

Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL USA 32653
Telephone (352) 336-5600
Fax (352) 336-6603
www.golder.com



December 1, 2005

BUREAU OF AIR REGULATION

053-7573

Florida Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road, MS #5500
Tallahassee, FL 32399-2400

Attention: Mr. Syed Arif, P. E.

Re: Phosphoric Acid Plant No. 2 Piping Changes
Mosaic Fertilizer, LLC, Green Bay Facility
Facility ID: 1050053
EU ID: 013

Dear Mr. Arif:

Mosaic Fertilizer, LLC (Mosaic) is requesting a change in piping within the Phosphoric Acid Plant No. 2 (PAP No. 2) located at their Green Bay phosphate fertilizer production facility. These changes are described below.

The proposed piping modifications in the PAP No. 2 evaporation area are designed to accomplish four goals:

1. Reduced P_2O_5 losses;
2. Reduced environmental incidents;
3. Reduced costs for future pipe and valve replacement; and
4. Improved ergonomics for operators.

There are currently six evaporators in the PAP No. 2 area. The existing system utilizes a two-stage evaporation system with multiple evaporators operating in series (see attached flow diagram, Evaporator Piping Flow, Existing and Proposed Arrangements). The evaporators are supplied feed acid via three separate feed lines. The product from the first stage evaporators is fed directly to the second stage evaporators and then out to product storage. Due to the frequent washing requirements of each evaporator, the ability to bypass any evaporator is a requirement. The result is an elaborate array of piping and valves to allow the feed, intermediate, and product acid to be appropriately routed.

The goal of the proposed change is to simplify the existing piping while maintaining the existing evaporation capacity. A flow diagram of the proposed system is attached. Each goal is further elaborated below:

1. Reduced P_2O_5 losses. The existing system introduces many challenges for washing the intermediate transfer and product lines. Build-up in these lines causes the acid to back up in the evaporators and overflow into the process water system. It also results



in phosphoric acid contamination in the fluosilicic acid (FSA) generated from the evaporators. Simplifying the piping will allow for thorough washing of both the feed, transfer, and product lines during routine evaporator maintenance. This will eliminate evaporator carry-over and FSA fouling. Also, the reduction in the number of valves in the existing piping system reduces the chance of one valve leaking or set up improperly, where feed or product acid would end up directly in the process water ponds.

2. Reduced environmental incidents. Much of the existing piping is fibercast construction and has been in place for over 20 years. Since this piping is well beyond it's useful life expectancy, the plant has experienced numerous leaks over the past several years due to pipe failures. New piping would significantly reduce the number of incidents due to fibercast pipe failures, thereby reducing phosphoric acid losses to the process water system. This is a significant environmental benefit for reduction of losses of phosphoric acid to the process water system.
3. Reduced costs for future pipe and valve replacement. Since the piping is in need of extensive replacement, it dictates the need to examine different piping options to perform the same service. Utilizing an existing tank for intermediate product acid storage would greatly simplify the piping and valving arrangement. We've identified 96 valves which could be taken out of service with the proposed piping modifications. It is also estimated that the same duty could be preformed with approximately one-half of the piping currently in place. This would greatly reduce the immediate and future maintenance costs for pipe and valve replacements.
4. Improved ergonomics for operators. Due to the scaling nature of the process, these valves are usually very difficult to operate and require valve wrenches to open and close. We have had several incidents/injuries occur while operators were opening and closing valves in this area. Elimination of so many valves in the feed and product header systems makes the system much more user-friendly. Taking an evaporator down for wash or maintenance will require the operation of only a fraction of the valves currently operated.

An existing tank that contains 54 percent phosphoric acid will be converted into a 40 percent tank (basically an intermediate tank) for use with the new piping arrangement. This will require new pumps to ensure sufficient intermediate acid strength is maintained in the tank. The tank currently is controlled/evacuated to the EU015 scrubbing system.

Mosaic believes that no increase in emissions will result from these changes to the PAP No. 2 operation. The changes involve only piping and valves, and an existing tank will be used for intermediate storage. These changes will have no effect upon production of phosphoric acid at the facility.

Pursuant to Rule 62-213.410(3)(a), the required notice information for an operating change is provided below:

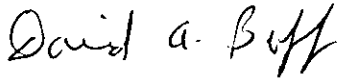
- (a) The change will occur during the 2006/2007 fiscal year.
- (b) The operating change to the PAP No. 2 consists of the modification of the phosphoric acid feed piping system and use of an existing tank.

- (c) The pollutants emitted by the PAP No. 2 consist of fluorides. No changes in emissions are expected with the proposed equipment modifications.
- (d) No change in applicable requirements results from the operating change.

Mosaic is requesting approval from the Department to proceed with the described changes. Thank you for your consideration of this request. If you have any questions concerning this request, please call me at (352) 336-5600 or Liz Foeller at (863) 519-1371.

Sincerely,

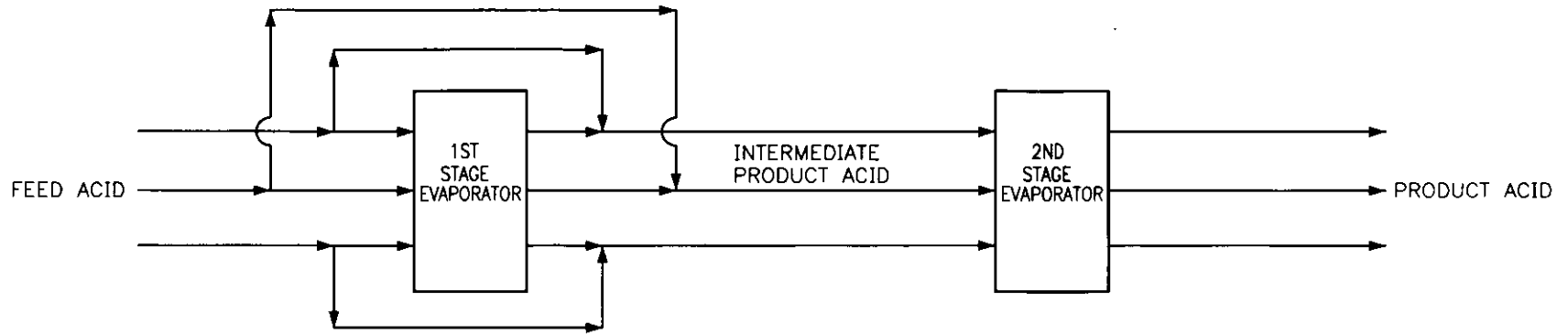
GOLDER ASSOCIATES INC.



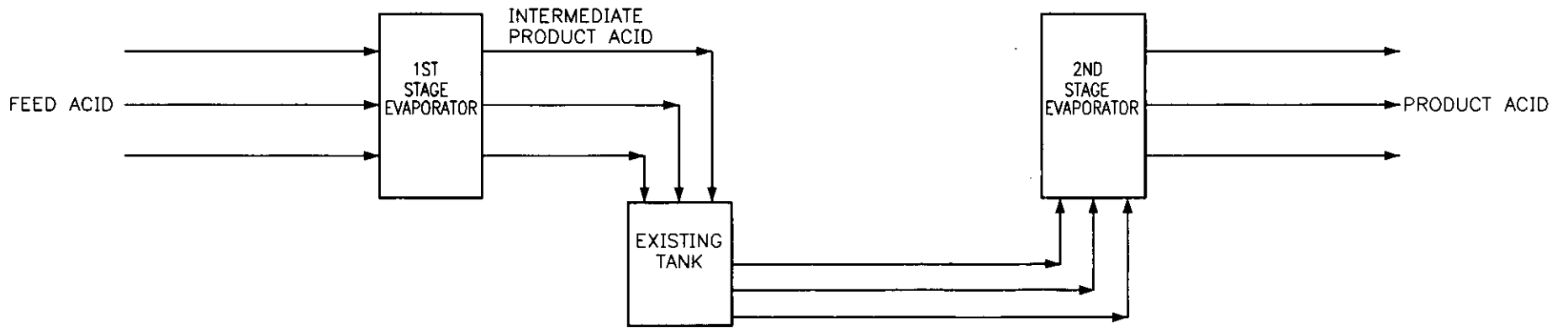
David A. Buff, P.E., Q.E.P.
Principal Engineer
Florida P.E. #19011

cc: L. Foeller, Mosaic Fertilizer, LLC
D. Jellerson, Mosaic Fertilizer, LLC
J. Waters, FDEP Southwest District

Enc.
DB/kdk



EXISTING ACID FLOW



PROPOSED ACID FLOW

GREEN BAY EVAPORATOR PIPING FLOW EXISTING AND PROPOSED ARRANGEMENTS										
REFERENCE DRAWINGS	NO.	DATE	REVISION	BY	CHK	APP	Green Bay Facility	4300 C.R. 640 W	Barlow, FL 32830	Telephone 408.523.7141
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PROJECT NO. 16		DATE 11-05		DRAWN BY K. JOHNS		CHECKED BY		REV. 0		

