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## Flow Induced Vibration Forces on a Fuel Rod by LES CFD Analysis

The purpose of the present study is to evaluate the feasibility of use of CFD Large Eddy Simulation (LES) modeling techniques in CD-adapco CFD code STAR-CCM+ to calculate the instantaneous stress tensor on the fuel rod wall and then utilize these data for mechanical calculations. Transient hydraulic forces on the fuel rod resulting from the CFD model are linked to the Westinghouse VITRAN code to predict fuel rod vibration response. The coupled CFD/mechanical solution has provided a reasonable prediction of fuel rod vibration and a more accurate representation of all the important physics and excitation forces.

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