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Progress with the ITER Project Activity in Russia

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Russian obligations in the ITER project consist of the development, manufacture, installation and putting into operation at the ITER site of 25 systems. At this stage Institution «Project center ITER» has signed with the ITER Organization 18 procurement arrangements for manufacture and supply of the equipment for ITER. Manufacture of the corresponding systems and development of other 7 systems is carrying out according the schedule of ITER construction.

Nine unit lengths of Nb₃Sn toroidal field conductor and nine unit lengths of NbTi poloidal field cables were supplied to European Union in 2013-2014 according to schedule. "Vezuvi-11M" gyrotron was tested in bench in NRC "Kurchatov institute" where all required by ITER parameters (frequency - 170 GHz, power - 1 MW, duration - 1000 sec and efficiency - 52%) were reached in combination. 12 European and 6 Japanese mockups of divertor were tested in Efremov institute at thermal loads of 20 MW/m². Technology of Russian Beryllium manufacture for ITER first wall was developed in collaboration between Bochvar institute (technology developer) and JSC "Bazalt" with participation of Efremov institute. It was proposed to install gamma-spectrometer behind the NPA at the same line of sight as NPA. Such combination of NPA and gamma-spectrometer will provide additional possibilities to increase accuracy of D/T ratio measurements and fast ion behaviour studies. In collaboration with Institution "Project center ITER" the NPA complex was added by diamond spectrometer of fast atoms that also will increase possibilities of fast ions studies. Results of analysis demonstrate essential increase of high field side reflectometry by adding low field side antenna to provide refractometry measurements. The prototypes of monocrystal Molybdenum mirror were manufactured for hydrogen line and charge exchange recombination spectroscopy. The prototypes of U-235 and U-238 fission chambers and compact diamond neutron spectrometers were developed and tested. The prototypes of spectrometers for CXRS are manufactured and tested.

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