

# Operator Graphics and Metrics

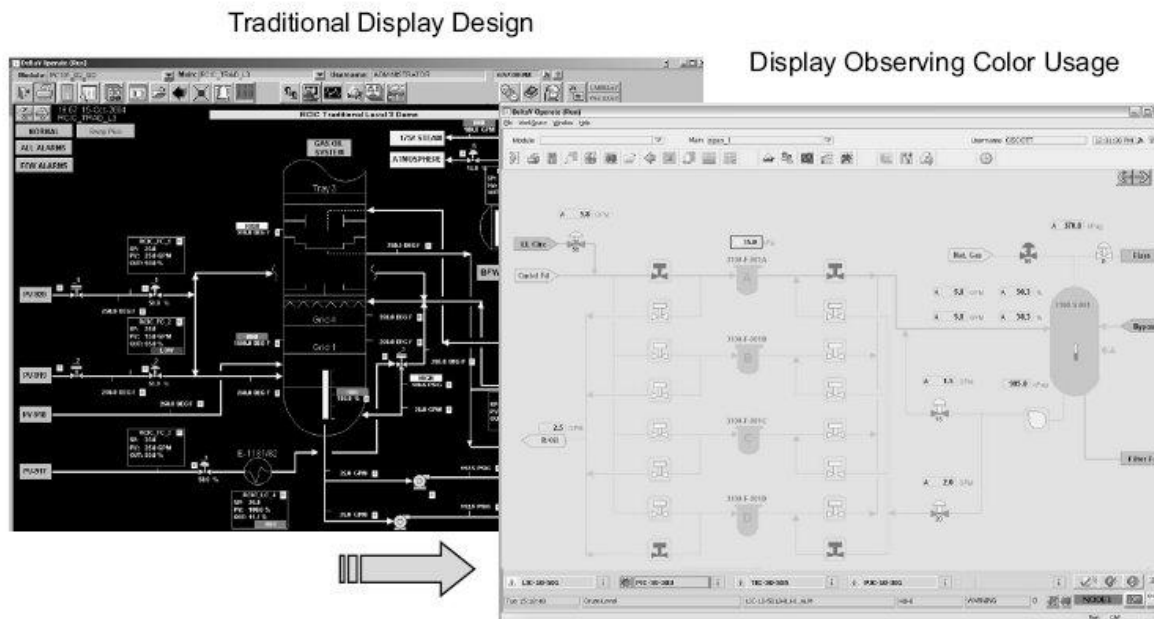


Figure 8-2. Impact of EEMUA 191 on the Use of Color in Displays

- An operator interface design is addressed by Alarm Standard EEMUA 191
- Advocates that alarms should be in alarm color. Pipes, pumps, valves, etc. should not be in alarm colors, or any other bright color.

# Display Tools

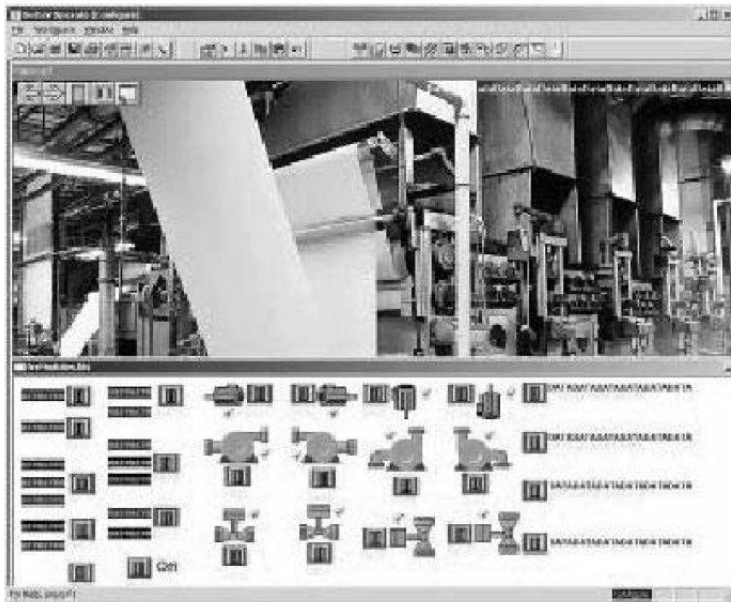


Figure 8-3. Dynamo Examples for Display Building

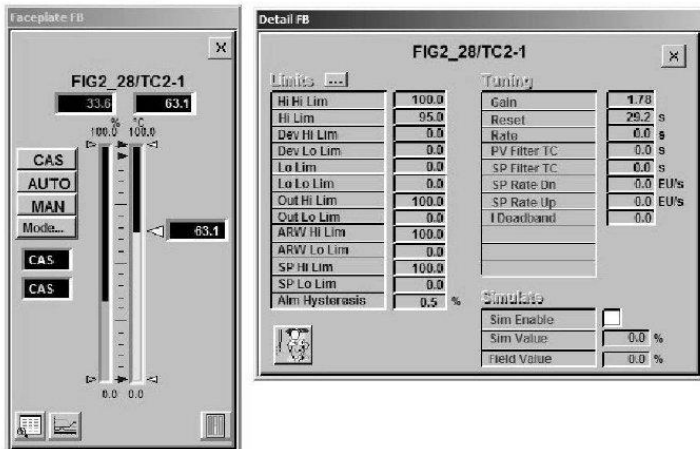


Figure 8-4. Faceplate and Detail Display

- Basic tools for construction a display are discussed
  - Dynamos, dynamic elements, faceplates, links for creating a display hierarchy

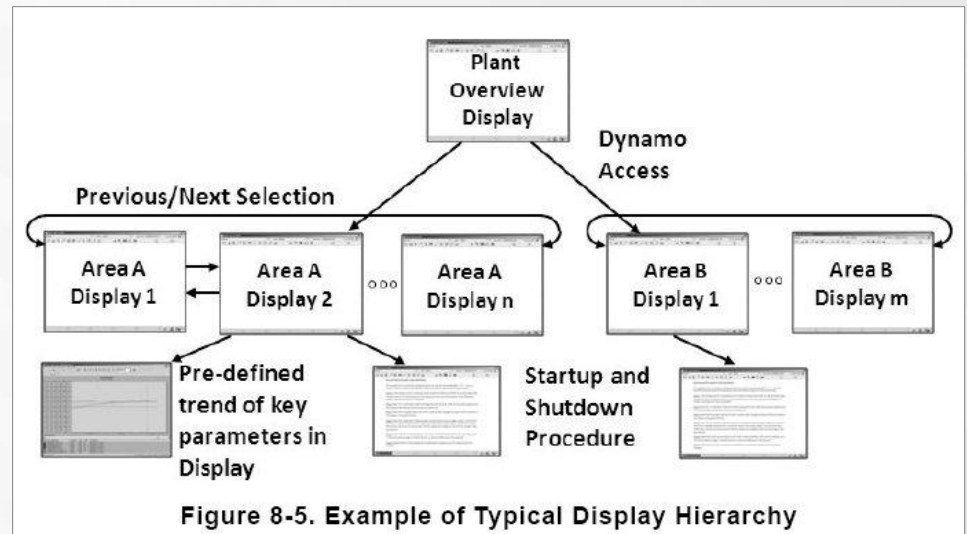


Figure 8-5. Example of Typical Display Hierarchy

# Performance Metrics

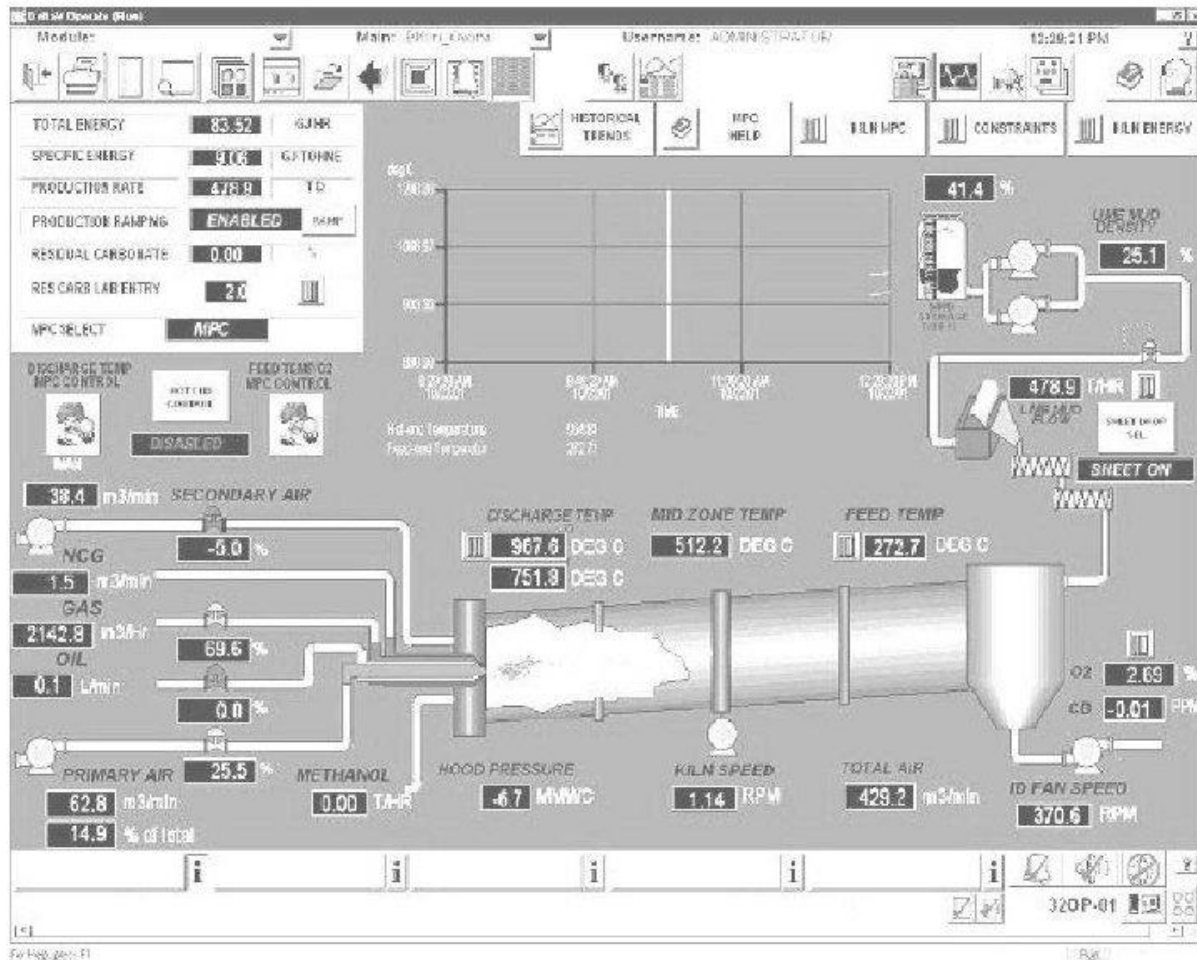
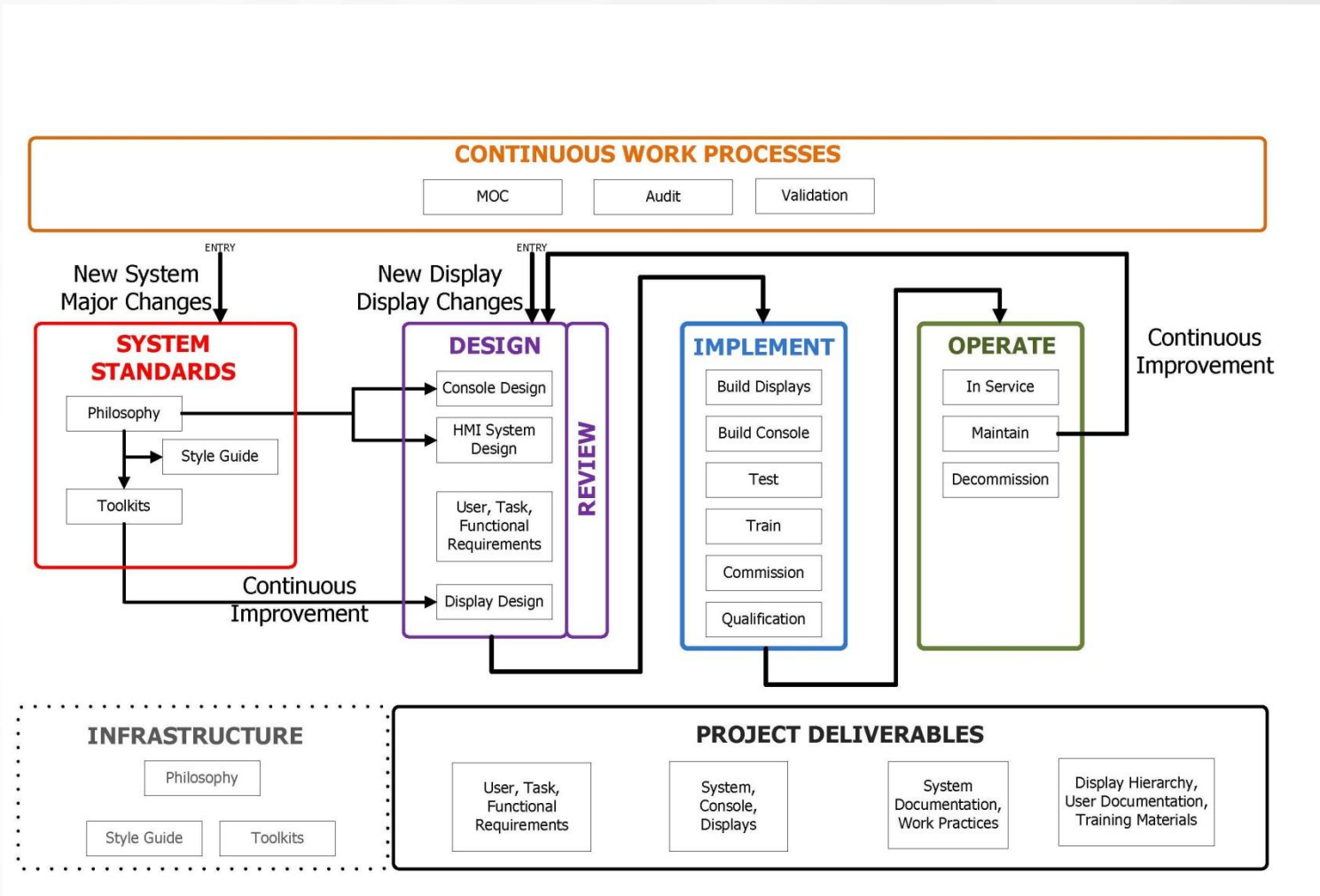


Figure 8-6. Display for Monitoring Performance Indicators

- Example used to illustrate how operation metrics may be added to an operator display
- Benefits of integrating this type of information into the operator interface

# ISA 101 - Human Machine Interfaces for Process Automation Systems



# Center for Operator Performance



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## Welcome to the Center for Operator Performance

### WHO WE ARE

Operating safely requires redundancy of many components. Operating competitively requires lack of redundancy of the human component.

We are a diverse group of industry, vendor, and academia representatives addressing human capabilities and limitations with research, collaboration, and human factors engineering. Our mission to raise the performance level of our operators and improve Health, Safety, and Environmental effectiveness is accomplished through:

- Openly sharing knowledge and ideas
- Putting collaboration ahead of competition
- Including vendors in research decisions
- Teaming with leading human factors researchers and universities



<http://www.operatorperformance.org/>

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# Research Programs

## ■ Completed

- Nature of Expertise
- Decision Making Exercises
- Simulator Usage
- Color Usage/Display Design
- Alarm Rate & Presentation Impact

## ■ Current

- Quantify alarm actuation rates that operators can handle
- Develop & evaluate effectiveness of decision-based operating graphics
- Develop systematic approach to documenting “expertise?” of senior operators before they walk out the door
- Evaluate methods of early detection of off-normal operations
- Data Mining of Near Miss Process Incidents
- Human Performance Metrics