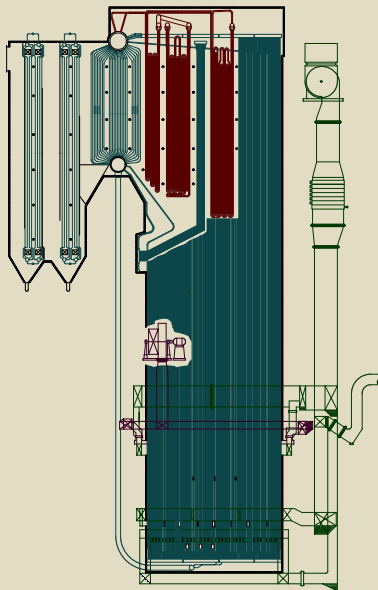


# Personnel Safety Black Liquor Recovery Boiler (BLRBAC) Scenario Simulation Training

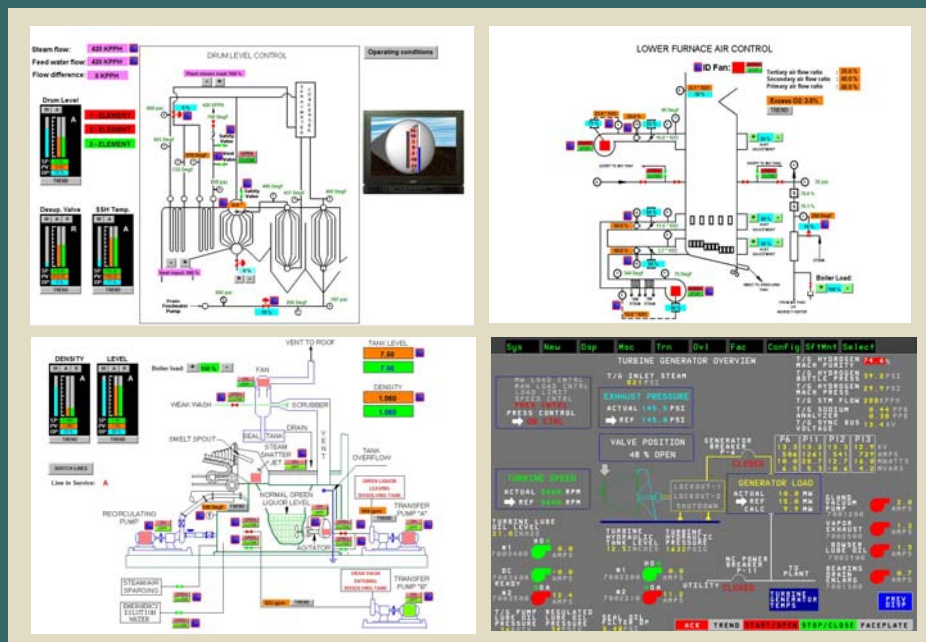
- 1-, 2- and 3-Element Drum Level Control
- Lower Furnace Air Control
- Dissolving Tank
- Turbine Control (under development)



In April 2004, BLRBAC approved an update to their **"RECOMMENDED GUIDELINES FOR PERSONAL SAFETY BLACK LIQUOR RECOVERY BOILERS"**.

Specifically, Chapter Five: **SAFETY GUIDELINES FOR "EMERGENCY" CONDITIONS**, now lists thirty-two (32) specific topics for emergency procedures.

It also states that **SCENARIO TRAINING** should be provided no less than annually for these emergency procedures to ensure the operators will react correctly and quickly to events.



## POWER SPECIALISTS ASSOC., INC.

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SimEdit is a product of JHA Simulations .

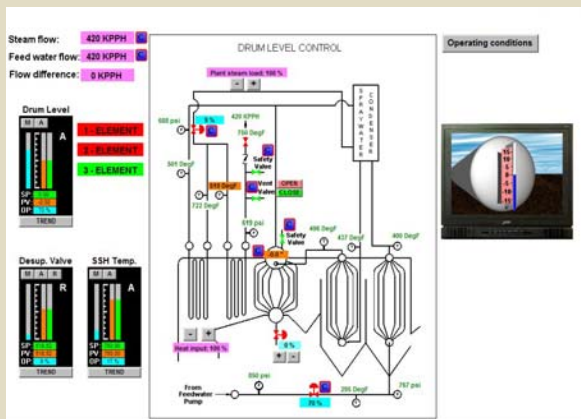
Minimum computer system requirements are necessary for proper operation and a SimEdit license is required.

As a supplement to our **Site-Specific RB Leak Detection Scenario Simulation Training**, PSA has developed a **"generic" mini-simulation package** to assist in the **implementation and tracking of scenario training**.

The mini-simulations include exercises and quizzes in the following operations:

- 1, 2 & 3 Element Drum Level Control
- Lower Furnace Air Control
- Dissolving Tank Control
- Turbine Control (under development)

# Multiple Simulation Scenarios

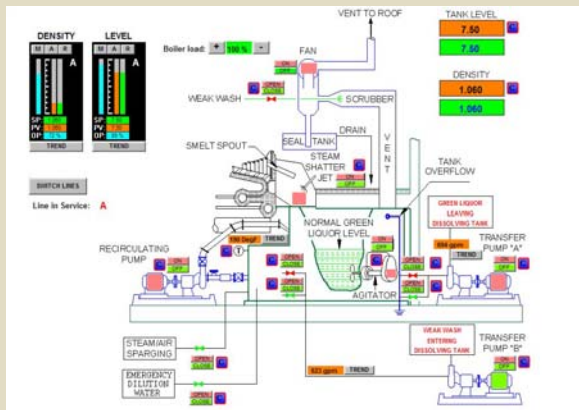
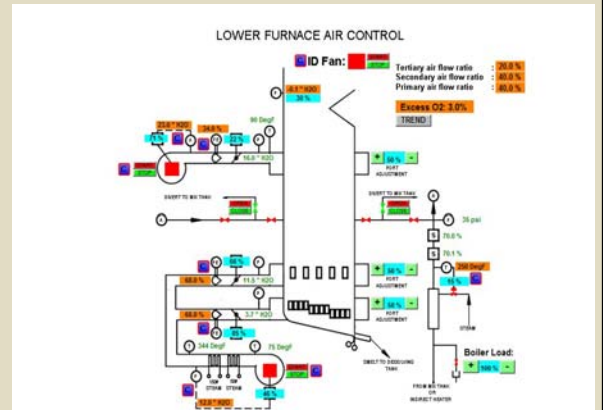


## Drum Level Control

- Normal Operating Exercises
- Increasing Plant Steam Load
- Decreasing Plant Steam Load
- Boiler Overpressure / Safety Valve Release
- Sticking / Erratic Attemperator Valve
- Loss of Drum Level and Transmitter Failure
- High / Low Superheater Temperature
- Loss of Feedwater Supply
- Loss of Steam Header Pressure
- Safety Relief Valve Failure
- Steam and Feedwater Meter Failures
- Sticking Feedwater Control Valve

## Lower Furnace Air Control

- Air System Trip
- Changing Air Distribution
- Changing Air Port Pressure
- Varying Flue Gas Oxygen
- Effect of Changing Boiler Load
- Tertiary Fan Trip
- Plant Load Drops Boiler to 60%
- Drop in Firing Solids
- Full or Partial Blackout of Smelt Bed



## Dissolving Tank Control

- Normal Operating Exercises
- Dissolving Tank Solidification or High Density
- Dissolving Tank Agitator Failure
- Loss of Weak Wash Flow
- Sudden Change in Smelt Flow
- Switching Transfer Pumps
- Pluggage in Green Liquor Line
- Failure of Transfer Pump
- Changing Boiler Load
- Excessive Smelt Runoff

## Turbine Control

- Turbine Overspeed Trip Failure
- Turbine Non-Return Valve Failure
- Turbine Thrust Bearing Failure
- Loss of Turbine Generator Lube or Hydraulic Oil
- Turbine Steam Supply Impurities
- Excessive Stator or Field Temperature
- Excessive Field Vibration
- Loss of Turbine Drive Control
- Failure of Stop Valve / TTV Trip Mechanism
- Turing Gear System Failure

