

The European approach to the fusion-like neutron source: The IFMIF-DONES Project

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The need of a neutron source for the qualification of materials to be used in future fusion power reactors have been recognized in the European (EU) fusion programme since many years. The construction and exploitation of this facility is presently considered to be in the critical path of DEMO. This issue prompted the EU to launch activities for the design and engineering of the IFMIF-DONES (International Fusion Materials Irradiation Facility-DEMO Oriented Neutron Source) facility based on and taking profit of the results obtained in the IFMIF/EVEDA ('Engineering Validation and Engineering Design Activities') project, presently conducted in the framework of the EU-Japan Bilateral Agreement on the Broader Approach to Fusion.

These activities and R&D work for the IFMIF-DONES Plant are presently taking place in the framework of a work package of the 'EUROfusion' Consortium, in direct collaboration with 'Fusion for Energy' Organization. The main objective of these activities is to consolidate the design and the underlying technology basis in order to be ready for IFMIF-DONES construction as early as possible.

This paper presents the main engineering results for a generic site obtained during the first years of design work, as indicated in the recently released IFMIF-DONES Preliminary Engineering Design Report, making emphasis on the design evolution from previous phases and on the critical issues to be further developed in the near future. The proposed European site to host the facility (Granada Spain) is briefly introduced as well.

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