Process Improvement Packages

ABC Advanced Blend Control for the Oil Refining Industry (Gasoline, Gasoil, Fuel Oil)
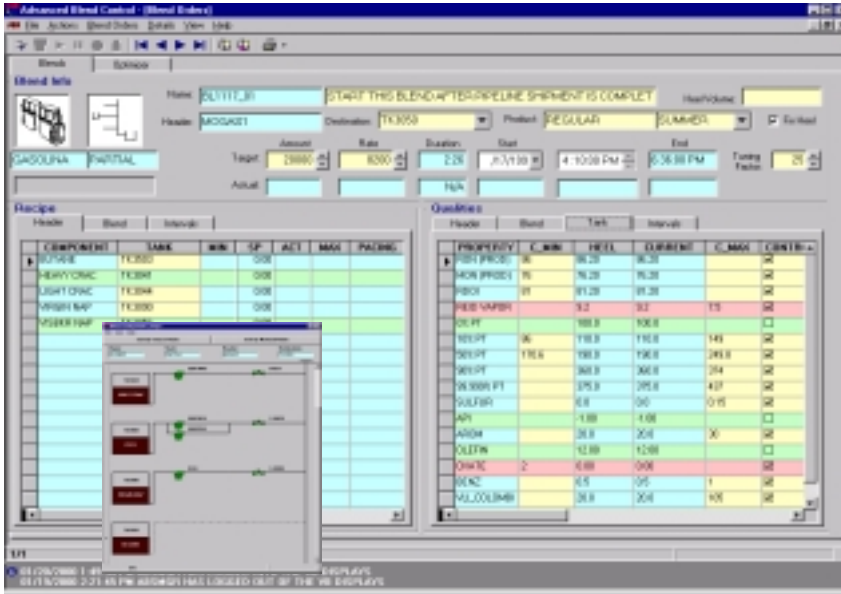

ABB is a worldwide and leading supplier of Manufacturing Execution System (MES) and related advanced decision support technologies. We provide complete integrated, advanced automation solutions as well as consulting services to support automation and best business practices strategies across the enterprise.

Other ABB products that complement this technology application include:

- ABB's Intelligent Enterprise Manager (AIEM), for oil movements & storage
- On-line analyzers and shelters
- Blender skids
- Tank gauging systems
- Complete Basic and Detailed Engineering Packages

ABB's Advanced Blend Control (ABC) system is designed for:

- blend order management
- physical blend line-up
- pre-blend optimization
- optimal online control
- monitoring & reporting

ABC accepts electronic blend orders automatically from a planning system or allows the user to create them manually. The blend operator then executes the selected blend order. ABC automatically downloads the blend recipe, path and other blend information to the Regulatory Blend Control (RBC) system, which performs path lineup, blend startup, and blend shutdown sequences. ABC also performs end of blend reporting and archiving.

ABC continuously monitors the cumulative product properties and adjusts the recipe as required to meet the product specification. ABC uses the on-line analyzer feedback, available laboratory data, property models, cumulative blend property data, and recipe constraints to calculate the optimum recipe at regular intervals for download to the RBC.
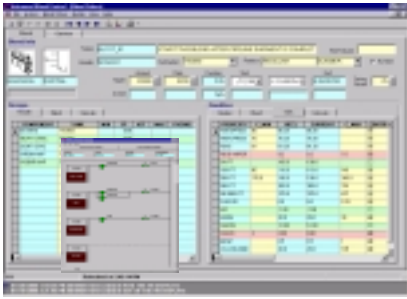
Features:

❑ Nonlinear blend recipe optimizer with analyzer feedback and tank quality integration

❑ Supports any standard or customer-proprietary blend property correlations

❑ Can be configured for gasoline (conventional, RFG, CARB), gasoils, fuel oils, and crudes

❑ Multi-period, multi-header optimization

❑ Optionally integrated with off-line StarBlend™ (Equiva) multi-blend planner

❑ Interfaces to ABB RBC, TIMS, LIMS, and Refinery Information Systems

❑ Relational database for Equipment, Line-Ups, Properties, Components, Products, and Blend Orders

❑ Inherent configuration capability allows user maintenance

What it means to you:

- *Minimize Quality Giveaway in RON, MON, RVP, Wt% Sulfur and Viscosity*
- *Virtual Elimination of Reblends*
- *Increased Throughput*
- *Reduction in Demurrage*
- *Reduction in Component Inventory*
- *Improved Capital Deployment*
- *Immediate Increase in Profitability – 3 to 6 M$/yr Savings for a 150KBD plan*

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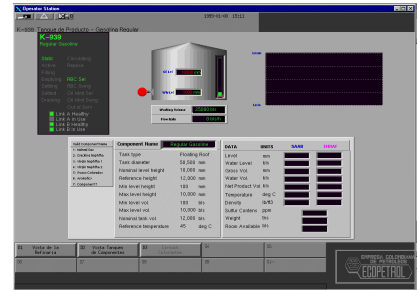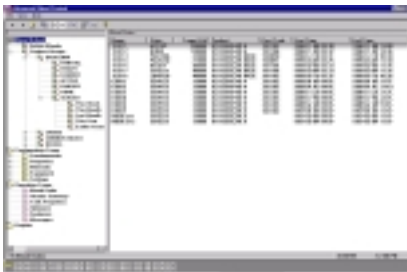# The Advanced Blend Control Cycle

Step 1: Define Order

The blend planner creates and optimizes orders in advance, either by direct entry in the ABC form or by electronic download from a planning tool.
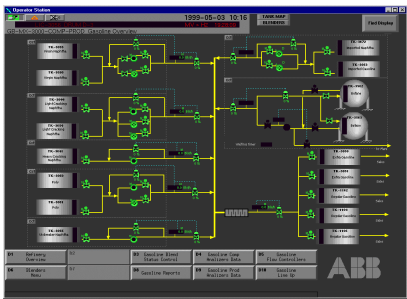
Step 2: Work List

Once the blend order is created, it is put in the navigator for the operator to select for later pre-blend optimization & download to the RBC.

Step 3: Regulatory Blend Control

ABC downloads the blend order, including recipes and lineup, to the RBC, which executes the start-up sequence, ramps and ratios the flows, and monitors for fault conditions.

Step 4: Monitoring & Optimal Online Control

During the blend, ABC performs analyzer validation, monitors the actual vs. predicted cumulative product properties, and optimally adjusts the recipe as required to meet the specs.

Step 5: Reporting

The results of the blend are kept in the system indefinitely, and are available for reports and problem analysis. Both standard and custom reports are available.

Blending Easy as "A, B, C…"

The ABC software automates the 5 steps needed to setup, execute, and monitor the performance of the blend with minimal manpower.
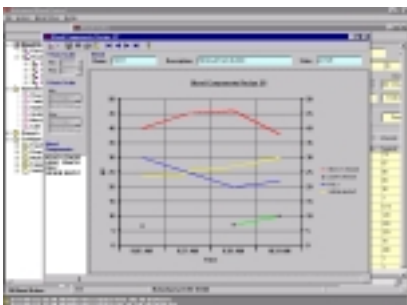
ABC is easy to use because it is native-NT software, with the look and feel of a standard Microsoft application. If you can open a spreadsheet or surf the web, you can use ABC.

ABC integrates all the data needed for blending including blend plans, tank inventories and properties, active blend monitoring, economics and lab data in a single easy to use package.

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