CENTRAL PHOSPHATES, INC., Subsidiary of

CF Industries, Inc.
Plant City Phosphate Complex

P.O. Drawer L.
Plant City, Florida 33566
Telephone: 813/782-1591



May 30, 1989

Mr. Willard Hanks
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

SUBJECT: Central Phosphates, Inc.
Y-Train Granulation Plant
Product Cooler Construction Permit

Dear Mr. Hanks:

Attached are the feed rates to process you requested for the subject permit application.

Please call Jim Martin or Paul Roberts (813/782-1591, 688-9900, 752-0489, or 223-7093) if we can assist you further.

Sincerely,

J.E. Parsons/hh

J.E. Parsons
General Manager

JEP/PRR/lh

cc: Mr. Jerry Campbell-HCEPC
Bill Thomas - Tampa, DER

CENTRAL PHOSPHATES INC.
Y TRAIN COOLER ADDITION

INPUT MATERIAL BALANCE

## DAP

Product Rate = 100 Tons/hour
Numbers calculated by the ratio 100/75 from application

| | |
|---|---|
| 39.8% P205 Phosphoric Acid | 244,533 lbs/hr |
| 99.5% purity Ammonia | 46,276 lbs/hr |

## MAP

Product Rate = 100 Tons/hour

P205 $\frac{200{,}000 \text{ lbs/hr}}{.95(\%\text{recovery})}$ = 210526 lbs MAP X 52.1% P205= 109,684 #/hr input

$\frac{109684 \text{ lbs P205}}{.420 \text{ (acid concentration)}}$ = 261,153 lbs 42% Phos acid

NH3 210526 lbs MAP X 11.0% N = 23,158 lbs N
23158 X 17NH3/14N = 28,120 lbs NH3
28,120/.995% purity = 28,261 lbs Ammonia input

## GTSP

Product Rate = 55 Tons/hour

Rock @ 30.50% P205 = 55T/Hr Product X 2000 lbs/ton X .4259 T.Rock/Ton Product - 93% recovery = 50,369 lbs/hr input

Acid @ 38.4% P205 = 55T/Hr Product X 2000 lbs/ton X .8857 T.Acid/Ton Product - 93% recovery = 104,764 lbs/hr input

See next page for calculations on GTSP

GTSP PRODUCTION
55 T/Hr PRODUCT RATE
93% RECOVERY

ANALYSES ASSUMED:

| | %P2O5 | %CaO |
|---|---|---|
| Product | 47.00 | 19.50 |
| Rock Feed | 30.50 | 44.75 |
| Acid Feed | 38.40 | 0.50 |

CALCULATION:

R = rock
A = acid

.3050R + .3840A = .4700 (P2O5 Balance)
.4475R + .005A = .1950 (CaO Balance)
R = 1.5410 - 1.2590A

.4475(1.5410 - 1.2590A) +.005A = .1950
.6896 - .5584A = .1950
A = .8857 Tons Acid/Ton GTSP
R = 1.5410 - 1.2590 (.8857)
R = .4259 Tons Rock/Ton GTSP

Rock = .4259 tons/.93(recovery) = .4579Tons
Acid = .8857 tons/.93(recovery) = .9524Tons

ROCK = .4579 X 55 tons/hr X 2000 lbs/ton = 50,369 lbs/hr
Acid = .9524 X 55 tons/hr X 2000 lbs/ton = 104,764 lbs/hr