Energy Center Operations Training

During conversations with plants that have Dryers and Thermal Oxidizers, it has been said that the Energy Center is one of the least understood areas. Because of that, ICM has developed an Energy Center Operations program to help promote a higher level of understanding of:

- Burner Management
- Combustion Control
- System Air Flow (Pressures and Dampers)
- Oxygen Measurements (Test Cart and Portable Combustion Analyzer)
  - » *How O2 measurements confirm "combustion air" control and "tramp air" control*
  - » *How O2 measurements control "system air flow"*
  - » *How O2 measurements must be performed correctly for future reference*
  - » *What information is included on the Burner Maintenance spreadsheet*

This service is for plants with Energy Centers, and it will provide plant management and plant operators with an understanding of what is required to:

- Dry 100% of your plant's DDGS
- Provide 100% of the plant's steam requirements
- Maintain emissions compliance at the same time

the energy of innovation™

Adhering to recommended operating practices can ensure lowest plant gas cost

Plant documentation proves an ICM Dryer/Thermal Oxidizer (T.O.) combination provides the lowest plant gas cost when properly understood and operated according to "the rules." The ICM Dryer/T.O. system has an operation range for Dryer gas, T.O. gas, Dryer ID fan, and T.O. ID fan. Plant operating capacity also relates to operating range rules.

Plant-to-plant natural gas usage can vary ± 5% Dryer gas and/or ± 5% T.O. gas. T.O. temperature and CO emission control is a function of the ratio of Dryer gas to T.O. gas. System air flow is also a part of the equation, and how to monitor and adjust air flow is part of the ICM service.

Gain a better understanding of your Energy Center

Energy Center Operations (ECO) includes safety checks and routine instrument maintenance. ICM will teach your plant managers and operators how to diagnose problems that can occur when lighting a burner. We will also teach burner management and combustion control as each relates to safety and system air flow. There will be weekly and monthly instrument checks, so recorded numbers one month make sense when compared with recorded numbers the previous month(s).

ICM has experience concerning NOx emission control using the Dryer exhaust going to the T.O., as well as the experience to evaluate a plant's steam usage relating to T.O gas. ICM can project maximum equipment capacities, as well as what changes or improvements would increase a plant's capacity.

When providing this service, ICM will present information concerning equipment improvements. The extent of improvements relates to when the plant was constructed. Many improvements are minor, but worth going over. More significant improvements can occur during a future shutdown. No improvement is required.

The ECO service is designed to leave the plant with a "better training manual." This manual provides operating procedures, trouble-shooting procedures, and burner training that promotes safety for personnel and equipment.

Considerations

- Inspection is expected to require three ICM employees on-site at your location for three days
- For this service to have maximum benefit, plant management must be involved, along with plant operators