VUV Divertor Spectrometer for JT-60SA: WPSA-OP Meeting

M.Valisa for the team

WPSA-OP May. 31, 2024

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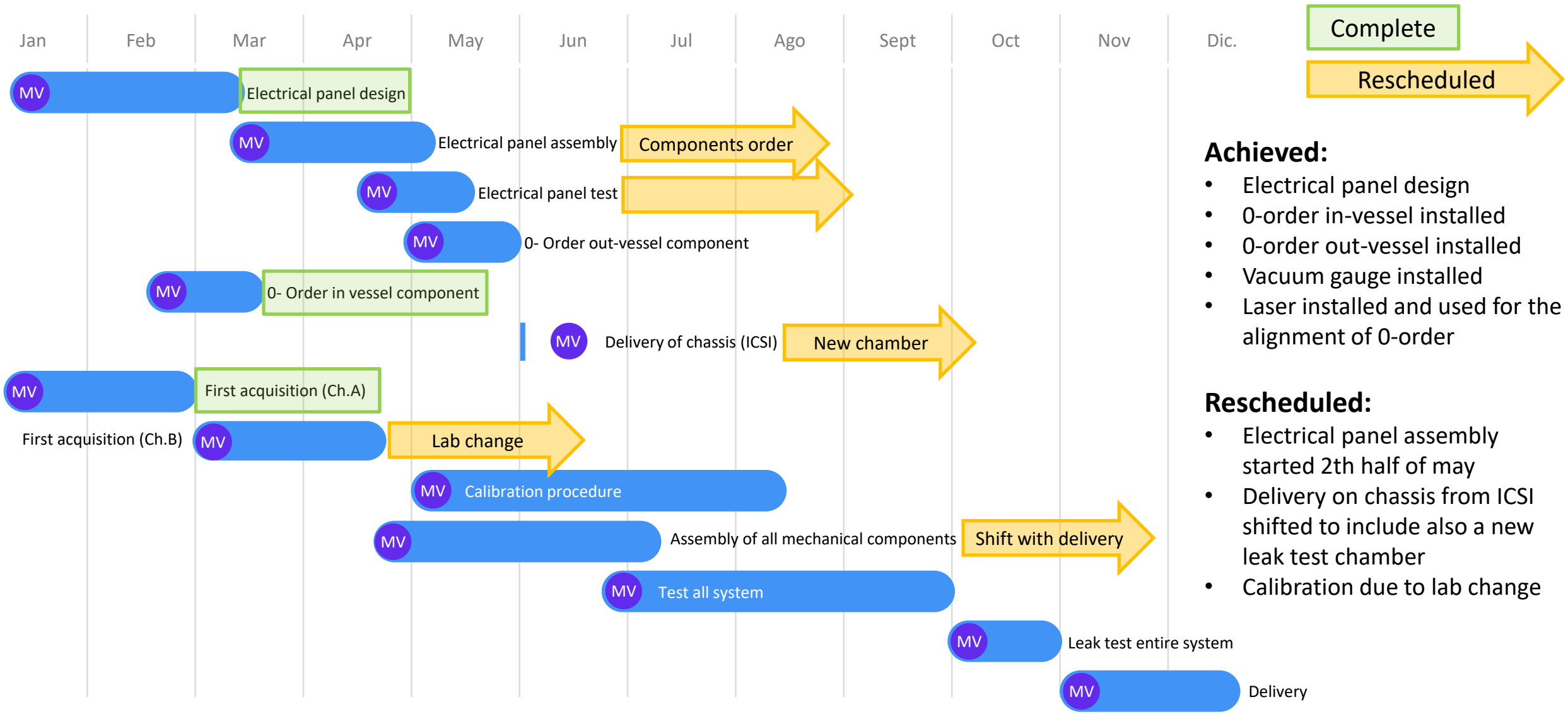
ENEA: A. Fassina, F.Bombarda, C.Cianfarani
IAP: S.Soare
IPPLM: M.Czernyshova
UKAEA: I.Coffey, K.Lawson

F4E: M. Cavinato**,** N.Hajnal, G.Phillips, W.Manfred et al
QST: T.Nakano et al
WPSA: C. Sozzi, J Ayllon-Guerola

This work has been carried out within the framework of the EUROfusion Consortium and has received funding from the Euratom research and training programme 2014-2018 and 2019-2020 under grant agreement No 633053. The views and opinions expressed herein do not necessarily reflect those of the European Commission.

Schedule 2024 (TCM-40 Feb.2024)



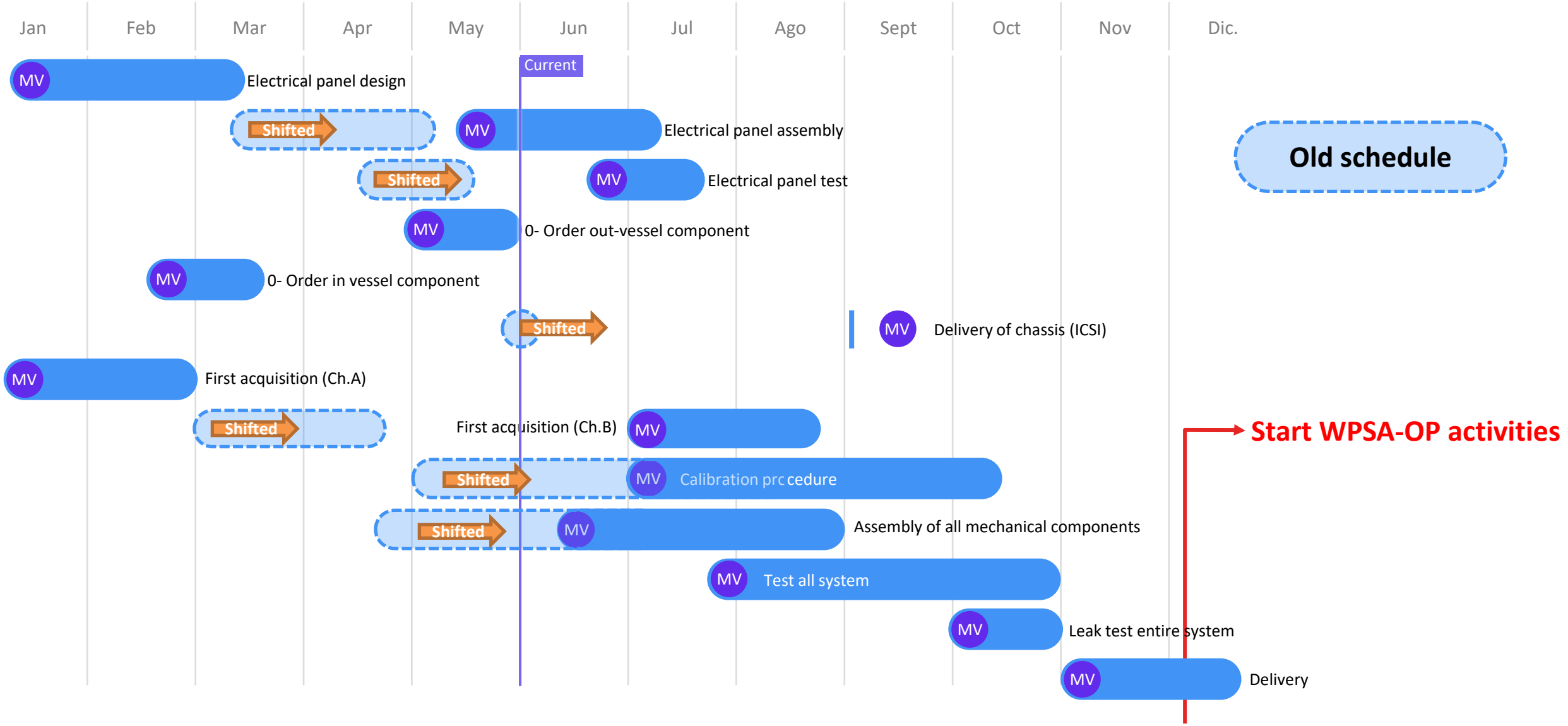
Achieved:

- Electrical panel design
- 0-order in-vessel installed
- 0-order out-vessel installed
- Vacuum gauge installed
- Laser installed and used for the alignment of 0-order

Rescheduled:

- Electrical panel assembly started 2th half of may
- Delivery on chassis from ICSI shifted to include also a new leak test chamber
- Calibration due to lab change

Schedule 2024 - NEW

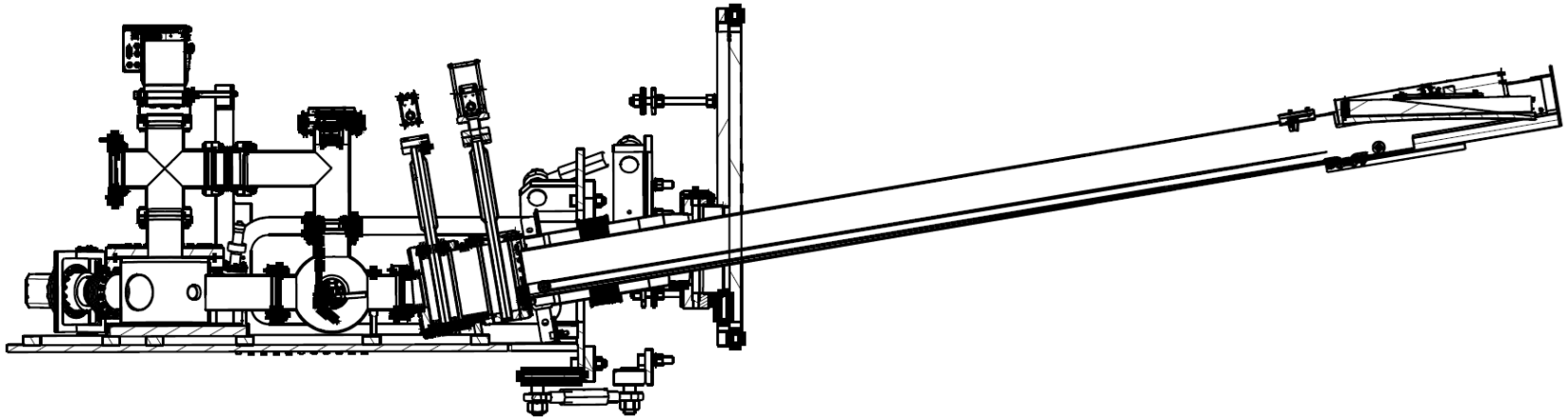


Schedule 2024/2025

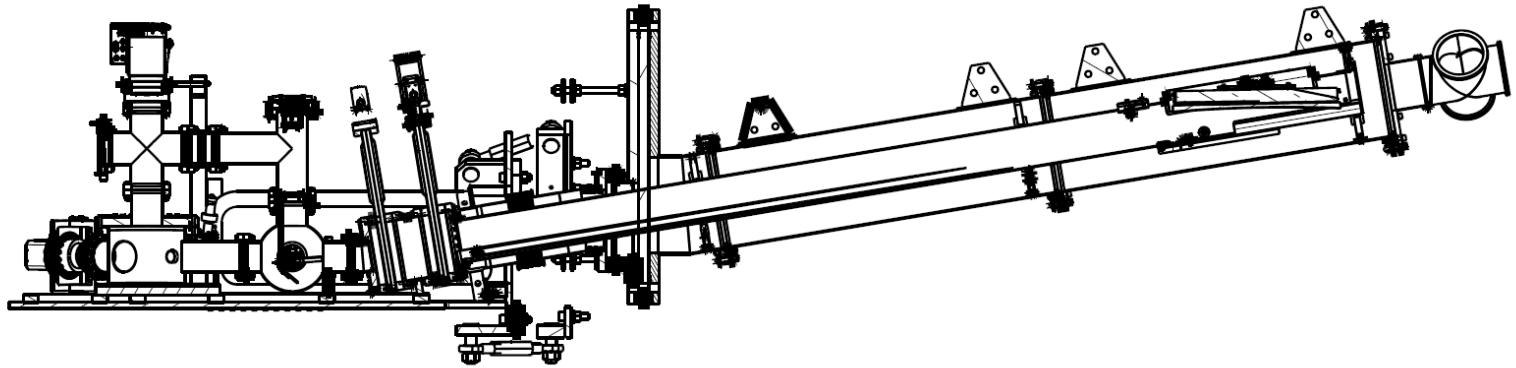
- **Activities upon delivery (@QST):**
  - Integrity check
  - Check of the alignment through the 0-order (with light / if possible laser)
  - On site leak test with QST team (if needed, tbd)
- **Installation (**as obervers**)**
  - Installation of spectrometer assembly on Port 12 Upper
  - Installation of electrical panels
  - Alignment check with respect to the divertor
  - Electrical/optical connections with diagnostic room
- **Commissioning:**
  - Check all main functions and start vacuum
  - Integration on the acquisition system (Trigger, CODAS, etc.)
  - Check and optimize the performance of the system (noise, instrumental function,1D imaging capability, noise, acquisition frequency coupled to sensor organization)
  - Watch the neutron/gamma effects on the CCD (pixel saturation)
  - Analyze comparison with vertical bolometer array with similar LoS (if installed by then)
  - Install emission line identification software
  - Identify emission lines suitable for recombining plasma detection (detachment) to be offered as RT control tool
  - Cross check with horizontal VUV spectrometer (which misses the divertor) to evaluate the weight of core emission

Layout of the specptrometer assembly

Section of the spectrometer



Section of the spectrometer and leak test chamber



Thanks for your attention

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