

## **MODELING OF THE CORIUM JET PENETRATION INTO THE POOL OF VOLATILE COOLANT UNDER REACTOR VESSEL**

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Developed mathematical model and some results of its application to the element of the passive protection system against severe accidents at NPP with water pool under reactor vessel for corium melt and particles' cooling are presented. This element of a system is penetration behavior of the high-temperature corium jet into volatile coolant pool, with account of the vapor produced on a melt jet penetration. Success of the problem solution determines an effectiveness and durability of the passive protection system against severe accidents. Therefore, the obtained results may be useful for the development and calculation of such passive protection systems at the NPP.

*Keywords:* severe accident, jet, corium, pool, penetration, model.