



WPSA Operations

Preparation of commissioning of EU enhancements

WPSA General Meeting, 4-6 May 2022

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Session Agenda:

Integrated Commissioning Plans – E. Belonohy

- Magnetics commissioning – L. Pigatto
- Equilibrium control – G. de Tommasi
- Control room support – E. Belonohy

Remote data and computer access:

- Remote participation tools in the IC – G. de Tommasi
- Remote Experimentation Centre – G. de Tommasi, F. Imbeaux

Next session: IC related physics studies

FP9 WPSA Operations (E. Belonohy)

[Plasma Operations](#) (incl. vacuum conditioning and breakdown)

[Equilibrium control](#)

[Magnetics](#) and the disruptions database

[Cryo and Magnets](#)

[EDICAM](#) operation

[Camera tomography](#) implementation

FP9 WPSA Code Management (G. Falchetto)

[ECWC](#) simulations

[EDICAM](#) software tools

[Camera tomography](#) software tool

[Breakdown](#) simulations

[Disruption](#) modelling

FP9 WPSA Enhancements (J. Ayllon)

[Remote access architecture](#) (incl. data and computer access in IC)

Integrated commissioning - IC (December 2020 – March 2021)

Close collaboration with QST and F4E on 7 IC topics

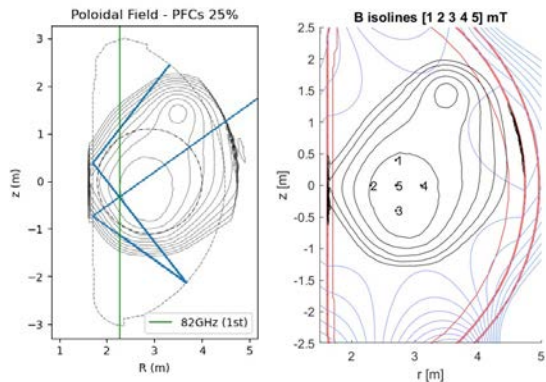
1. Cryo and magnet system: supported coil cool down, energization and repair plan.
2. EDICAM: commissioned the camera remotely. Ready for first plasma.
3. Scenario development: shared first IC experience of MAST-U and WEST. Discussed plasma operation plan.
4. Equilibrium control: prepared CREATE tools for JT-60SA. First steps to learn MECS.
5. Plasma Breakdown: simulated JT-60SA plasma breakdown incl. at various coil currents.
6. Magnetics, MHD, disruptions: Supported calibration of magnetics. Prepared tools for a disruption database.
7. Wall conditioning: direct input into GDC commissioning, ECWC simulation parameter scans.



Magnets: A. Louizguiti with the QST team and S. Davis

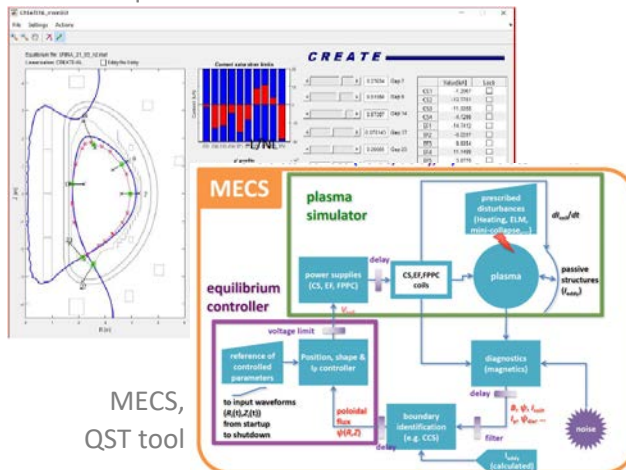


Scenario development: M. Iafrazi in the Naka control room

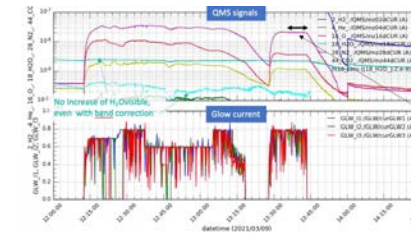


Plasma breakdown with 25% PF coils

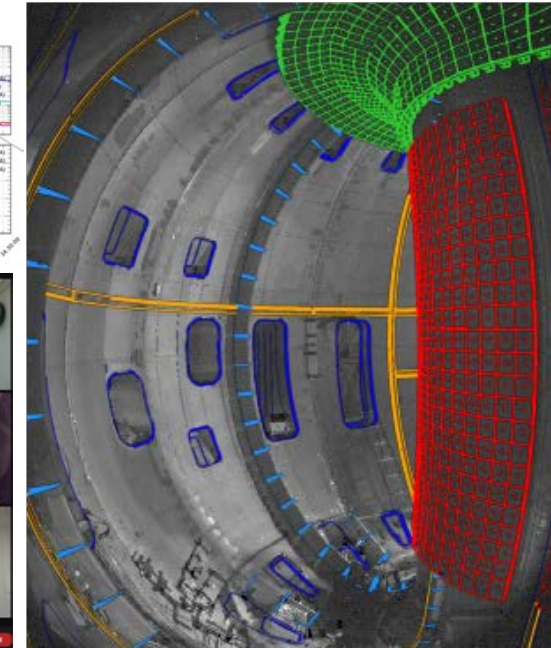
CREATE equilibrium control tools



MECS, QST tool



Glow Discharge Cleaning (GDC) commissioning and ECWC preparations with simulations



First EDICAM photo with the camera tomography calibration

Restart of the integrated commissioning activities

Restart integrated commissioning activities in Summer 2022

Repeat previous IC activities, then continue to full-night Glow Discharge Cleaning and first plasma -> complete by February 2022

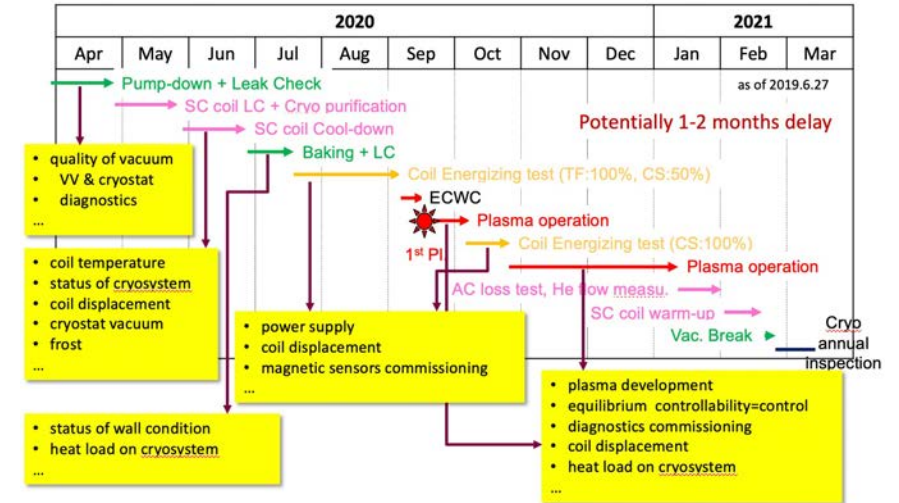
1st 2022 EU IC team meeting: discussed the plans, travel procedures, control room tools and plans

- Waiting for the updated detailed IC timeline for 2022-23
- Key IC priorities to be defined.

- 2nd EU IC team meetings planned in June 2022
- Regular JP-EU **Plasma Team Meetings** (PTM) to restart around pump down, restart IC topic meetings as well
- **Visit plans** to be reviewed following the Global Paschen test and pump down. (see current travel procedure in the 1st EU IC team meeting).

IC wiki: <https://wiki.euro-fusion.org/wiki/WPSA: Integrated Commissioning>

Original IC plan (2020)



Current timeline (2022)

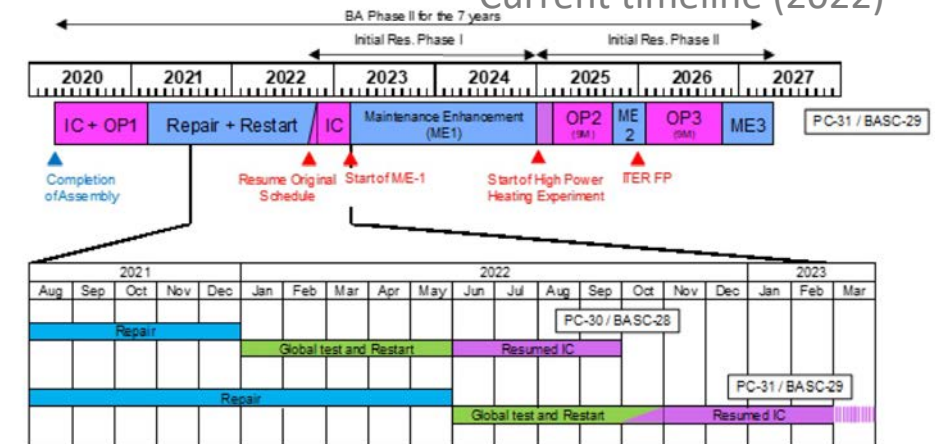


Fig. 4-2. Updated schedule of operation, machine enhancements and maintenance in BA Phase II.