Vol VII No. 2

CSM Worldwide

Bakery Plant CatOx Maintenance Key to Smooth Continuous Operation!

David Brady, Marketing Consultant for CSM Worldwide, recently met with Mike Carousso, one of CSM Worldwide's Field Service Engineers, for a candid discussion about catalytic oxidation system's maintenance.

David: What steps should be taken to maintain the catalytic oxidizer in a production plant?

Michael: The first thing to do is to call us at CSM to schedule a field service visit. I'll conduct an on-site visual inspection and perform a series of tests to determine the operating efficiency of the unit. This step is crucial because we have to know how the unit is performing against design criteria.

David: Just what will these tests reveal?

Michael: Our tests examine process performance, as well as, electrical and mechanical operations. Process-wise, the first place we start is the catalyst. A visual inspection and catalyst activity test tells us the physical and chemical properties of the catalyst, and, whether the catalyst is being masked which could lead to plugging. As you know, the catalyst is where oxidation takes place; stripping the stream of unwanted VOCs. The exothermic catalytic reaction generates heat. We measure the temperature of the process stream from the oxidizer looking for a temperature rise indicating that the VOCs have been destroyed. We had a case where the outlet temperature had barely increased which indicated a problem with the catalyst. After examination, it was discovered that the catalyst had been masked affecting the performance of the unit. The problem was identified and corrected.

CSM Worldwide's Field Service Engineer, Michael Carousso

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David: How?

Michael: In this case, we thoroughly washed and cleaned the catalyst.

David: How is this done?

Michael: Simply ship the catalyst modules to us in New Jersey. After inspection, they are cleaned and rushed back to the plant.

David: Is this expensive?

Michael: No. Looking at the overall operation of the plant, it is usually the least expensive option. Depending upon the amount of catalyst, total cleaning cost ranges from $2,000 to $5,000. You don't usually clean the catalyst for several years. It also adds to the catalyst life, maybe the catalyst will last for 8-10 years.

David: How can these problems be avoided?

Michael: A scheduled maintenance program can reveal a lot of operating problems such as delta "T" changes, pressure drop fluctuations and catalyst performance. On the mechanical side, by conducting these routine inspections and simply replacing bearings, gaskets and belts as needed, many problems can be avoided.

David: What have customers done to bring their current oxidizers to a "like-new" condition?

Michael: For example, CSM recently completed a thorough maintenance assignment for one of our West Coast customers. In the end, they have "like-new" performance from the oxidizer. This maintenance project is part of our CCP or Complete Compliance Program.

CSM's Complete Complicance Program includes:
- Catalyst testing, cleaning and replacement,
- Pressure transmitter calibration,
- Process blower maintenance and lubrication,
- Oven to CatOx duct work cleaning

Routine maintenance helps to improve the performance of the oxidizer and improve the productivity of the facility. A planned maintenance schedule minimizes down-time and keeps your plant running at optimum conditions.

David: What if I have an oxidizer not supplied by CSM?

Michael: Good Question! We have extensive knowledge and experience in catalytic oxidation; we can -- and we have--been hired to bring plants using other oxidizers into compliance. An East Coast bakery contacted CSM to examine, test and fix an oxidizer not supplied by CSM. The inspection was completed and after the customer agreed, an emergency retrofit was completed bringing the unit back to EPA compliance.

David: Well, Mike, you've been a great help. Is there anything else you would like our readers to know?

Michael: Yes. I'd like to remind everyone that your oxidizer was a major investment. Take the time to maintain it well, and if you're not sure what needs to be done - give me a call.

Contact Mike Carousso, CSM's Field Service Engineer (csmengineering@csmworldwide.com) or call (908-233-1320) to discuss any of the above products or services and to schedule a service visit.

CSM Worldwide

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