Optimal design of Storage and Delivery System for tritium plant of the International
Thermonuclear Experimental Reactor

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The optimal design model of Storage and Delivery System (SDS) for the International Thermonuclear Experimental Reactor (ITER) is formulated as a mixed integer nonlinear program (MINLP). Based on the cyclic features of SDS operation, cyclic-team approach is applied, which has the advantage of reducing the size of problem. The model is developed for cases whether material bypass to buffer vessel from Isotope Separation System (ISS) is allowed or not. The design problem involves three scenarios, following three types of Tokamak reactor: Inductive, Non-inductive, Hybrid. In this study, the inductive operation scenario is presented to illustrate the applicability of the proposed model.