



Contribution ID: 790

Type: **not specified**

P2.219 Tritium and Dust Source Term Inventory Evaluation Issues in the European DEMO reactor concepts

Tuesday, 18 September 2018 11:00 (2 hours)

Fusion reactors represent a future evolution of the nuclear technology improving the world-wide energy portfolio. The experimental fusion reactor under construction (ITER) and the planned industrial fusion reactors (DEMO) are large and complex facilities. For their operation it is necessary to ensure safety and solve several technical issues. The limitation of the radiological and mobilizable source terms inventory, tritium and radioactive dust is one of them.

The source term inventories shall be assumed in the establishment of the operational and safety requirements for DEMO, as well as performing the safety analyses for the commercial fusion devices. In the last few years a methodology for the evaluation of tritium and dust source term inventory has been proposed in the framework of the EUROfusion project. The basis of the methodology is a semi-empirical approach to scale the radioactive inventories limits implemented in ITER. The amounts derived according to this methodology will supply a guidance for the safe operation of the future fusion reactors. The development of this methodology has to be completed and refined because of the lack of a validation versus real experimental data and rules for the extension to different scenarios.

The aim of this work is the validation of the developed methodology for the evaluation of tritium and dust source term inventory regarding appropriate experimental facilities (such as JET and ASDEX).

Presenter: MAZZINI, Guido (Safety Research Section Centrum vyzkumu ñe_ s. r. o. (Research Centre Rez))

Session Classification: P2