

Status of Interconnect Works in the LHC Arcs and DS regions – week 39 (September 24 – September 30, 2007)

O. Denis, AT-MCS (on behalf of the arc coordination team)

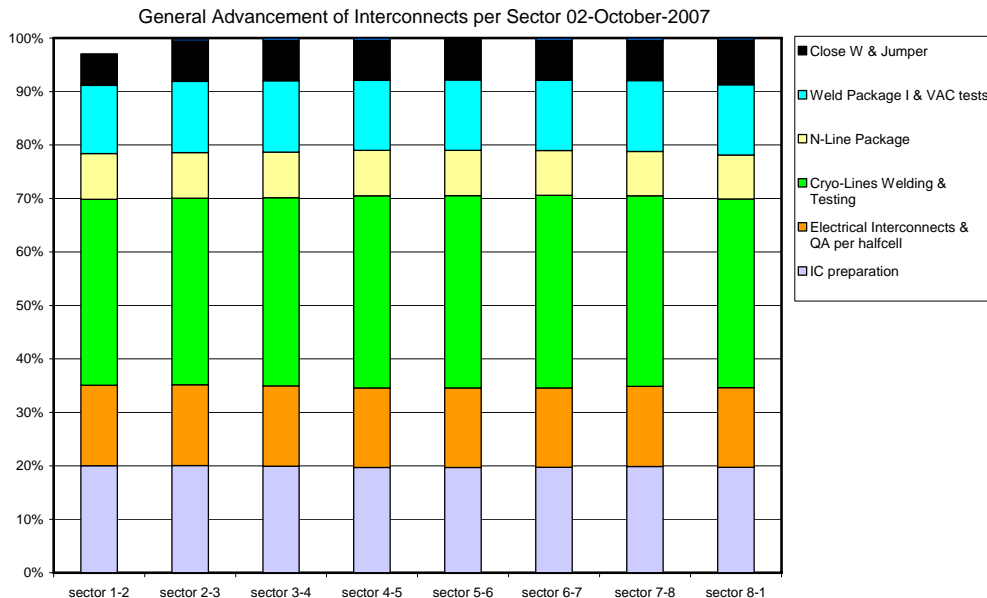
EDMS no. 871931

This report gives the status of the interconnect works in the LHC arcs and dispersion suppressor regions carried out during week 39 (September 24 – September 30, 2007) in responsibility of the interconnection arc coordination team, starting with a general overview about the advancement per sector.

For the status of the VAC test, production rates, work progress, and number of operations foreseen and performed, data are reported for each sector separately.

The Dashboard

- Number of magnets in the tunnel: 1232 MB, 474 SSS, 114 LSS.



Data for General Advancement Plot is counted by number of interventions and grouped by activities as follows:

- IC preparation: Magnet alignment, IC pre-inspection, IC released for work,
- Electrical Interconnects & QA per halfcell: PAQ, US weld of spool pieces, brazing of main busbars,
- Cryo-Lines Welding & Testing: Welding of main busbar lines M1, M2, M3, weld K1 line, K2 line, K3 line, C' line, X line. Vacuum tests of K lines, C' line, X line.
- N-Line package: Insert N line, AIV 1, AIV 2, US welding of N line, weld of large sleeve for N line.
- Beam Pipes Welding & VAC tests. VAC sector test: Welding of V1, V2, E line and VAC tests V1, V2, E line. RF test magnet chain.
- Close W bellow and Jumper.
- VAC test for sector.

Sector coordination team:

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<i>Sectors</i>	<i>Started</i>
3-4 4-5 5-6 6-7 7-8 8-1	finished
1-2 2-3	Yes

Remarks:

1. The color coding of the general advancement plot matches the color coding of the other plots (snapshot and production rates).
2. The plots of the production rates also show the average production rate (IC/week) foreseen for the sectors and the ultimate production rates for the ideal case.
3. From week 9 on, we added a plot showing the general advancement per sector. For easy comparison, the starting dates in all plots is set to 1-Oct-06, except for sector 4-5.
4. For sectors that are completed, we will suppress the plots and simple give the work status instead.

Sector 1-2

- Plug-in-modules installation stopped. Waiting for next delivery. Should restart in W40.
- W bellows closure stopped due to PIM delay. Should restart in W43-W44.

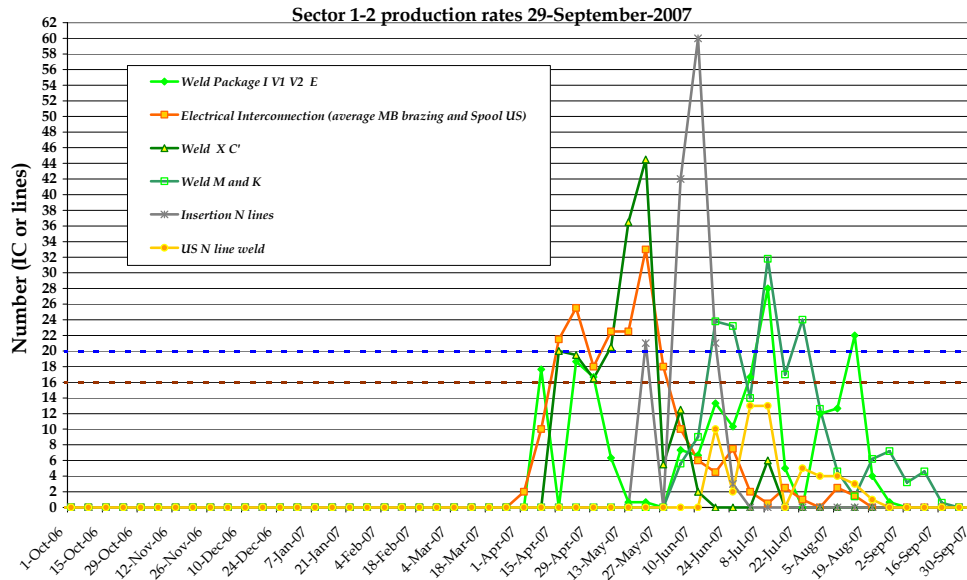


Fig. 1: Production rates in sector 1-2.

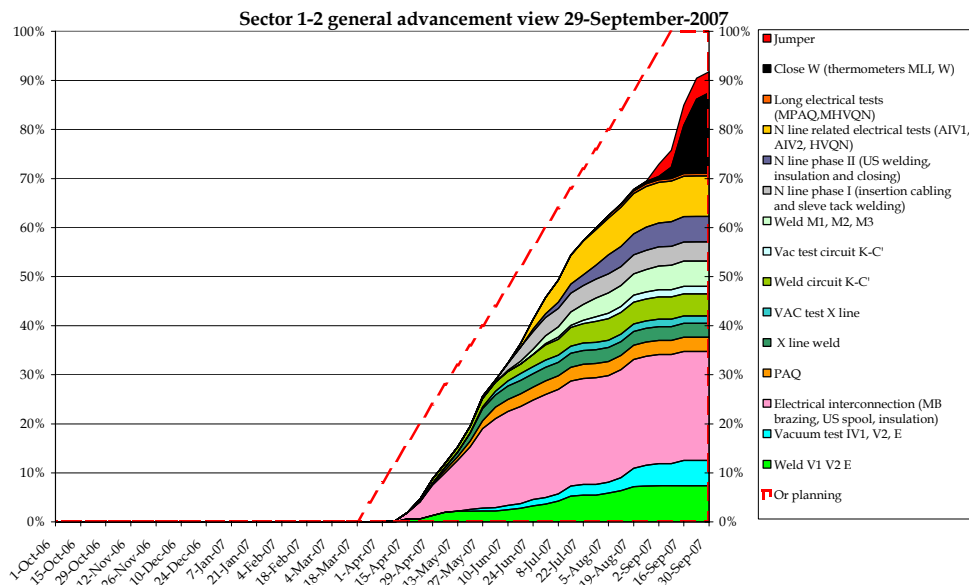


Fig. 2: General advancement view for sector 1-2.

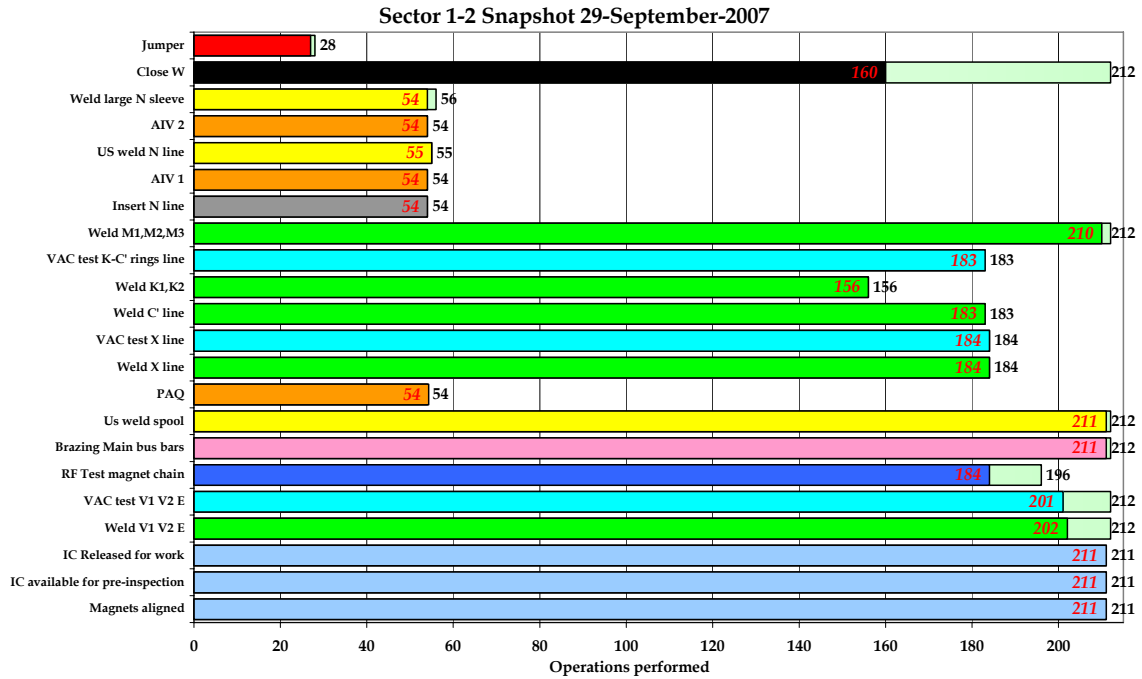


Fig. 3: Snapshot of work progress in sector 1-2 showing the number of operations achieved in total with respect to the total number of operations necessary.

Sector 2-3

- All vacuum sectors provided to VAC. The 2 extremity sectors have been closed without PIM on Q7/DFBA and DFBA/Q7. They will be reopened after leak test.
- Up to now, 7 Vacuum Sectors are leak tight, 2 VS being retested after leak repair, 2 VS leaky (leaks to be localized), 3 VS being tested.

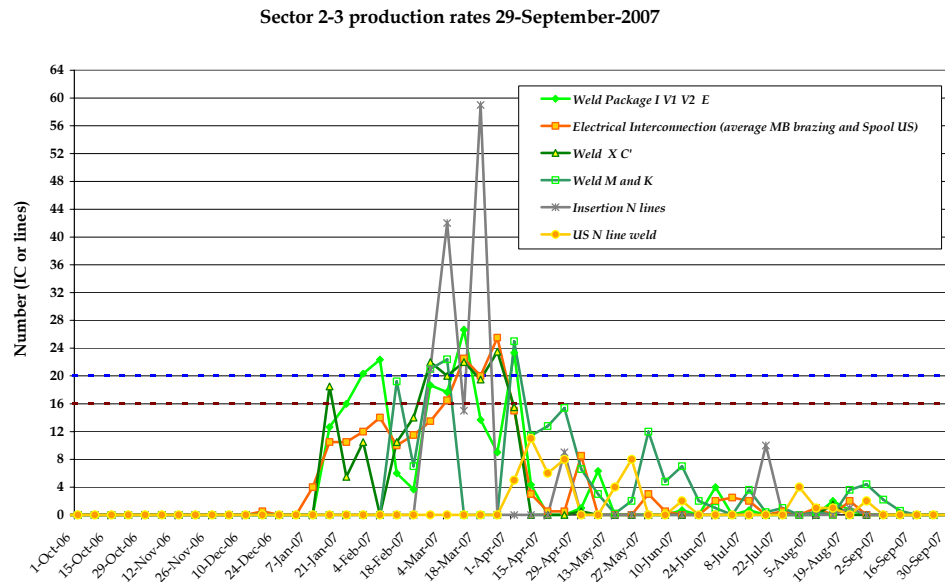


Fig. 4: Production rates in sector 2-3.

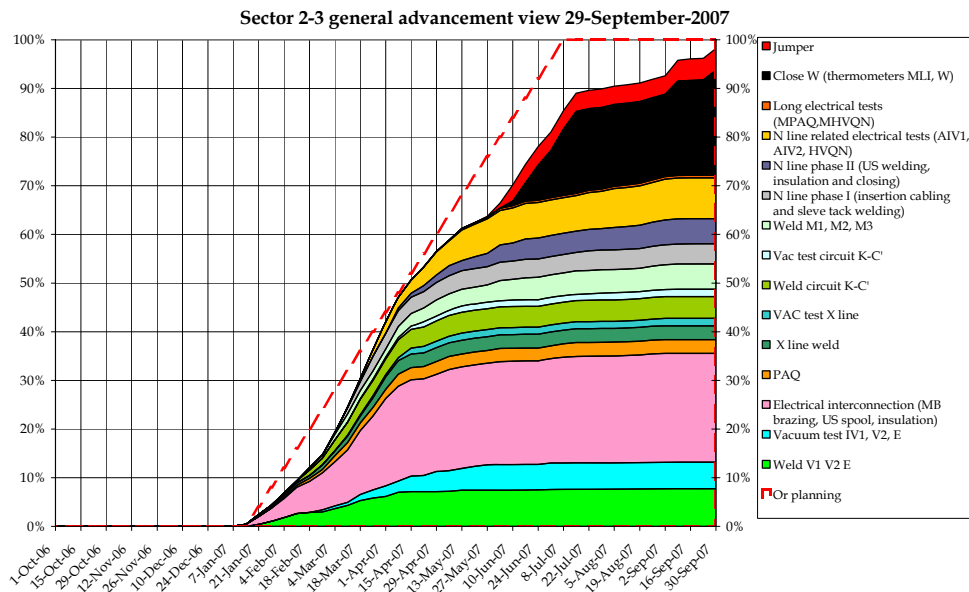


Fig. 5: General advancement view for sector 2-3.

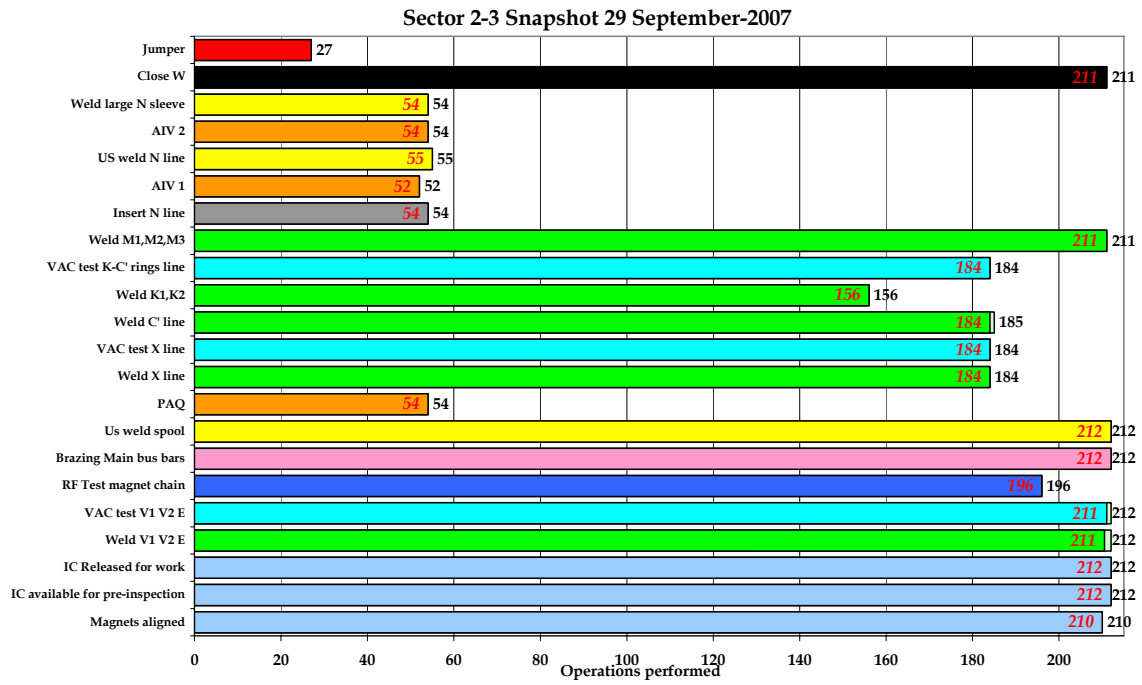


Fig. 6: Snapshot of work progress in sector 2-3 showing the number of operations achieved in total with respect to the total number of operations necessary.

Sector 3-4 (completed on 18-Sep-07)

- Pressure test scheduled end of W40.
- 13 Vacuum Sectors are leak tight, 1 VS leaky (2 leaks to be localized, global leak : 2×10^{-6} mbarl/s).
- Those 2 leaks will be repaired after pressure test.

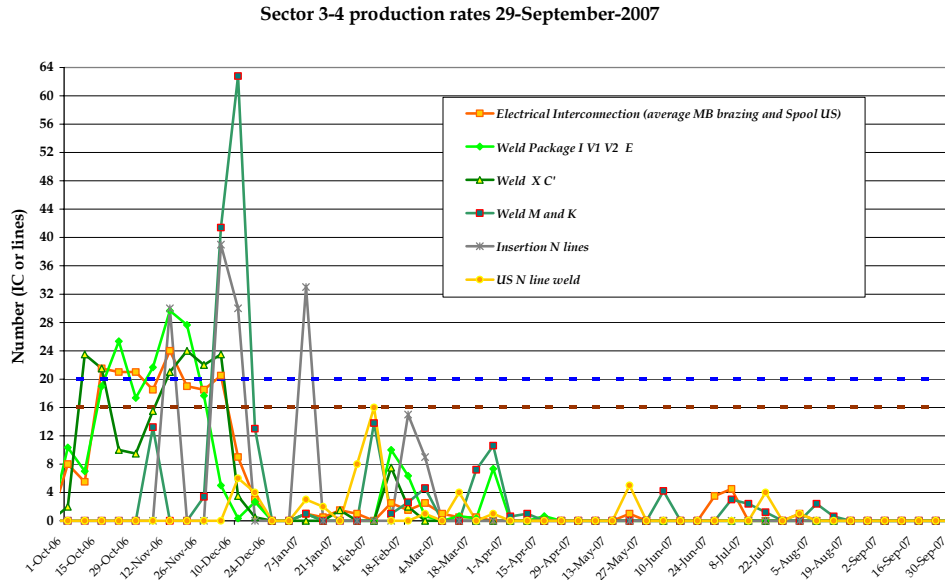


Fig. 7: Production rates in sector 3-4.

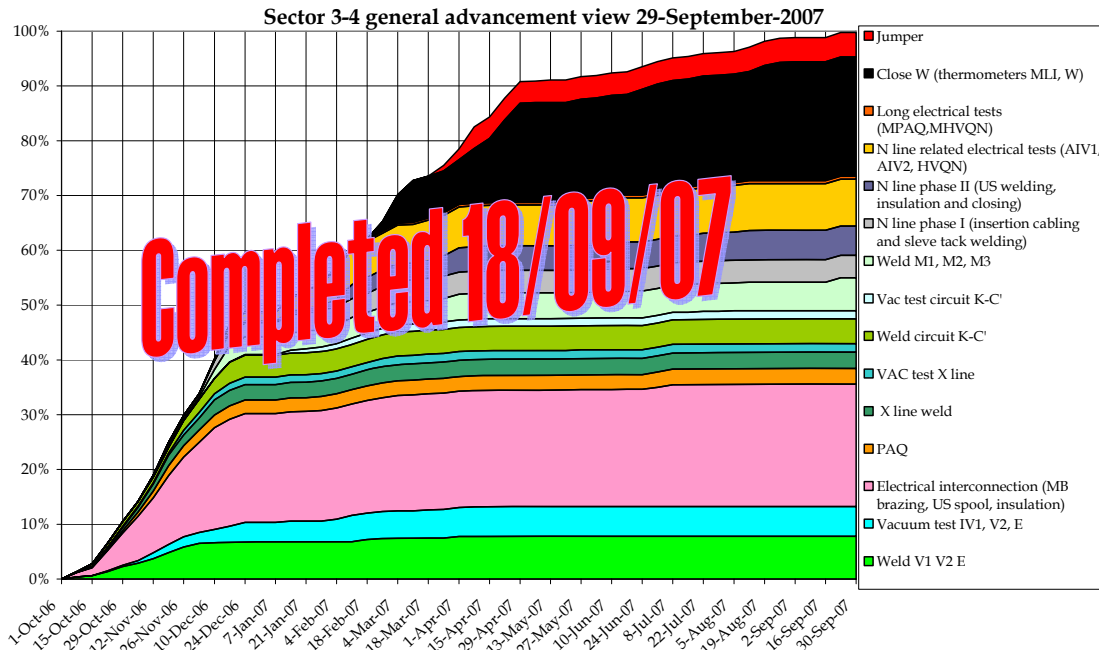


Fig. 8: General advancement view for sector 3-4.

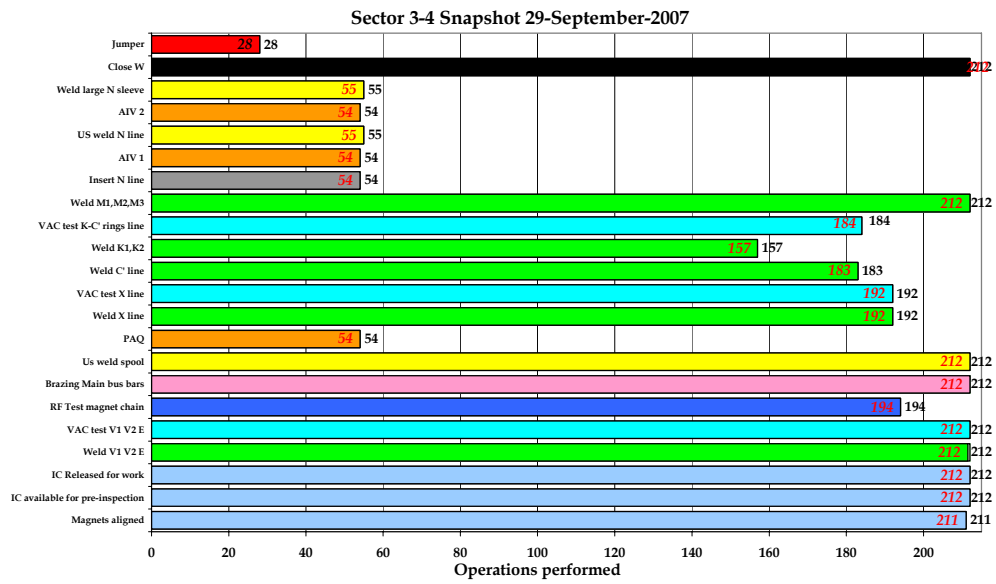


Fig. 9: Snapshot of work progress in sector 3-4 showing the number of operations achieved in total with respect to the total number of operations necessary.

Sector 4-5 (completed on 29-Apr-07)

- Leak repair on DFBA 5L in progress.

Sector 5-6 (completed on 05-Sep-07)

- Pressure test completed OK.
- 1 leak detected during pressure test, under investigation.

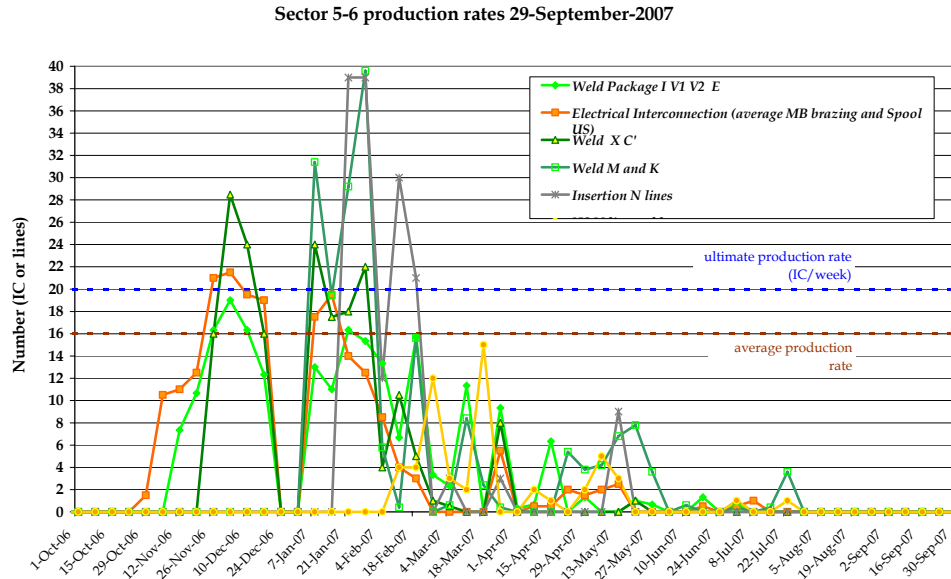


Fig. 10: Production rates in sector 5-6.

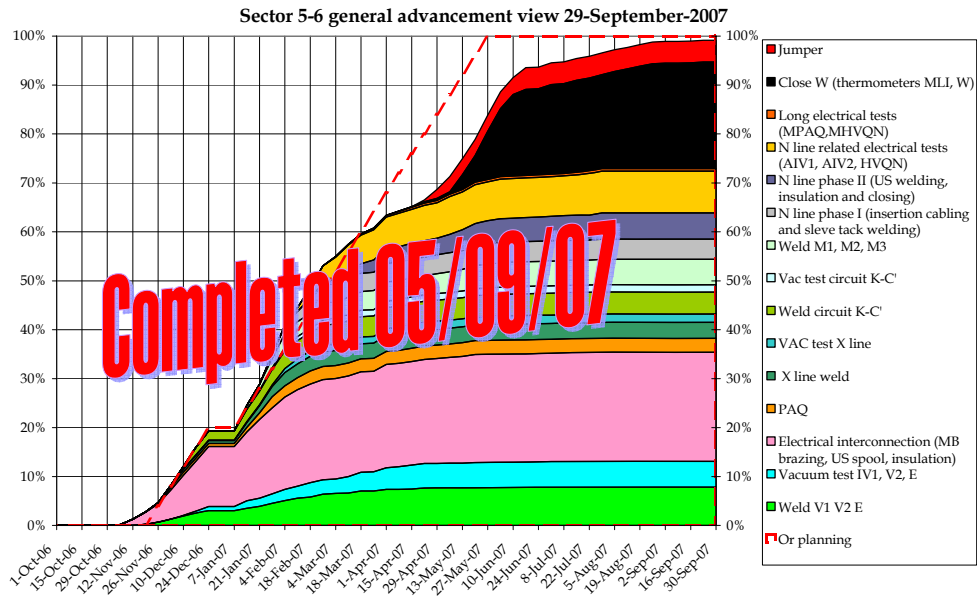


Fig. 11: General advancement view for sector 5-6.

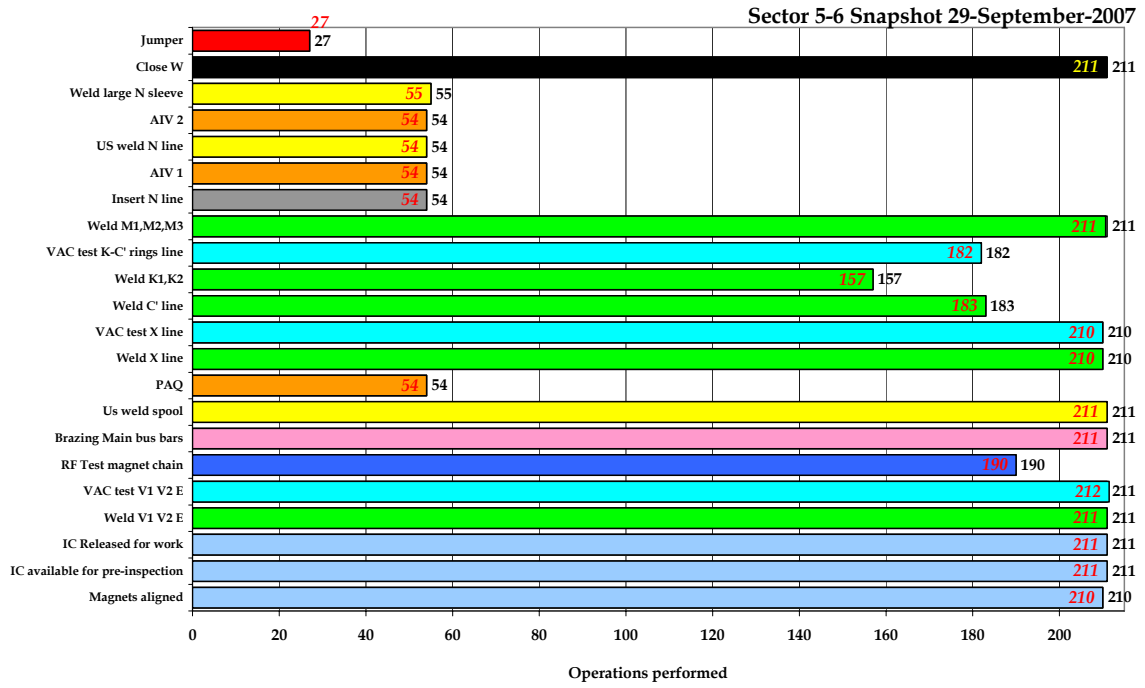


Fig. 12: Snapshot of work progress in sector 5-6 showing the number of operations achieved in total with respect to the total number of operations needed.

Sector 6-7 (completed on 30-Aug-07)

- 9 Vacuum Sectors are leak tight, 2 VS being retested after leak repair, 3 VS leaky (leaks to be localized).
- Pressure test scheduled for end of W42, no blocking leak up to now.

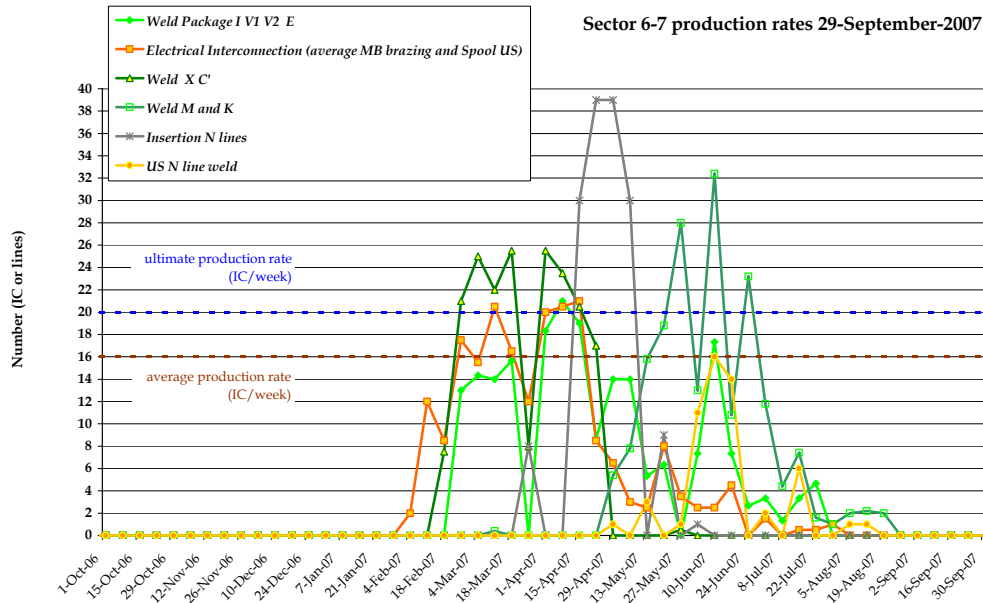


Fig. 13: Production rates in sector 6-7.

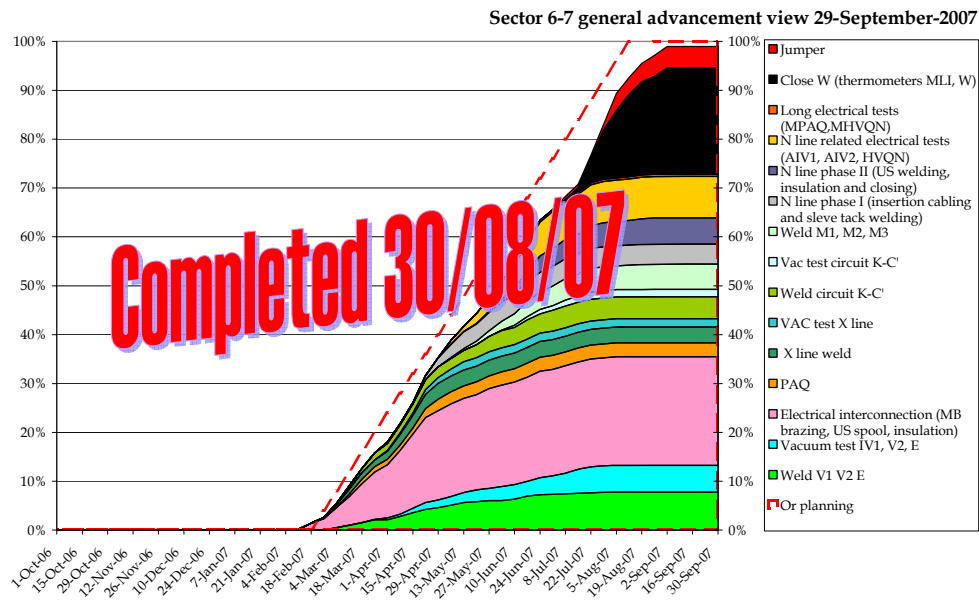


Fig. 14: General advancement view for sector 6-7.

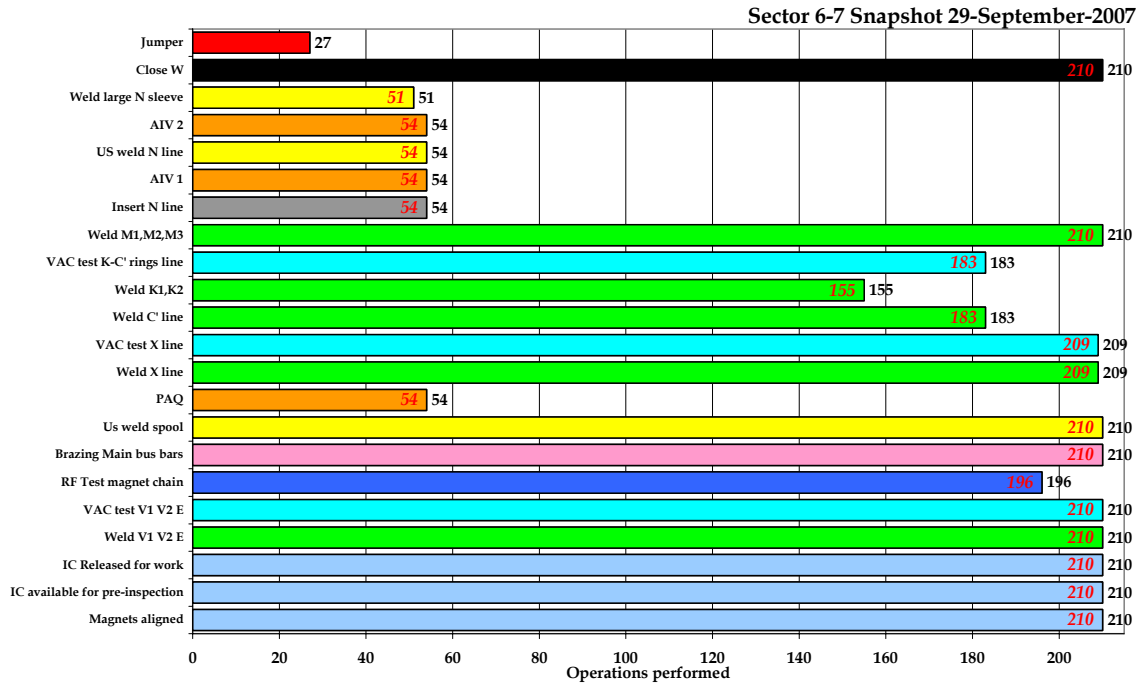


Fig. 15: Snapshot of work progress in sector 6-7 showing the number of operations achieved in total with respect to the total number of operations needed.

Sector 7-8 (completed)

- PIM installation started .
- 1 vacuum sector provided to VAC (first one).
- For more details, please refer to MARIC and ICC presentations.

Sector 8-1 (completed on 9-May-2007)

- Flushing and ELQA tests completed.
- 1 electrical problem found on dipole circuit in half-cell 10L1 (diode dipole 1158?), under investigation.
- Interconnections opening of SSS080 started with 1.5 day of delay to finish ELQA test.

Vacuum Tests by Sector

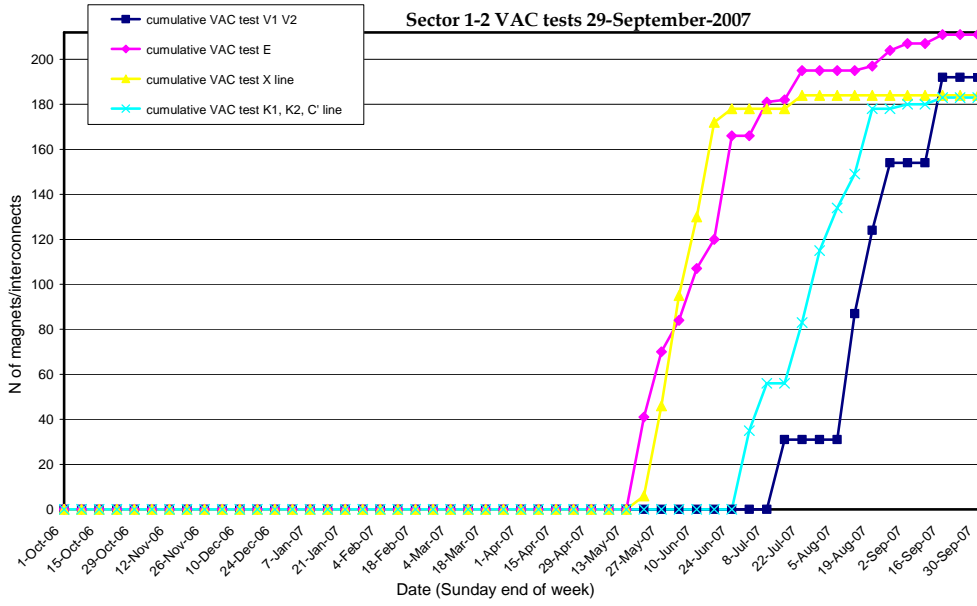


Fig. 16: Status of the VAC tests in sector 1-2.

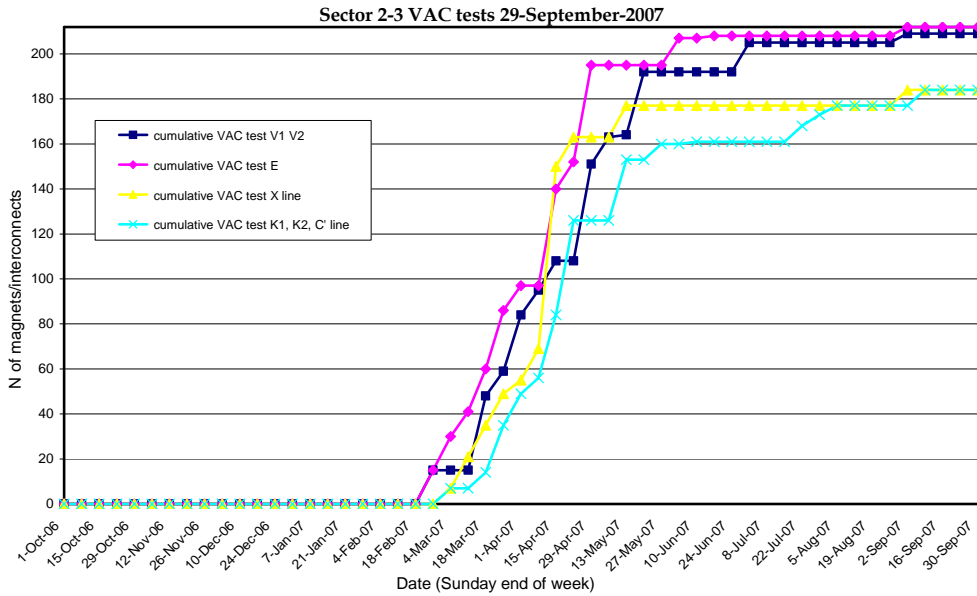


Fig. 17: Status of the VAC tests in sector 2-3.

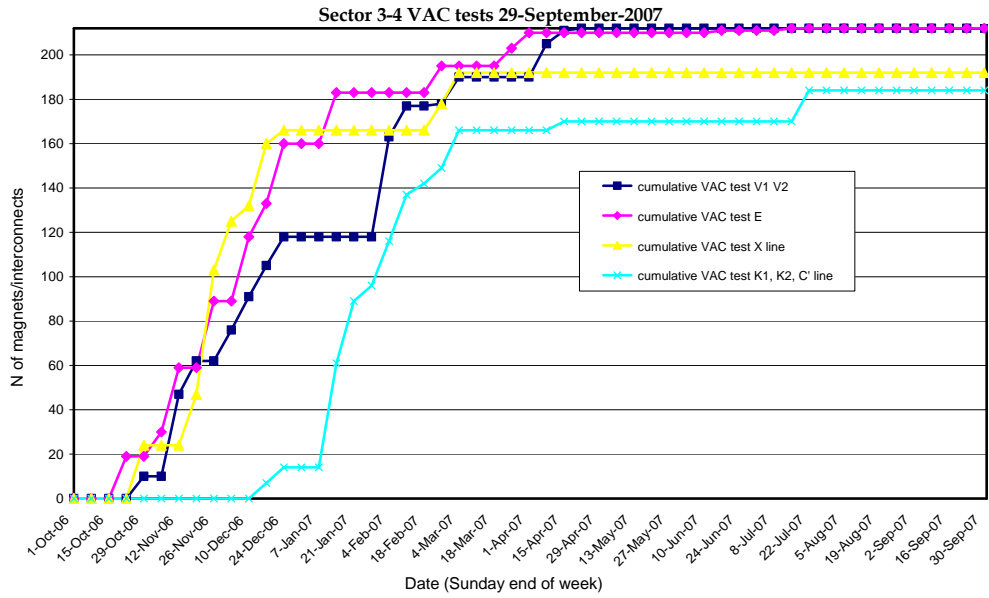


Fig. 18: Status of the VAC tests in sector 3-4.

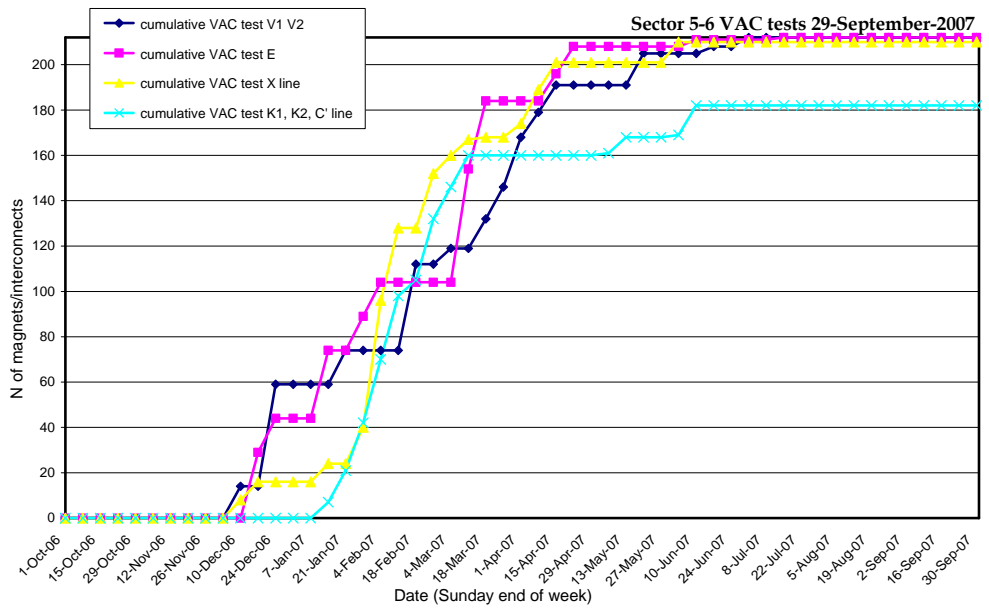


Fig. 19: Status of the VAC tests in sector 5-6.

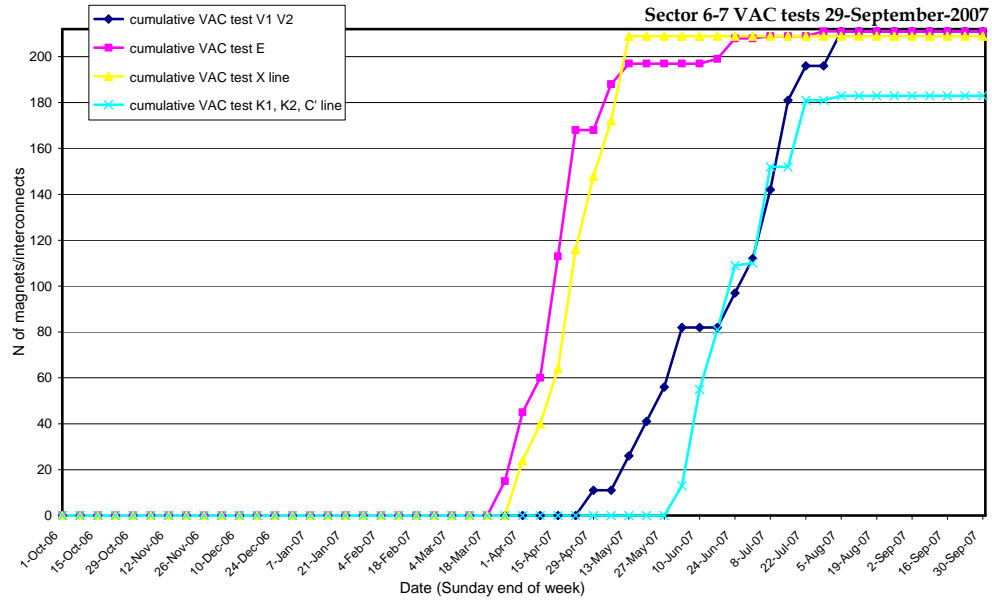


Fig. 20: Status of the VAC tests in sector 6-7.