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BUREAU OF AIR REGULATION

March 24, 2009

Mr. Syed Arif, P.E.
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Auxiliary Boiler E (EU 068) - Economizer Replacement Project
White Springs Agricultural Chemicals, Inc.
Facility ID: 0470002

File: 0470002 - 068 - AC

Dear Mr. Arif:

This is a follow up to your telephone conversation last week with Pradeep Raval, of Koogler and Associates, Inc., regarding the replacement of the economizer on the existing Auxiliary Boiler E at the White Springs Agricultural Chemicals (WSAC) Swift Creek Chemical facility in Hamilton County, Florida.

This letter is submitted for your review and concurrence that the proposed economizer replacement constitutes routine maintenance, repair, and replacement (RMRR) and not a modification of the Auxiliary Boiler E, pursuant to Rule 62-210.200(205), FAC. Based on this assessment, additional review of the proposed project is not required. A technical analysis of the proposed project is presented below.

Project Description

WSAC proposes to replace, in-kind, the Auxiliary Boiler E economizer. The economizer is a heat exchanger that increases the efficiency of the steam production of the auxiliary boiler by approximately ten percent. Due to recent excessive leaks in the economizer tubes, the economizer is currently being by-passed until it can be replaced. This has resulted in lower fuel efficiency. Replacement of the economizer will allow the boiler to operate at its design capacity and efficiency.

It is important to understand that the Auxiliary Boiler E does not operate all the time. It is only used to generate steam at the Swift Creek Chemical Complex when there is insufficient steam from the E and F Sulfuric Acid Plants or when the sulfuric acid plant(s) is/are shut down. Auxiliary Boiler E is the only steam backup unit for the Swift Creek facility. There are two sulfuric acid plants at the Swift Creek facility. The Auxiliary Boiler E typically operates more than the Auxiliary Boilers C and D, the steam backups for the Suwannee River facility. The Suwannee River facility has two sulfuric acid plants.

The determination of RMRR is based on a case-by-case review of several factors, each specific to the Auxiliary Boiler E, including the nature and extent, purpose, frequency, and cost of the proposed project.

Nature and Extent of the Project

The economizer is not a major component of the auxiliary boiler as it contributes to about a ten percent increase in heat recovery. This heat recovery is important to the operation of the boiler in terms of its overall fuel efficiency.

Tube leaks are common in auxiliary boilers with infrequent operation. On economizers, if there are just a few tubes leaking, they will be repaired. If, however, there are many tubes leaking, it is more practical to replace the economizer. This is a routine manner of dealing with tube leaks.

The project is minor enough to be conducted while the auxiliary boiler is operating as only the economizer is to be replaced. The boiler will be shut down only to connect the economizer. The tools and equipment for conducting the repair are located on site. Once the economizer is obtained and fitted, it will only take a day to connect. The time and manpower requirements for the proposed project are not significant and the work can be arranged at short notice.

Since the economizer replacement will be in-kind, there will be no change in the production rate or emissions from the auxiliary boiler.

Purpose

The purpose of the project is to return the auxiliary boiler to its normal operating condition as soon as possible. The operation during the past few weeks has been inefficient; less steam is being produced for the same amount of fuel being burned. Since the economizer replacement is in-kind, there will be no changes in the auxiliary boiler steam production rate or the air emission rates.

Frequency

Economizer tube repairs and replacements are routine for boilers of this type which are operated intermittently (typically operates around 700 hours per year). The maintenance requirements depend mostly on the effects of corrosion, which is dependent upon frequency, duration, and rates of operation. Consequently, the maintenance requirements are different for each unit. While the economizer has not previously been replaced, there has been maintenance work conducted on the refractory as well as tube cleaning, repairs, and replacements, as necessary, almost every year.

Cost

The cost of the proposed economizer replacement is approximately $200,000. This is less than 7 percent of the cost of a new boiler, estimated at three million dollars. This is well below the 20 percent threshold EPA had once proposed as significant for RMRR.

Repairs and replacement of a few tubes in the boiler or economizer can cost around $20,000, as was the case in 2007. In December 2008, the economizer tube repair costs were around $11,000. Since many more tubes need to be replaced now in the economizer, it is just more practical to replace the economizer.

Conclusion

For the Auxiliary Boiler E, given the unit's design, function, and normal operating conditions, the proposed economizer replacement project is considered RMRR. This is based on the nature and extent, purpose, frequency, and cost of the replacement. We trust FDEP will concur with this determination.

Your prompt review and concurrence will be greatly appreciated as it will allow the maintenance work to proceed and curb the loss of thousands of dollars worth of fuel due to the auxiliary boiler's reduced heat recovery.

Mr. Syed Arif, P.E.
Florida Department of
Environmental Protection

March 24, 2009

If you have any questions, please call me at 386-397-8442 or email at cpults@pcsphosphate.com.

Sincerely,

Charles B. Pults, P.E. 44112
Sr. Environmental Engineer 3/24/09

C: Pradeep Raval, Koogler and Associates
Leslie Maybin, FDEP Jacksonville