



WPSA Operations Control room support

WPSA General Meeting, 4-6 May 2022

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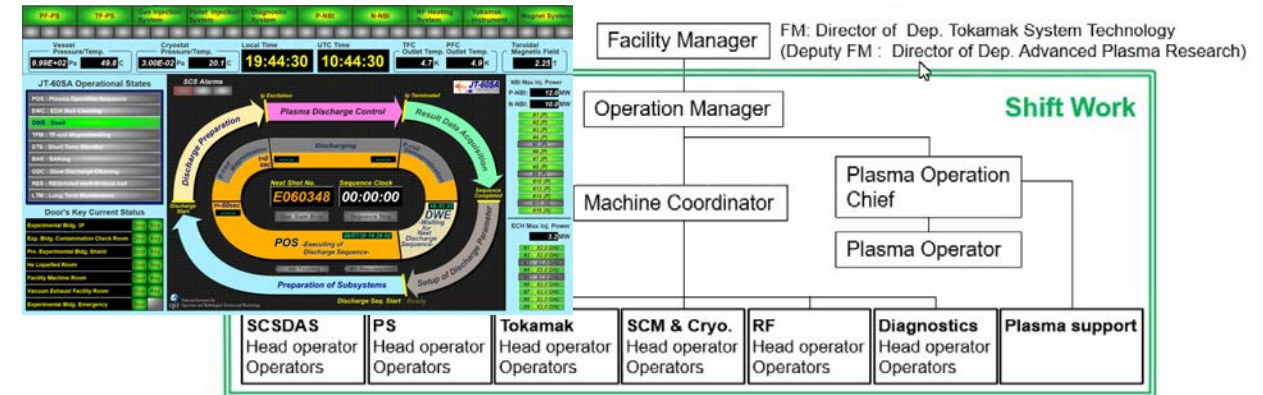
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Motivation

- The integrated commissioning is QST's responsibility
- We hope/expect to increase European participation in future campaigns.

Barriers:

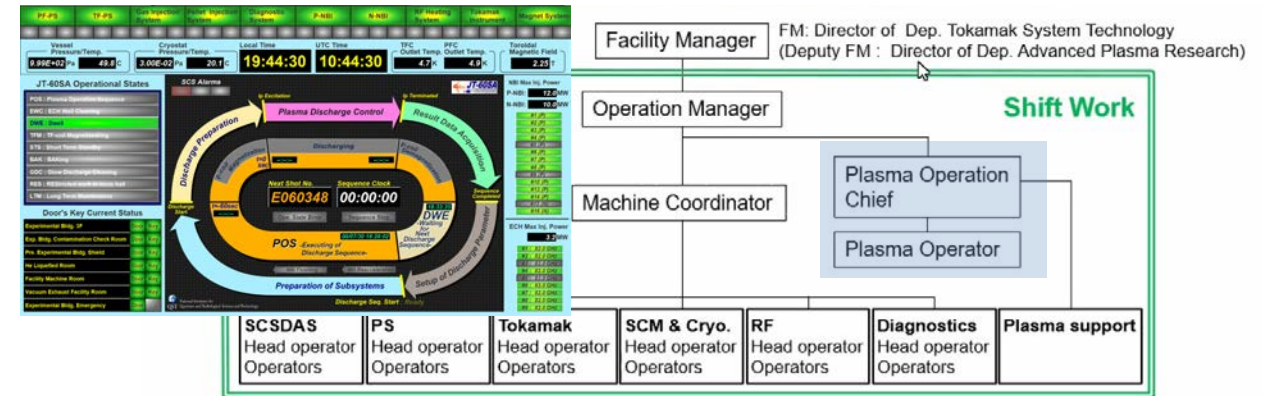
- Language and culture
- Personnel and plant safety will always be in Japanese
- Knowledge of the JT-60SA plant, processes and procedures
- QST appointment of control room roles



JT-60SA control room

Session Leading - priority

- Key role that we would be interested to have European operators.
- Good European expertise in the WPSA Plasma Operations topic with session leaders from CEA, ENEA and UKAEA.



Plasma Operation Chief – “Session Leader + Scientific Coordinator”

Need to interact with the Operation Manager and plant operators (in Japanese)

- Important role for scientific proposals and session preparation

Plasma Operator – sets up the plasma discharges in the HMI as requested by the Plasma Operation Chief

- entry level for session leading
- could be European if the Plasma Operation Chief speaks good English
- requires QST approval



Plasma support

Primary role of the IC plasma operations, breakdown, Vacuum conditioning, magnetics, equilibrium control topic groups during the integrated commissioning.

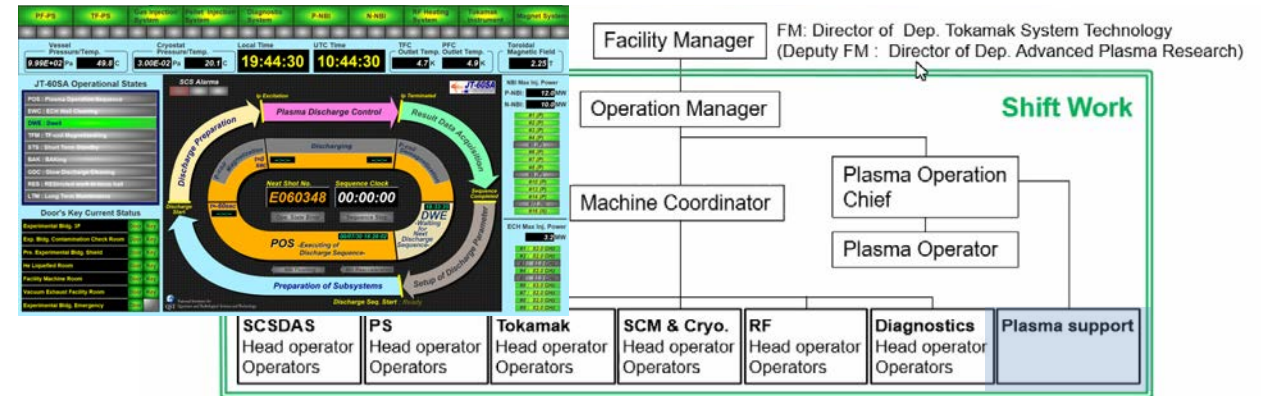
- Support the QST team and the Plasma Operation Chief as and when needed.
- Consulting role from Europe through topic and daily meetings

Expect to support QST primarily in these roles in the future as well.

Dedicated role to support the EU home team

(Under discussion – EU visitor if any are on site?)

- Monitor Teams channel
- Provide information on the session to the home team
- Collate and distribute information as necessary



Real-time experts - priority

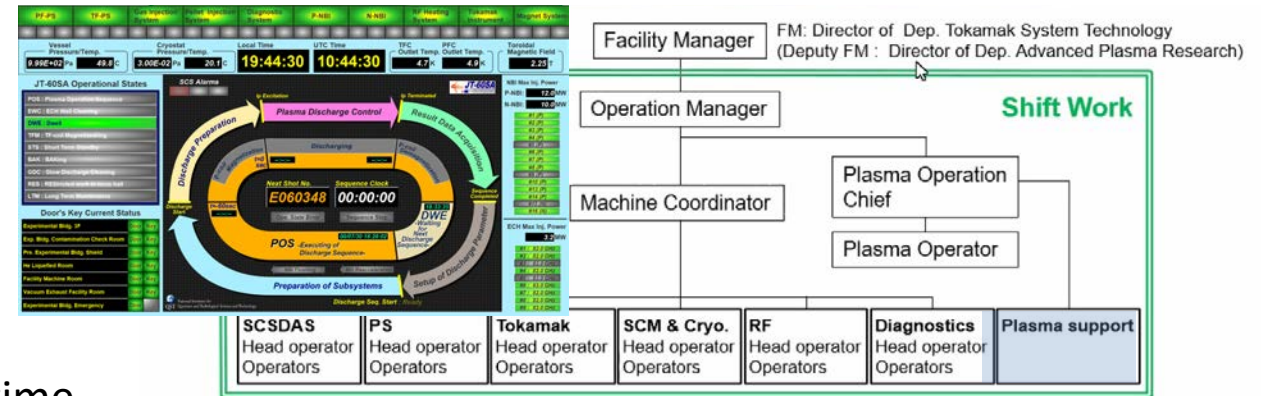
- Real-time control is a key strategic objective
- Interest in having a EU real-time experts working in the control room.

2022 task (UKAEA, IPP-CR):

Review and summarise currently available scientific real-time networks used on EUROfusion facilities as input for consideration by the JT-60SA Experimental Team.

- Initial steps to build a real-time expert group supporting the QST and the experimental team.
- Collection of network potentially through the EUROfusion Operations Network.

JT-60SA topical group leader contact: Wakatsuki-san



Diagnostics

3 Japanese contractors are rostered for each JT-60SA shift.

- +1 EU diagnostician under discussion.
- Need dedicated QST contact to ensure communication.
- Consider/prepare bilingual tools.
- All manuals will be translated to Japanese. Training of Japanese diagnosticians through QST onsite.

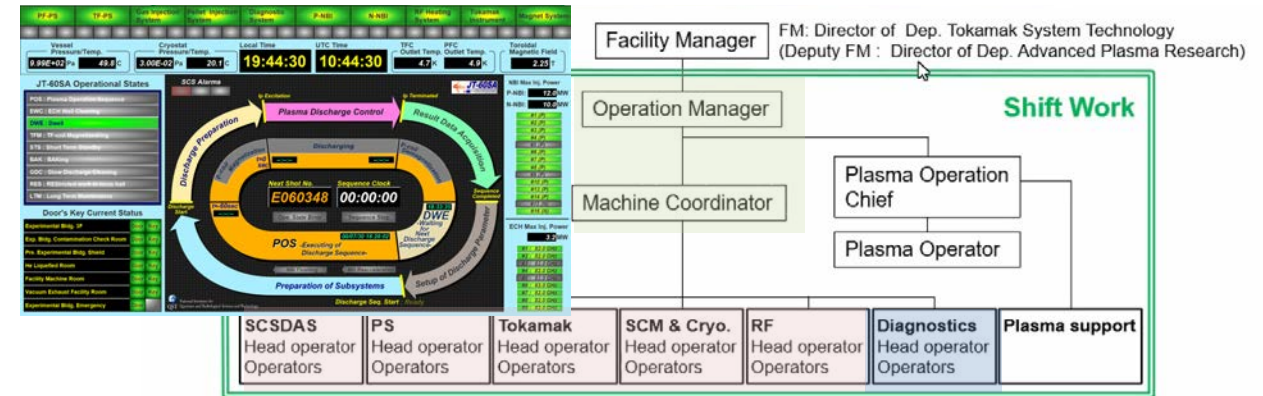
Plant operators

- All Japanese. EU support to some groups (cryo, magnets, in the future NBI?, divertor cryo).

Machine Coordinator, Operation Manager

(“Similar role to Shift Technician, EiC at JET”)

- Always Japanese. Would be useful to shadow to understand better the JT-60SA plant systems.
- EU interest in machine/plant protection.

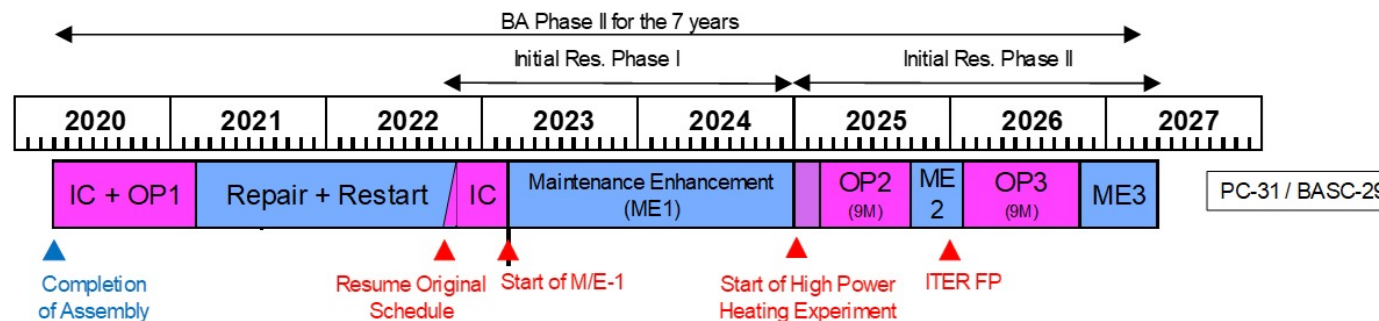


Build a joint Japanese-European Team (also in Operations)

- Build a strong connection with QST experts and understanding of JT-60SA
- Support QST in the integrated commissioning, be useful
- Increase access in English to tools, documentation, logs, intranet
- Be part of the discussion – how to increase participation in Ops meetings? (currently weekly IC status meetings, topic and plasma team meetings)

Get experience and understand

- Current operational processes (startup, weekly, daily, ...)
- Learn QST tools and train EU team



FP9 WPSA Operations (E. Belonohy) – 2022+	
2021+	Plasma Operations (incl. vacuum conditioning and breakdown)
	Equilibrium control
	Magnetics and the disruptions database
	Cryo and Magnets
	EDICAM operation
2024+	Camera tomography implementation
	Real-time networks
	Fast Ion Loss Detector (FILD)
	Thomson Scattering (TS)
	VUV Spectrometer (VUV)
	Pellet injection
	Massive Gas Injection (MGI)
	Divertor Cryopump System
	Neutral Beam Injection (NBI) (QST enhancement)