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March 9, 2007

Florida Department of Environmental Protection
Bureau of Air Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

BUREAU OF AIR REGULATION

Attention: Syed Arif, P.E.

**RE: CF INDUSTRIES INC., PLANT CITY PHOSPHATE COMPLEX
FDEP FILE NO. 0570005-021-AC; PSD-FL 355
'B' SULFURIC ACID PLANT & 'A' AND 'B' PHOSPHORIC ACID PLANTS
PRODUCTION INCREASE
REQUEST FOR ADDITIONAL INFORMATION**

Dear Syed:

CF Industries (CFI) received a request for additional information (RAI) from the Florida Department of Environmental Protection (FDEP) dated February 15, 2007, regarding the 'B' Sulfuric Acid Plant (B-SAP) & 'A' and 'B' Phosphoric Acid Plants (A-PAP and B-PAP, respectively) production increase project at the Plant City Phosphate Complex. Each of the FDEP's requests is answered below, in the same order as they appear in the RAI letter. The revised application form pages and application attachments are included as part of this RAI response.

Bureau of Air Regulations Comments

Comment 1. This information was requested after the review of the initial application package but was not provided to the Department as the scope of the project had changed. Now, that "B" Sulfuric Acid Plant (SAP) is being considered again for modification, please provide emissions data for SO₂ in lb/ton of 100% H₂SO₄ for the last year (3-hour CEM averages) of operation for the "B" SAP. In providing this data, please present it in a graphical representation against time. On the same graph, indicate the production rate for the plant (3-hour averages) and indicate the turnaround date, if any, for the 'B' SAP on the time axis.

Response: Please see Appendix A. The graph is shown for the period of 1/1/2006 to present. There was no turnaround during the specified period. The most recent turnaround was in October 2005.

Comment 2. Please provide Table 3-3 of the application as it relates to the amended project.

Response: A revised Table 3-3 is attached in Appendix B.

Comment 3. The Department is still not clear for the need to authorize the construction of the sixth evaporator prior to issuing the permit of the amended project. Your letter of January 11, 2007, clearly states that an increase in evaporation capacity is required to accommodate the increase of total permitted phosphoric acid production capacity of this project. Therefore, the need for the sixth evaporator does not arise until the Department authorizes the increase in the phosphoric acid production capacity as requested in this project. The increase of MAP production from 6 percent to 20 percent for the current year does not explain as to why such an increase cannot be accomplished with the current evaporators. Please explain.

Response: The production of monoammonium phosphate (MAP) requires a higher phosphorus pentoxide (P_2O_5) concentration in the feed acid than the production of diammonium phosphate (DAP). CFI included a new evaporator in the permit request in order to (1) provide evaporation capacity to process the increased amount of phosphoric acid that will be produced, and (2) convert a higher percentage of the phosphoric acid to MAP fertilizer rather than DAP.

CFI requests advance approval for construction of the new evaporator in order to convert a greater portion of the current acid production to MAP in response to market needs. Current fertilizer market conditions have shifted such that a higher ratio of MAP to DAP is being demanded by CFI's farmer customers than in the past. Total evaporator capacity of the complex is currently operating at a maximum, and is nevertheless restricting the quantity of MAP that can be produced. This is because the processing of phosphoric acid into MAP requires the evaporation of 17 percent more water per unit of P_2O_5 than does processing to DAP product. If CFI chooses to produce more MAP, which is already authorized in the existing permits, the restriction caused by insufficient evaporation capacity prevents the operation of the phosphoric acid reactors and filters at full rates. The available evaporation capacity is only sufficient to support the production of 200,000 tons per year of MAP at budgeted P_2O_5 production levels. The new evaporator will allow the MAP/DAP production ratio to be adjusted to meet the demand. The new evaporator would allow additional MAP to be produced from the current output of the phosphoric acid plants without reducing current total phosphoric acid production.

The request for advance approval is also related to the sulfuric acid and phosphoric acid construction schedules. Due to the unavailability of sufficient sulfuric acid, CFI will not be able to produce additional phosphoric acid under the proposed new permit until the B-SAP project is completed in the fall of 2008 during the next scheduled turnaround. However, the construction schedule for the new evaporator is estimated at 9 to 12 months. Thus, advance approval for the evaporator would allow evaporator construction to be completed by the end of 2007 or early 2008. At that time, CFI could begin to produce additional MAP as described above.

Comment 4. The electronic modeling files for the amended project were received by the Department on February 13, 2007. The Department has 30 days from the received date to ask additional modeling questions as it relates to the amended project.

Response: Comment noted. Any additional modeling questions will be promptly answered.

Hillsborough County EPC Comments

Comment 1. CF states the permitted rates of the "X", "Y", "Z" plants will not increase and the "A" DAP/MAP plant will not be required to operate. In Table 6-3 provided, it shows the current actual emissions for all three combined as 42.86 tons per year of PM₁₀. The potential for these units is 174.6 tons per year of PM₁₀. This is greater than the significance level of 15 tons per year. Similar analyses can be performed for the other pollutants. Therefore, the facility should be subject to BACT review for these units as they are being modified, unless the facility requests the current actual to future actual provision of 62-212.200, which was not referenced in the updated application. No data was provided for the "A" DAP/MAP plant, however the operational scenario to limit below PSD when used as a backup to the "X", "Y", and "Z" plants should be provided to ensure it remains below the significance level. Please address accordingly and provide BACT review analyses for all the granulation plants, "X", "Y", and "Z" plants and the "A" DAP/MAP plant, as part of this modification project.

Response: The X, Y, Z, and A DAP/MAP plants are not being "modified" as defined in 62-210. This rule defines "modification" as:

(203) "Modification" - Any physical change in, change in the method of operation of, or addition to a facility which would result in an increase in the actual emissions of any air pollutant subject to regulation under the Act, including any not previously emitted, from any emissions unit or facility.

(a) A physical change or change in the method of operation shall not include:

1. Routine maintenance, repair, or replacement of component parts of an emissions unit; or

2. A change in ownership of an emissions unit or facility.

(b) For any pollutant that is specifically regulated by the EPA under the Clean Air Act, a change in the method of operation shall not include an increase in the hours of operation or in the production rate, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975.

(c) For any pollutant that is not specifically regulated by the EPA under the Clean Air Act, a change in the method of operation shall not include an increase in the hours of operation or in the production rate, unless such change would exceed any restriction on hours of operation or production rate included in any applicable Department air construction or air operation permit.

The X, Y, Z, and A plants are not undergoing any physical changes or any changes in the method of operation. The units will be required to operate with an increase in the hours of operation or in the production rate to process the additional phosphoric acid produced under the proposed permit. This situation fits (b) above and is specifically excluded from the definition of a "Modification".

However,, as a result, the units must be included in the netting analysis to determine if (Prevention of Significant Deterioration) PSD review is triggered.

The PSD rules state the following in 62-212.400 (10):

(10) Control Technology Review. The Department shall not issue any permit unless it determines that:

- (a) The owner or operator of a major stationary source or major modification shall meet each applicable emissions limitation under the State Implementation Plan and each applicable emissions standard and standard of performance under 40 CFR Parts 60, 61, and 63.*
- (c) The owner or operator of a major modification shall apply best available control technology for each PSD pollutant which would result in a significant net emissions increase at the source. (This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.)*

Even though the PSD review actual-to-potential analysis indicates a possible net emissions increase from the DAP/MAP plants, Rule 62-212.400(10)(c) requires BACT only for those emissions units where a physical change or a change in the method of operation is proposed. Since the X, Y, and Z DAP/MAP plants are not undergoing a physical change or change in the method of operation of the units, from (c) above it is clear that BACT applies to emissions increases that result from a physical change or change in the method of operation in the unit. Thus, it is clear that BACT is not required for these units.

Comment 2. This comment affected debottlenecking of the Acid plants for PSD purposes and they should be considered one plant. CF states they operate independently from one another. However, it is EPC staff opinion that all four plants are dependent upon one another. Just as the modification of the “B” SAP may debottleneck the two PAPs and X, Y and Z DAP/MAP plants, because all four SAPs share common acid tanks, an increase in sulfuric acid production at the “B” SAP may cause more weak acid to be available to the “A”, “C” and “D” SAPs, which could in turn cause an increase in their production and actual emissions. Because of the uniqueness of CF’s common sulfuric acid storage system, the physical change (modification) at the “B” SAP could result in emissions increases throughout the facility, but more specifically in SO₂ and SAM emissions from the other three SAPs. Therefore, CF needs to submit emissions calculations detailing the increases in actuals and, if the increase is significant, apply BACT to each plant that shows an increase.

Response: Drawings 9.0-SK-86, “Increased Sulfuric Acid Production B-SAP – Proposed Modifications” and 9.1-SK-31, “C & D Sulfuric Acid Plant (Double Absorption)” are attached for reference in Appendix C. The A-SAP process flow sheet is identical to the B-SAP flow sheet with the exception of the noted modifications. The drying, interpass (C-& D-SAP only), and final absorption towers all circulate 98-percent H₂SO₄. The drying tower is used to remove moisture from the inlet air to the process, while the interpass and final towers convert SO₃ to H₂SO₄. The absorption towers circulate the acid by using vertical pumps mounted in a common 98-percent H₂SO₄ pump tank. The circulating acid is pumped from the pump tank through an acid cooler (heat exchanger) to the top of the absorption tower. The acid is distributed uniformly across the tower and falls by gravity to the

pump tank. As the acid falls through the packing in the tower, the gas from the converter (inlet air in the case of the drying tower) moves up the tower. The SO_3 in the converter gas reacts with the free water in the acid to create new sulfuric acid. Water is added to the pump tank to control the acid concentration at 98 percent.

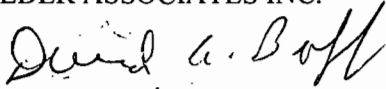
A slip stream of 98-percent acid is taken from the circulating loop, diluted with water to 93-percent H_2SO_4 , and enters the product pump tank. The 93-percent acid is pumped through an acid cooler to remove heat before going to the product acid storage tanks. No 93-percent acid is pumped or circulated back to the sulfuric acid production units from storage. The 93-percent acid is fed to the phosphoric acid reactors to digest phosphate rock.

All four sulfuric acid plants operate independently in this fashion.

Thank you for consideration of this information. If you have any questions, please do not hesitate to call me at (352) 336-5600.

Sincerely,

GOLDER ASSOCIATES INC.



David A. Buff, P.E., Q.E.P.
Principal Engineer
Florida P.E. #19011
SEAL

DB/kjp

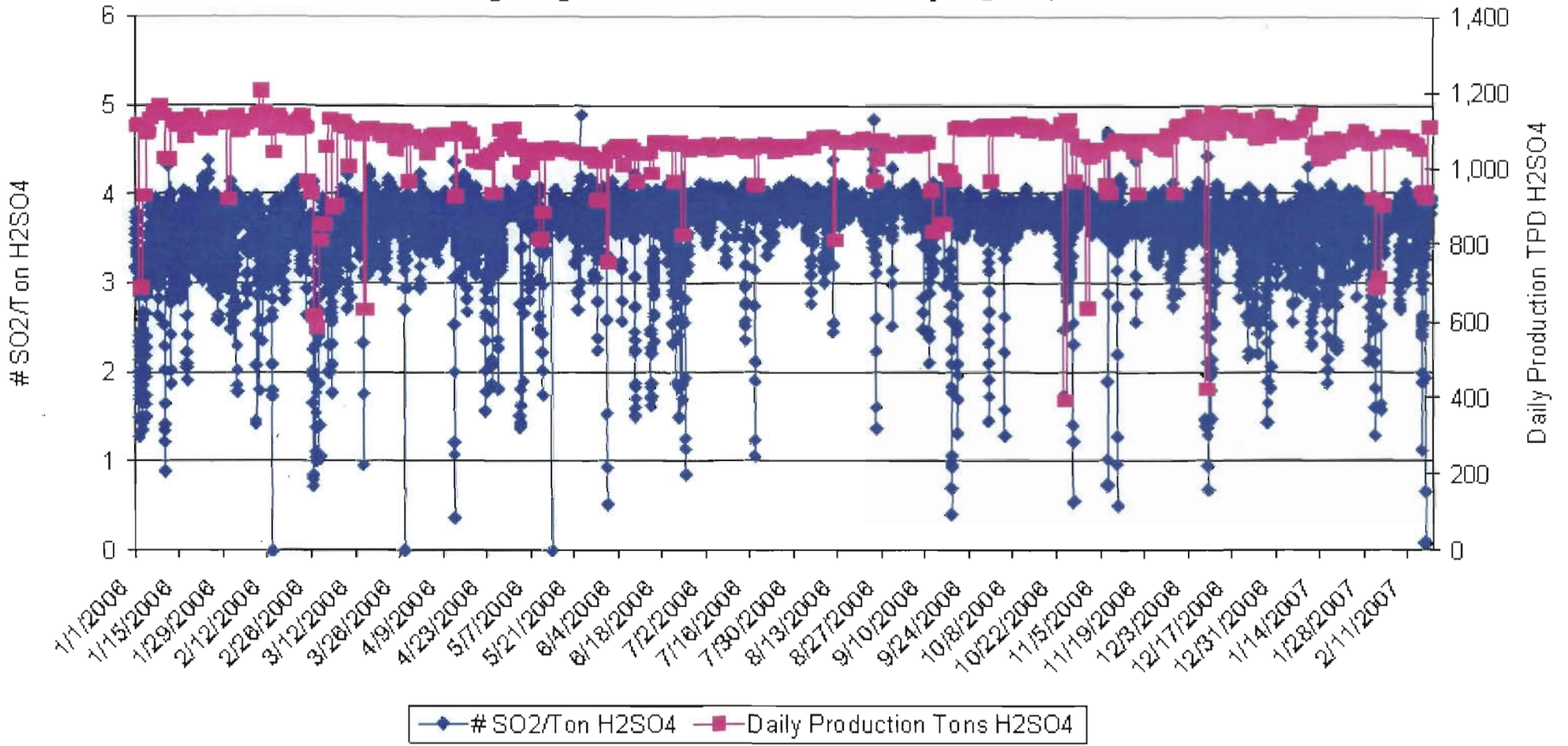
Enclosures

cc: Tom Edwards, CF Industries
Bob May, CF Industries

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APPENDIX A

CF Industries Inc. Plant City Phosphate Complex - "B" Sulfuric Acid Plant
 3 Hr Rolling Avg SO₂/Ton H₂SO₄ & Daily H₂SO₄ Production



Note: The daily production rate is measured and recorded as required by Permit 0570005-017-AV. On the final day of the calendar month H₂SO₄ production is adjusted to zero out sulfur receipts. Therefore, on the final day of every month H₂SO₄ production was estimated by flow meters.

APPENDIX B

TABLE 3-3 (Revised March 2007)
PSD APPLICABILITY ANALYSIS FOR THE PROPOSED CFI PLANT CITY PROJECT

Source Description	Pollutant Emission Rate (TPY)							
	SO ₂	NO _x	CO	PM	PM ₁₀	VOC	SAM	Fluoride
Potential Emissions From Modified/Affected Sources ^a								
B Sulfuric Acid Plant	1,022.0	35.0	--	--	--	--	21.90	--
A Phosphoric Acid Plant	--	--	--	--	--	--	--	3.72
B Phosphoric Acid Plant	--	--	--	--	--	--	--	5.54
Z DAP/MAP Plant	9.5	26.7	15.7	65.7	65.7	1.03	0.16	6.31
X DAP/MAP Plant	9.9	28.0	16.5	41.9	41.9	1.08	0.17	6.70
Y DAP/MAP Plant	11.0	31.0	18.2	67.0	67.0	1.19	0.19	9.60
A & B Storage Buildings	--	--	--	4.8	2.3	--	--	--
A Shipping Baghouse	--	--	--	7.5	7.5	--	--	--
B Shipping Baghouse	--	--	--	7.5	7.5	--	--	--
B Shipping Truck/Railcar Loading	--	--	--	5.7	2.7	--	--	--
A Shipping Truck/Railcar Loading	--	--	--	2.9	1.4	--	--	--
Truck Traffic ^d	--	--	--	3.1	0.6	--	--	--
Total Potential Emission Rates	1,052.43	120.75	50.40	206.1	196.6	3.30	22.41	31.87
Actual Emissions from Current Operations ^b								
B Sulfuric Acid Plant	661.3	7.65	--	--	--	--	1.86	--
A Phosphoric Acid Plant	--	--	--	--	--	--	--	2.43
B Phosphoric Acid Plant	--	--	--	--	--	--	--	2.09
Z DAP/MAP Plant	0.01	0.39	1.63	15.19	15.19	0.11	--	3.25
X DAP/MAP Plant	0.00	0.11	0.47	11.08	11.08	0.03	--	2.07
Y DAP/MAP Plant	0.01	0.34	1.43	16.59	16.59	0.09	--	2.29
A & B Storage Buildings Scrubber	--	--	--	0.09	0.09	--	--	--
A Shipping Baghouse	--	--	--	0.89	0.89	--	--	--
B Shipping Baghouse	--	--	--	1.81	1.81	--	--	--
B Shipping Truck Loading Station	--	--	--	1.55	1.55	--	--	--
B Shipping DAP (Railcar Loading)	--	--	--	2.02	2.02	--	--	--
Total Actual Emission Rates	661.33	8.49	3.53	49.22	49.22	0.23	1.86	12.13
TOTAL CHANGE DUE TO PROJECT	391.1	112.3	46.9	156.9	147.4	3.1	20.6	19.7
Contemporaneous Emission Changes								
C and D Sulfuric Acid Plants PSD (1/04)	^c	^c	0.00	1.43	1.43	0.92	^c	0.00
Total Contemporaneous Emission Changes	0.00	0.00	0.00	1.43	1.43	0.92	0.00	0.00
TOTAL NET CHANGE	391.1	112.3	46.9	158.3	148.8	4.0	20.6	19.7
PSD SIGNIFICANT EMISSION RATE	40	40	100	25	15	40	7	3
PSD REVIEW TRIGGERED?	Yes	Yes	No	Yes	Yes	No	Yes	Yes

^a See future potential annual emissions from Table 2-2.

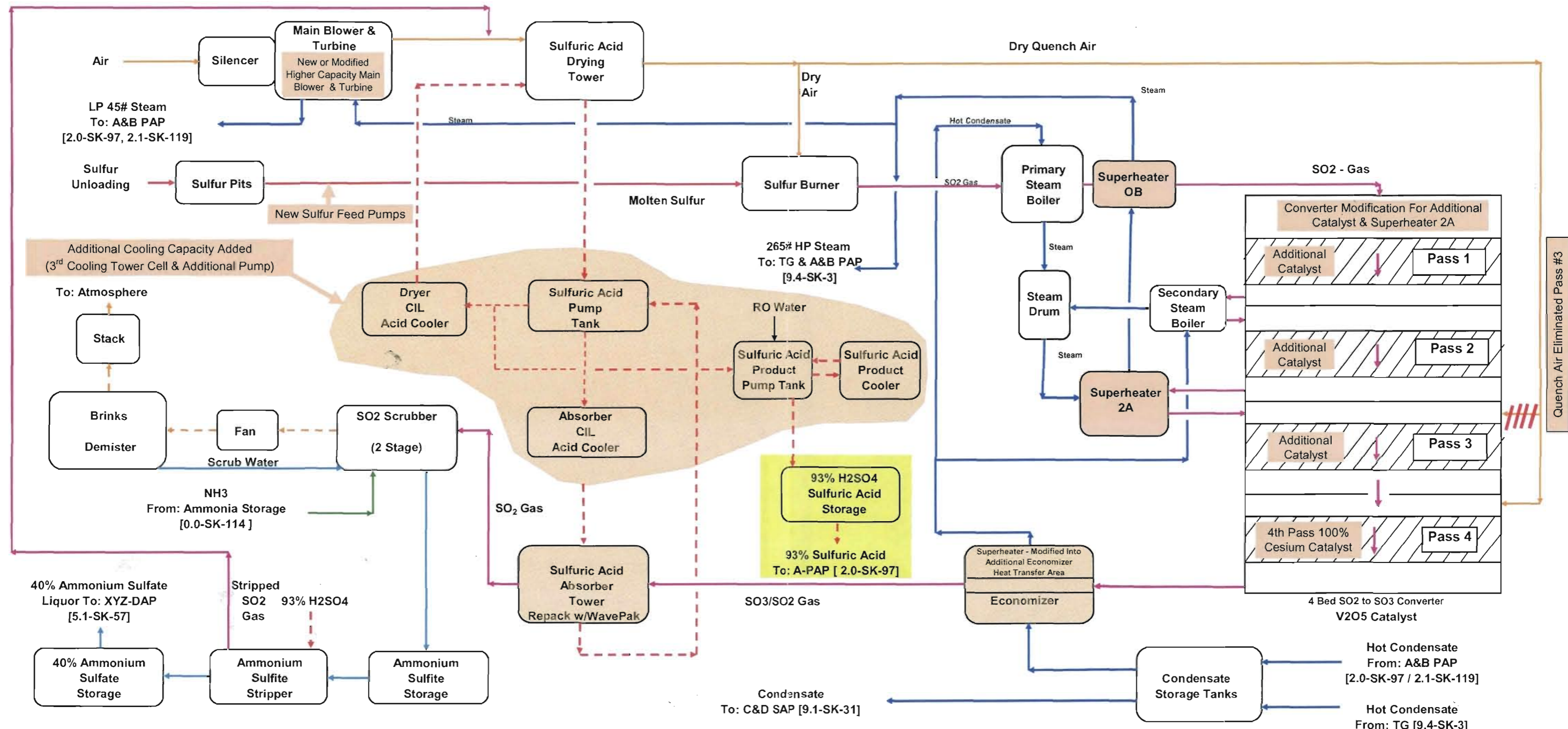
^b Based on actual emissions for 2003 and 2004 from Table 2-2 (see also Appendix A).

^c Denotes that PSD review was triggered, therefore all previous contemporaneous emission changes are wiped clean.

^d Shows change in emission rate due to the proposed project (see Appendix A).

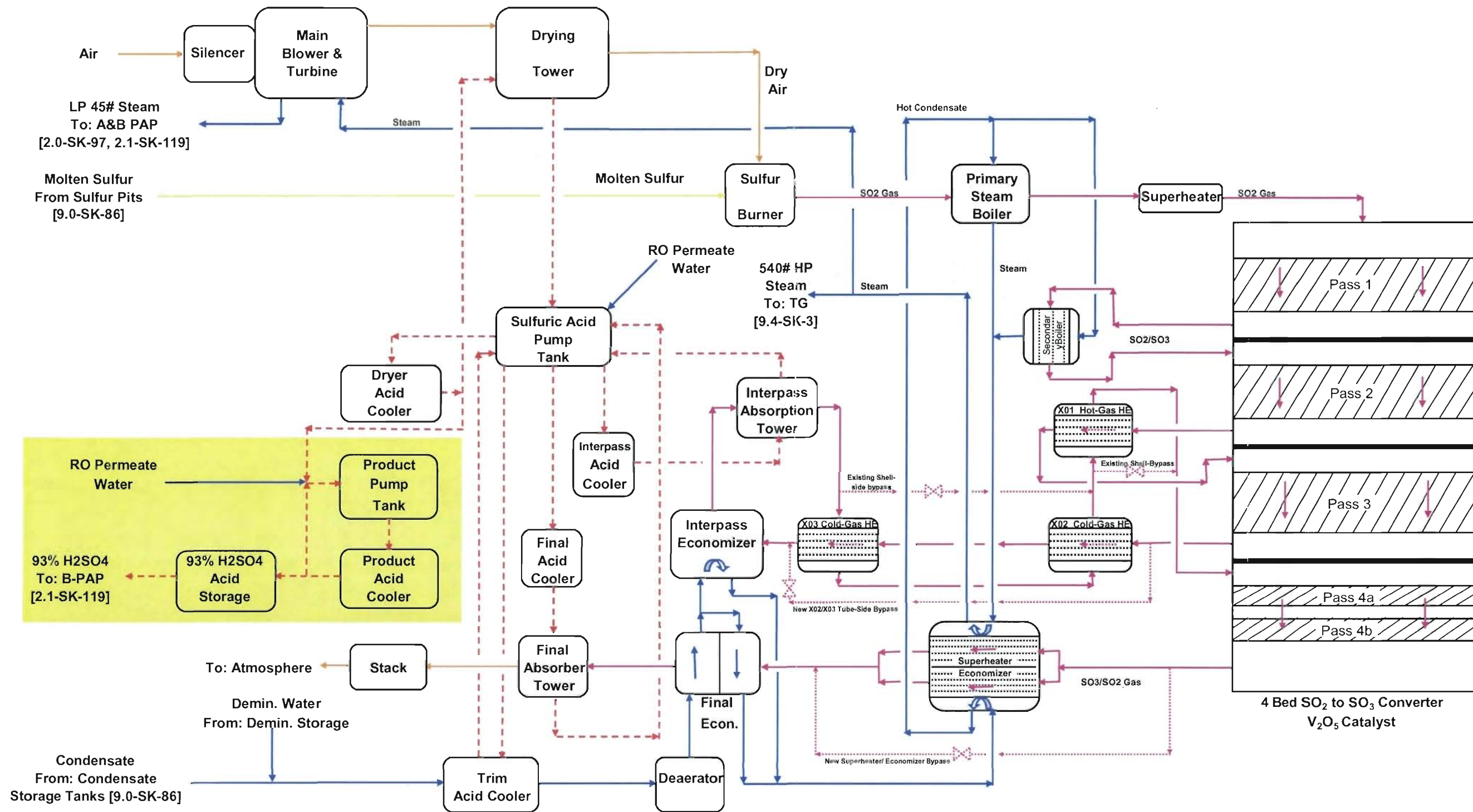
APPENDIX C

Increased Sulfuric Acid Production B-SAP - Proposed Modifications



Legend	By	Date	CF Industries, Inc.	Title	DWR. NO
<ul style="list-style-type: none"> --- Sulfuric Acid --- Steam/Condensate --- Process Gas SO₂/SO₃ --- Air --- Other --- Sulfur --- Ammonia --- Scrub Liquor --- Air + trace SO₂ 	Randy Charlot	2/28/07	CF Industries, Inc. Plant City Phosphate Complex P.O. Drawer L Plant City, Florida 33564 Phone: (813) 782-1591 Fax: (813) 788-9126	Appendix C-1 A&B Sulfuric Acid Plants & Ammonium Sulfate Process Block Flow Diagram Proposed B-SAP Upgrades	9.0-SK-86
90-SK-86.XLS					

C & D Sulfuric Acid Plant (Double Absorption)



Legend	By	Date	CF Industries, Inc.	Title	DWR. NO
- - - - - Sulfuric Acid ——— Gases SO ₂ /SO ₃ ——— Steam/Condensate ——— Air ——— Sulfur	Randy Charlot	2/28/2007	Plant City Phosphate Complex P.O. Drawer L Plant City, Florida 33564 Phone: (813) 782-1591 Fax: (813) 788-9126	Appendix C-2	9.1-SK-31
- - - - - Gas Bypass				C&D Sulfuric Acid Plants Process Block Flow Diagram	
					91-SK-31.XLS