Olefin-SIM™

Pyrolysis Furnace Model

a KBC SIM Model

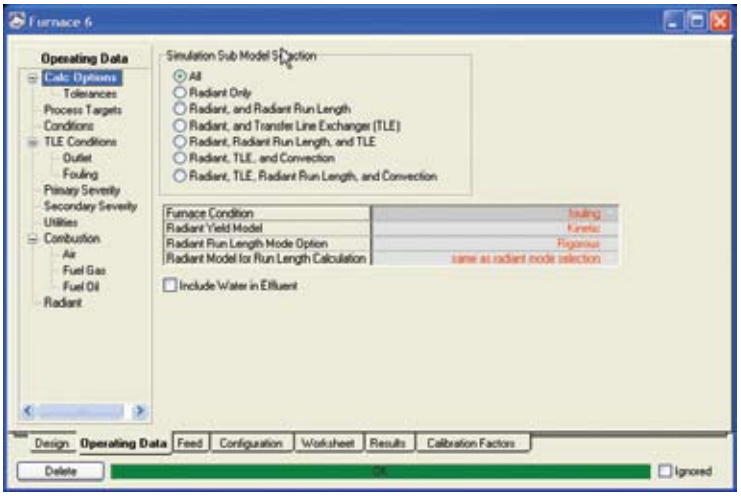
KBC has incorporated the kinetics-based pyrolysis Lummus Furnace Model into Petro-SIM™, our premier process simulator, thus bringing advanced simulation technology into the heart of base petrochemicals production.

With the addition of this new model, Petro-SIM can now model and optimise pyrolysis furnaces directly in the flowsheeting environment.

The furnace model includes full radiant and convection sections and coking prediction; the model can be tailored to a wide variety of furnace types.

Olefin-SIM can accept all common feedstocks including ethane, LPG, naphtha, kerosene, and gasoils to HVGO (including processed feedstocks). The model also handles olefinic feedstocks, raffinates, and virtually any feedstock processed in a steam cracker.

Steam Cracking Complex



Furnace Modelling Options

Olefin-SIM APPLICATIONS

- Performance Evaluation/Monitoring
- Process Optimisation
- Constraint Evaluation and Debottlenecking
- Case Studies
- Operations Planning
- LP Vector Generation and Updating

BENEFITS

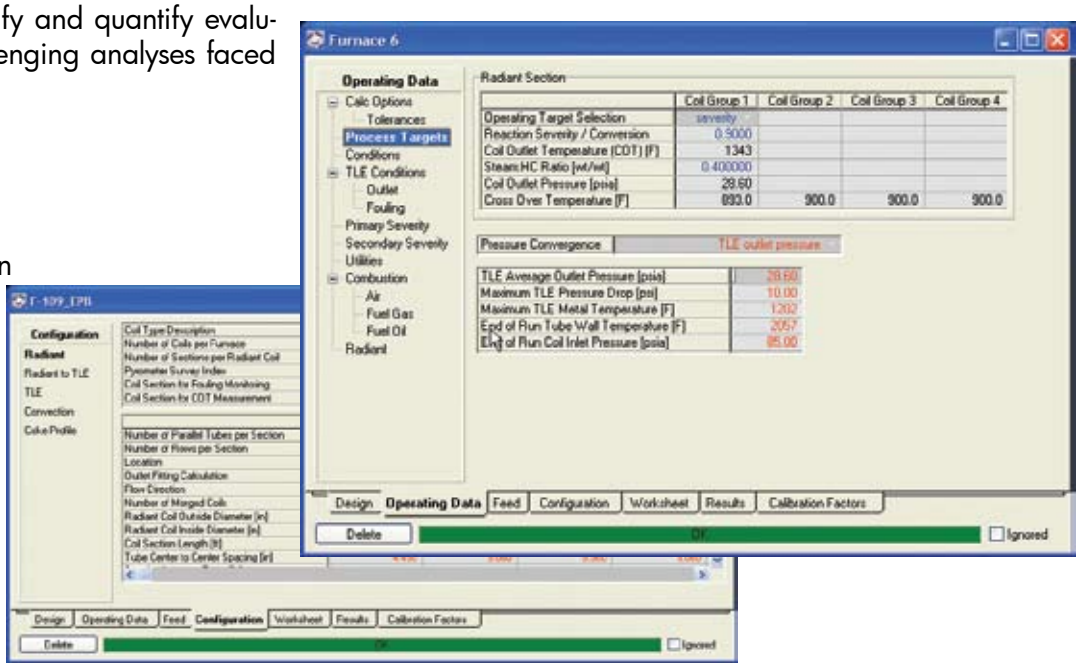
Full optimisation of cracker operations is available with all of the main operating variables available to determine the optimum selection of:

- Feedstock Selection
- Feedstock Allocation
- Feed Rate for Individual Furnace
- Severity (Conversion, COT or Severity Index)
- COP or CGC Suction Pressure

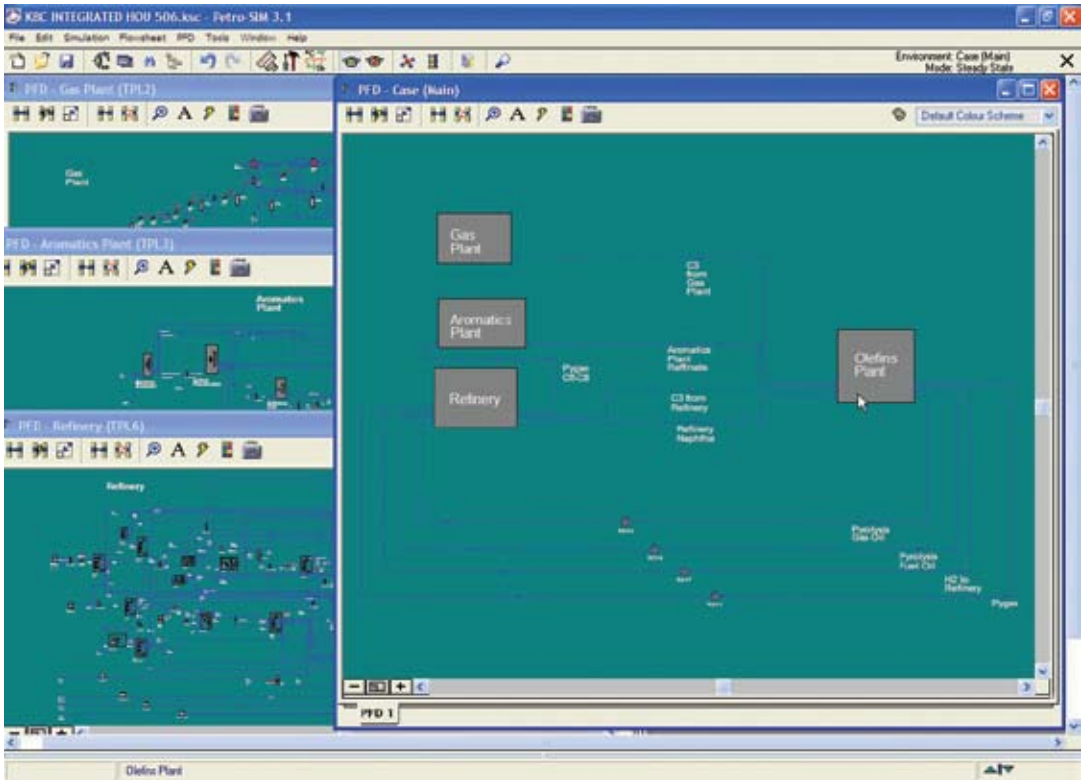
(Continued)

Olefin-SIM can be used to simplify and quantify evaluations in some of the more challenging analyses faced by operators:

- Constraint Evaluation and Elimination
- Operational Planning
- De-coke Scheduling
- Capital Expenditure Evaluation



Furnace Calculation Options (top right) and Configuration Options (right)



BEYOND OLEFINS

The addition of Olefin-SIM to the KBC SIM Suite lets you analyse and optimise operations across the entire hydrocarbon processing industry. Base petrochemicals, refining, aromatics, and upstream processing facilities can be integrated within a single platform, providing unparalleled power to evaluate and optimise the complex interactions between these systems.

In addition, KBC specialists will set-up the software, and provide continuing support.

Integrated Models

PREDICTIVE TECHNOLOGY FOR PROFIT IMPROVEMENT

- Petro-SIM™ for Process Simulation
- KBC SIM Suite:
  - FCC-SIM™ for Fluid Catalytic Cracking
  - REF-SIM™ for Catalytic Reforming
  - HCR-SIM™ for Hydrocracking
  - N HTR-SIM™, D HTR-SIM™ and VGO HTR-SIM™ for Hydrotreating
  - DC-SIM™ for Delayed Coking
- Petro-SIM *Express*™ for Process Simulation
  - VIS-SIM™ for Visbreaking and Thermal Cracking
  - ALK-SIM™ for Alkylation
  - RHDS-SIM™ for Residue Hydrotreating
  - AROM-SIM™ for Aromatics
  - ISOM-SIM™ for Isomerisation
  - Olefin-SIM™ for Pyrolysis

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