

Monsanto

FROM (NAME & LOCATION)

G. L. Johnson, W. G. Krummrich Plant

DATE

December 10, 1974

cc

SUBJECT

DEPARTMENT 246/LITTLE PHOS  
N<sub>2</sub> VAPORIZATION SYSTEM

REFERENCE

TO

A. E. Leisy

T. N. Carrico  
W. J. Crabtree  
G. R. Davis  
Bob Eden  
W. C. Engman  
C. R. Ganote  
R. G. Moody  
A. R. Nagel  
C. C. Svoboda - JFQ

Today, I had the pleasure of meeting with Woody Kubala and John Nugent of Airco, Alton, Illinois. We discussed potential improvements in the Dept. 246/ Little Phosphorus nitrogen distribution system.

The gist of their conclusions was at present usages (slightly over 3.0M ft<sup>3</sup>/mo.) the existing 2500 gallon N<sub>2</sub> storage tank at Dept. 246 is inadequate. In order to better assure against outages which have recently developed, replacement of this tank and associated air vaporization system with a 6000 gallon vessel and a steam vaporizer was recommended. The choice location for the suggested equipment would be directly east of the present Dept. 244 oxygen vaporizer and between rail spurs 10 and 12. This would require enlarging the existing O<sub>2</sub> foundation and pad by about 12 foot square, and extending the fences, steam supply, lighting, and N<sub>2</sub> lines to the new location at Monsanto's cost. As I understand it, removal of the existing N<sub>2</sub> system and installation of the new would be Airco's responsibility. There could also be an adjustment in the rental fee for this larger installation.

While this replacement may become necessary, I do not feel it should be made until further efforts have been taken to minimize present N<sub>2</sub> usages; and specifically, an explanation found for the step change which occurred about October, 1973. Prior to this, the existing system was apparently sufficient. I shall work with Messrs. Ganote and Davis on this.

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For the sake of brevity, other matters discussed are listed below:

1. Airco is responsible for equipment and copper supply lines up to a bronze check valve inside the fence. Repairs to the galvanized pipe beyond this point, (including the two obsolete N<sub>2</sub> gas meters) are Monsanto's responsibility.
2. Two very small N<sub>2</sub> leaks were found and corrected at the Airco station. Numerous minor leaks remain on the Monsanto piping, valves, etc.
3. Normal N<sub>2</sub> supply pressure should be maintained down to a tank level of 10". Normal refill point is 30", and the maximum level is 70".
4. Notification for delivery and/or repairs should be made through Airco's 24 hour phone number, 462-1633, in Alton, Illinois. The contact during normal business hours is Dave Dyson.
5. Airco uses copper pipe as supply lines and back lead or silver solder all fittings to prevent leaks.
6. Each of the existing four sets of air vaporizers at Dept. 246 has a 5,000 ft<sup>3</sup>/hr capacity (20,000 ft<sup>3</sup>/hr total). Quick, rough estimates of instantaneous usages can be made based on the relative amount of "frosting" on each vaporizer. Colder ambient temperature (less than 30°F) in combination with high humidity can reduce the air vaporization efficiency by 50%.
7. Airco will supply a calibration for the existing Dept. 246 N<sub>2</sub> storage tank and associated conversion factors. They will also send recommendations for replacement N<sub>2</sub> gas meters for our consideration.

I will report to you at month's end on the status of reductions in present N<sub>2</sub> usages.

*Gary L Johnson*  
Gary L. Johnson  
Sta. 2005

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