Contribution ID: **32** Type: **Poster**

A Study of the Maintainability of the Lower (Divertor) Port & Divertor Cassette

Monday 4 November 2019 17:45 (15 minutes)

The EU DEMO project aims to prove that fusion power can be developed into a commercially viable power source. To achieve this, the plant needs to both produce sufficient power and be able to utilise it, and to demonstrate a closed tritium cycle. This requires that the plant needs to have suitably high availability that can be extrapolated to a commercial power plant (i.e. plant downtime for maintenance needs to be minimised) whilst meeting the relevant safety standards (IAEA, regulator, and good practice). Thus, maintainability becomes mission critical for DEMO.
This requires a step change in the level of integration of maintenance into the design efforts, compared to previous fusion experiments, from component level upwards to plant layout and design, with maintenance aspects becoming design defining.
The DEMO divertor cassette has evolved through several differing baselines and will continue to do so as is expected in pre-conceptual studies. During the course of this evolution, the engagement between integration, component design and maintenance teams has led to various lessons being learned and the development of design features which are required in the divertor cassette, along with several key learnings as to the effects of design decisions on the maintainability of the divertor cassettes and the impact on the lower port in general.
In this contribution we describe some of the handling and maintenance strategies which have evolved alongside the developing baselines, and describe the lessons learned which are likely to be common with future configurations of the divertor cassette.

Country or International Organization

United Kingdom

Author: WILDE, Andrew (UKAEA)

Co-authors: Dr BRACE, William (VTT); Mr GLISS, Curt (Eurofusion); Dr JIMENEZ, Samuel (UKAEA); Mr KEECH, Greg (Eurofusion); Mr LOVING, Antony (UKAEA); Mr TREMETHICK, Tristan (UKAEA); Mr SHAW, Conway (UKAEA); Dr VORPAHL , Christian (EUROfusion, PPPT Department.); Prof. YOU, Jeong-Ha (Max Planck Institute for Plasma Physics)

Presenter: WILDE, Andrew (UKAEA)

Session Classification: Poster Session I

Track Classification: Divertors for DEMO and Reactors