TOP 10
QUESTIONS

**Answered to Help Maximize Model
Accuracy Using Historical Plant Data**

Question: Where can I find more information on configuring Aspen HYSYS® using historical plant data residing in Aspen InfoPlus.21®?

Answer: The new Plant Data feature can assist in configuring Aspen HYSYS and Aspen InfoPlus.21. For current users of Aspen HYSYS or Aspen Plus, visit the online help section of the **AspenTech Support Center** to view tutorials and videos demonstrating this workflow.

Question: Does the Plant Data feature have built-in methods to condition raw plant measurements, such as bad quality value overriding or steady-state detection?

Answer: The Plant Data feature includes several well-proven algorithms for data conditioning and steady-state detection that leverage Aspen OnLine® running in the background. For instance, raw plant data can be:

1. Tagged to the upper or lower bounds once the value exceeds the upper limit or moves past the lower limit
2. Smoothed by averaging user-specified time intervals
3. Overridden with user-specified default values, such as last good values or alternative measurements
4. Checked for "frozen" values for a specified time span
5. Operationally used to detect steady-state operations based on either heuristics or statistical criteria

Question: Does AspenTech recommend a Microsoft® Excel template for extracting data from the plant historian?

Answer: There is a standard template for importing plant data. During the installation of Aspen Plus or Aspen HYSYS, templates are created that are accessed via the Plant Data ribbon. Examples are also available in the Plant Data subfolder within the Aspen Plus or Aspen HYSYS example folders.

Question: If models are unable to predict the plant data correctly, is it possible to identify which variable in the model needs to be regressed?

Answer: Using the Plant Data feature, the user can compare plant measurements with model results in tabular or graphical plot form. Once the deviation is identified, the user can revamp an Aspen Plus or Aspen HYSYS model using tools such as the data regression feature, sensitivity analysis, etc. to improve the accuracy of the model.

Question: Does data reconciliation include chemical component reconciliation in addition to heat and mass balance reconciliation? Does it use vapor-liquid equilibria or similar information to do this?

Answer: The underlying process model is based on first principles. The model uses full mass and energy balances, including rigorous phase equilibrium, and considers transport properties such as viscosity and thermal conductivity. The model ensures a feasible, self-consistent mass and energy balance for the process. Many customers use such online models to get reconciled mass, energy and composition data to help with internal allocations and production accounting. Others use online models to fill gaps in process measurements, for example, to predict petroleum properties.

Question: Where can I find a list of historians supported by the Plant Data feature? Are (ODBC) connections possible?

Answer: Aspen OnLine and the Plant Data link for Aspen Plus or Aspen HYSYS can work with any historian that supports OPC (OLE for Process Control). This includes Aspen InfoPlus.21, PhD, Pi and many lesser-known historians. It is also possible to use ODBC to work with a relational database via scripting language.

Question: When comparing model results to plant data, how does the two data value descriptions (tags) compare?

Answer: Plant Data tags in a data historian typically have units of measure defined as labels. There is a step in the workflow to associate the tags with units of measure that are consistent with the simulation tool.

Question: If I need to correct a flow rate for temperature, pressure or molecular weight, can I import the uncorrected data and use the Aspen Plus or Aspen HYSYS model to perform the appropriate correction?

Answer: The raw metering data such as flow rate, temperature and pressure can be imported into the Aspen Plus or Aspen HYSYS model and calibrated with calculated fluid density and molecular weight. The calibrated metered data can then be used in the model for further calculations.

Question: Is the Equation-Oriented mode supported in the run sequence?

Answer: Aspen OnLine and the online data features work with both Sequential-Modular and Equation-Oriented modes in Aspen Plus. The Plant Data feature does not support Equation-Oriented modules in Aspen HYSYS V10.

Question: Does the new Plant Data feature fit different column tray efficiencies to individual trays? Does this feature optimize user-selected manipulated variables to get an overall fit for entire plant data sets as best as possible?

Answer: The user must configure a reconciliation model or optimization model in Aspen Plus or Aspen HYSYS based on the business needs and modeling scope. The user selects which variables are adjusted and then the model performs optimization to achieve the best overall fit compared to multiple models. The user then imports historical plant data and executes the configured model with imported plant data via the Plant Data feature in Aspen Plus or Aspen HYSYS.