COLOM enhancements

Please look in general enhancement for non-program specific enhancements

Version 2.9-134 (14/8/2018)

Version 2.9-132

- Dropdown menu s can now be configured for either "Long" or "short" menus. Some of the longer menus have been re-worked for smaller resolution display devices. Less frequently used functions are now in fly-out sub menus.
- Minor bug fixes in editors and sequencing
- An issue relating to reading in project file containing a sequencing optimisa5tion result with refrigeration has been resolved
- An issue relating to initialising the project economics has been resolved
- The cost of external utilities was being ignored in column sequencing. This has been resolved.
- COLOM will no longer be supported as its key functionality has been separated out into the following simpler applications AZEO, COLSEQ, COLPROF

Version 2.9-125

- Flowsheet pictogram for Dephlegmator and Dephlegmator-strippers have been revised
- An extra "recent file" option in the menu has been removed
- Issues relating to azeotropic temperature contours and volatility contours when plotted in equilateral mode have been resolved

Version 2.9-100

- Issues relation to the HYSYS/UniSim (Hysconv/Uniconv) have been resolved
- Parameters required for HEN SA optimisation included
- An issue relation to imported information for column profile stage number has been resolved
- An issue relating to the dividing wall sequence flowsheet has been resolved
- General editor upgrade to in-house style
- Issue relating to parameter definition in the included HEN code from **SPRINT** has been resolved

Version 2.9

- Enhancement to the FUA flooding model and graphical representation

Version 2.8

- An issue relating to azeotropic calculations using an Aspen physical properties source has been resolved

Version 2.1

- Sequencing stream data generation enhanced to include stream conditioning, isothermal, non-isothermal and segmentation options added and export to clipboard facility added.
- Pre-fractionator separation load bias added to optimisation schemes.
- an issue with heat pump being used when direct heat transfer could be used has been resolved.
- Sequencing primary feed must now be either a saturated liquid or vapour.
- A liquid compressor mode added to sequencing.
- An issues with the selection of best sequence has been resolved.
- An issue with feed condition in the sequence report has been resolved.
- Open loop heat pumps implemented in sequencing optimisation.
- An issue with Secondary reboiler/condenser information not include in objective function and reports.
- Uniform pressure optimisation added to SA/GA/NLP sequencing optimisation
- Heat integrated MILP removed from the program.
- A stochastic method (SA) used to solve the sequencing problem.
- An issue relating to the minimum approach temperature for heat pumps has been resolved
- Multiple issues with sequencing column costing have been resolved.
- Heat pump added to flowsheet
- An issue with feed heater being used when the stream was already a vapour has been resolved
- An issue with the selection of different column type in GA sequencing has been resolved
- An issue with Physical properties phase envelope has been resolved.
- An issue with Condenser an reboiler duties in wrong units in simulator data report has been resolved

Version 2.0

- A statistic method (GA) used to solve the sequencing problem.
- Column Grand Composite renamed to enthalpy to avoid association with pinch GCC

Version 1.8

- Sequencing. columns with Q_feed = saturated vapour have been added and constraints to disallow partial condenser/saturated liquid feed type of connections
- User selectable default of total or partial condensers.
- A problem with tray spacing in column hydraulics has been resolved.
- The ability to specify reflux rates in retrofit columns has been incorporated.
- Tray diameter correlation now rationalised across all program sections

Version 1.7

- Sequencing flow reports modified to correct small differences between calculated and overall flow balance.
- Sequencing editor now enhanced to ensure that components that are flagged as non-condensable must now exist only in the lightest product. This prevents vapour feeds to downstream columns.
- Sloppy sequencing ' automatic selection of total/partial condensers was not logical. Sloppy pre-fractionator and sloppy top now have total condensers by default ' can be over ridden by user constraints

- Pro-II interface reader has been revised to accept larger data sizes.
- Stream stripping has been enhanced to incorporate additional features such as Heat Transfer Enhancement, additional objective functions (profit) and addition constraints.

Version 1.6

- Coloured text added to sequencing recovery editor.
- Alpha values in complex sequencing models is now re-evaluated at the feed to the sub-column.
- A problem with flowrate units on sequencing report has been fixed
- Calls to dividing wall model passed the wrong key components, in task based sequencing section, this has now been resolved.
- Separate HTC values for condensers and reboiler in the sequencing section can now be specified
- Individual reflux ratio scale up for a given column can now be specified as a constraint
- Product flowrate composition and recoveries added to reports
- Degree of severity of recovery in pre-fractionator stage can now be specified
- Initial estimates of the recovery of mid-key components can be established using the Hengstebeck-Geddes method
- Dividing wall optimisation correctly uses auto-initialise parameters
- Exhaustive sequencing remove from program
- Steam stripping feed composition migrated to main feed stream editor
- The minimum exchanger approach temperature used in sequencing and the DTmin used in targeting were being used inconsistently, this has now been resolved
- New function added to plot all component molar composition vs. stage number has been added

Version 1.5

- Physical Properties - Simulator Interface: An on-line interface has been created with HYSYS 1 to allow access to its databank and all physical property calculations to be carried out within HYSYS. HYSYS s a registered trademark of AEA Technology Ltd.
- Distillation sequencing - Distillation Structure: Extensions to the sequencing section include liquid and vapour side draws have been added to the available configuration types, along with sloppy splits, user-definable key components, improved flexibility in the way the feeds are specified, and an improved MILP solver. The flowsheet diagram has been improved to include the new "drag-and-drop" editing system.
- Dividing Wall Columns - Design Initialisation: A new method has been added for design initialisation.
- Dividing Wall Columns - Optimisation: A facility has been added to optimise the degrees of freedom.
- Steam Stripping - Steam Stripping Model: The steam-stripping model has been improved. Steam Stripping - Optimisation: Optimisation procedures for complex column arrangements have been improved.
- Extractive Distillation - Two Feed Columns: A facility has been added for two feed columns to allow extractive distillation to be analysed. Extractive Distillation - Minimum Solvent Flowrate: Minimum flowrate of solvent required for extractive distillation can be targeted.
- Retrofitting for Increased Throughput - Hydraulic Analysis: A hydraulic analysis can be carried out to identify the bottleneck with in the column.
- Retrofitting for Increased Throughput - Simulator Interface: Improved HYSYS Interface to provide automatic data transfer for development of hydraulic profiles.

- A problem with the Sloppy split mass balance has been resolved • If the calculated diameter of a column is greater than 10 m , capital cost routines will assume an equivalent parallel structures when determining the cost
- If the Underwood equation predicts liquid flow down the column of less than zero, the vapour rate in the column is adjusted to provide a nominal amount of liquid down the column

Version 1.4

- A problem with inserting new constraints in the sequence constraints editors has be resolved
- A minor problem reporting the number of trays in dividing wall columns has been resolved. • Due to the increasing functionality of the program the main toolbar has been made user configurable