E. I. du Pont de Nemours & Co.
Explosives Department
Wilmington 98, Delaware.

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200-F Area - Operations Status

200 AREA WEEKLY REPORT

No. 1 of 7 Copies, Series A

March 17, 1955.

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- #3. H. Worthington - V. E. Thayer
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TO: J. B. TINKER
FROM: R. J. CHRISTL

ED Class Officer

1. *Shorn* ADD 1/23/89
2. *R. J. Christl* AED CU 2/4/89

As of March 12, 1955, the instantaneous plant operating rate was increased to 4.6 batches per day. The latest seven day average operating rate was 4.4 batches per day.

To reduce the load on solvent recovery, washing is being omitted on each fifth batch of warm solvent.

The high activity waste load has been heavy recently necessitating the processing of some waste in the rerun evaporator to avoid shutdown of first cycle. Condensate from the rerun evaporator has been high in activity causing some problems in the handling of this material in 211. Lab waste evaporator DF's have been poor. These problems are under investigation.

Denitrator pot operation has been smooth with cycles running between 9 and 11 hours, producing oxide which meets specifications but which has shown a distinct drop in reactivity and UO_3 purity.

Acidification of alcohol washes has been discontinued to help reduce abnormal temperature surges in the HF furnace. Since this was done, operations have been normal.

Recent Bertha values ranged from 19.3 to 21.9 ngs.

200-F & H - Extra Machinery

Engineering was advised that four spares should be provided for the following major canyon equipment.

- (1) 8 x 8 evaporator
- (2) 8 x 11 cell tank
- (3) 10 x 11 cell tank

Present commitments will leave four spare evaporators but no spare 8 x 11 or 10 x 11 cell tanks. Therefore, Engineering was advised to order four each of the 8 x 11 and 10 x 11 cell tanks.

MASTER

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221-H - Process Vent System

The dummy water run of the caustic scrubber has been delayed and is now scheduled for the week of March 21. The caustic run will follow a day or two after completion of the water run.

200-F - Area Acceptance

A preliminary acceptance meeting was held at SRP March 11, 1955. All plant groups, the Wilmington Process group, and Design were represented. A preliminary list of exceptions was prepared. This will be reviewed March 25, 1955, and it is hoped that the final acceptance with exceptions can be made April 7, 1955.

221-F "A" Line - Increased Capacity

Design and procurement are continuing. Discussions of design details are under way. A preliminary scope of work has been issued by the Engineering Department.

241-F & H - Waste Production Analysis

A study of waste production has been made using present "F" Area experience as a base and making assumptions for waste production rates and operating rates. This study shows that cooling coils should be added to at least (2) tanks in "F" Area and (1) tank in "H". It shows further that the first new tank in 241-H should be ready for use by 8/15/56. The Engineering Department will be advised.

221-F & H Buildings - Continuous LEU Evaporators

The Engineering Department has been requested to install facilities so that the "F" Area continuous LEU evaporator steam condensate may be used as an additional source for the acidified condensate water system. Design work on both the F and H Area units is now essentially complete.

221-H Building - Increased Capacity

The Engineering Department has been requested to design and install the following additional facilities for Building 221-H: ✓

A. Decanters

1. Four continuous tank decanters in place of the 1AW, 1CU, 1EU and 2BP run tanks. These decanters will discharge the organic material via direct lines to the rerun run tank in each canyon. Retention time in the settling section will be about 30 minutes at an eight batch rate which is a factor of ten greater than the residence time in the last stage of the mixer settler banks. Provision will be made for the future return of organic directly to the mixer settlers.
2. A new vessel as a continuous decanter between the Low Activity Waste Hold Tank and the 1AW Feed Tank.

The preliminary design of the decanter tanks has been reviewed and the piping revisions for ~~near~~ installation approved.

B. Continuous Solvent Washing

1. Two tanks in the warm solvent system are to be provided with continuous washer units which will parallel the existing batch washing facilities. Provision for the future installation of pumps in the system will be made by the addition of an external pump well on the tanks.
2. Two tanks in the hot solvent system will be equipped with pump wells but no other revisions will be made to this system at this time.

C. Additional Tank Capacity

1. A new 8' x 8' tank for additional 2BP holding capacity. This vessel will receive and return material only to the existing 2BP Hold Tank (9.8). A new line from the 2BP Hold Tank (9.8) to the Centrifuge Run Tank (10.4) will be provided for recycling off standard material.
2. A new 8' x 8' tank to receive material from the LAW Decanter and the Head End Filter and discharging to the High Activity Waste Neutralizer (9.1). The existing HAW Neutralizer (9.4) will now be used as an evaporator feed tank and the existing hold tank (9.1) will be used as a neutralizer. Head end condensate will be rate jetted directly to the second stage HAW evaporator.
3. One of the existing pair of adjustment tanks in both the 1A and 1D bank feed systems will be increased in size to 10' x 11' vessels. These will serve as mixer settler feed tanks with all feed adjustment being performed in the remaining tank of each pair.

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RJC/BLT/blt