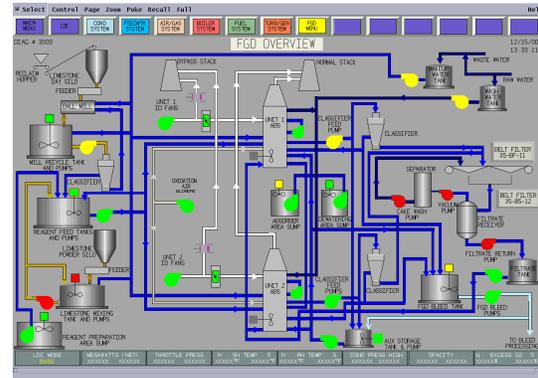


Features

- Customized for optimal flue gas desulphurization performance
- Reduces operating and maintenance expenses
- Optimizes reagent usage
- Reduces scaling and plugging
- Unifies plant control from centralized system when combined with other Ovation expert control solutions
- Capable of digital bus installation with smart field devices



With the passage of clean air legislation and increased scrutiny of air emissions from all levels of regulatory agencies, well-designed and maintained air pollution devices have become mandatory for many power generation processes.

All modern power plants built after 1978 are required to have flue gas desulphurization (FGD or scrubber) units to clean the sulfur from the coal's combustion gases before the gases go up the smokestack and are emitted into the environment. A reagent, such as the commonly used limestone, captures the sulfur and extracts it out of the gases. The reagent and sulfur combine to form either a wet paste (wet scrubber), or a dry powder (dry scrubber) to trap the sulfur and prevent it from escaping into the air.

Innovative FGD Control

For decades, Emerson has used the world's most advanced technology to help our customers control critical power generation processes. In today's highly competitive environment, efficient operation of all plant processes is key to generating low-cost power while producing profits.

Emerson's FGD solution monitors and controls complex flue gas desulphurization processes for optimal system performance. Optimizing scrubber technology helps to avoid unit fouling

and plugging, as well as reduces contamination of the scrubbing solution for better sulfur absorption.

Our FGD control solution focuses on maximizing the efficiency of a plant's scrubber technology to maintain compliance with emission caps and avoid costly fines and plant shutdowns. Implementation of Ovation FGD expert controls optimizes your highly-efficient scrubber technology by reducing excessive emissions, regulating reagent usage, and increasing air flow.

Built on a Solid Foundation

Ovation® expert technology provides the basis for Emerson's FGD control solution. Combined with our powerful boiler and turbine control strategies, Ovation FGD control provides a comprehensive integrated system for continuous monitoring and control of the heart of your generation process. Ovation's built-in redundancy and self-diagnostics increase system reliability and reduce expensive system downtime.

Customized For Your Plant

The Ovation FGD solution is comprised of unique loop and logic programming along with algorithms created specifically for the power market implemented within an Ovation Controller. Customized graphics visible from any operator workstation provide a high-resolution

window to each portion of the FGD process. Configuration and maintenance of the scrubber controls is through powerful tools on the engineering workstation.

Ovation FGD solutions are customized for each individual plant's system and can be adapted to fit any scrubber manufacturer's equipment or type. Our years of experience have provided solutions for a variety of scrubber categories and designs, mostly wet and dry configurations.

The Ovation FGD solution incorporates an assortment of control loops, depending upon the FGD manufacturer and type. Typical control loops include:

- Limestone Handling System
- Reagent Preparation System
- Backup Reagent System
- Flue Gas Handling System
- Absorber System
- Forced Oxidation System
- Process Water Distribution System
- Auxiliary Storage System
- Primary Dewatering System
- Secondary Dewatering System
- Filtrate System
- FGD Bleed System

PlantWeb® Can Save Millions on Wet Scrubber Installations

The Ovation® expert control system is a key component of Emerson's PlantWeb® digital architecture. Ovation's integrated bus features leverage FOUNDATION fieldbus, HART, DeviceNet, and Profibus DP industry standard communication protocols to deliver predictive intelligence from intelligent field devices. Integrating digital bus-based technology into the design of a wet scrubber can reduce total project cost by approximately \$3.9 million, according to a study released at POWER-GEN International 2004. This represents a 5% savings in total construction costs compared with the same project implemented using a traditional hardwired I/O approach.

"Economic Impact of Digital Bus Technology on Wet Scrubber Construction," conducted by JDI Contracts, Inc., identified and compared typical construction costs in several categories: engineering, construction, startup, system selection, and overheads. Costs were evaluated for two different approaches – traditional and bus-based. For each approach, the study examined instrumentation & control system implementation for an \$82.5 million, wet FGD installation at a 660 MW power plant. According to the study, utilization of a bus-based I/O technology can reduce the project cost by roughly \$3.9 million, or nearly 5%.