HYDRO enhancements

This document summarises HYDRO enhancements by version so users can quickly identify new functionality, resolved issues, and changes that may affect existing workflows.

For enhancements that are not specific to HYDRO, see the general enhancements document.

Where a version heading has no listed items, no enhancement notes are currently recorded for that release

Version 2.9-160 (08/06/2026)

- The zoom slide control in the flowsheet environment has been changed from a linear scale to an exponential scale. This gives a more intuitive response.
- The input data table reports have been enhanced to display all data and can now be copied to Excel with correct alignment.

Version 2.9-157 (05/05/2026)

- The pictograph in the flowsheet can now be resized. This can be used to highlight specific elements in the flowsheet.
- Utilities have been renamed as site fuel, and additional features have been added to the pictograph layout.

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Version 2.9-145

- The compressor pressure check was using the wrong value for consumer outlet pressure.
- The simulation report section on consumer inlet purity was using an incorrect reference value.

Version 2.9-144

- An issue relating to the flowsheet treeview has been resolved

Version 2.9-142

- New development environment libraries have been added.
- Restructure on-line help.

Version 2.9-136

- Network lines on the flowsheet can now be assigned different attributes to represent levels of a selected property, such as purity, flowrate, or pressure, helping users identify streams of interest.
- The operating and capital cost terms for the hydrogen purifier were not being converted correctly from internal units to user units. This has been resolved.

Version 2.9-134

- The multiple contaminant functionality has been withdrawn due to unstable behaviour of the simulator/optimiser.

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Version 2.9-133 (14/8/2018)

Version 2.9-132

- Hydrogen network design options editor has been revamped to clarify key settings.
- The design constraints editor has been reworked to clarify the differentiation between different outlet types, such as consumer high-pressure and low-pressure outlets.

Version 2.9-126

- An issue relation to the hydrogen consumer editor displaying the incorrect net source and sink has been resolved.
- An issue relating to incorrect flowrate limits in the automated design has been resolved.
- Hydrogen producers can now be categorised as either utility or process producers. Units categorised as process producers are assumed to have a fixed flowrate.
- Hydrogen consumers now have additional options for specifying net sinks and sources.
- Hydrogen consumer can now generate sensitivity plot of variation in both recycle and makeup flowrate.
- Hydrogen purifiers can now generate sensitivity plot of variation in flowrate and purity.

Version 2.9-125

- An issue relation to the constraints editor has been resolved.

Version 2.9-100

- An issue relation to the child input sheet on the component editor has been resolved.

Version 2.9

- Issues with units' conversion reading older .RFO files has been resolved.

Version 1.5

This is a new package developed for the analysis and design of hydrogen systems in petroleum refineries. Issues addressed by **HYDRO** include:

- Minimisation of hydrogen demand through maximum re-use
- Minimisation of hydrogen losses
- Optimum selection between multiple sources of hydrogen
- Trade-off between hydrogen supply purity and flowrate · Analysis of purification options · Automatic design of hydrogen distribution networks · Analysis of cost trade-offs
- Due to the increasing functionality of the program the main toolbar has been made user configurable.