

## RASCAL Change Log: Version v4.3.3

September 2017

- **Reactor Events (Source Term to Dose Model, STDose):**

- Resolved an issue with the source term models where in some circumstances they were trying to write a file (fort.27) in a protected location resulting in an error.
- Resolved an issue with the uranium oxide in a fire source term where selecting a filtered release from a building would cause an error.
- Resolved an issue where the effluent rates or effluent concentrations source term models would not run when the event type was set to nuclear power plant.
- Resolved an issue where the steam generator leak rate was incorrect when defined by the number of tubes that are leaking.
- Resolved an issue where the STDose UI was incorrectly reporting distance and distance units when using the Total Ground Concentration result type to examine a list of nuclides on the ground.
- Resolved an issue with the reactor source term model when using containment pressure and hole size to describe the leak rate. Code was not properly handling dumping of coolant into containment at low containment pressures.
- Resolved an issue with Effluent Rates by Mixtures source term type where in some circumstances the calculated particulate release rate was too high. Also, adjusted the timing the decay and ingrowth to be more conservative.

- **Meteorological Data Handling:**

- Updated MetFetch to work with international sites and data.
- Updated the MetFetch UI to simplify user inputs.
- Resolved an issue with MetFetch where creation of a log file could cause an error if the runtime path was not defined in the Windows shortcut.
- Updated the Meteorological Data Processor to work with the international stations and the updated facility database.

- **Updates to RASCAL Facility Database and Site Data:**

- Updated the RASCAL facility database to:
  - Add the new U.S. sites – Summer Units 2 and 3, Vogtle Units 3 and 4
  - Capture the power uprates of Catawba Unit 1 and Columbia Generating Station
  - Add the nuclear power plants for the Barakah site in the UAE
  - Add the nuclear power plants in Canada: Bruce A and B, Darlington, Pickering A and B, Point Lepreau. Since there is no CANDU support in the RASCAL source term models these sites are entered as “Specials” and have only limited source term options.
  - Add international weather stations
- Created site folders for the new sites and populated with needed topography, surface roughness, and map background files.