• ITER loads during AVDEs were obtained extrapolating JET loads through models developed in the late ’90 resulting in dangerous loads (in case of rotating AVDE).

• Re-assessment of the JET data led to the proposal of the ATEC model which solves many of the inconsistencies of the older models.

• ATEC model assumes that a relatively hot plasma could short-circuit the poloidal gaps between adjacent plasma facing components allowing net toroidal current to be induced on the First Walls.

• The ATEC model has been applied to ITER through finite element analyses and results are discussed:

  • Locked AVDE analysis shows reduction of peak loads of about 50% with respect to old analyses (<30 MN vs. 50 MN).
  • Rotating AVDE analysis shows even bigger reduction of net forces and moments (-70% vs. older analysis).