TRANSFER CASK SYSTEM DESIGN ACTIVITIES: STATUS AND PLAN

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The ITER Transfer Cask System (TCS) is a critical element of the overall ITER Remote Maintenance System (IRMS). Due to the necessary confinement of in-vessel components, highly gamma-activated and contaminated by metallic and tritiated dust, and of contaminated in-vessel Remote Handling (RH) sub-systems (i.e. Divertor and Blanket handling systems) the TCS is defined as Safety Importance Class 1 (SIC-1). In addition, the mobile nature of the TCS operations, within the Tokamak building and Hot Cell Facility, bring with it a significant number of complex interfaces which need to be closely controlled throughout each phase of the design and manufacturing process. With a total TCS fleet in excess of 20 units, including at least eight different types of casks, the management of the design and procurement activities needs to be carefully planned and implemented to ensure compliance with ITER's functional requirements and implantation schedule.

Fusion for Energy (F4E) are currently working with the ITER Organisation's RH team, under ITER Task Agreements, on the conceptual design of the TCS and, following the signing of the Procurement Arrangement (scheduled for mid 2012), will take responsibility for the in-kind contribution of the entire TCS fleet based upon a functional specification. F4E must, therefore, develop a robust strategy phased appropriately to meet the needs of both ITER machine assembly (for which a number of TCS will be utilised) and the subsequent remote maintenance of ITER.

Within this context this paper will present the status of the current TCS design activities, highlight some of the significant issues which will be faced during design and procurement and present the overall strategy which is being implemented by F4E in order to meet these challenging objectives.