

THE COEN PILOT

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FALL 2001

TURNKEY RETROFIT A SUCCESS FOR PROCTER & GAMBLE

As specialists in the combustion technology industry, Coen understands that burners need to operate at peak performance levels while meeting all guaranteed emission requirements. We also realize the importance of single point accountability from someone who knows how to do the job right the first time.

When Procter & Gamble needed to increase production at their Mehoopany, PA plant, it required an increased steam load at reduced emissions to meet overall umbrella emissions requirements of local air quality standards. To minimize downtime, this required quick turnaround retrofitting of three boilers, to operate at lower overall emissions with the latest state of the art combustion technology. In addition to reliable burner equipment, P&G needed a comprehensive turnkey retrofit to insure a seamless installation. P&G selected Coen's retrofit team to provide sole source accountability for the entire turnkey project, from removal of existing material to installation and commissioning of the new equipment.



PROCTER & GAMBLE MEHOOPANY, PA

"When Coen is involved I feel that I do not have to worry about meeting the 'EPA' requirements – Coen meets their guarantees. The burners, controls, etc. will be robust enough to allow real life flexible plant operation."

Kenneth Price, P.E., Section Head Thermal Energy Systems, Engineering Division, Procter & Gamble.

The successful turnkey installation included four QLN-2.4 Low NO_x Burners with fuel piping trains for one unit and four Coen T-Fired Low NO_x Burners with igniters and fuel piping trains for two others. All fire natural gas and #6 oil with 450-500 degree F preheated air and no FGR. In addition, Coen provided the engineering to modify the existing Triconex BMS and Honeywell DT 3000 Combustion Control. Preliminary start up results exceeded expectations and included:

LOW NO_x – NO_x remained below 0.1 lb/mmBtu (gas) and 0.3 lb/mmBtu (oil) throughout the firing range with High Preheated Air and No Flue Gas Recirculation

LOW CO – CO remained below 0.02 lb/mmBtu throughout the load, near "zero" CO in some cases

CUSTOMERS NEEDS

- Single Point Accountability
- Fast Turn-Around
- Increase Steam Capacity
- Meet Emission Regulations

OPERATIONS

- No FGR Required
- Good Turndown
- Safe Continuous Operation
- Stable Performance
- 100% Capacity Achieved

AIR QUALITY

- < 0.1 gas NO_x
- < 0.3 lb/mmBtu oil NO_x
- < 0.02 lb/mmBtu CO

COEN MEETS INCREASED COMBINED CYCLE DEMAND

Recently, *Power Engineering* described the surge in gas turbine orders as a "bubble". Soon after, taking into consideration the strength of the power market, they have renamed it a "wave". Coen agrees and is riding this powerful wave by focusing on Research & Development, and applying its worldwide resources to meet the demand for duct burners.

Deregulation, high-energy demand and more stringent emission regulations make clean, efficient, gas turbine combined cycle plants the preference of developers. Duct burners boost power during peak demand when power is the most valuable. Coen anticipated this demand and is aptly meeting the challenge with:

- The introduction of the *PowerPlus* "State-of-the-Art" Duct Burner Technology
- The expansion of our Engineering and Design Staff
- The increase of our Worldwide Fabrication Resources
- Further advancements of our Research and Development Department



PowerPlus, the world's lowest emission duct burner, continues Coen's tradition of excellence in combustion technology. Boiler companies, developers and engineering firms clearly see the advantages of *PowerPlus*. High reliability and extremely low emissions give power plant operators absolute confidence, along with an increase in duct burner orders to Coen.

Coen's worldwide fabrication facilities stand ready to meet this increased demand, with manufacturing operations in Burlingame, CA; Woodland, CA; Montreal, Québec; Bombay, India; and Shiedam, The Netherlands, as well as Coen-certified facilities throughout the United States.

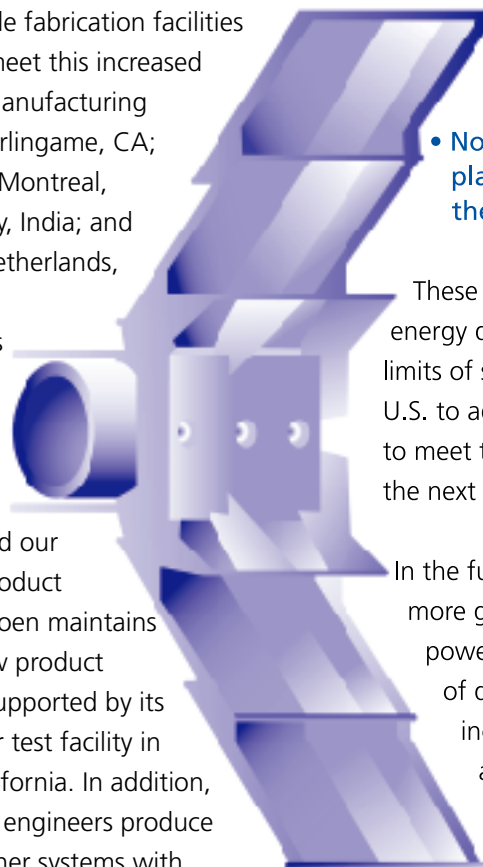
Increased sales have not stopped our investment in product improvement. Coen maintains its lead with new product improvements supported by its new duct burner test facility in Burlingame, California. In addition, our experienced engineers produce quality duct burner systems with superior contract administration to maintain the highest efficiency and customer satisfaction.

DEMAND FOR ENERGY CONTINUES TO GROW DUE TO:

- Sunbelt growth causing large summer peak demand for cooling.
- Electricity deregulation, new ownership and repowering.
- Increased electrical demand due to greater computer usage (really!).
- Decommissioning of aging nuclear plants.
- No significant new plant construction in the 1980's or 1990's.

These factors have caused energy demand to push the limits of supply, requiring the U.S. to add significant capacity to meet that demand during the next few years.

In the future there will be more gas turbine-based power plants; greater use of duct burners to increase peak power; and duct burner additions to older unfired plants. Coen will rise to this challenge with power you can depend on - with tomorrow's technology today.



COEN TRAINING PROGRAM DEVELOPS TECHNOLOGY LEADERS

Over twenty years ago, Coen executives recognized a critical need to attract and cultivate a force of the nation's finest engineers and technology professionals. In response to this need, Coen instituted a comprehensive 18-month training program, which has allowed Coen to set the standard in combustion solutions throughout the world.

Many of Coen's top executives, managers and sales representatives have graduated from this unique training program. One such executive, Rick Fiorenza entered the training program in 1980 after graduating from University of California at Berkeley. With an excellent education and Coen training, Rick quickly scaled the corporate ladder in sales and management for large-scale combined cycle combustion systems.

TECHNOLOGY IMMERSION

A trainee will typically spend his or her first six months training within a multitude of departments to gain a basic knowledge of Coen's diverse

product lines and client base. This includes time spent with each product group learning from experienced managers and top engineers. Following that is a twelve-month assignment in the field as trainees experience actual job start-ups with Coen customers. After the field assignment, Coen matches the needs of the company to the trainee's interest and assigns them to a permanent position in their Burlingame or Woodland, California facility.



Coen continues its commitment to hiring and training the best and brightest technology professionals. Coen looks to these technology driven individuals for innovative, proactive leadership in developing the world's finest combustion systems.



Rick Fiorenza,
Vice President of Combined Cycle
& Cogeneration Systems

"I believe Coen Company's training program is the right mix of in-house engineering and hands-on field experience. One quickly gains the knowledge and understanding of our extensive line of combustion products while developing an appreciation for customer service in its truest form. This program certainly helped me understand the value of engineering world class burner systems and the importance of building strong customer relationships."

ASK YOUR COEN REPRESENTATIVE FOR COPIES OF
OUR LATEST BROCHURES!



MICRO-NO_x
(Commercial Burners)



POWER PLUS
(Duct Burners)



TURNKEY
(Retrofit)

RESEARCH & DEVELOPMENT
(Turning Combustion Technology
Innovations Into Solutions)



**CUSTOMER
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