Release Notes for RELAP5-3D© Version 1.3.5

Improvements in version 1.3.5

The following is a brief description of improvements and new features in version 1.3.5.

New Water Properties

New water properties were added based on the IAPWS-95 formulations. A new light water steam table converter (sta2b) was added to the environmental library. Also added were tables for thermal conductivity, dynamic viscosity, and surface tension. The new properties are invoked by inputting H2O95 as word 3 on the 120-129 cards.

New Decay Heat Model

The ANS94-1 and 94-4 decay heat standards were added as an option. They are invoked through card 30000002.

New CHF Model

The Osmachkin critical heat flux correlation was added as an option. It is applicable to RBMK reactor cores. It is invoked using card 1CCCG800.

New Nodal Kinetics Printout

The nodal kinetics printout was modified. The user can now print out the global power data, the control rod insertion depths, the thermal hydraulic conditions in each nodal kinetics zone, the axial and radial power shapes and the neutron cross sections. The control rod printout, the kinetics zone printout, and the neutron cross section printout can be activated or suppressed through the use of input cards 4 and 5. This gives the user much more control over the nodal kinetics information printed in each major edit.

New Plot Variable

A new plot variable was added for use with the level model. For each vertical stack of cells in which the level model has been invoked, a variable is now available (LEVHGT) that shows the location of the two-phase level in the stack relative to the bottom elevation of the stack.