P.O. Drawer L.
Plant City, Florida 33564-9007
Telephone: 813/782-1591

CF Industries, Inc.
Plant City Phosphate Complex

May 13, 2004

Mr. Syed Arif
Permit Engineer
Permitting South Section
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: DEP File No. 0570005-019-AC; PSD-FL-339
Sulfuric Acid Production Increase, Plant City Phosphate Complex

Dear Mr. Arif:

This letter is in response to the e-mail you received from Ron Dennis, EPCHC, on May 6, 2004 regarding the draft permit for "C" and "D" Sulfuric Acid Plants. The attachment provides answers to the two questions posed in Mr. Dennis's e-mail.

From the attachment, it is evident that CF will not include the work for the remaining towers or gas heat exchangers within the term of the pending construction permit. CF believes that this future work is within the scope of routine maintenance activities for the plant and will not increase emissions. However, CF will submit a letter of notification to the Department of Environmental Protection at such time as the future work is required.

Please communicate any questions as they arise to Bob May (813-364-5603), Tom Edwards (813-364-5608), or David Buff, Golder and Associates, (352-336-5600 ext. 545).

Sincerely,

Herschel E. Morris

Herschel E. Morris
Vice President Phosphate Operations and
General Manager

cc: G. Worley, EPA
J. Bunyak, NPS
J. Kissel, DEP-SWD
J. Campbell, EPCHC
R. Dennis, EPCHC
D. Buff, Golder Associates
J.S. Alves, HGS
J.G. Sampson, CFI
T.A. Edwards, CFI

1. **On Page 4 of 15, it states that "the packing in the remaining four absorption towers may be replaced with "in kind" packing as the current packing exhibits high pressure drop and requires replacement." Do we have any timeline from CF as to when this will occur? What impact does the high-pressure drop have on performance with respect to emissions to the atmosphere?**

Response:
A newly repacked tower will typically exhibit an overall pressure drop in the range of 13" to 15" H_2O. Over several operating cycles the tower pressure drop will gradually increase. When the pressure drop becomes excessive, the towers are repacked as part of normal plant maintenance to maintain the plant's operating efficiency.

The remaining four towers could require repacking within the next two to eight years, depending on the performance of the existing packing as compared to the replacement packing, and the value of energy. Assuming a 10-year repacking cycle, CF would expect the following repack schedule: C-SAP Interpass Tower in 2009 and the D-SAP Drying, Interpass, and Final Towers in 2010.

The high pressure drop has no relationship to emissions as illustrated in the attached Figures 1 and 2, which show annual compliance test data for "C" and "D" Plants acid mist and SO_2 emissions versus the Final Tower pressure drop. Sulfuric acid mist (SAM) is removed from the gas stream by de-misters located downstream from the tower packing, and SO_2 is removed by chemical conversion to SO_3 at a location upstream of the towers. Changes in pressure drop within the normal range of operation are not sufficient to affect the emission rates.

The replacement of the packing will not increase emissions and will not increase the permitted capacity.

2. **On Page 4 of 15, it also states that "the remaining four gas heat exchangers in "C" and "D" SAPs will be replaced as they reach the end of their service lives". Do we have any idea from CF as to what these service lives are so as to know about when these gas heat exchangers will be replaced?**

Response:
The service lives of gas heat exchangers vary from 10 to 20 years. The new design heat exchangers are designed to be more energy efficient than the original type. This design also results in a unit, which can meet plant performance criteria at a lower installed cost than the original plant design. CF believes that the periodic replacement of the existing units with a

functionally equivalent unit of a revised design qualifies as a routine maintenance replacement.

CF has requested that the permit include the replacement of the original design gas heat exchangers with the improved design heat exchangers or equivalent on an as needed basis.

Assuming a 15 year life, CF would project the following replacement schedule: C and D-SAP XO-2 heat exchangers in 2011, C-SAP XO-3 heat exchanger in 2012, and D-SAP XO-3 heat exchanger in 2013.

Figure 1

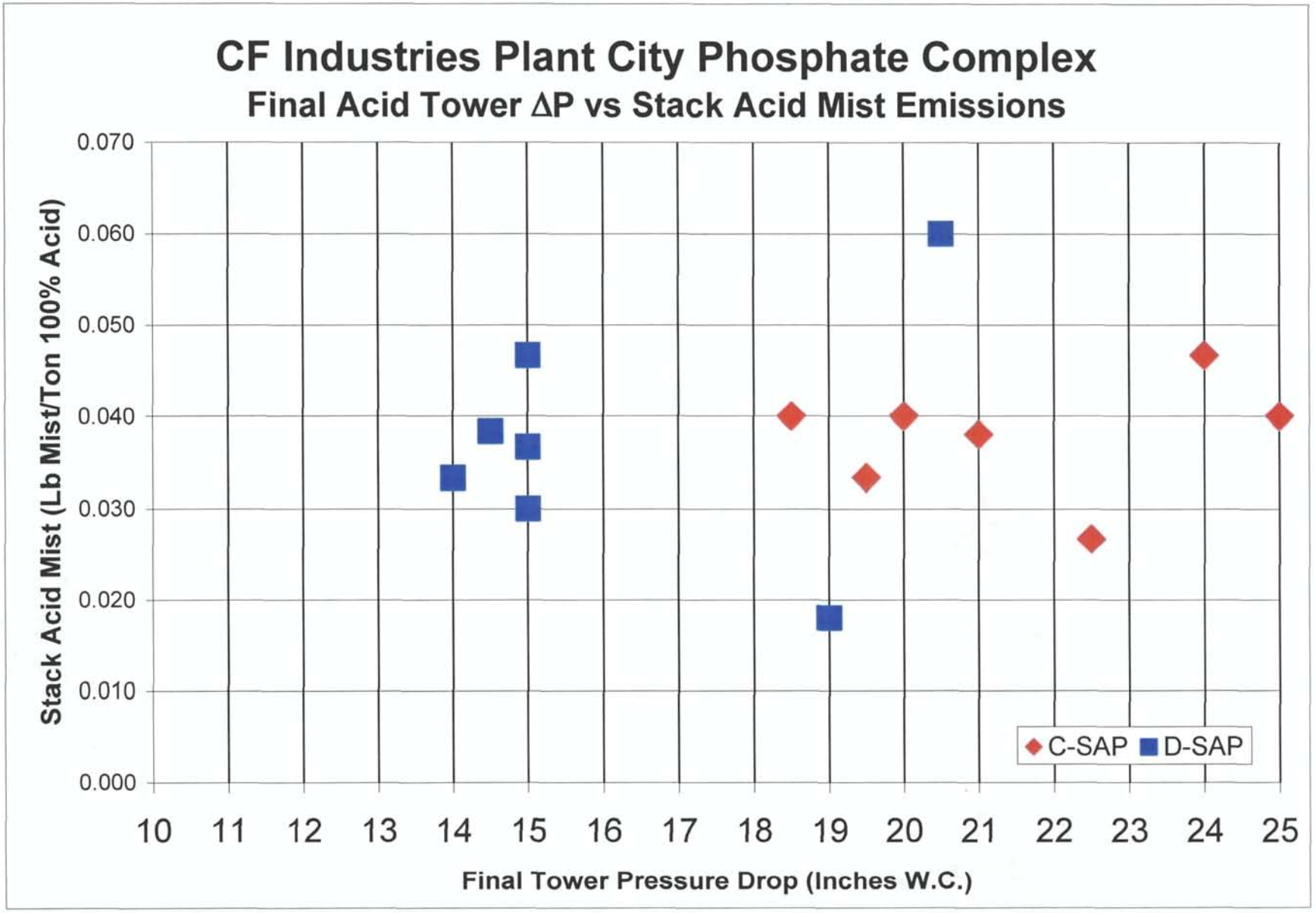
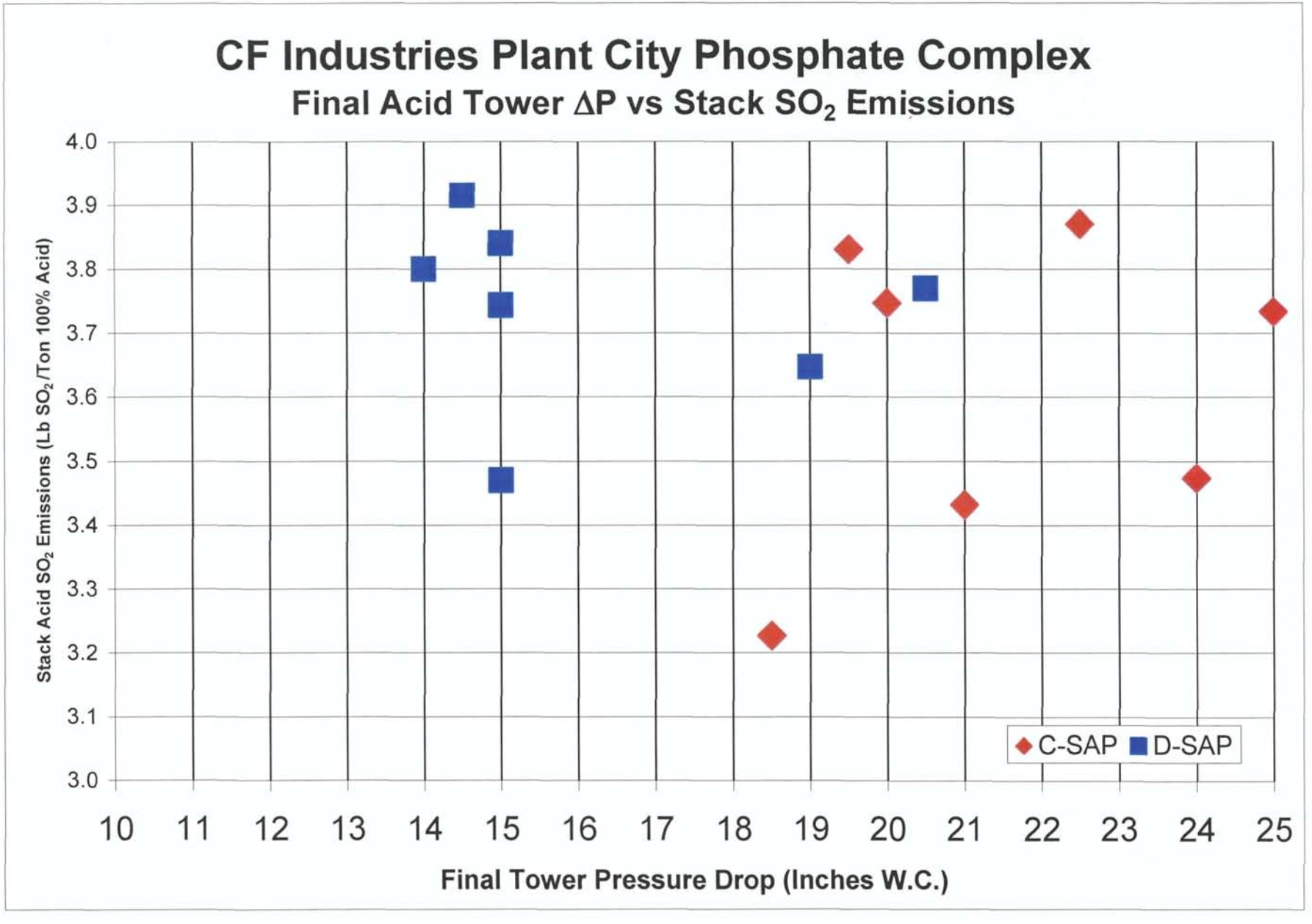

CF Industries Plant City Phosphate Complex
Final Acid Tower ΔP vs Stack Acid Mist Emissions
Stack Acid Mist (Lb Mist/Ton 100% Acid)
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
Final Tower Pressure Drop (Inches W.C.)
C-SAP
D-SAP

Figure 2


CF Industries Plant City Phosphate Complex
Final Acid Tower ΔP vs Stack SO2 Emissions
Stack Acid SO2 Emissions (Lb SO2/Ton 100% Acid)
4.0
3.9
3.8
3.7
3.6
3.5
3.4
3.3
3.2
3.1
3.0
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
Final Tower Pressure Drop (Inches W.C.)
C-SAP
D-SAP