

# Status of Interconnect Works in the LHC Arcs and DS regions – week 18 (April 30 – May 8, 2007)

C. Vollinger, AT-MCS (on behalf of the arc coordination team)

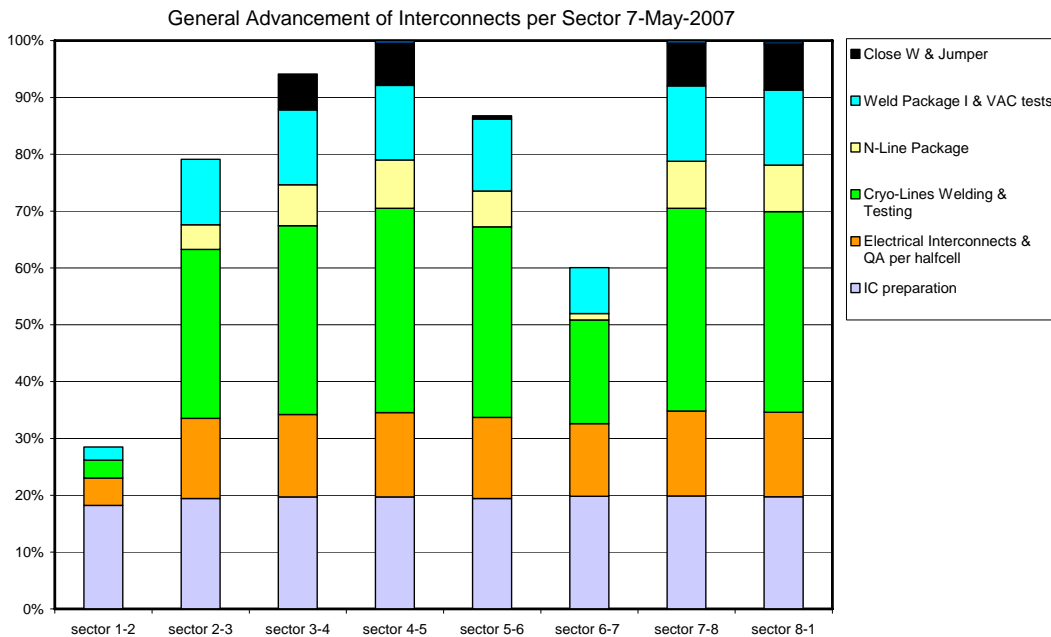
EDMS no. 841677

This report gives the status of the interconnect works in the LHC arcs and dispersion suppressor regions carried out during week 18 (April 30 – May 8, 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: 1229 MB, 472 SSS, 112 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:**  
**F. Bertinelli, P. Fessia, A. Musso, M. Struik, C. Vollinger**

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

***Sector 4-5 has been completed on 29-Apr-2007***

**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.

## Sector 1-2

- Brazing of main busbars ongoing.
- Welds of X line started

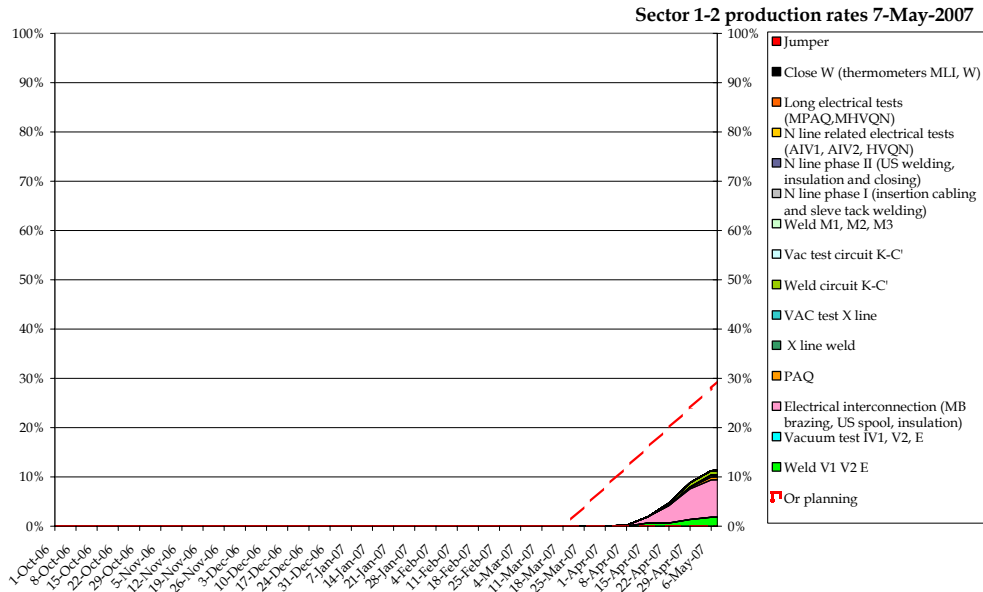


Fig. 1: General advancement view for sector 1-2.

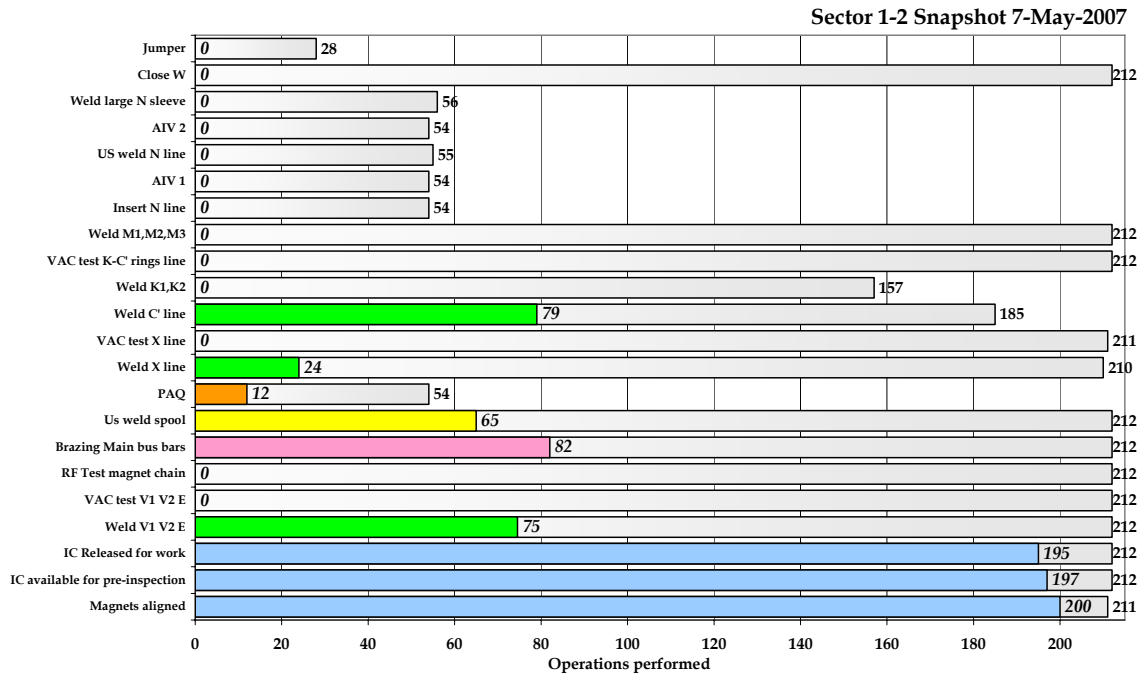


Fig. 2: Snapshot of work progress in sector 1-2 showing the number of operations achieved in total with respect to the total number of operations necessary.

## Sector 2-3

- 1<sup>st</sup> MHVQN accomplished.
- Preparation of jumper welding and isolation of N lines ongoing.

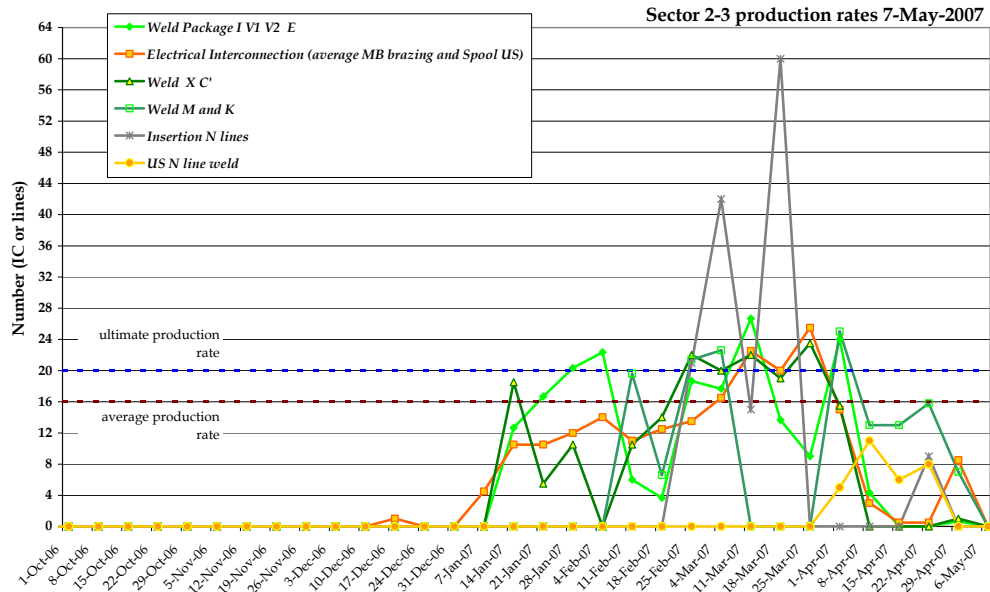


Fig. 3: Production rates in sector 2-3.

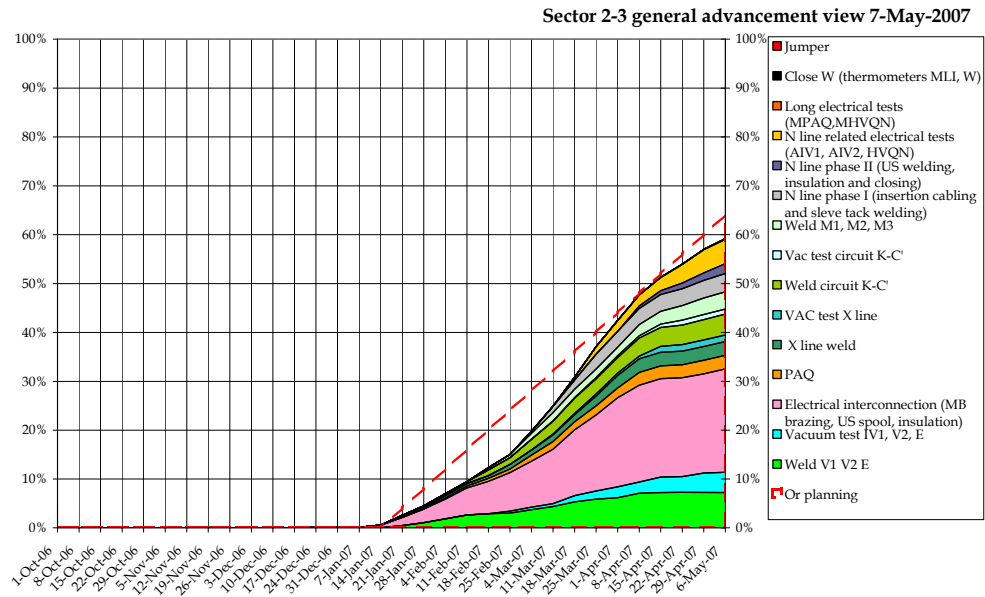


Fig. 4: General advancement view for sector 2-3.

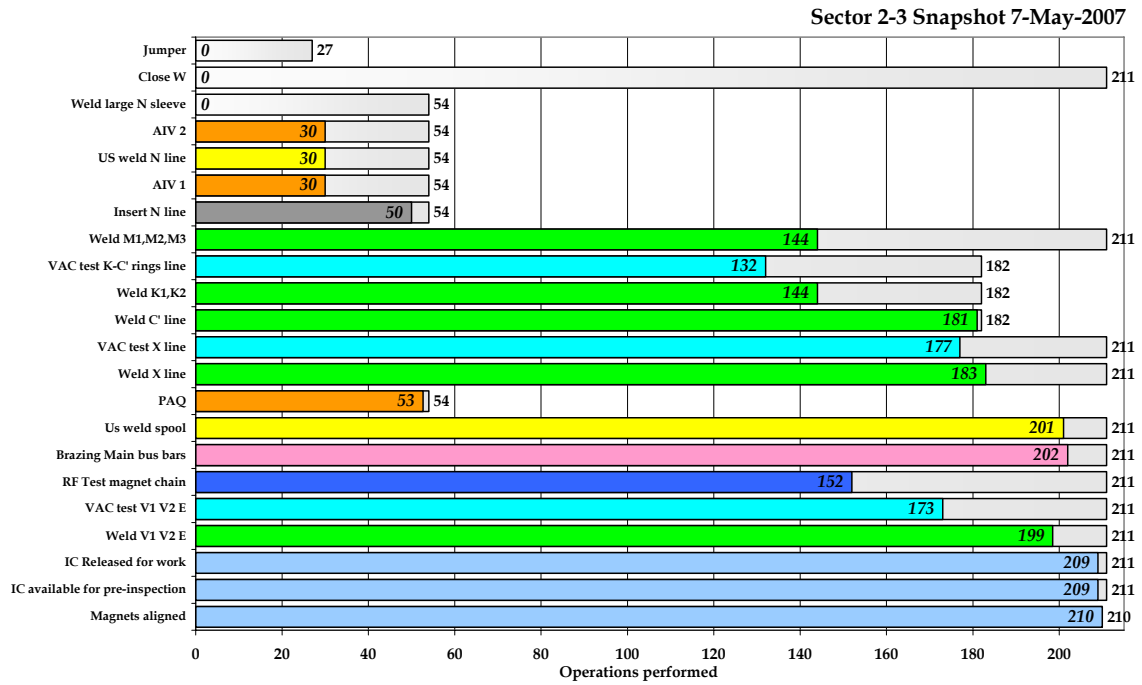


Fig. 5: Snapshot of work progress in sector 2-3 showing the number of operations achieved in total with respect to the total number of operations necessary.

### Sector 3-4

- Closing of W-bellows ongoing, 3 leaks detected and under repair.
- 3 additional VAC sectors closed (now 10 in total).

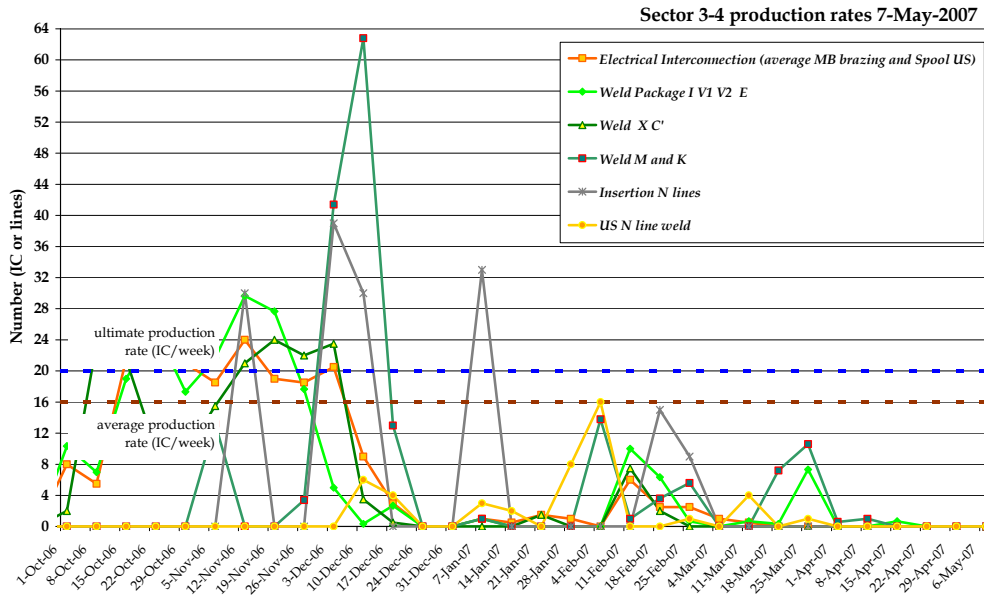


Fig. 6: Production rates in sector 3-4.

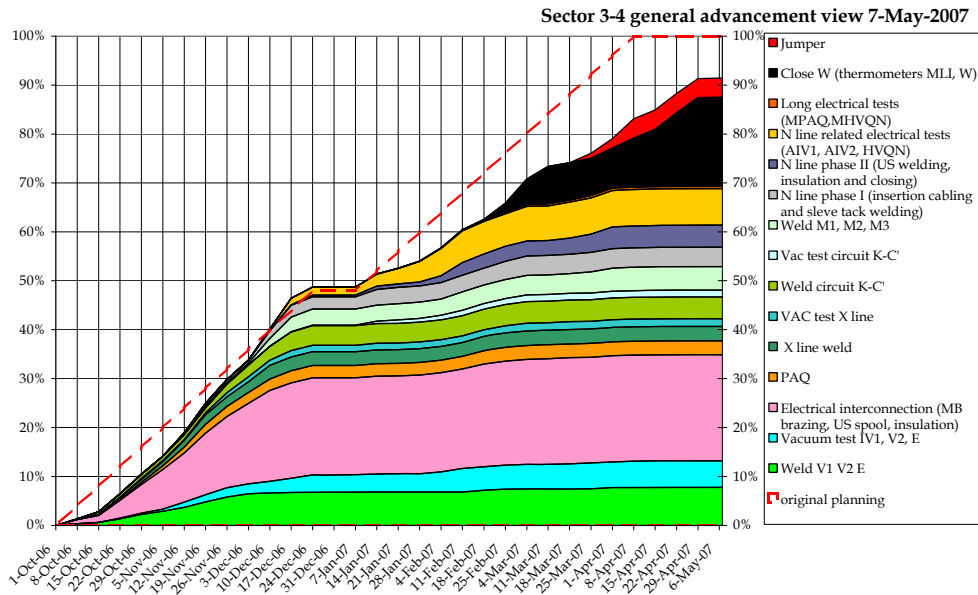


Fig. 7: General advancement view for sector 3-4.

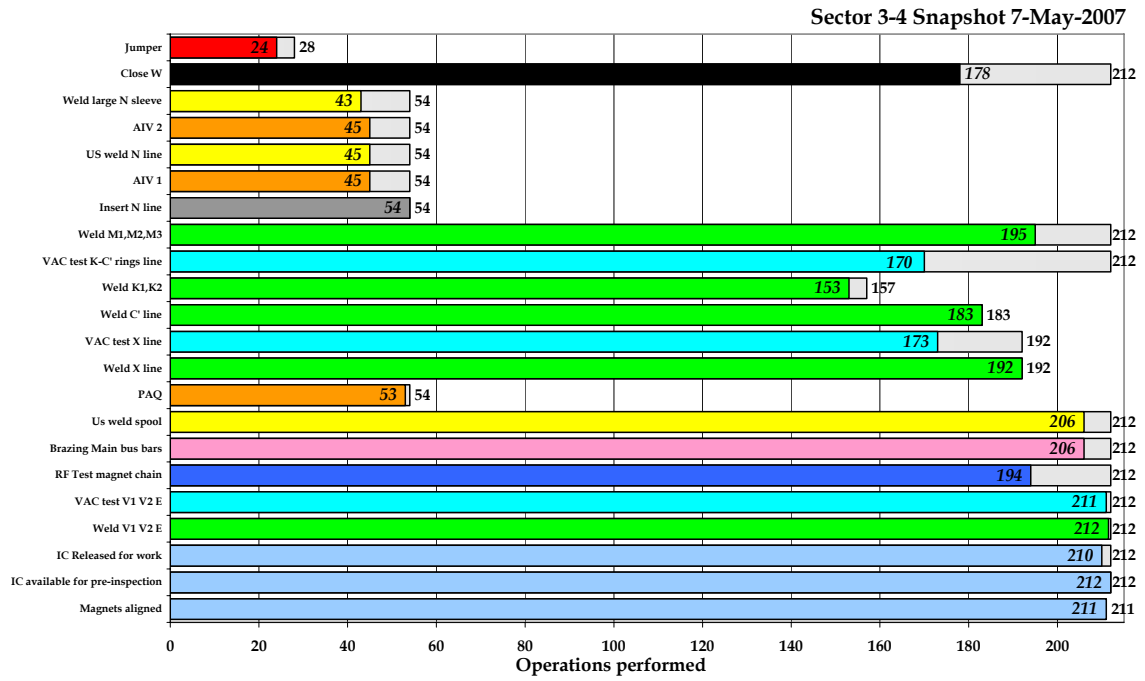


Fig. 8: Snapshot of work progress in sector 3-4 showing the number of operations achieved in total with respect to the total number of operations necessary.

## Sector 4-5

- **Sector completed at 29/04/07.**
- Pressure test scheduled for next week.

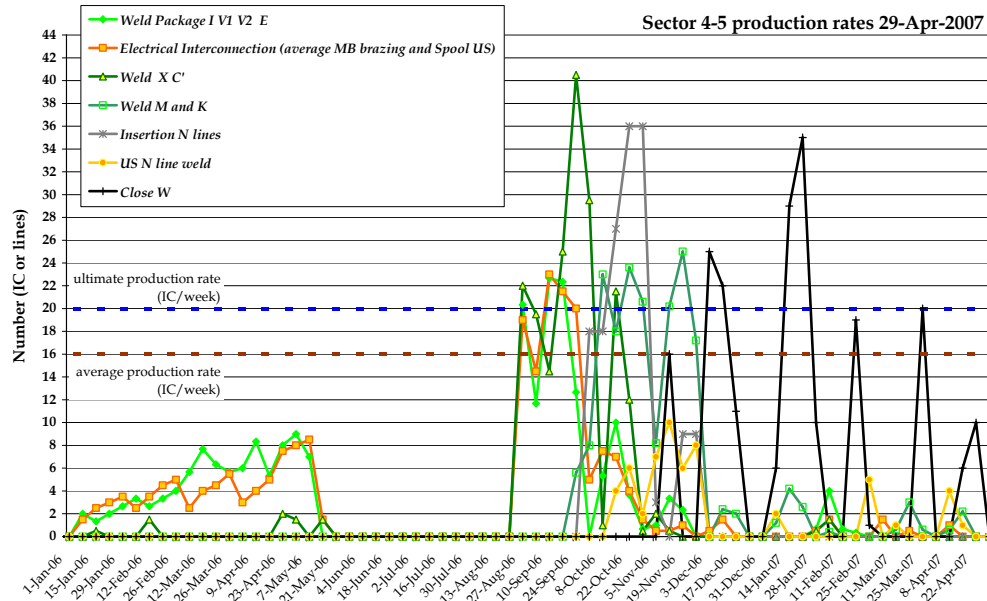


Fig. 9: Production rates in sector 4-5. Sector 4-5 is completed at 29-Apr-07.

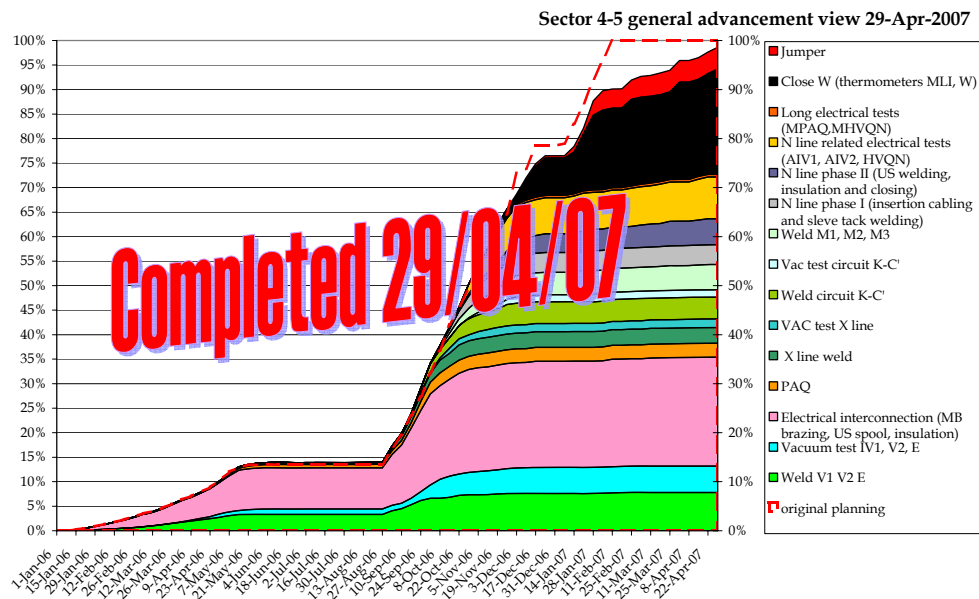


Fig. 10: General advancement view for sector 4-5. Sector 4-5 is completed at 29-Apr-07.



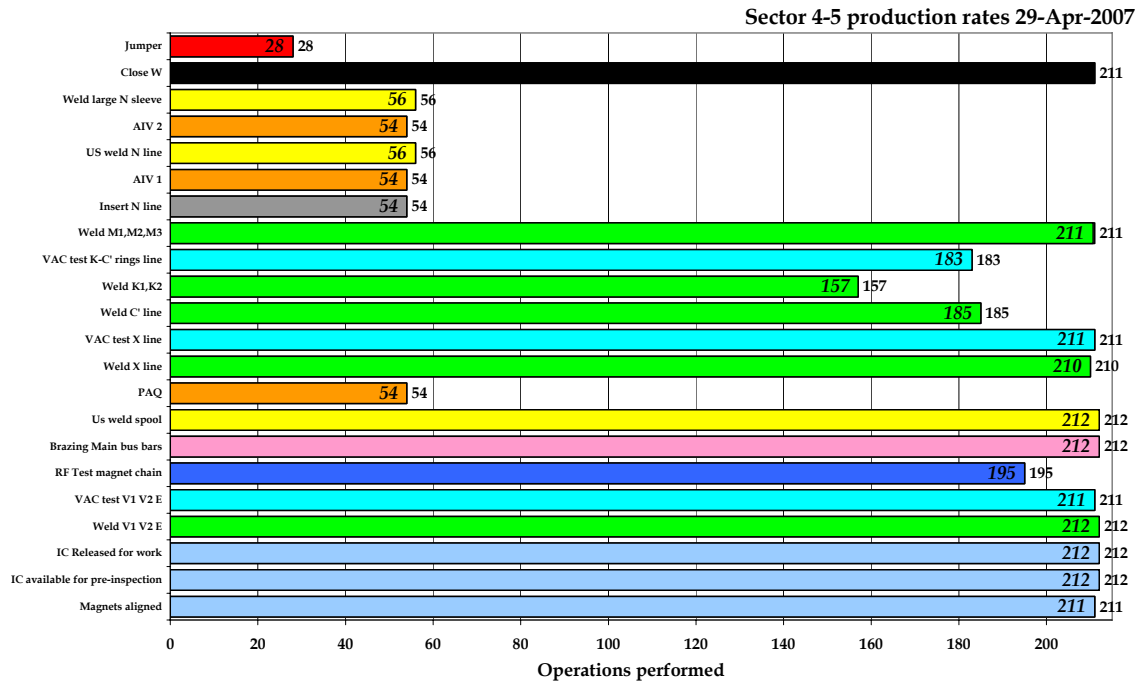


Fig. 11: Snapshot of work progress in sector 4-5 showing the number of operations achieved in total with respect to the total number of operations necessary. Sector 4-5 is completed at 29-Apr-07.

## Sector 5-6

- 3<sup>rd</sup> MHVQN accomplished.
- Closure of jumpers ongoing, 5 jumpers yet to be done.
- In total, 104 interconnections ready to be closed.

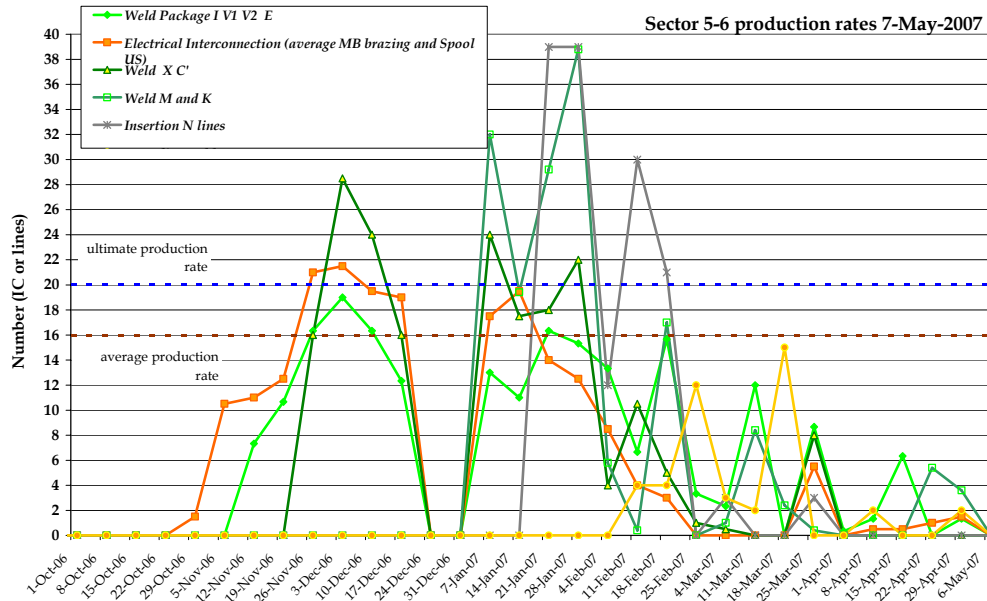


Fig. 12: Production rates in sector 5-6.

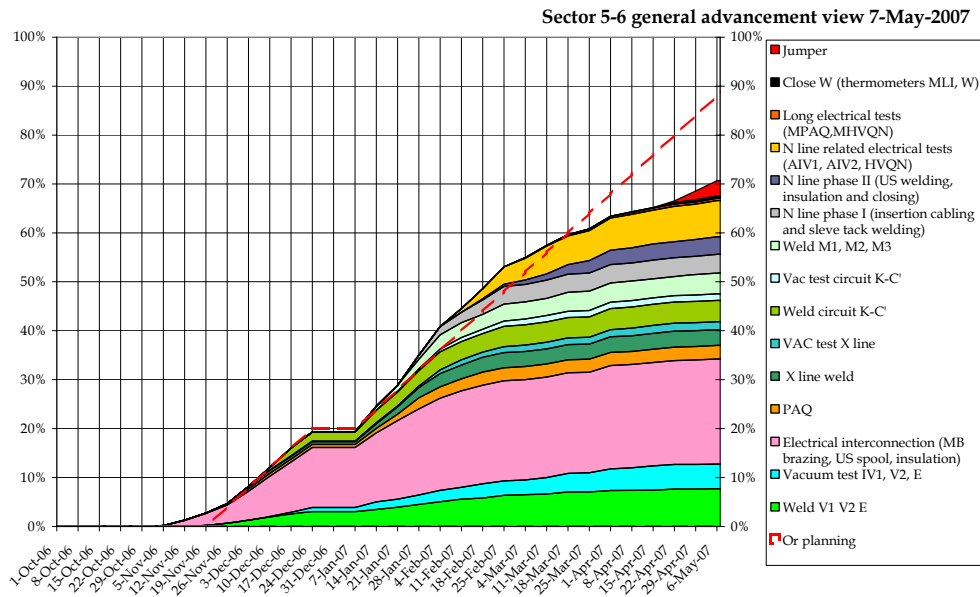


Fig. 13: General advancement view for sector 5-6.

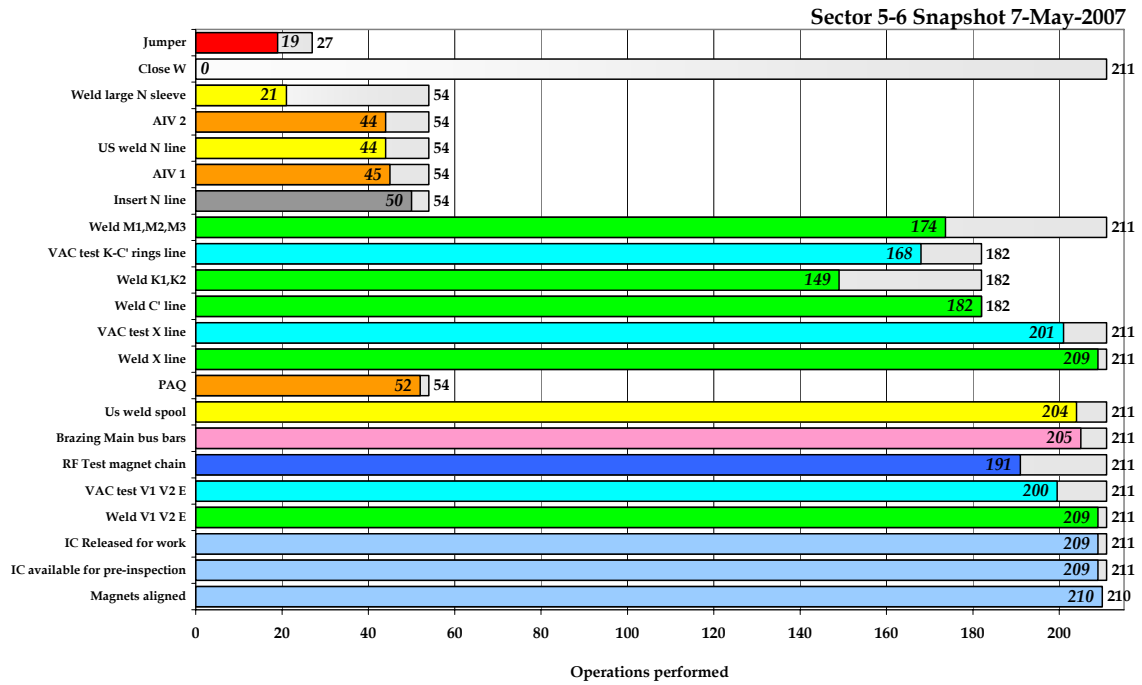


Fig. 14: Snapshot of work progress in sector 5-6 showing the number of operations achieved in total with respect to the total number of operations needed.

## Sector 6-7

- Welding of E line finished.
- N line insertion (arc) and N line cabling ongoing.

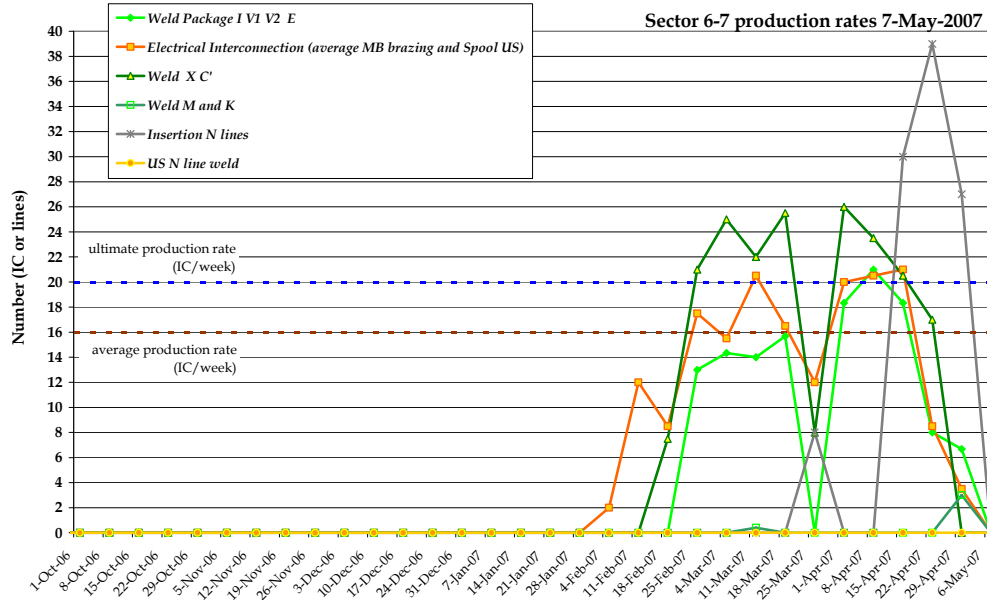


Fig. 15: Production rates in sector 6-7.

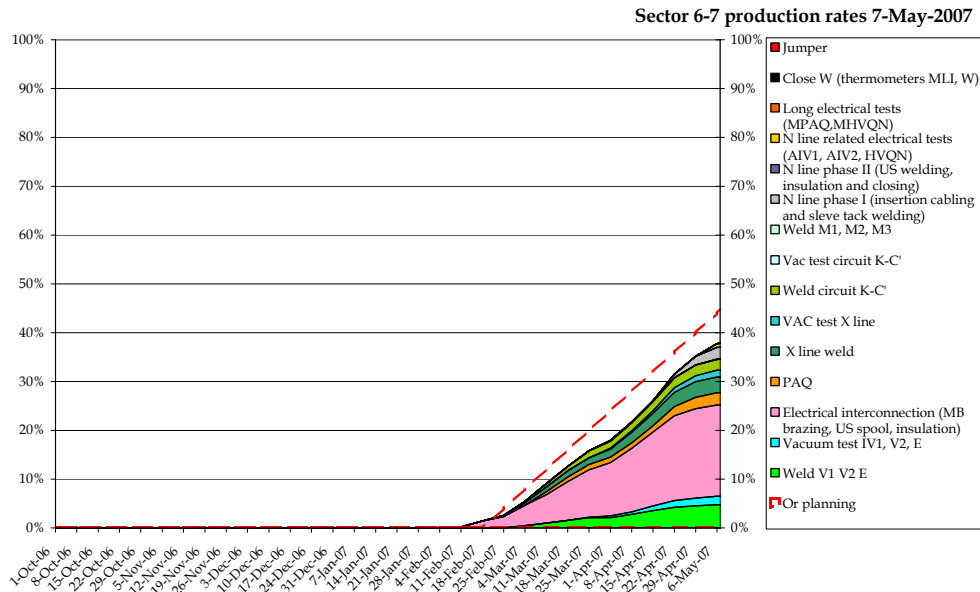


Fig. 16: General advancement view for sector 6-7.

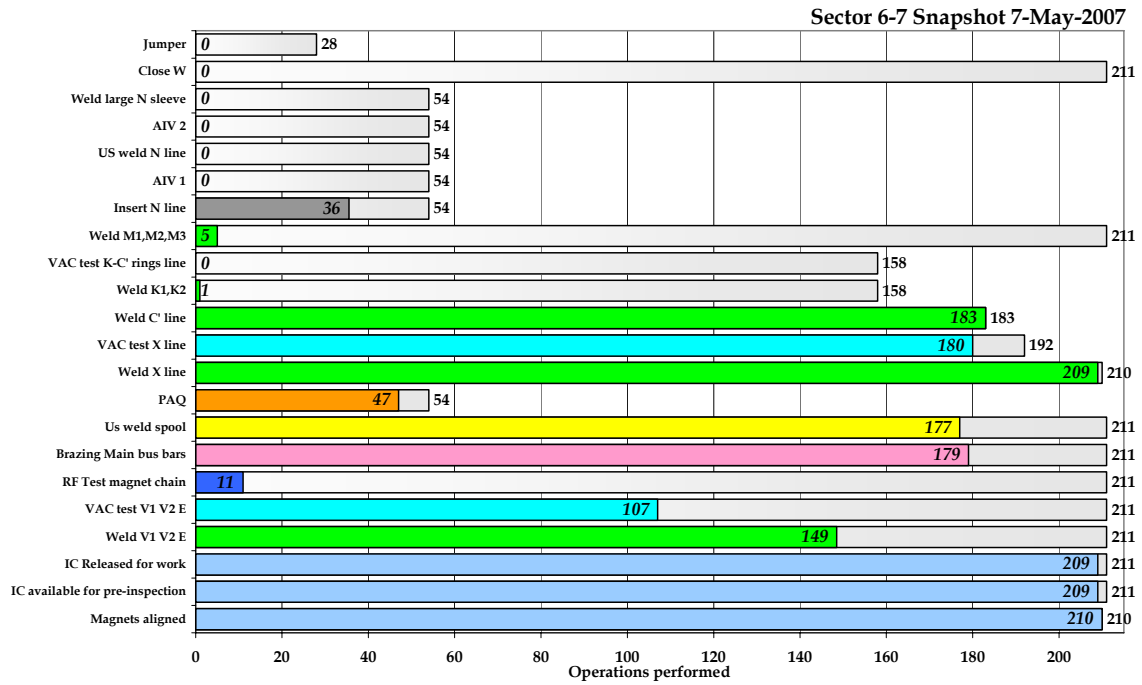


Fig. 17: Snapshot of work progress in sector 6-7 showing the number of operations achieved in total with respect to the total number of operations needed.

## Sector 8-1

- Closure of last W-bellows planned for next week.

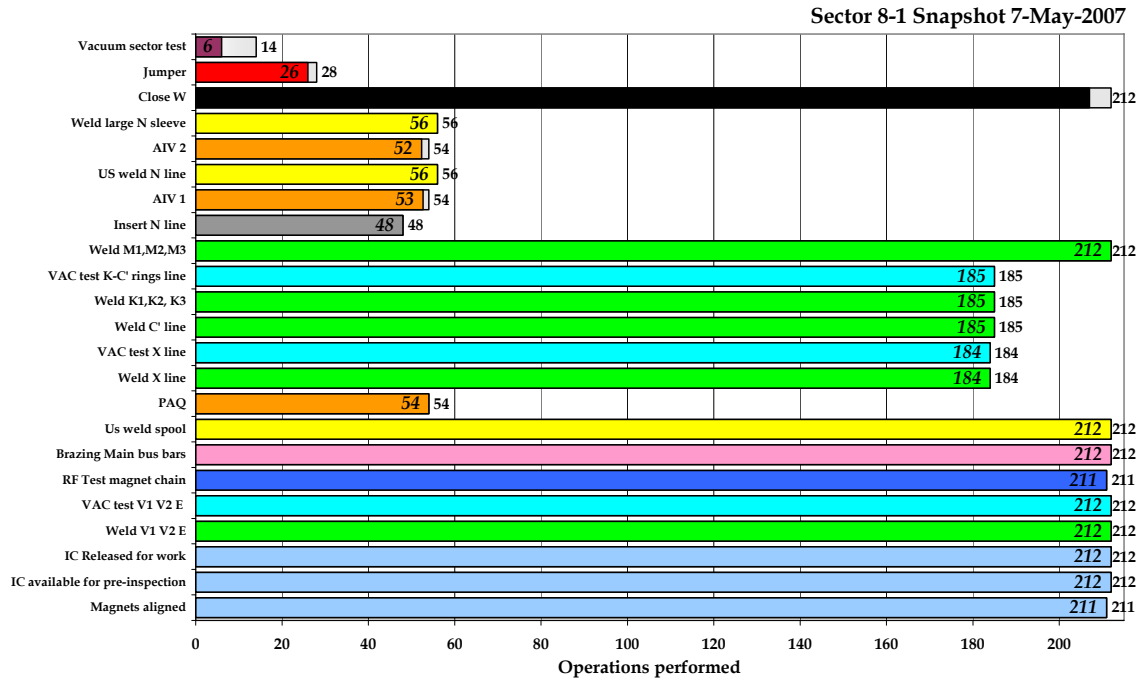


Fig. 18: Snapshot of work progress in sector 8-1 showing the number of operations achieved in total with respect to the total number of operations needed.

# Vacuum Tests by Sector

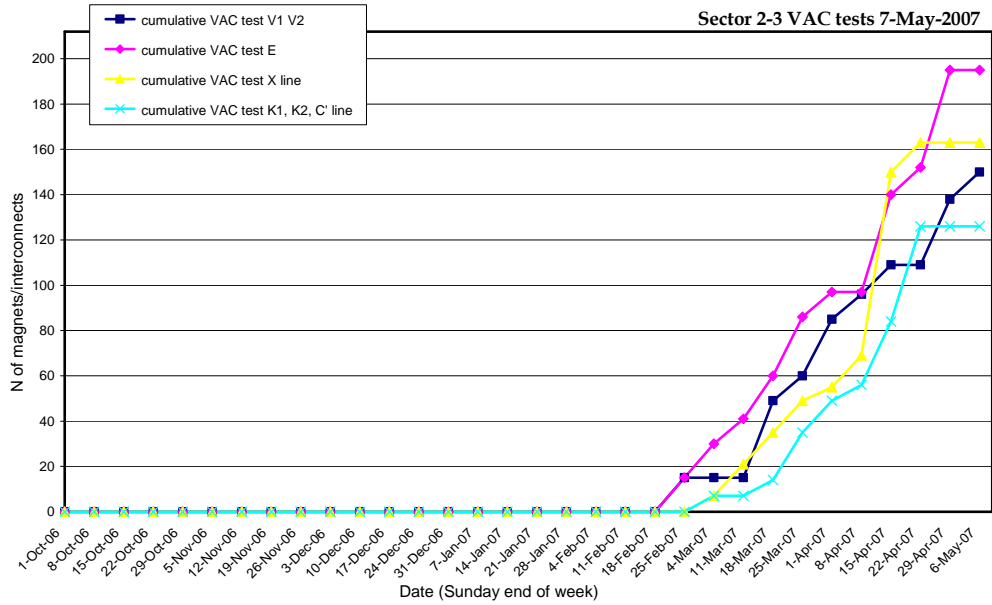


Fig. 19: Status of the VAC tests in sector 2-3.

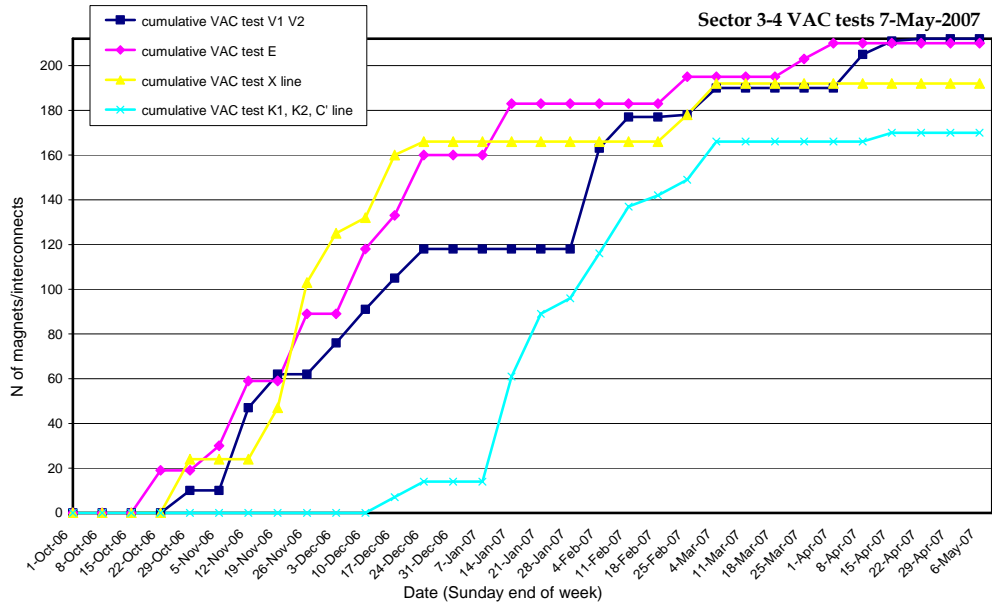


Fig. 20: Status of the VAC tests in sector 3-4.

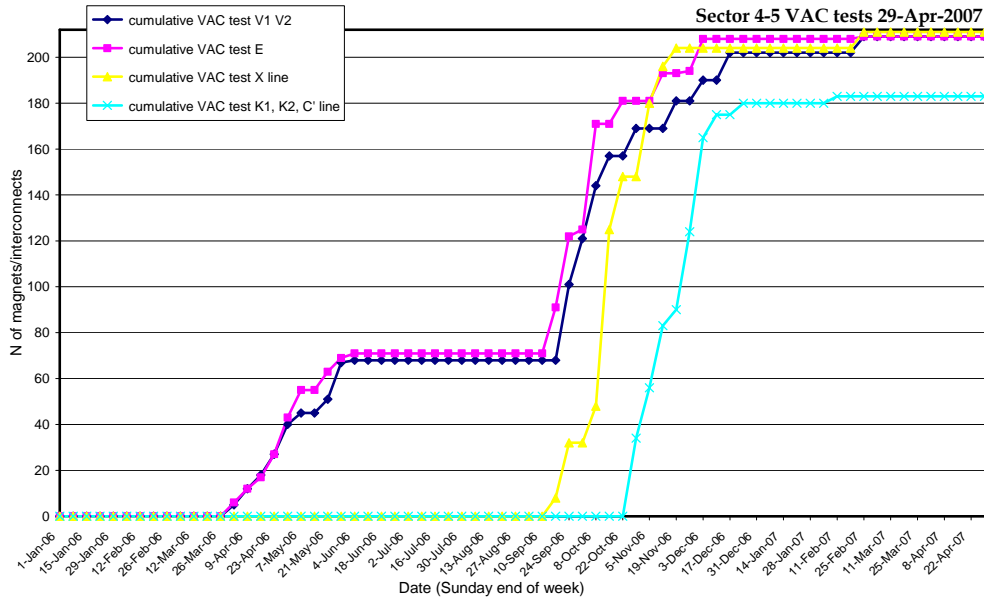


Fig. 21: Status of the VAC tests in sector 4-5. Sector 4-5 is completed at 29-Apr-07.

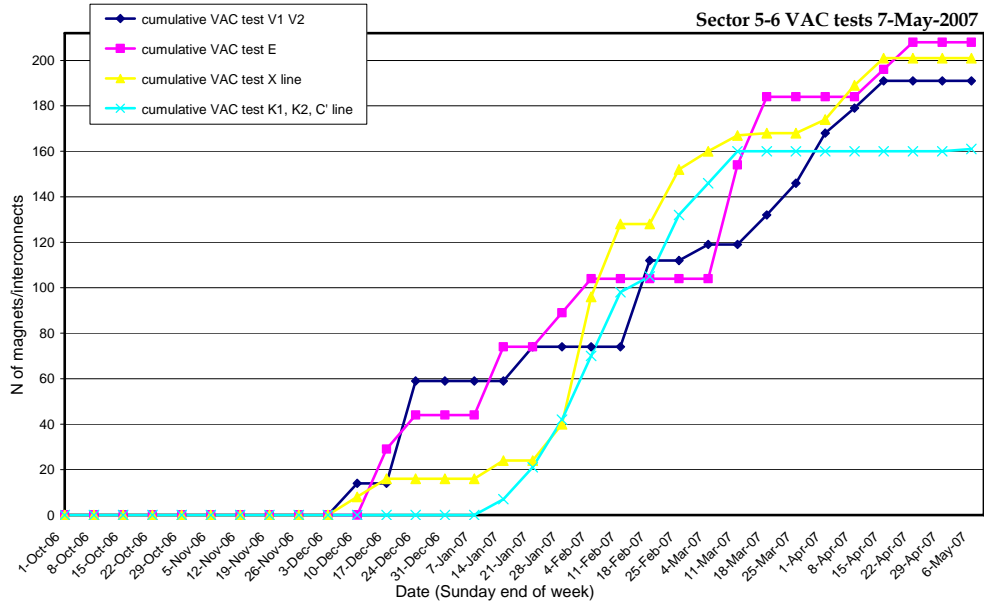


Fig. 22: Status of the VAC tests in sector 5-6.



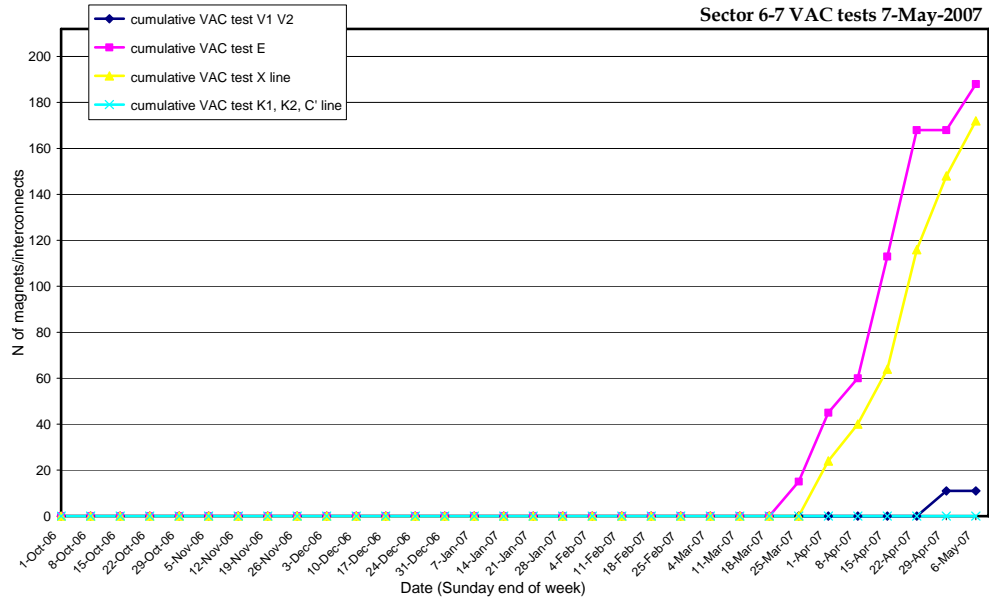


Fig. 23: Status of the VAC tests in sector 6-7.