

DOI: 10.34854/ICPAF.52.2025.1.1.253

## PREPARATION FOR PRODUCTION OF DIAGNOSTIC EQUIPMENT FOR ITER AT BINP SB RAS <sup>\*)</sup>

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Since 2013, the Budker Institute of Nuclear Physics has been carrying out design work on diagnostic equipment for the ITER installation. The list of equipment being developed includes: design and integration of upper diagnostic ports ## 02, 07, 08, equatorial diagnostic port #11 as the main supplier. BINP SB RAS acts as a manufacturer and developer of part of the system in diagnostics: vertical neutron chamber (upper and lower), divertor neutron flux monitor, neutral particle analyzer (inside vacuum part). In 2024, work continues on manufacturing and preparation of production at BINP SB RAS for the ITER project.

Manufacturing and assembly of diagnostic shielding modules of equatorial port #11 is underway, including gun-drilling of the diagnostic shielding module. Documentation is being prepared for the production of the diagnostic shielding module of the upper port #07.

In November 2024, the final designs of the interspace support structure and port cell support structure of the upper ports #02 and #08 were carried out. Work is underway to prepare for a review of the final design in-vessel components of these ports.

According to the Deviation Request, after successfully passing the final design review in November 2024, production of the components of the upper vertical neutron chamber (VNC) has begun. To date, the mechanical processing of the housings of the detector module of the upper VNC has been successfully completed. Material for the manufacture of the neutron shielding of the VNC has been purchased. Documentation is being prepared for passing the Manufacturing Readiness Review.

The first stage components of the divertor neutron flux monitor (DNFM) have been manufactured. According to the Deviation Request for an early start of production in 2024, the components of the DNFM housing have been manufactured. The machining of end flanges, protective housing tubes and protection elements of U5 and U8 detector units has been successfully completed. The documentation for passing the Manufacturing Readiness Review is being prepared.

The final cleaning inside the vacuum section of the neutral particle analyzer elements has been completed, and the End of Manufacturing Report has been prepared.

The report presents the status of the production of diagnostic equipment for the ITER facility.

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<sup>\*)</sup> [abstracts of this report in Russian](#)