

# Process Improvement Packages

## Regulatory Blend Control (RBC) for the Oil Refining Industry (Gasoline, Gasoil, Fuel Oil)

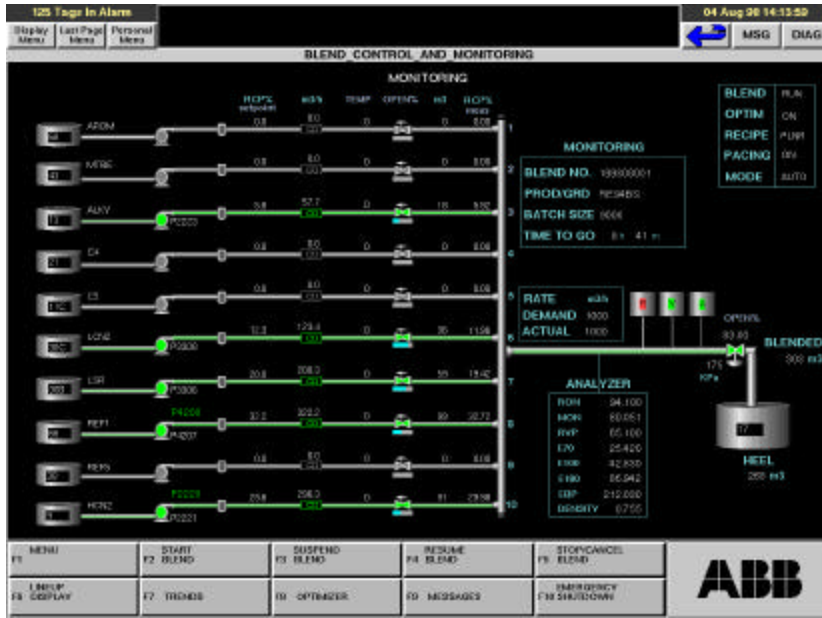


ABB is a worldwide and leading supplier of Manufacturing Execution System (MES) and related advanced decision support technologies. We provide complete integrated, advanced automation solutions as well as consulting services to support automation and best business practices strategies across the enterprise.

Other ABB products that complement this technology application include:

- Advanced Blend Control (ABC)
- ABB's Intelligent Enterprise Manager (AIEM), for oil movements & storage
- On-line analyzers and shelters
- Blender skids
- Dynamic Blending solutions
- Complete Engineering Packages

ABB's Regulatory Blend Control (RBC) software runs on ABB's Advant Master or Advant Open Control System (OCS). It starts and stops blends and manipulates flows to match a recipe. RBC can work on its own or in conjunction with advanced controls from ABB or other vendors.

### Features:

- ❑ Blend order creation using standard displays or through download from upper level systems
- ❑ Field equipment selection and lineup, manual or automatic
- ❑ Holds a target rate and volume for the blend
- ❑ Controls the pump sequencing
- ❑ Ramps the flow up and down at appropriate times
- ❑ Displays the current and cumulative status of the blend
- ❑ Supports off-the-unit rundown

blends with any number of wild flows

- ❑ Dye and Additive Injection support
- ❑ Paces (slows down) the blend when a component flowrate cannot keep up with demand
- ❑ Stops the blend automatically when the target volume is reached
- ❑ Generates End of Blend Report
- ❑ Interfaces to ABB Advanced Blend Control, tank gauging, and on-line analyzers

### What it means to you

When RBC stands alone it gives:

- **Automatic batch execution**
- **Elimination of operating errors**
- **Blends which match the entered recipe**
- **Ease of operation and monitoring of blends**

When RBC is combined with ABC it gives:

- **Reduced Quality Giveaway**
- **Reduced Reblends**
- **Increased Blender Throughput**
- **Reduction in Demurrage**
- **Reduced Component Inventory**
- **Reduced Labor Costs**
- **Immediate Increase in Profitability – Benefits for a typical 150KBD refinery can be 3 to 6 M\$/yr**



# The Blending Cycle



## **Step 1: Blend Orders**

Blend order data is entered manually or automatically from planner tool or ABC. On-line help displays make order entry easy.



## **Step 2: Select Equipment**

Operator selects lineups and pumps or allows automatic selection .



## **Step 3: Start The Blend**

Operator presses START. RBC opens valves to lineup components, then starts pumps in the chosen sequence.



## **Step 4: Monitor Performance**

RBC collects and displays current and cumulative blending data including flows, totals and tank volumes. RBC compares totalizers to tank inventory changes to maintain a material balance.



## **Step 5: End of Blend Report**

RBC stops the blend at the target volume or on Operator request. At the end of blend, a report is generated with all the key blend data for performance monitoring and troubleshooting.

## ***Blending Easy as “R, B, C,...”***

**RBC completely automates the steps needed to set up, execute and monitor a blend.**

## ***Built in the OCS***

RBC is built entirely in Advant OCS, giving it the robust characteristics needed at the regulatory control level. RBC can keep running even if there are power, network, or interface problems with higher level systems.

RBC user interface has all the familiar OCS features needed to make the Operator comfortable from the first time he uses RBC. The appearance, alarms, and behaviors are all part of the OCS standard.

In ABB Advant MOD, RBC uses control blocks and TCL programs to accomplish its tasks. In ABB Advant Master, AMPL programs and type circuits are used to provide the same functionality.

## ***Connects to Advanced Controls***

RBC can be used stand alone, but it works best under the control of the ABB Advanced Blend Control (ABC). RBC can receive blend setup and recipe updates through a straightforward interface adaptable to any advanced property controller on the market.



**Partners in Productivity**