**Monsanto**

FROM (NAME & LOCATION) R. S. Yates - General Offices

DATE February 26, 1969

SUBJECT Scope Review Meeting Held with Plant Personnel at Anniston on February 4 and 5, 1969

REFERENCE CEA 2080 - Increase Solid Aroclor Capacity

cc: J. L. Arnold
R. C. Herman
K. J. Johnston
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TO :
E. E. Bowles (part-time)
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R. A. Haydel (part-time)
[redacted]
E. E. Smith (part-time)
W. E. Voss
R. S. Yates

Therminol System - Reviewed the various plans for adding the new Aroclor plant heating load to the present Therminol furnace.

Recommendations:

a) Install surge tank in vicinity of Building 27.

b) Add external pump to new tank to distribute Therminol to new system. Add 4 x 6" ips nozzles to be used for pumps for present system.

c) Install level alarm in tank to prevent overflow and temperature indicator.

d) Check transfer system from present surge tank. Increase transfer line from 4" to 8".

e) Check heat loading on present furnace. This was done by Mr. Bowles on February 10 with the following results:

Coil In - 256°C  Coil Out - 281°C
Flow - 320 GPM  Amb Temp - 55°C
Heat Load - 2.8M Btu/hr

f) Mr. Bowles estimates the following flows are required:

| | |
|---|---|
| Existing Pump | 350 GPM |
| New System | 200 " |
| Item 810 | 45 " |
| No. 2 Still | 150 " |
| No. 3 Still | 150 " |
| TOTAL | 895 " |

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Process Design Sheets

a) Department is 826.17 not 826.22.

b) Gould pumps are satisfactory. This was the type used on the last project.

c) Use Counterpoise seals on the chlorinator and mix tank pumps.

d) There is a 6" scrubber at the HCl plant which was installed on Project 1663 (EA 4-488) and not being used at present. Mr. Voss will check to see if he can relocate this unit on this project.

e) Add 1½" ips transfer line from day tanks to charge Therminol tank.

f) Consolidate Therminol tank at chlorinators--provide single tank.

g) Want only 10% holdup in still and coil. May have up to 1,000 lbs of lime in bottoms. This should be noted in pump specification sheet.

h) The draw-off stack on the Montar draw-off stack should be extended.

i) Jet sizing should be based on actual operating conditions. Present still vacuum begins at 10 mm and drops to 20 mm. If NC load is 20 lbs, then this increases to 40 lbs at 20 mm.

j) Item 101 - (1) prefer plate coils to internal coil

(2) want quick opening nozzle for Ferric chloride

k) Item 102 - prefer Fairbanks-Morse scale

l) Item 104 - (1) check 1/8" diameter holes for sparger

(2) total area of holes should not be greater than cross-sectional area of inlet pipe

(3) blockages occur in sparger pipes due to over-chlorination

(4) Get $20^{\circ}C$ $\Delta t$ between control point temperature in circ. line and temperature in center of chlorinator. The latter is the more important. What happens to $\Delta t$ if pump efficiency decreases?

(5) Do not trace shell of chlorinator.



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m) Item 106 - check loading at 3,000 lb/hr of chlorine

n) Item 107 - need 6" ips nozzle in top manhole for cleanout

o) Item 116 - had mechanical failures in similar units where tube sheet was welded to the shell

p) Item 114 - combine Items I14 and 121

q) Item 125 - check on lime addition nozzle

r) Item 128 - (1) design for 400°C

(2) openings large enough to remove coil

(3) check center line of Still No. 4 and No. 5 heaters--use same outer line if possible

t) Item 132 - (1) check size if yield is 90%

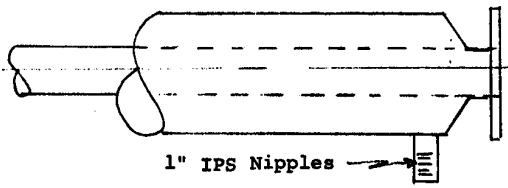
(2) What type level instrument?

u) Item 135 - (1) specify plate coils

(2) check construction materials

Piping

a) Jacketed pipe with swedged jacket is satisfactory.




b) Mr. Kuhn requests connection to present still from new chlorinator system. This should be a temporary arrangement because it may affect FDA clearance.

c) Tracers can go to 200 psig.

d) Steam system should use

(1) bronze seat valves

(2) malleable iron unions

(3) ball valves in on-off service

(4) globe valves with Stellite seats in throttling service

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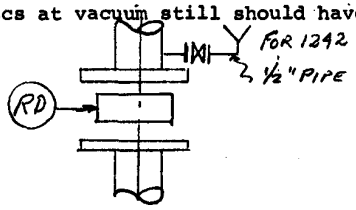
e) Therminol system should use

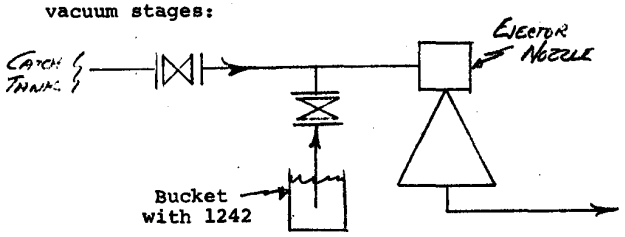
(1) S.S. jumpers

(2) FA 37 valves get tar in the seats and are difficult to close for this reason.

f) All rupture discs at vacuum still should have a test funnel.




g) A cleanout device should be installed for cleaning ejector nozzles. The following device is effective on the high vacuum stages:




However, the above device is not too effective in the low vacuum stages. Consider tieing stages into the 1½" lps 1242 circulating line.

Instrumentation

a) Trend Recording is satisfactory for panel mounted instruments.

b) Still Pot needs a high level alarm to protect quality by not overfilling still and a low level alarm to protect the pump. A bubbler does not work because of gravity changes.

c) Temperature drop across the coil is never large enough to tell when the batch is nearly finished.

Electrical

a) Pressurization of motor control room should be reviewed and made to work.



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Layout

a) Stacking of heat exchangers would be acceptable.

b) Want Montar from Still No. 5 to drain into present draw-off system.

Insulation

a) Use 1/2" braided tubing cover over steam and Therminol jumpers.

Miscellaneous

a) Do not need spare pump for chlorinator at this time.

R. S. Yates

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