AVEVA PRO/II Simulation Road Map

European Advisory Group Meeting

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July 2020

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AVEVA™ PRO/II Simulation Release Plan

Rel 2020
Released April 2020

Unit Ops
- Humidifier, Relief valve, ejector, pump curves
- Case study: vary no. columns trays
- HTRI & HXRIG COM support
- Pipes in Controller

Property Tables
- UPT & SPT grid docking
- Material Balance table
- Component handling

Also
- Message handling, unconverged solns
- Thermo Updates: DIPPR2019, API 1997 Liqd Visc, electrolytes, search order
- Simulation and File handling
- Auto save
- LaaS Support
- Reporting, Calc History

Rel 10.2.3 May 2020
2020.1 Aug 2020

10.2.3 rel May 2020
- Defects since PRO/II rel 2020 certification
- Convergence of large models

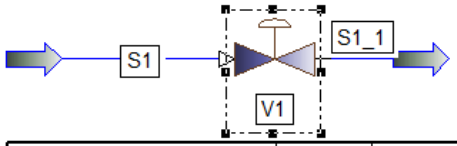
2020.1 rel August 2020
- Support of Valve Cv calculation
- Vary number of trays
- Ultimate Analysis tool improvements
- Defect fixes

Future Patches and Rel 2021
Proposed

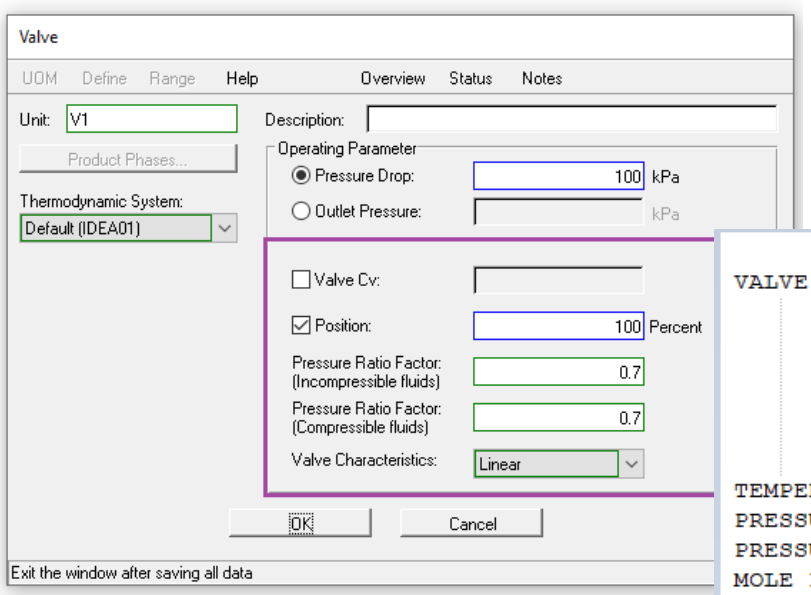
- Copy/Paste across simulations
- CSTR/PFR V/L handling and messages
- Hxgr Specifications
- PFD Quick auditing
- Calculation Sequencing
- Better control of tear streams, Controller and MVC
- Depress model
- Improved HXRIG&HTRI convergence
- Initial estimates improvements
- Navigational access to data on objects, color coding
- Vapor Frac specs on Partial Condenser

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Valve – Support Cv Calculation



Valve Name Valve Description		V1
Temperature	F	100.0000
Pressure	KPA	244.7380
Pressure Drop	KPA	100.0000
Valve Coefficient(Cv)		28.6144
Valve Position	PCT	100.0000



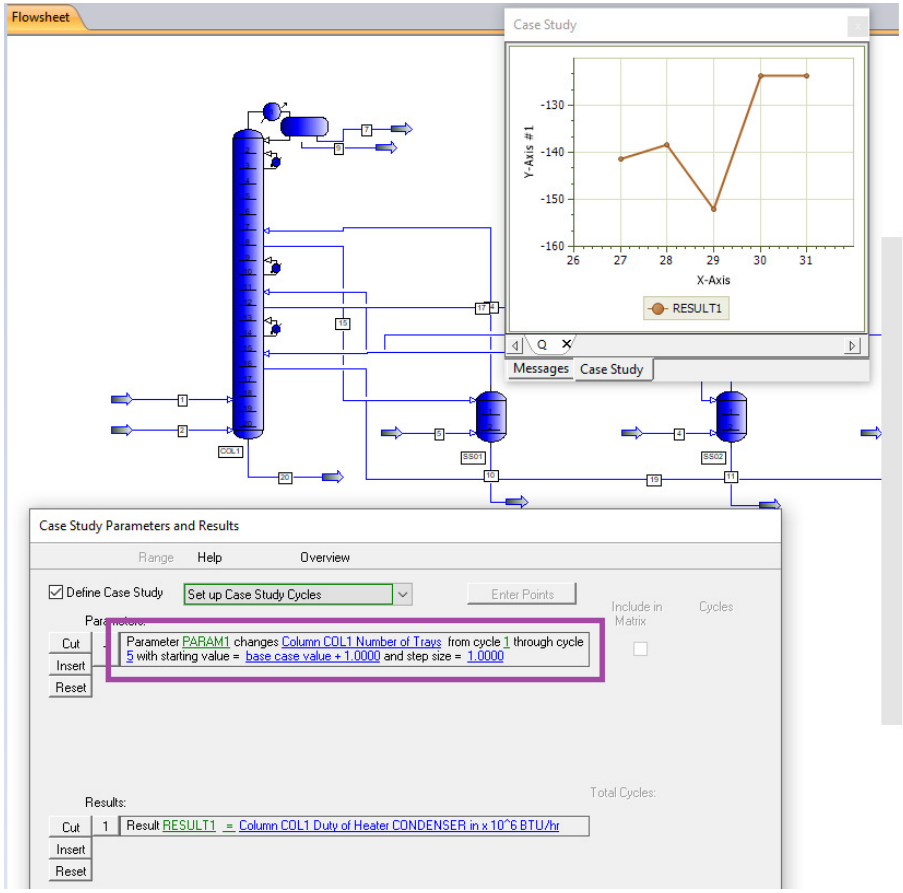

```
VALVE ID                              V1
      NAME

      FEEDS                           S1

      PRODUCTS LIQUID                 S1_1

TEMPERATURE, F                    100.000
PRESSURE, KPA                     244.738
PRESSURE DROP, KPA                100.000
MOLE FRAC VAPOR                   0.00000
MOLE FRAC LIQUID                  1.00000
MOLE FRAC MW SOLID                0.00000
VALVE COEFFICIENT(CV)            28.61441
VALVE POSITION, %               100.00000
```

Case Study – Vary number of trays in Merged IO & LLEX Column



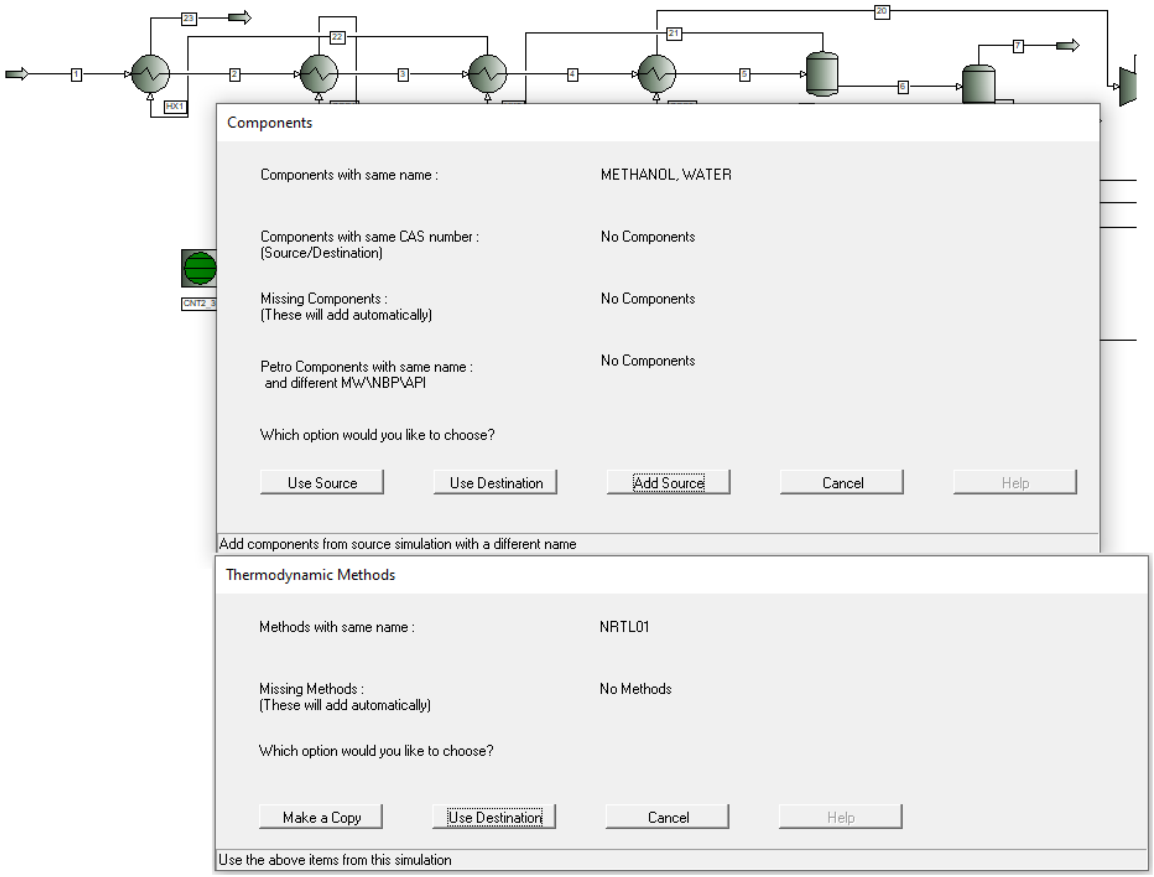

```
VALUES OF MANIPULATED PARAMETERS

          CYCLE     PARAM1
         NUMBER
         ------ ------------
           Base       26.0000
              1       27.0000
              2       28.0000
              3       29.0000
              4       30.0000
              5       31.0000


VALUES OF DECLARED RESULTS

          CYCLE    RESULT1
         NUMBER  MM BTU/HR
         ------ ------------
           Base     -141.1056
              1     -141.3189
              2     -138.4476
              3     -151.9971
              4     -123.6284
              5     -123.8180
```

Copy/Paste across simulations – Auto create missing Components, Thermo and Reaction sets & procedures



Roadmap Assessment

Item	Effort			Priority
	High	Med	Low	
CSTR/PFR V/L handling and messages	✓			1
PFD Quick auditing	✓			2
Calculation Sequencing	✓			2
Vapor Frac specs on Partial Condenser		✓		2
Initial estimates improvements		✓		2
Tear stream Control improvement, Controller and MVC		✓		3
Improved HXRIG&HTRI convergence		✓		3
Depressurizing model	✓			3

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AVEVA

Aha Ideas Board Top Ten

SimIdeas	Votes		Status
I-45	4	CSTR/PFR reactor models to handle two-phase reactions	In Progress
I-30	4	Standard Gas Turbine Model	In Roadmap
I-110	4	Change Numbering Scheme on PRO/II Columns	Submitted
I-41	3	Import any keyword file with incomplete unit op data	In progress
I-19	3	Provide more process detail fired heater combustion section	Considered for Roadmap
I-70	3	New Short-cut Method for Distillation Column Study	Submitted
I-102	3	Gas/Solid Cyclone	Submitted
I-89	2	Enhancement HXRIG	In Progress
I-80	2	Sequence Block	Considered for Roadmap
I-109	2	Option to reset to base case solution between iterations of case study	Submitted

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- Q/A Discussion

Advisors Discussion

Questions:

- What use cases do you see where Refinery specialty reactors are needed in AVEVA™ PRO/II Simulation and AVEVA™ Process Simulation?
- If Refinery Reactors were included in AVEVA™ PRO/II Simulation and AVEVA™ Process Simulation in a phased approach, which reactor in which priority?
- What key feature on AVEVA™ PRO/II Simulation is a must have in AVEVA™ Process Simulation for you to consider it?

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