SR/H--870

E. I. du Pont de Nemours & Company
Explosives Department
Wilmington, Delaware

Classification Cancelled or Changed
TO UNCLASSIFIED
By Authority of

1. [signature] Name ADD Title 1/23/89 Date

2. J Banick Name AED CO Title 2/4/89

#2 - R. J. Christl
#3 - H. Worthington - V. R. Thayer
#4 - L. C. Peery - SRP
#5 - L. S. Danser - SRP
#6 - M. H. Wahl - SRL
#7 - W File

March 2, 1955

This document consists of 3 pages
No. 1 of 7 Copies, Series A

M E M O R A N D U M

TO: J. B. TINKER (#1)

FROM: R. J. CHRISTL

200 AREA WEEKLY REPORT

SOLVENT EXTRACTION PLANTS

200 F Area - Operations Status

221 Building - The plant has averaged 4.2 batches per day over the past week. At this rate the feed jets to the first cycle run at maximum steam pressure and control becomes difficult as the feed tank level is depleted. A new jet, intended to be operable over the 4-8 batch range, is being tested at TNX. As soon as a plant prototype of this jet becomes available, it will be tested on the first cycle feed. Orders are being placed for the total requirements of 221 F and H.

In head end, batch size has been increased to permit handling the equivalent of 5 canyon batches per precipitation and centrifugation.

Foaming continues to be a problem in the high and low activity waste evaporators but it is being controlled by the use of silicone anti-foam. The capacity of these evaporators is borderline and it has been necessary, at times, to send unconcentrated waste to storage to avoid production losses.

The hydrofluorination operation has been erratic. One plant assistance man has been assigned to study this problem.

Bertha values on this week's buttons ranged from 19.7 to 22.0 and represents P-1 material.

"B" Line -

DOES NOT CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION
Reviewing Official: J. Banick, AED Class Officer
Date: 2/4/89

"A" Line - Operations normal. Encouraging analytical results have been obtained on product from recent batches made under conditions designed to minimize cycle time. This program will be resumed.

221-H Building - Sampling of 2A Mixer-Settler

In addition to the sampler standpipe to be installed on stage 5 (as reported in 2/9/55 Weekly Report), a second standpipe is to be installed on stage 4 to permit the future installation of a criticality monitor.

The standpipes installed earlier on stage 9 of all 221-H boxes are to be vented to the mixer-settler vent line which in turn connects to the process vent system. This will minimize the possibility of spreading aerosol type contamination resulting from the air bleed through the level dip tube.

200 F - Water Utilities

It appears that the present cooling water facilities should be sufficient for summer operation at a 4 batch rate. The plant has been able to reduce process cooling water flows from 16,000 to 10,000 GPM. The 7,000 GPM required for the refrigeration systems gives a total indicated flow of 17,000 GPM which approximates the design forecast. Further economies on process cooling water are expected. The plant has one man assigned to this study.

The three existing pumps, exclusive of the spare steam pump (5,000 GPM), are rated at 15,000 GPM total and may supply 17,000 before the pressure drops below that required to pressurize canyon vessel coils.

The temperature rise at a 15,000 GPM rate is expected to be approximately 12°F compared to the tower rating of 40°F.

221-F Building "A" Line - Increased Capacity

Paste up equipment arrangement drawings have been made showing the equipment to be added for increased capacity. These arrangements were approved by process and operating groups.

The building to be added for new equipment is a 3-bay extension to the south of the existing "A" line building denitrator room. In elevation there is a basement for furnaces with an enclosed pot room above. The barricaded area for the new hydrate evaporators is an inset on the west side of the building addition above the second level rather than an enclosure external to the building as at present. Plans are to install three pots and two hydrate evaporators. The adequacy of auxiliary equipment is being studied. A 4,000 gallon tank for surge space between hydrate evaporators and denitrator pots will be included in equipment additions.

[redacted]

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

The urgency with which this added equipment is needed has led to the setting up of priority package units as a guide for priority design, procurement and construction. These priority units are:

1. Building addition.

2. a. At least one but preferably two denitrator pots, off-gas equipment.

   b. 4,000 gallon hydrate surge tank.

3. One denitrator pot, two hydrate evaporators, condensate tanks.

4. EM denitrator pot of improved design.

Design and construction schedules are being developed.

221-F Building - Canyon Heat Load Study

Data obtained during a canyon heat load test have been transmitted to Engineering. The adequacy of the canyon air cooling equipment will be determined from this information.

221-F Building "A" Line - 5-Ton Product Shipping Container

The scope of work for conversion of the shipping facility to handling oxide shipments in 5-ton containers has been given to the Engineering Estimating Section for an order-of-magnitude estimate. It is anticipated that this will be available March 15 for review.

221-H Building - Solvent Washing and Decanting

Planning and design are proceeding on tank modifications required to permit continuous solvent washing and decanting in "H" Area. Agreement has been obtained on most details to permit utilization of existing tanks. The scope is being reviewed by Construction and Production to establish timing on the required changes.

RJC:pm