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Remote Participation in ITER Systems Commissioning

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ITER is now in full construction phase, with many plant systems being installed and commissioned. Plant service systems –electricity, liquid and gas supplies, water cooling, building monitoring –are being gradually commissioned and handed over for operation. Other systems, such as plasma diagnostics, are being developed and tested on site or at the ITER parties, to be installed later during machine assembly. Remote participation function of the ITER control system has been always oriented towards plasma operation phase, not specifically addressing systems'commissioning phase. As the systems are often procured by the ITER parties, recently there has been significant interest from the suppliers to follow up the commissioning activities as well. This interest was further multiplied by recent limitations on work force travel. Consequently, some remote participation elements under development had to be put in place or adapted ahead of time.

This contribution gives a summary of the status of the remote participation design at ITER, and illustrates several particular use cases. From architecture point of view, implications of remote participation on a control system network and services design are discussed, and different ways of remote connection are explored. From the point of view of plant systems, a remote follow up of a "slow"electricity supply system producing repetitive data readings is illustrated, as well as a follow up of a "fast"diagnostic system producing scientific data in test mode. From the operational mode point of view, mostly systems with read-only follow up are discussed, but also the approach to interactive participation in system tuning is explained.

Member State or IGO

ITER Organization

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