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## Structural Analysis of the ITER Coil Power Supply System

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The ITER Coil Power Supply and Distribution System (CPSS) serves for operation of the ITER tokamak magnet system. The CPSS is the complex system which consists of electrical equipment of different purpose and the busbar system used for electrical connection between this equipment and the coils of the magnet system. In accordance with the Procurement Arrangement the Russian Federation is responsible for design, manufacturing, delivery, installation, initial commissioning and corresponding tests of the CPSS components. The Efremov Institute is in charge of this activity. The compliance with structural design criteria is the common practice when designing the plant equipment. In contrast to other ITER subsystems no special structural codes are mandatory or specified for the busbar system.

This paper presents the approach used for mechanical analysis and strength assessment performed in the course of design, manufacturing and tests of one of the main CPSS component –the busbar system. Based on the proposed approach structural analysis of the busbar system of the ITER CPSS has been performed in support of design and manufacturing of the busbars, their connection zones (compensators, jumpers) and busbar supporting system.

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**Author:** Dr LABUSOV, Alexey (JSC "NIEFA", St. Petersburg)

**Co-authors:** Dr ARNEMAN, Anna (JSC "NIEFA", St-Petersburg); Dr PRIVALOVA, Elena (JSC "NIEFA", St. Petersburg); Dr SUKHANOVA, Maria (JSC "NIEFA", St-Petersburg); Mr KHRABRYKH, Nikita (JSC "NIEFA", St-Petersburg); Mr AKULITSKY, Sergey (JSC "NIEFA"); Mr GAVRILOV, Sergey (JSC "NIEFA", St-Petersburg); Mr PANOV, Vladimir (JSC "NIEFA", St-Petersburg)

**Presenter:** Dr LABUSOV, Alexey (JSC "NIEFA", St. Petersburg)

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