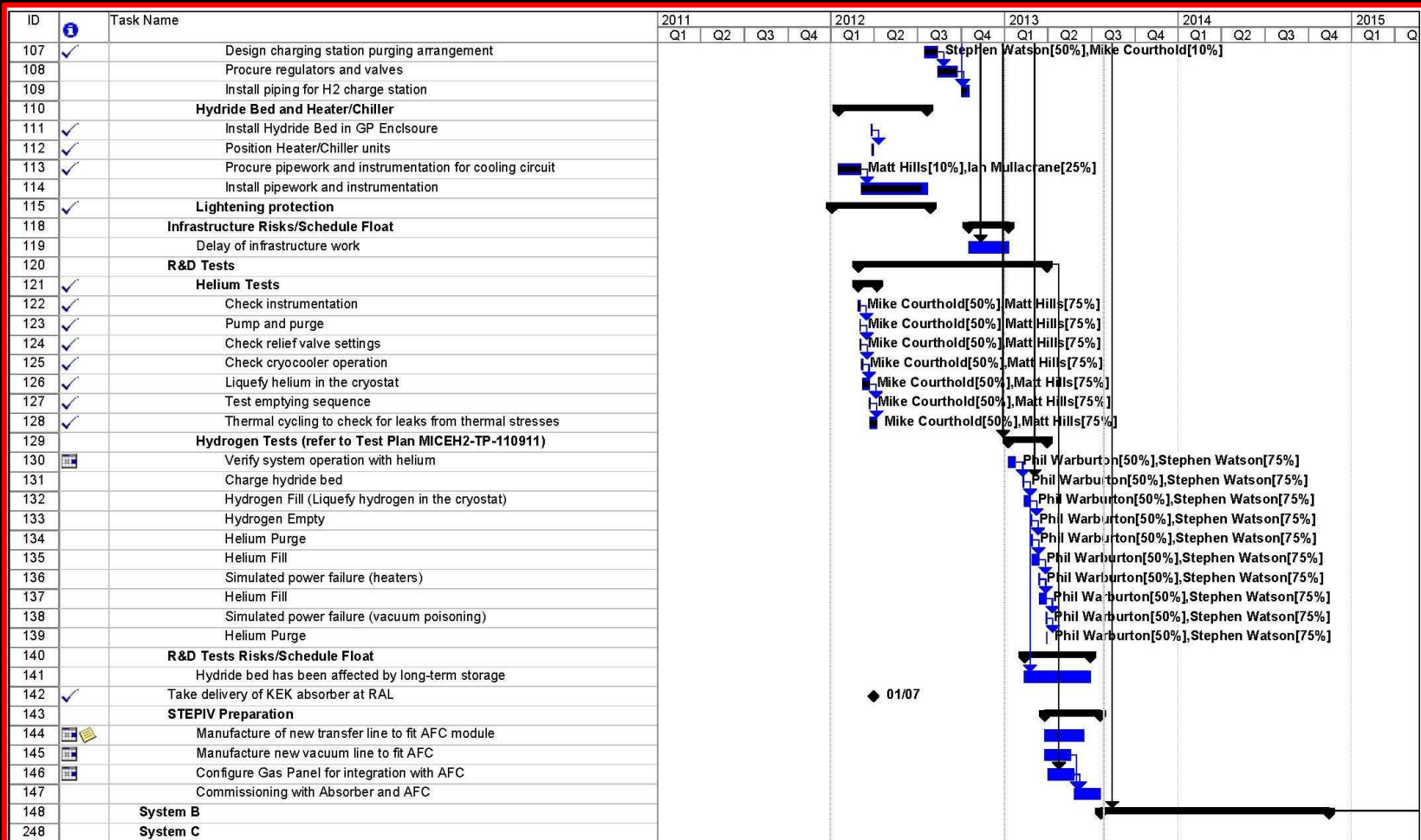


INTEGRATION OF STEP IV

Liquid-hydrogen delivery System #1




Liquid-hydrogen delivery System #1, #2 and #3



Project: Hydrogen Delivery Systems
Date: Fri 26/10/12

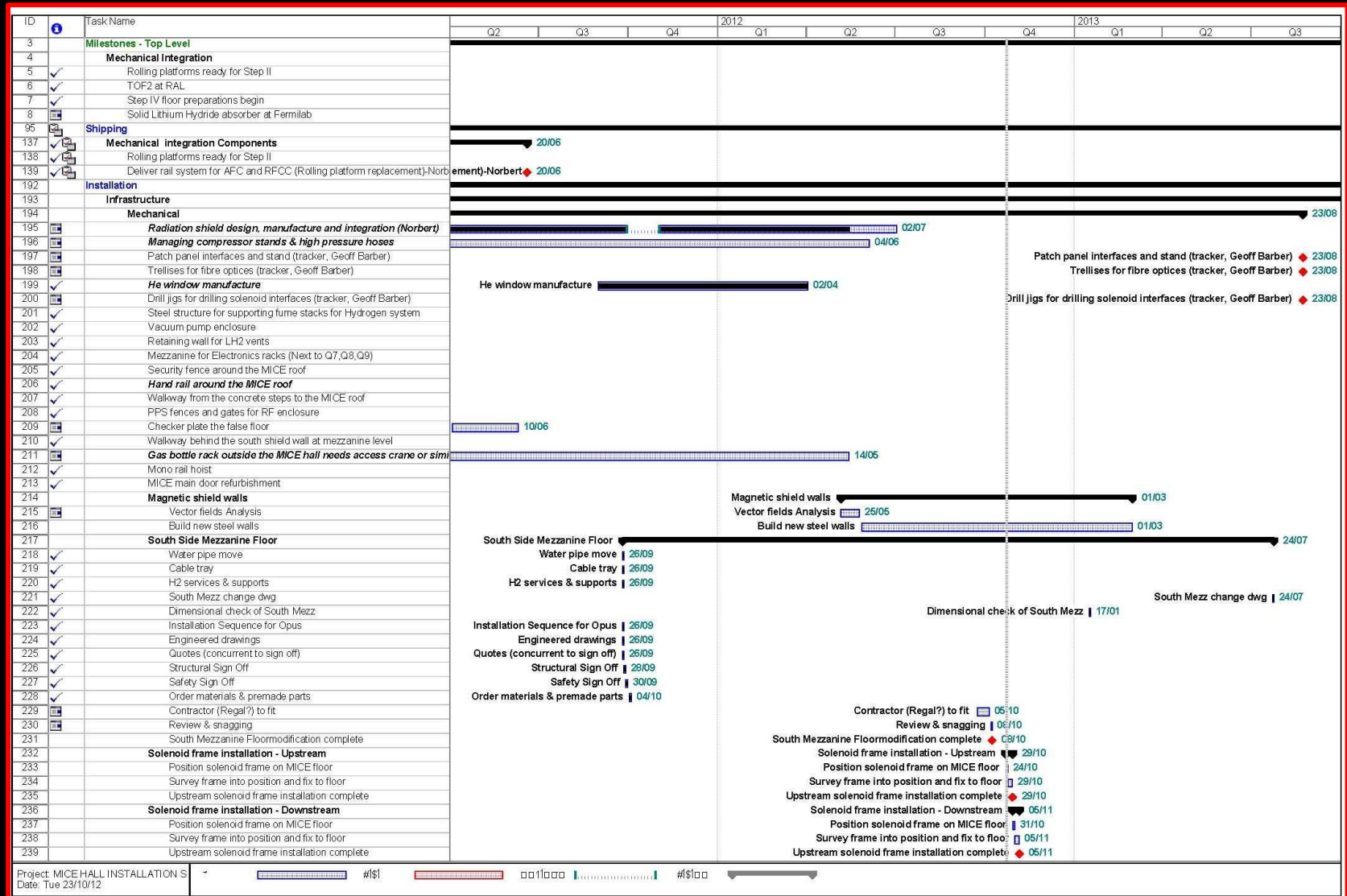
| | | | | | | | |
|-----------|--|---------------------|--|--------------------|--|------------------|--|
| Task | | Summary | | Rolled Up Progress | | Project Summary | |
| Progress | | Rolled Up Task | | Split | | Group By Summary | |
| Milestone | | Rolled Up Milestone | | External Tasks | | Deadline | |



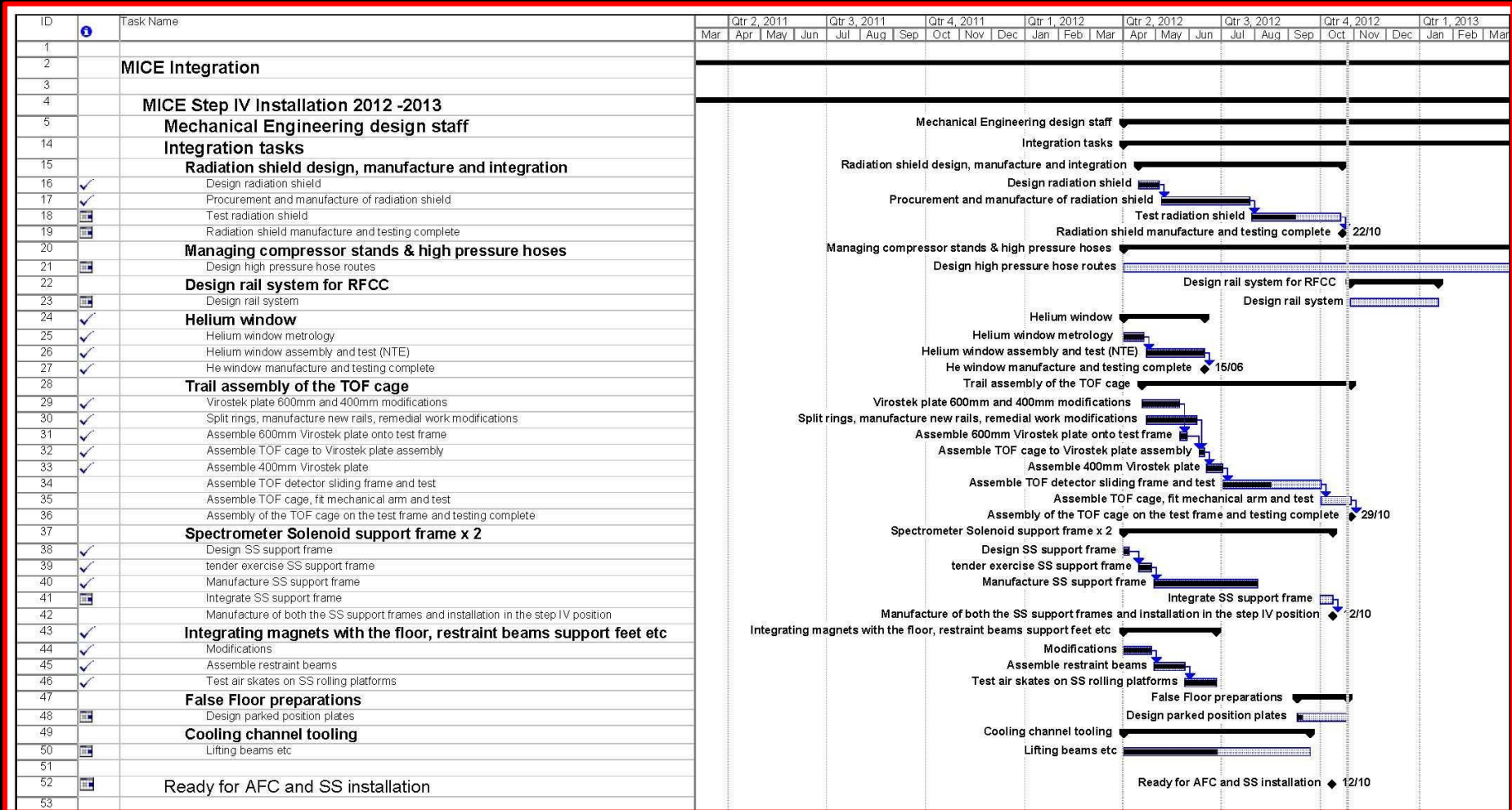
Liquid-hydrogen delivery System #1 – comments

- Seek to stick to schedule outlined above
- Risk:
 - Result of HAZOP is to increase work required
 - Further re-profiling of staff effort required to control in-year spend
 - System #1 not now required until ~Q1 2014
 - While the imperative “not to let everything slip” is recognised, the competing imperative to control spend may force a revision to the implementation of the production system in the MICE Hall

Step IV – Mechanical Infrastructure

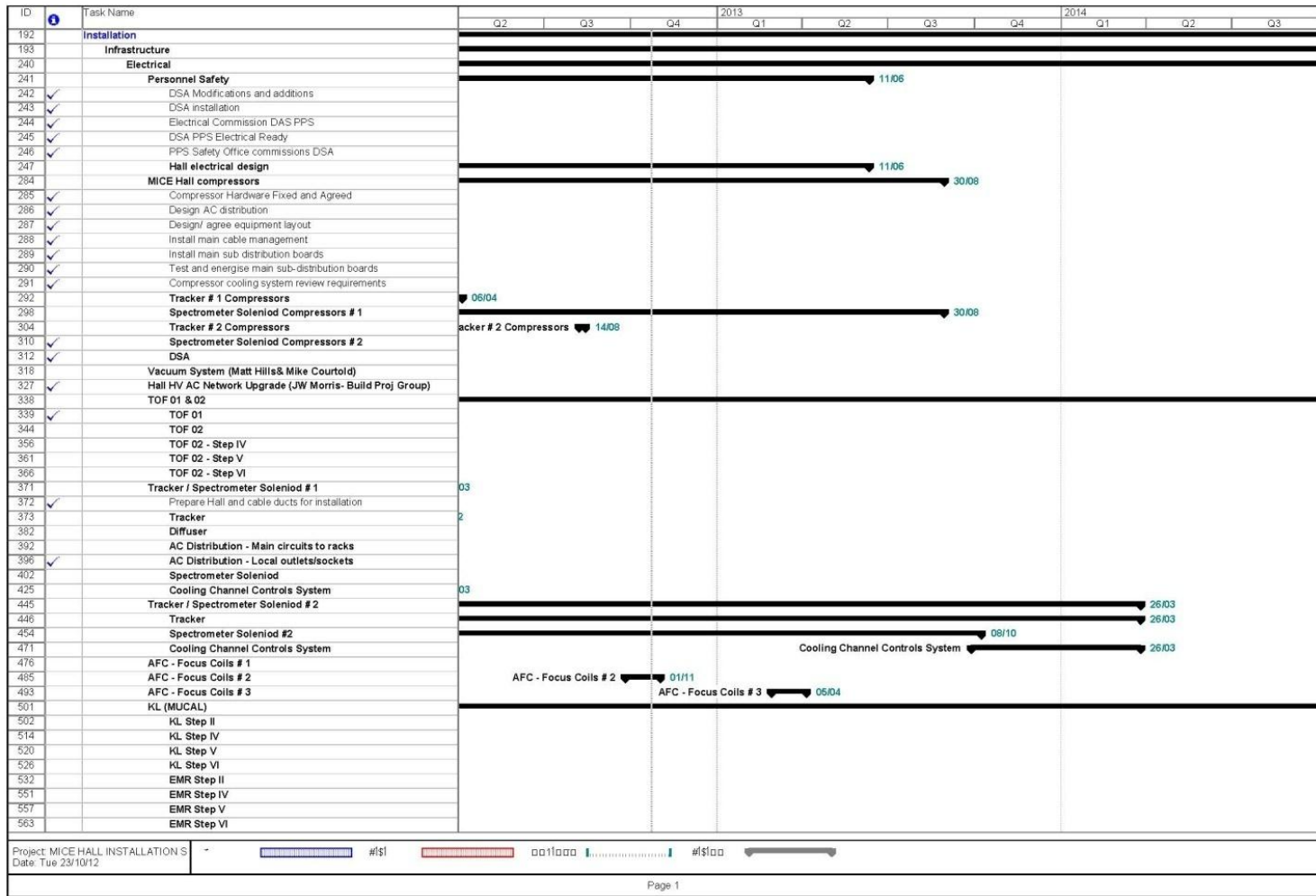


Mechanical integration

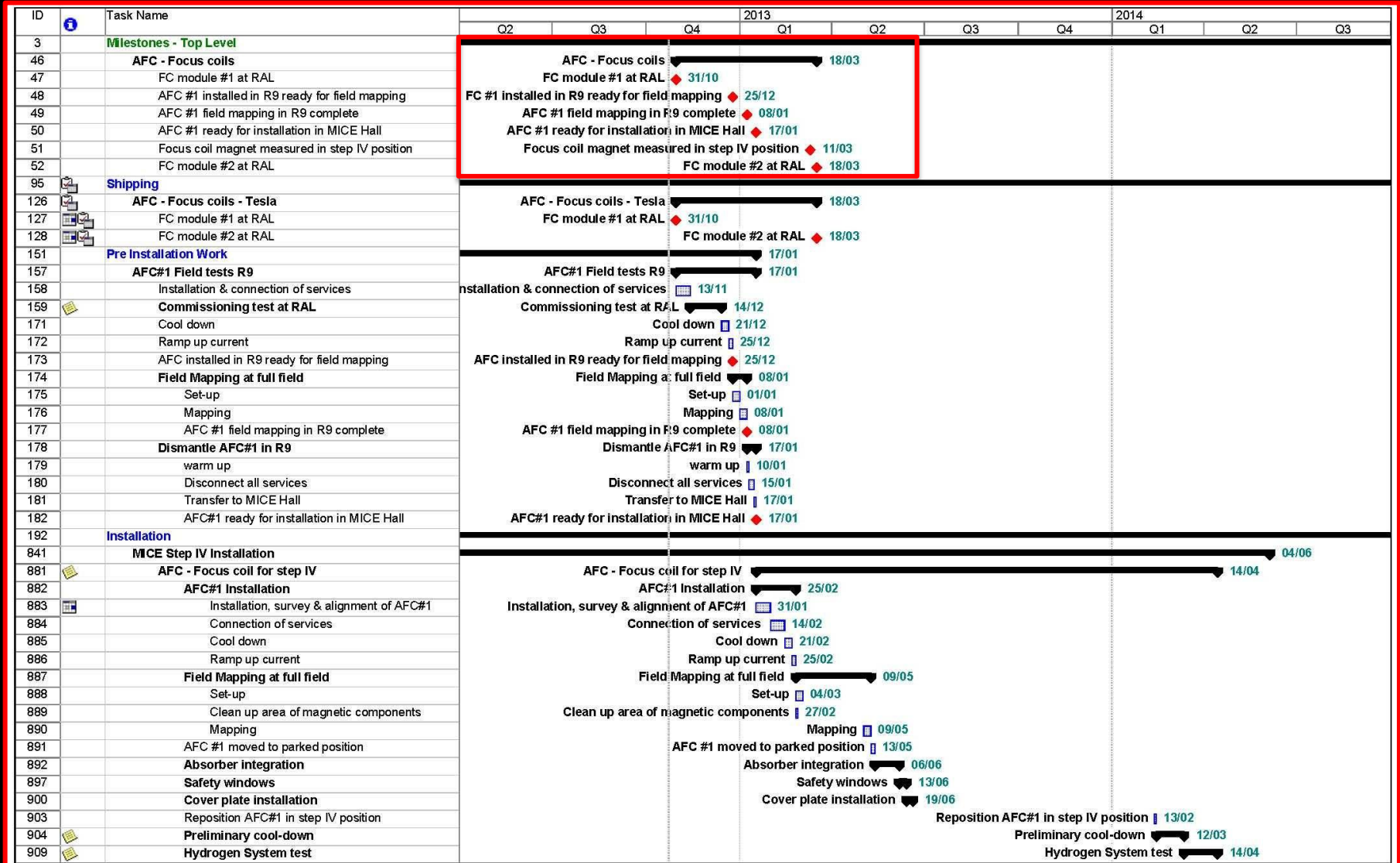


- Pace work to match delivery of major items

Step IV – Electrical Infrastructure



Step IV – Focus Coil



Step IV - Tracker

| ID | Task Name | 2013 | | | | 2014 | | |
|-----|--|------|----|----|----|------|----|-------|
| | | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| 192 | Installation | | | | | | | |
| 841 | MICE Step IV Installation | | | | | | | 04/06 |
| 928 | Tracker Installation - Upstream | | | | | | | 31/01 |
| 929 | Clear area for tracker installation | | | | | | | 26/11 |
| 930 | Move Spectrometer Solenoid into parked position | | | | | | | 27/11 |
| 931 | Fit and seal patch panel to the solenoid front plate | | | | | | | 28/11 |
| 932 | Survey the bore of the solenoid using the tracker alignment tools | | | | | | | 02/12 |
| 933 | Fit the far hall probes collar into the bore | | | | | | | 03/12 |
| 934 | Fit the helium window | | | | | | | 04/12 |
| 935 | Connect the tracker volume helium supply | | | | | | | 05/12 |
| 936 | Erect blackout tent | | | | | | | 06/12 |
| 937 | Fit yellow lighting inside the tent | | | | | | | 09/12 |
| 938 | install the tracker installation platform inside the tent | | | | | | | 10/12 |
| 939 | Install the tracker replacing any faulty internal waveguides | | | | | | | 17/12 |
| 940 | Fit and seal the patch panel cover plus crown for diffuser | | | | | | | 18/12 |
| 941 | Remove the blackout tent | | | | | | | 19/12 |
| 942 | Position and fit the VLPC and Cryo-coolers onto the rolling platform | | | | | | | 26/12 |
| 943 | Position and fit the services required fir the Cryo-coolers | | | | | | | 02/01 |
| 944 | Erect the trellis to support the external waveguides | | | | | | | 07/01 |
| 945 | Fit the external waveguides | | | | | | | 09/01 |
| 946 | Set up micetkpc1 (server PC for AFEIIts & cryo system) | | | | | | | 13/01 |
| 947 | AFEIIt trigger distribution | | | | | | | 16/01 |
| 948 | Prepare 3 phase & chilled water for compressors (cold head) | | | | | | | 17/01 |
| 949 | Install compressors | | | | | | | 21/01 |
| 950 | Install cryo insulating vacuum pump sets | | | | | | | 22/01 |
| 951 | Move and position tracker rack | | | | | | | 23/01 |
| 952 | Connect network, electrical & He services for tracker rack | | | | | | | 27/01 |
| 953 | Integration & testing of tracker safety interlocks | | | | | | | 31/01 |
| 963 | Tracker Installation - Downstream | | | | | | | 18/04 |
| 964 | Clear area for tracker installation | | | | | | | 12/02 |
| 965 | Fit and seal patch panel to the solenoid front plate | | | | | | | 13/02 |
| 966 | Survey the bore of the solenoid using the tracker alignment tools | | | | | | | 17/02 |
| 967 | Fit the far hall probes on their collar | | | | | | | 18/02 |
| 968 | Fit the helium window | | | | | | | 19/02 |
| 969 | Connect the tracker volume helium supply | | | | | | | 20/02 |
| 970 | Erect blackout tent | | | | | | | 21/02 |
| 971 | Fit yellow lighting inside the tent | | | | | | | 24/02 |
| 972 | install the tracker installation platform inside the tent | | | | | | | 25/02 |
| 973 | Install the tracker replacing any faulty waveguides | | | | | | | 04/03 |
| 974 | Fit and seal the patch panel cover plus bulkhead connector covers | | | | | | | 05/03 |
| 975 | Remove the blackout tent | | | | | | | 06/03 |
| 976 | Position and fit the VLPC and Cryo-coolers onto the rolling platform | | | | | | | 13/03 |
| 977 | Position and fit the services required fir the Cryo-coolers | | | | | | | 20/03 |
| 978 | Erect the trellis to support the external waveguides | | | | | | | 25/03 |
| 979 | Fit the external waveguides | | | | | | | 27/03 |
| 980 | Set up micetkpc1 (server PC for AFEIIts & cryo system) | | | | | | | 31/03 |
| 981 | AFEIIt trigger distribution | | | | | | | 03/04 |
| 982 | Prepare 3 phase & chilled water for compressors (cold head) | | | | | | | 04/04 |
| 983 | Install compressors | | | | | | | 08/04 |
| 984 | Install cryo insulating vacuum pump sets | | | | | | | 09/04 |
| 985 | Move and position tracker rack | | | | | | | 10/04 |
| 986 | Connect network, electrical & He services for tracker rack | | | | | | | 14/04 |
| 987 | Integration & testing of tracker safety interlocks | | | | | | | 18/04 |



TIARA



TIARA comments:

- Milestone of implementation of one amplifier in the MICE Hall by Sep13 is a contractual obligation with the EC;
 - Also, good for the project
- Risk:
 - Not required until Step V
 - Further re-profiling during testing/commissioning now, installation and/or testing/commissioning in the MICE Hall may put this milestone at risk



INTEGRATION OF STEP V/VI

Step VI – Mechanical Infrastructure

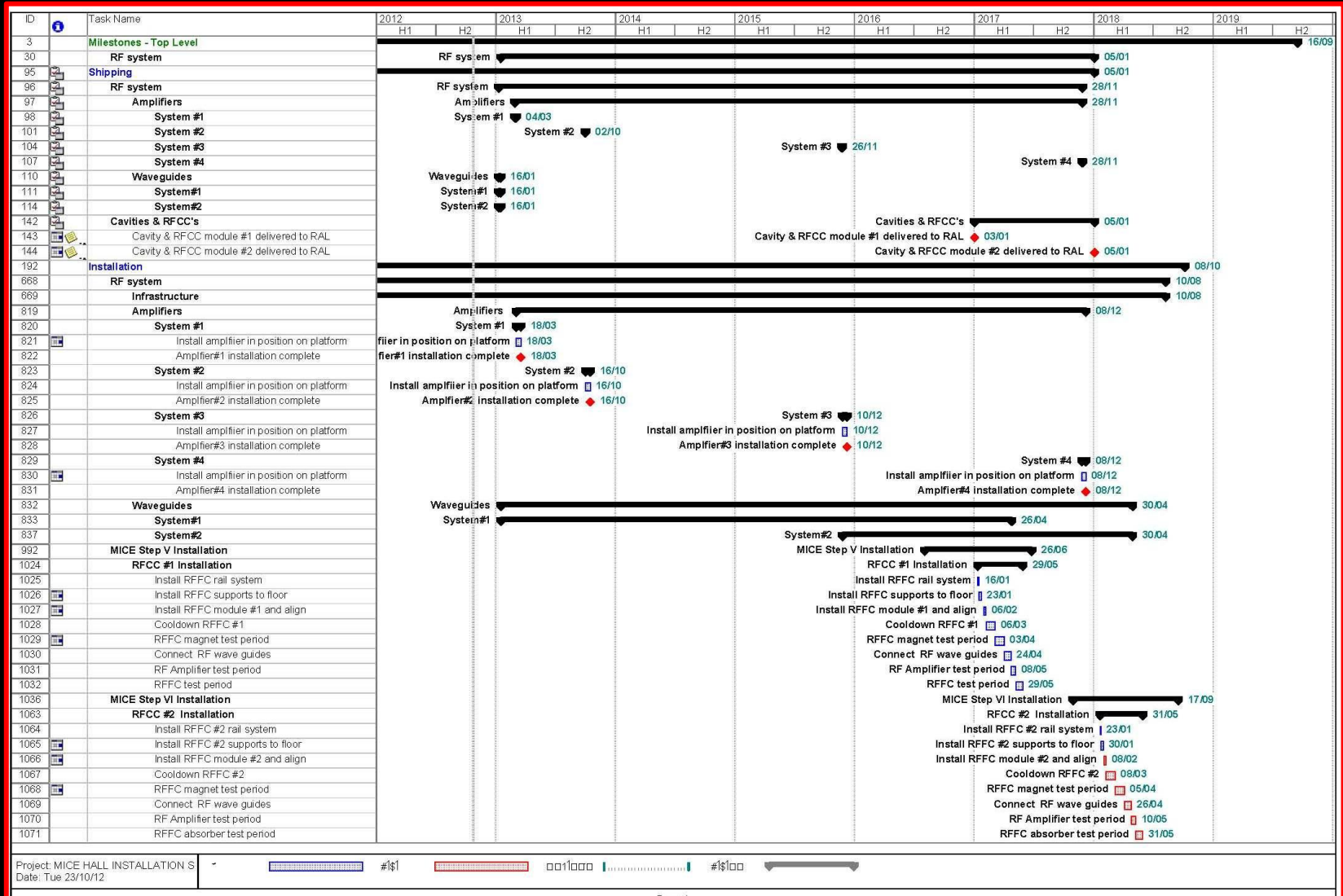
| ID | Task Name | 2013 | | | 2014 | | | 2015 | | | 2016 | | | 2017 | | | 2018 | | | 2019 | | |
|------|--|------|----|----|------|----|----|------|----|----|------|----|----|------|----|----|------|----|----|------|----|----|
| | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 |
| 192 | Installation | | | | | | | | | | | | | | | | | | | | | |
| 1036 | MICE Step VI Installation | | | | | | | | | | | | | | | | | | | | | |
| 1037 | Remove TOF1 & KL & EMR | | | | | | | | | | | | | | | | | | | | | |
| 1038 | Move spectrometer #1 to parked position | | | | | | | | | | | | | | | | | | | | | |
| 1039 | Move AFC#1to parked position | | | | | | | | | | | | | | | | | | | | | |
| 1040 | Move RFCC #1 to parked position | | | | | | | | | | | | | | | | | | | | | |
| 1041 | Move AFC#2 to parked position | | | | | | | | | | | | | | | | | | | | | |
| 1042 | Remove spectrometer #2 | | | | | | | | | | | | | | | | | | | | | |
| 1043 | Base plate installation | | | | | | | | | | | | | | | | | | | | | |
| 1044 | Procure Aluminium plates for the false floor intermediate surface | | | | | | | | | | | | | | | | | | | | | |
| 1045 | Remove step V false floor plates under spectrometer #2 | | | | | | | | | | | | | | | | | | | | | |
| 1046 | Fit intermediate surface (tiled aluminium plates) for the false floor step VI position | | | | | | | | | | | | | | | | | | | | | |
| 1047 | Trial RFCC #1 base plate Installation including survey and marking out | | | | | | | | | | | | | | | | | | | | | |
| 1048 | Drill and tap threaded holes in the false floor intermediate surface | | | | | | | | | | | | | | | | | | | | | |
| 1049 | Create level surface with washers at bolt locations (survey level) | | | | | | | | | | | | | | | | | | | | | |
| 1050 | Re-Install base plate | | | | | | | | | | | | | | | | | | | | | |
| 1051 | Install through bolts and survey, level and tighten the complete arrangement | | | | | | | | | | | | | | | | | | | | | |
| 1052 | Trial AFC #2 base plate installation including survey and marking out | | | | | | | | | | | | | | | | | | | | | |
| 1053 | Drill and tap threaded holes in the false floor intermediate surface | | | | | | | | | | | | | | | | | | | | | |
| 1054 | Create level surface with washers at bolt locations (survey level) | | | | | | | | | | | | | | | | | | | | | |
| 1055 | Re-Install base plate | | | | | | | | | | | | | | | | | | | | | |
| 1056 | Install through bolts and survey, level and tighten the complete arrangement | | | | | | | | | | | | | | | | | | | | | |
| 1057 | Trial spectrometer #2 base plate Installation including survey and marking out | | | | | | | | | | | | | | | | | | | | | |
| 1058 | Drill and tap threaded holes in the false floor intermediate surface | | | | | | | | | | | | | | | | | | | | | |
| 1059 | Create level surface with washers at bolt locations (survey level) | | | | | | | | | | | | | | | | | | | | | |
| 1060 | Re-Install base plate | | | | | | | | | | | | | | | | | | | | | |
| 1061 | Grout in base plate | | | | | | | | | | | | | | | | | | | | | |
| 1062 | Install through bolts and survey, level and tighten the complete arrangement | | | | | | | | | | | | | | | | | | | | | |
| 1063 | RFCC #2 Installation | | | | | | | | | | | | | | | | | | | | | |
| 1064 | Install RFCC #2 rail system | | | | | | | | | | | | | | | | | | | | | |
| 1065 | Install RFCC #2 supports to floor | | | | | | | | | | | | | | | | | | | | | |
| 1066 | Install RFCC module #2 and align | | | | | | | | | | | | | | | | | | | | | |
| 1067 | Cooldown RFCC #2 | | | | | | | | | | | | | | | | | | | | | |
| 1068 | RFCC magnet test period | | | | | | | | | | | | | | | | | | | | | |
| 1069 | Connect RF wave guides | | | | | | | | | | | | | | | | | | | | | |
| 1070 | RF Amplifier test period | | | | | | | | | | | | | | | | | | | | | |
| 1071 | RFCC absorber test period | | | | | | | | | | | | | | | | | | | | | |
| 1072 | AFC #3 Installation | | | | | | | | | | | | | | | | | | | | | |
| 1079 | Spectrometer Solenoid #2 Installation | | | | | | | | | | | | | | | | | | | | | |
| 1080 | Re-install TOF2, KL & EMR | | | | | | | | | | | | | | | | | | | | | |
| 1081 | MICE step VI installation complete | | | | | | | | | | | | | | | | | | | | | |

Step VI

Step V & VI – Electrical Infrastructure

| ID | Task Name | 2011 | | | 2012 | | | 2013 | | | 2014 | | | 2015 | | | 2016 | | | 2017 | | | 2018 | | | 2019 | | |
|-----|--|--|----|----|------|----|----|------|----|----|------|----|----|------|----|----|------|----|----|------|----|----|------|----|----|------|----|----|
| | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 |
| 192 | Installation | ▶ 08/10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 193 | Infrastructure | ▶ 08/10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 668 | RF system | ▶ 10/08 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 669 | Infrastructure | ▶ 10/08 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 670 | RF Hall Electrical Infrastructure | ▶ 10/08 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 671 | RF Controls Rack #1 | RF Controls Rack #1 ▼ 23/04 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 672 | Install rack in MICE Hall | Install rack in MICE Hall 09/04 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 673 | Install interface cable management / cable | face cable management / cable 16/04 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 674 | Commission system in MICE Hall | mmission system in MICE Hall 23/04 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 675 | RF Controls Rack #2 | RF Controls Rack #2 ▼ 01/03 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 676 | Install rack in MICE Hall | Install rack in MICE Hall 16/02 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 677 | Install interface cable management / cable | Install interface cable management / cable 23/02 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 678 | Commission system in MICE Hall | Commission system in MICE Hall 01/03 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 679 | RF System #1 - Installation | ▶ 12/08 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 680 | 4616 Amplifier system #1 | ▶ 12/06 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 696 | TH116 Amplifier system #1 | TH116 Amplifier system #1 ▼ 12/08 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 708 | RF System #2 - Installation | RF System #2 - Installation ▶ 30/10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 709 | 4616 Amplifier system #2 | 4616 Amplifier system #2 ▼ 09/08 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 725 | TH116 Amplifier system #2 | TH116 Amplifier system #2 ▼ 30/10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 740 | RF Waveguide -Systems #1&2 | RF Waveguide -Systems #1&2 ▼ 19/11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 741 | Review waveguide controls interface | Review waveguide controls interface 12/11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 742 | RF Waveguide Installation complete | RF Waveguide Installation complete ◆ 12/11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 743 | Install Waveguide controls wiring | Install Waveguide controls wiring 19/11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 744 | RF System #3 - Installation | RF System #3 - Installation ▶ 16/06 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 745 | 4616 Amplifier system #3 | 4616 Amplifier system #3 ▼ 28/03 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 761 | TH116 Amplifier system #3 | TH116 Amplifier system #3 ▼ 16/06 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 776 | RF System #4 - Installation | RF System #4 - Installation ▶ 10/08 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 777 | 4616 Amplifier system #4 | 4616 Amplifier system #4 ▼ 14/02 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 793 | TH116 Amplifier system #4 | TH116 Amplifier system #4 ▶ 07/05 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 808 | RF Waveguide -Systems #3&4 | RF Waveguide -Systems #3&4 ▼ 25/05 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 809 | Review waveguide controls interface | Review waveguide controls interface 18/05 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 810 | RF Waveguide Installation complete | RF Waveguide Installation complete ◆ 18/05 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 811 | Install Waveguide controls wiring | Install Waveguide controls wiring 25/05 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 812 | RF Cavity Commissioning | RF Cavity Commissioning ▶ 10/08 | | | | | | | | | | | | | | | | | | | | | | | | | | |

Step V & VI – RF Installation





CONCLUSIONS



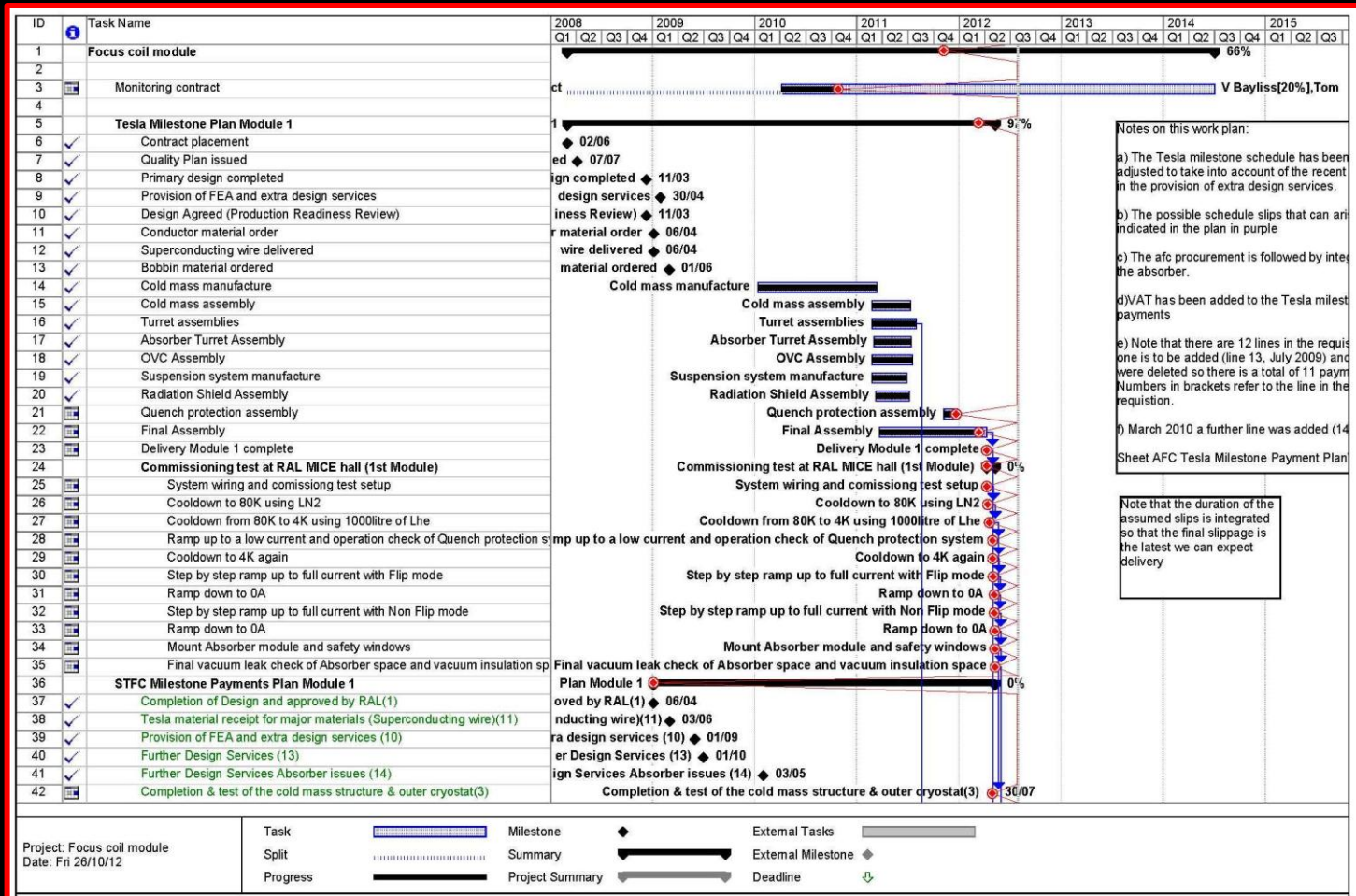
Conclusions

- Implementation of Step IV and Steps V & VI is constrained by the available resource
 - But presently seems to be matched to the delivery schedule for the major components
- Schedule to Step IV:
 - Tight!
 - Risk that no commissioning in the Step IV configuration will be possible before the 2014 ISIS shutdown
- Immediate concern:
 - Budget constraints will damage the burgeoning coordinated planning/resource management effort
 - Essentially the host-lab PM&PO resources

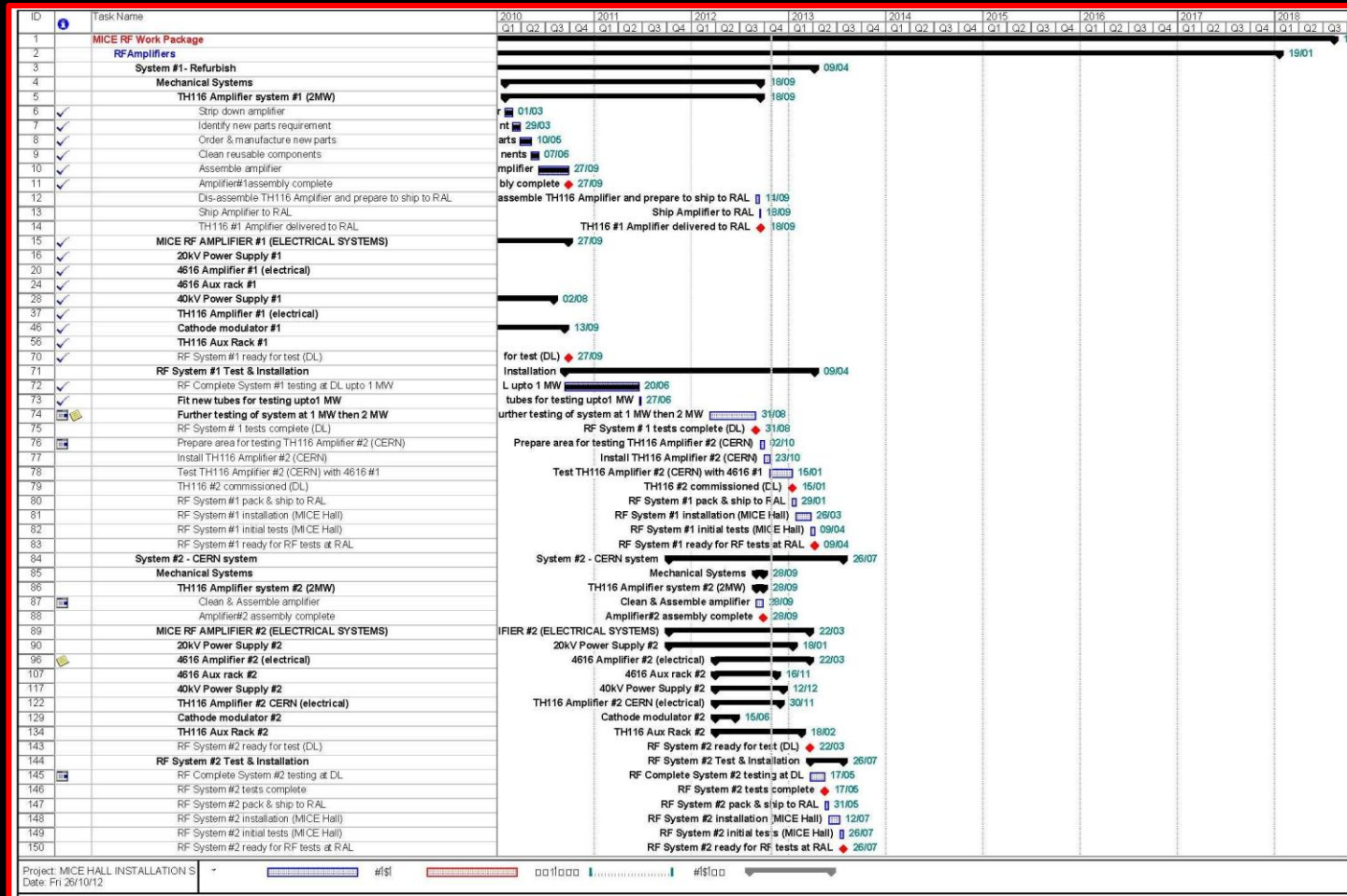


BACKUP

Focus Coil WP (#1)



RF WP [1]



RF WP [2]

