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Completion of ENEA's procurement for 9 TF coils of JT-60SA tokamak

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In the framework of Broader Approach program for the early realization of fusion with the construction of JT-60SA tokamak, ENEA has to provide 9 of the 18 TF coils of JT-60SA magnet system. The supply has been subsequently increased to include the procurement of an additional TF coil for spare purposes. The production of the spare coil started in 2016, after the supply to ASG of the corresponding six unit lengths of cable in conduit conductors procured by ENEA through a contract with ICAS consortium in 2016.

The principal milestones of the six year contract with ASG Superconductors are here summarized: at the end of September 2013 the completion, of the engineering phase and of the qualification activities related to winding operations, started production phase. In the course of 2014, the first two winding packs (WP) constituted by 6 double pancakes have been manufactured, impregnated and successfully tested. In 2015, the rest of WP production has been completed and the final integration of the first WP in its casing components set started. In 2016, six WPs have been inserted in their casing components sets and in 2017 the rest of the manufacturing operation are going to be completed.

This paper provides an overview of the contract that ENEA signed with ASG Superconductors for this supply. Also main electrical, geometrical and fluidic results of the TFC completed so far are reported in order to give a general assessment of the performances and functionality of the coils.

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