

30 March 2016, Barcelona

Background information on the two contracts signed between Fusion for Energy and CNIM**The scope and duration of the contracts:**

Fusion for Energy (F4E) has signed with CNIM a contract for the manufacturing of four Poloidal Field coils, expected to run for at least four years, and another contract for the supply of ITER's in-vessel-viewing system, which will last up to seven years.

The value of the contracts:

The cumulative value of the two contracts is 80 million EUR.

Summary of the Poloidal Field coils manufacturing:

Through this contract four out of the six PF coils of the ITER machine will be produced. In order to validate all processes a mock-up coil will be produced and tested. Then, the "real" manufacturing will begin to deliver the four coils.

The main manufacturing steps explained:

First, we will clean, sandblast, insulate and wind the conductor. Next, two layers of conductor will be wrapped and impregnated in vacuum. Then, we will stack and wrap the multiple layers of conductor to form a pack, which will be impregnated in vacuum. Finally, after having installed electrical equipment and pipes, the PF coil will be inserted in the cryostat where it will be cold tested. When the test is completed, the coil will be brought back to room temperature and be installed in the ITER device.

The purchase of materials, the execution of high-tech manufacturing processes using bespoke tooling, cold testing at approximately -193 °C /80 K and the training of specialised personnel will materialise through this contract. The fabrication of the PF coils will take place in a dedicated facility on the ITER site close to the Assembly Hall building.

Summary of the in-vessel viewing system contract:

The conditions inside the ITER machine do not allow any manual intervention. Therefore, an in-vessel viewing system will be required to perform visual and dimensional inspections. Information about the state of the components exposed to the superhot plasma will also be provided. Periodically, the probes of the in-vessel viewing system will be deployed to obtain images of high accuracy so that engineers check this part of the machine and evaluate if any maintenance will be required. The equipment of the in-vessel-viewing system will be able to tolerate radiation, strong electromagnetic forces and comply with vacuum quality clean conditions. Another important aspect to take into consideration during the design of this application is nuclear safety, given the functions that it will perform.



CNIM designs, develops and builds turnkey high-tech industrial facilities. The company provides expertise, services and operations support in the environment, energy, defense and other industrial sectors. CNIM leads projects and sells equipment worldwide. It relies on stable family ownership, which underwrites its development.

The Group has 3 000 employees with revenues in 2015 of 727 million EUR, of which exports accounted for 61.3%.

CNIM is quoted on Euronext Paris and is a member of the Partners Around ITER (PAI) business network.

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