Anniston
C. K. Eastman
W. H. Hunter
A. J. Koenig
J. C. Landwehr
A. E. Leisy
G. W. Miller
W. B. Papageorge
W. F. Taffee
H. L. Williams

General Offices
C. E. Anagnostopoulos
J. O. Bright
H. C. Carder
D. E. Cayard
D. Danna (3)
L. C. Fuhrmeister
H. O. Hehner
D. B. Hosmer
R. E. Howard
W. A. Kuhn
C. F. Luecke
H. L. Payton
W. R. Richard
M. L. Sample
A. J. Speziale
J. A. Stephens
R. J. Stratmeyer
H. S. Trail
J. H. Zwemer

South Second St.
O. DeGarmo
M. E. Gibbs
J. F. Quinn
J. R. Savage - JFQ

Other Locations
D. B. Edwards - DR
J. W. Graves - Luling
W. R. Kellogg - Nitro
G. F. Knollmeyer - Seattle
J. F. White - Everett
R. F. Wiesenborn - CB
W. J. Wilson - WGK

Monsanto

Anniston Plant

TECHNICAL SERVICES DEPARTMENT

MONTHLY REPORT

Summary

March 1968

Estimated Cost Improvement Results For First Quarter 132% of Target: $102,000 Estimated vs. $77,400 Target.

Organic Division

Aroclor quality was tracked with special samples during a run using 200,000 gallons of Enjay-Udex 9600 benzene; preliminary results show no quality loss. Base line test for WGK continuous chlorinator conditions was delayed by Udex evaluation; will be accomplished in April. Aroclor MIP was completed as scheduled.

Biphenyl Expansion Project (CEA-1892) was moved forward with resolution of final scope details and revision of production cost estimate. Target date for capacity test to debottleneck biphenyl still was missed due to furnace outage and Udex benzene evaluation, rescheduled to April with analysis complete by 5/1.

Chlorine Cell House Mercury Level In Air Reduced to 0.06 Mg Hg/M^3 - three steps of program for this reduction are in operation. Acid wash tank project to recover mercury from "butter and dust" was approved and long delivery equipment placed on order.

HCl Recycle Line Project ($20,000/Yr. Savings) Design - targeted for 5/1 completion. Evaluation of methods to produce Staley Grade Acid will be completed in mid-April - an instrumental method was developed to identify odor factors (biphenyl and monochlorobiphenyl) which will be evaluated versus the odor panel method.

PNP Debottlenecking Studies Continued in March; a detailed capacity analysis will be published in mid-April. Rate in March was 1.61 M lbs. 100,000 lbs. over February.

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TOWOLDMON0044532

Parathion Formulation Project Was Started Up On Schedule - minor problems are slowing rate but these are being corrected by joint effort of TSD, Production and Maintenance. This project ($18,000 NFC) was designed, installed, and placed in operation in 1 1/2 months.

Formal approval received ($49,500 Experimental Expense) to build experimental facility to test Sulfur Recovery from Parathion Residue. Design and process development work are on target to begin tests in mid-June. Recent developments on the process indicate that a solvent wash may not be required to produce high quality Sulfur. This break-through could result in $125,000/yr. (B.T.) higher savings and a $150,000 reduction in capital cost to build the permanent Sulfur Recovery Unit.

Construction has been started on the Parathion Recovery Separator unit, with completion scheduled for 4/15.

EVOP of Niran and Methyl condensation reactions resulted in $11,300 yield savings in March. ($36,100 YTD)

Detailed Status Report on high priority S&PP Safety Jobs issued 3/15 in a combined report with Production and Maintenance. Of the 25 items TSD is responsible for, 5 have been completed, and 15 others will be completed in 1968.

Experimental slurry pump installed and successfully placed in operation in mid-March. This pump has eliminated NaPNP-Soda Ash line pluggage and removed a potential safety hazard of cleaning out the heretofore plugged line.

Engineering Design and Services

Liaison On Warehouse And Aroclor Projects (CEA-1430 & 1452). Sewer problems have been successfully resolved and both projects are proceeding on revised schedule: Warehouse and Tank Farm - September start-up; Flaking and Drumming late December start-up.

Utilities project completed with addition of dual drive boiler fan and emergency power source to insure continuous steam supply.

Waste Heat Recovery Therminol losses reduced to 1/4 original values by installing demisters, but still above target. April testing will provide basis for comparing results after modifications now in design. Long delivery items for modifications are on order.

Pollution Control

State of Alabama Dropped Law Suit Resulting From March 1966 Fish Kill.

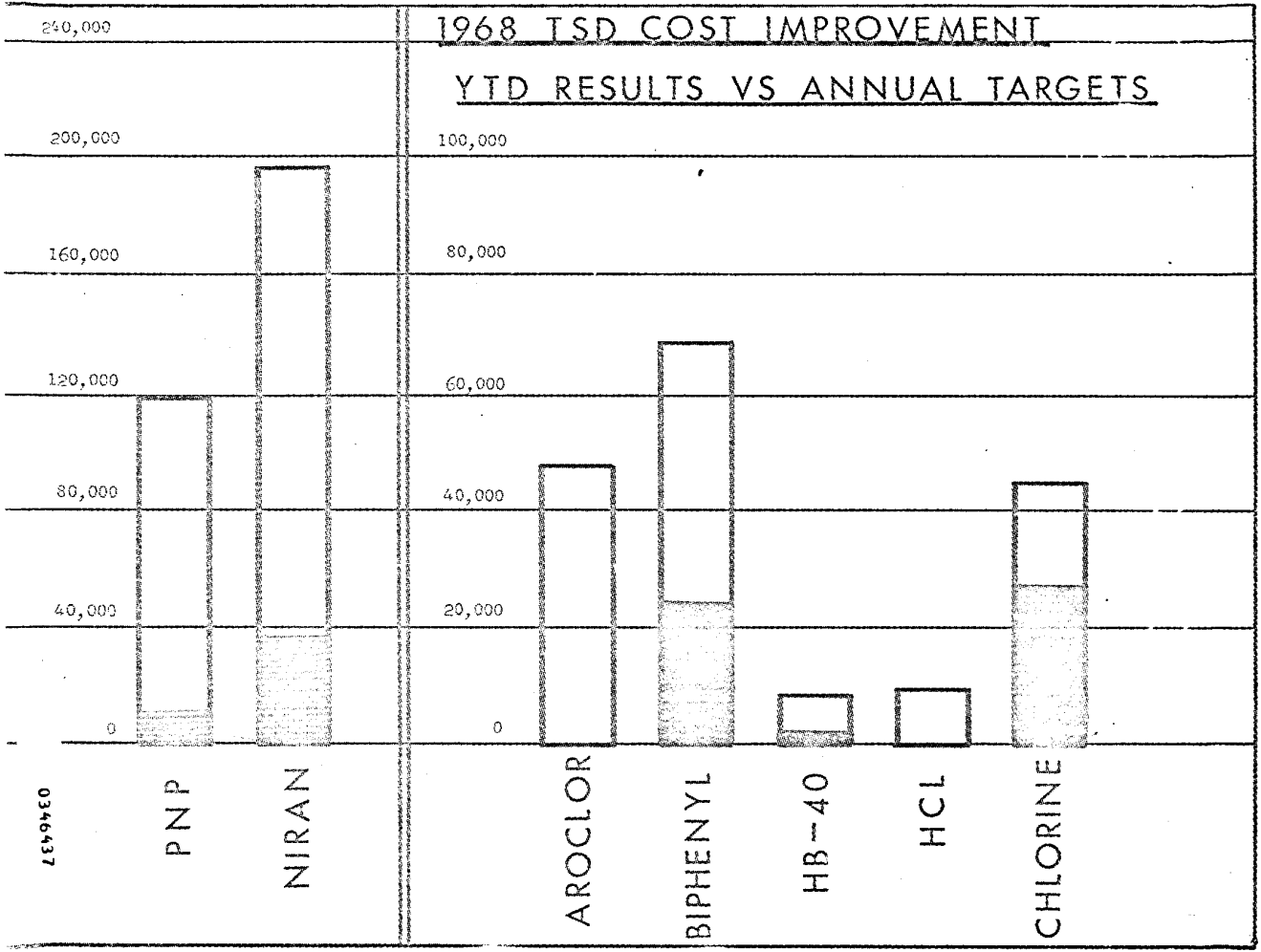
No problems with Niran turn-around and switch to Methyl Parathion; no Air or Water Pollution complaints in March. Pollution Control Engineer and TSD Superintendent met with Mr. J. L. Crockett, Jr., Technical Staff Director of the Alabama Water Improvement Commission (AWIC).

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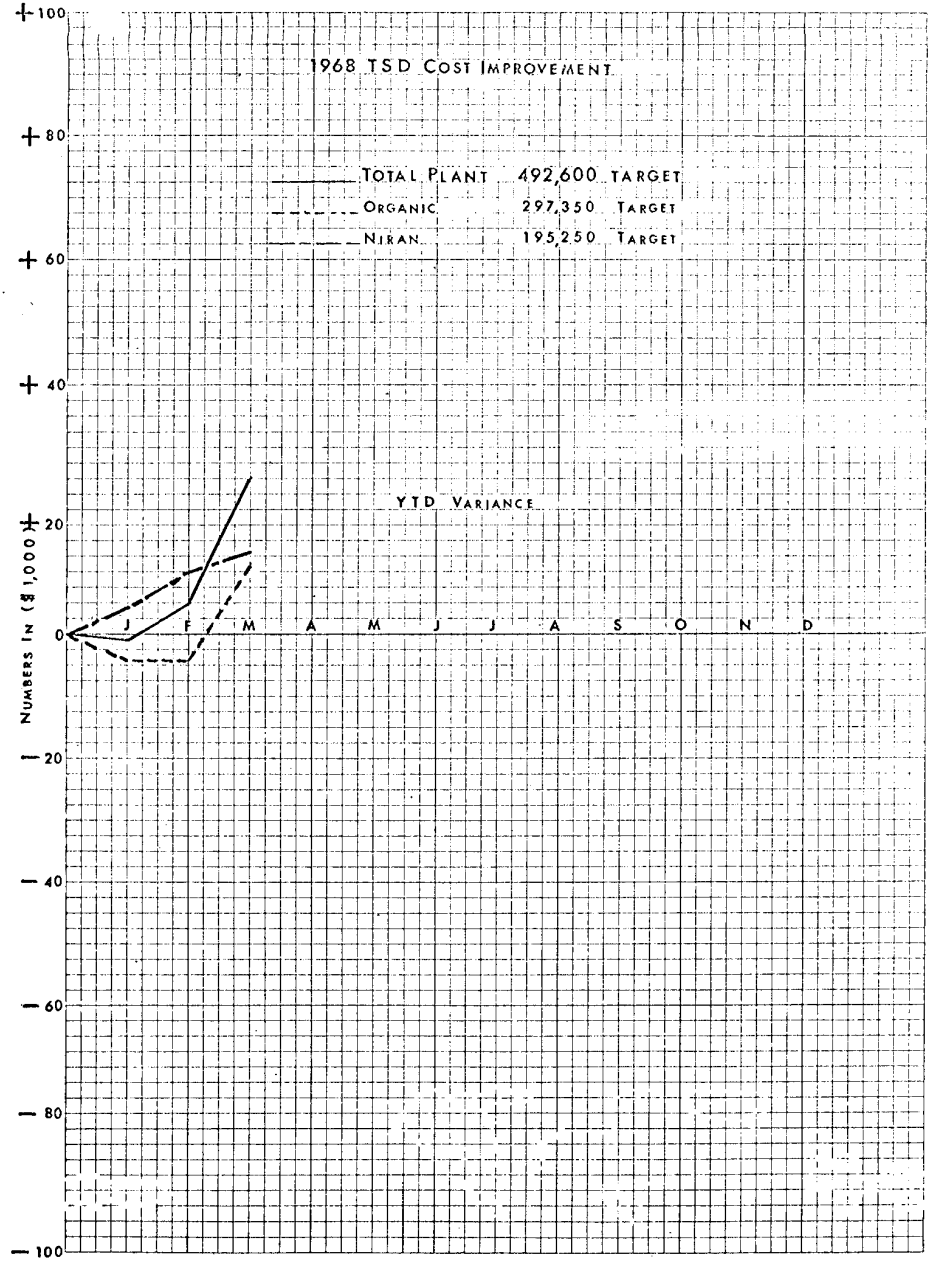
J. C. Landwehr
Technical Services Superintendent

:kd

TOWOLDMON0044533



TOWOLDMON0044534



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TOWOLDMON0044535

AROCLOR - V. R. Haupt

No Cost Improvement Savings targeted for first quarter.

Job No. 778 - Aroclor Manufacturing Improvement Plan

MIP was completed and is in final editing prior to issuance.

Job No. 455 - Chlorinator Study - Liquid Aroclor

The Scope of the test to prove out WGK/PR&D data on continuous chlorination has been reduced. A chlorinator comparison test at base line conditions will be run as well as measured catalyst addition on continuous train.

BIPHENYL-SANTOWAX - W. G. Niemeyer, (V. R. Haupt)

Cost Improvement

	Month	YTD	Comments
Target	$3800	$11,400	* Error in February $4450, should have been $7,020
Actual	$14750	$24,450 *	

TSD Objective B-7 (a) Provide Plan to Debottleneck Biphenyl Stills to 71.4 M Lbs./Yr. Rate by 4/1/68.

Target date re-set for 5/1 (from original 4/1). Capacity test could not be run during the last half of March as planned due to furnace down-time, and plant test on Udex benzene.

TSD Objective B-7 (b) Initiate Plant Tests to Suppress Terphenyl Formation in Benzene Pyrolysis, Based on Organic Research Work by 6/1/68.

Have not received the final Research report on this work as yet. The report should be issued during April, 1968.

TSD Objective B-7 (c) Provide Assistance (Liaison) to CED as Necessary on Project to Up-Grade No. 1 Furnace.

Issued plant recommendation to R. P. Stevens in favor of a concrete rather than earth dike. Issued revised production cost estimates to W. A. Kuhn

TOWOLDMON0044536

BIPHENYL-SANTOWAX - continued

TSD Objective B-1 (a) Revise Biphenyl-Santowax Manufacturing Improvement Plan by 5/1/68.

Target date re-set to 6/1 (from 5/1), because of effort on project to upgrade No. 1 Furnace.

Safety

Job No. 819 - Improve Montar 9 Pumpout

Reviewed proposed solution with Production Department. The present pump requires breaking the still vacuum each time Montar is pumped out. This is done by introducing air into the still which creates a hazard.

Quality

Plant Test Using Udex Benzene

A plant test was run on Enjay's Udex benzene. Ten 20,000 gallon cars were used from 3/24 to 3/29. No quality problems in biphenyl were detected.

CHLORINE - D. W. Dudley, G. L. Moore, (D. C. Malm)

Cost Improvement

	Month	YTD
Target	$6,170	$18,250
Actual	$9,150	$27,350

TSD Objective B-6 (a) Monitor Mercury Usage Quarterly By Radioactive Inventories

First Quarter Radioactive inventory check set for April 2.

TSD Objective B-6 (b) Develop Program to Reduce Mercury Usage to 0.75 Lbs. Hg/Ton·Cl_2 - by 2/1/68

Project 2802 for the Acid Wash Tank to recover mercury from "butter and dust" was approved March 18, and the equipment was ordered March 19. Project transmittal is scheduled for April 12, 1968.

TSD Objective B-6 (c) Assist in Demonstration of Brine Dechlorination By 4/11/68

Demonstration will be delayed because of late delivery of new steam jet nozzle. Vendor has rescheduled nozzle shipment from 4/1 to 4/15.

TOWOLDMON0044537

CHLORINE - continued

Job No. 802 - Brine Treatment - (Savings $12,000)

Representatives of AIRCO were consulted concerning a larger carbon dioxide unit for addition to brine. AFE for support pad and electrical tie-ins to use larger CO_2 unit will be submitted for approval in early April.

Job No. 348 - KCl pH Control - (Plant Improvement)

Project 2799 was approved February 22. Maintenance has project transmittal in planning backlog.

Job No. 328 - Titanium Brine Heat Exchanger - (Savings $2,500)

Project 2200-Rev. #2 was approved March 18. Project 2496-Rev. #1, submitted 2/12/68 to Inorganic Division has not been approved. Project transmittal and work completion being held up awaiting approval of Project 2496.

Job No. 783 - KCl Overflow - (Savings - $0.)

Project 2650 was prepared because KCl salt was out of specifications and caused unloading problems. Quality has been improved and project is no longer justified. AFE of $4,100 capital and savings of $21,000 will be canceled.

Safety

TSD Objective A-9 Design An Above Ground Salt (NaCl) Unloading System By 7/1/68

Job Scope has changed to upgrade existing bucket elevator system. Maintenance will handle project. TSD has provided Maintenance with cost data on a screen feeder unit to replace horizontal belt conveyor. TSD portion of job complete.

TSD Objective A-18 Develop A Program And Timetable to Reduce Mercury Level in Cell House to 0.05 Mg Hg/M^3 of Air

First three steps of program underway. Fourth step, to cover end boxes and floor trenches, will be accomplished as priorities allow. Weighted mercury average for March was 0.06 Mg Hg/M^3 of air.

TOWOLDMON0044538

HCl - K. J. Buturla, (V. R. Haupt)

Cost Improvement

	Month	YTD	Comments
Target	-	-	No savings targeted for First Quarter.
Actual	-	-	

TSD Objective B-10 (a) Demonstrate Reduction of Unaccounted HCl Losses to 10% of Total HCl Available

Project to install HCl recycle line and increase absorber efficiency is scheduled for drafting in April. Target date for complete design package is 5/1/68.

TSD Objective B-10 (b) Assist in Demonstration of Filter Pump Project by 4/1/68 (Reduce Downtime by 10 Hours/Mo.)

Problem arose with the now teflon-lined filter pump installed on 2/26. Pump vapor-locked at times and would not pump desired load. Temporary piping-alterations have been made which eliminated problem. Design complete on minor job to make permanent piping changes. TSD will continue to monitor pump's performance.

TSD Objective B-10 (c) Submit AFE for Staley Grade Acid - By 3/1/68

AFE to install off-gas coke scrubber was postponed, pending additional information on the problem. Lab studies have isolated the causes of the odor in Muriatic Acid to be Biphenyl and Monochlorobiphenyl. The need for the coke scrubber will be re-evaluated. Revised target date for AFE is 4/15/68.

Job No. 497 - Muriatic Acid Storage
($18,600/yr. Savings + $60,000/yr. New Earnings)

Revised review drawings were completed and issued 3/6. Transmittal of design package is targeted for 4/22/68.

Safety

Job No. 813 - Submit AFE to Provide Automatic Cut-Off System for Loading HCl Tank Cars By 4/1/68

Work has been delayed because of needs on higher priority jobs. New target date for AFE is 5/1/68.

TOWOLDMON0044539

PNP - O. J. Norris, K. J. Buturla, (D. C. Malm)

Cost Improvement

	Month	YTD	Comments
Target	$6,600	$20,000	Inability to reach target caused by problems in demonstrating 20 M/yr. rate.
Actual	$5,100	$ 9,700	

TSD Objective B-9 (a) Assist in Demonstration of 20 M Lb./Yr. Rate ($94,000/Yr. Savings)

Process is being studied to determine actions necessary to eliminate current problems and to develop capacity data. Demonstrated production for March, adjusted for downtime due to Niran turnaround, was 1.61 M lb. Debottlenecking plan will be developed by 4/15/68.

P_2S_5 - K. G. Hale, (D. C. Malm)

Cost Improvement - P_2S_5

	Month	YTD
Target	0	0
Actual	0	0

Safety

TSD Objective A-15 (a) Provide Design to Reduce Fumes in P_2S_5 Working Areas By 4/1/68 At Surge Tank Vent

AFE revised from capital to expense ($3600 Expense) and was approved in March. Drafting scheduled in May.

TSD Objective A-15 (b) Provide Design to Reduce Fumes in Pent House (Viscometer Wells)

Complete.

TSD Objective A-17 Design A Reliable Back-up Reactor Level Indicator By 10/1/68

MRO in progress to connect existing LIA instrument to Sulfur dip pipe purge to obtain Control Room level readings with high and low alarms. The present practice of using a P.G. Reading for level will be kept as a back-up. The back-up level indicator system will be checked out in April.

TOWOLDMON0044540

Cost Improvement - Niran

	Month	YTD
Target	$8,460	$24,900
Actual	$11,860	$37,780

TSD Objective B-5 (a) Demonstrate Parathion Recovery By 5/1/68 ($70,000/Yr. Savings + A 10-15% Reduction in COD Loading

All materials have been received. Complete installation is now expected in mid-April. Demonstration may be delayed until 5/15/68, because of late installation.

TSD Objective B-5 (b) Complete Condensation Yield EVOP By 3/1/68 ($39,000/Yr. Savings + 3% Reduction In COD Loading)

Yield savings for the two weeks in March, before the Niran turnaround, amounted to $9700. Savings for the First Quarter 1968 amounted to $34,500; - $20,500 over target. These savings represent a $0.493/100# of Niran. Methyl results for the first 2 weeks since turnaround amount to $1,600. Tests will be resumed in October to determine if optimum operating point has been achieved.

TSD Objective B-5 (c) Demonstrate Solvent Addition to Residue (Interim) Process By 6/1/68 ($59,000/Yr. Yield Savings)

Tests to verify improved Niran Residue handling properties were run during the last two weeks of Methyl production. No handling problems were encountered. Yields were raised by as much as 15% over normal on some test batches.

Optimization of Methyl PCT yields by solvent addition is in progress. Phase #1 (N_2 sparge at 20 cfm for last 2400 #Cl_2) targeted to begin mid-April

TSD Objective B-5 (d) Evaluate Sulfur Recovery From Residue Process By 7/1/68 ($400,000/Yr. Savings + A 31% Reduction in SO_2 Load to Air)

AFE to Install Temporary Experimental Test Facilities approved ($49,500 experimental expense). Plant tests are targeted to begin in mid-June 1968.

Drafting in progress. Foundation and equipment grounding drawings. Complete and reviewed. Will transmit 4/1/68. Target for complete transmittal is 5/1/68.

TOWOLDMON0044541

Preliminary Safety Review held 3/7/68. A Final Review prior to construction will be scheduled upon completion of all drawings.

PR&D work continuing on Sulfur clean-up techniques. Recent work indicates that solvent wash may not be necessary.

TSD Objective B-5 (e) Demonstrate Reliability of Submerged Pump For R. I. Control of Chlorination

Maintenance schedule calls for project to be completed first week in April. Tentative date for tests to begin in 4/15/68. The Hastelloy B pump was visually inspected during the turnaround. After 1 month in the chlorinator, no corrosion was visually apparent.

TSD Objective B-5 (f) Complete Design For Automatic Blending of Methyl Parathion By 4/1/68

Schedule for AFE has been changed to 6/1/68 due to higher priority items.

TSD Objective B-5 (g) Evaluate Freon Recovery By 3/1/68

Low savings on project has resulted in a priority change. New target date for evaluation is 8/1/68.

New Developments 1. Evaluate Formulations of Parathion Blends At Anniston ($8,500 Savings + $9,200 New Earnings In 1969)

Project installation completed and successfully started up two days ahead of schedule.

First blend with new facilities was prepared 3/30/68. Minor problems exist with Niran meter and with the drum conveyor. Piping alterations will be needed to filter a new blend product, Black Methyl, being developed by Ag Research.

Safety

TSD Objective A-10. Eliminate High H_2S Pressure In This Acid Reaction By Demonstrating Temperature Controlled Alcohol Addition

Test batches have been completed on both Ethyl and Methyl Thio Acid. The tests have demonstrated that the H_2S pressure can be controlled by temperature controlled alcohol addition. A summary report with recommendations to install the temperature controller on all three units will be issued by 4/15/68.

TOWOLDMON0044542

TSD Objective A-11 Reduce Personnel Exposure to NaPNP-Acetone-Bicarbonate Slurry By Eliminating Pluggage of Pump Suction Line. Evaluate Experimental Slurry Pump

Experimental pump installed during the March turnaround. To date, pump has performed satisfactorily. Problem of condensation reactor pumpout will be investigated to determine if new slurry pump is causing plug-up at reactor.

TSD Objective A-12 Provide Design on High Priority Safety Jobs Resulting From S&PP Parathion Safety Audit - By 9/1/68

Detailed status report issued 3/15/68. Of the 25 TSD items generated by the Safety Audit, 5 have already been completed, with 15 others scheduled to be completed in 1968.

TSD Objective A-14(a) Determine Need to Up-grade Interlocks and Alarms on Critical Vessels In Parathion Department - by 3/1/68

Survey in progress report will be issued 6/1/68. Target date revised because of work on higher priority items.

ENGINEER DESIGN AND SERVICES

CED Liaison -

CEA 1232 - Utilities - W. F. Taffee

Final tie-ins and revisions were completed during Niran turnaround. Forced draft fan for No. 8 boiler converted to dual drive (electric/steam), constant power source tied in to provide electric power in event of purchased power failure, fuel/air ratios readjusted by burner manufacturer. This completes all work on this project which provided a cooling tower, boiler and increased city water supply.

CEA 1430 - Aroclor Expansion - W. F. Taffee

Sewer problems resolved, relocation of 24 inch acid sewer complete. Repair to 36" storm sewer successfully completed. Grading is underway in Warehouse, Tank Farm, Office and Railroad areas. Grading for hourly parking lot complete.

Meeting at Anniston attended by R. W. Peterson, Bill Das and plant personnel resolved preliminary layout problems of critical drumming, flaking, packaging area. CED to supply final layouts in April.

TOWOLDMON0044543

CEA 1452 - Warehouse - W. F. Taffee

Layout for storage areas completed and accepted. "Penthouse" added to one half of one bay to provide headroom for flakers. Hourly parking lot completion scheduled for April.

Plant Improvement - C. R. McIlwain, (W. F. Taffee)

Nine (9) Projects totaling $18,000 NFC, $1000 Dismantling, $13,600 expense were submitted for approval in March. Eleven out of the nineteen projects listed in the 1968 Plant Improvement Program have now been submitted.

Loading/Unloading Docks

Decision made to prepare projects by Division rather than individual dock areas. This reduces projects from 5 to 3. Revised schedule issued indicating mid-June completion of AFE's.

Waste Heat Recovery - C. E. Woodward, (W. F. Taffee)

Eleven (24 hour) days continuous run after installing demisters in both towers has been completed. Results indicate reductions in unrecoverable losses from approximately 70 to 13 lbs./hr. at design gas, Therminol, and water flows. This is still significantly above our 0.5 lb./hr. target.

Exploratory tests of out-of-process conditions indicate reductions below 13 lbs./hr. are possible with cooler Therminol.

Partial design package forwarded to Maintenance covering mechanical alterations to existing unit. Instrument package will follow this month.

Phase I results and future plans were presented in the TPM/Mgr. Mfg. Tech review meeting on the 20th. Progress report on same was completed for an early April distribution.

Mechanical/Electrical/Instrument Design - J. C. Price, J. A. Veazey, G. C. Goodwin, R. L. Brewer, (W. F. Taffee)

Summary

Major effort of the Group was concentrated on the Design and Drafting for The Sulfur Recovery Pilot Plant. Review drawings for this project will be issued by 4/18. Preliminary, final and/or revised drawings were issued for the HCl Storage Tank, Glycol Storage, KOH Loading Dock Drainage and Parathion Formulation. Vendor drawings for the HCl Carbon Conveyor were reviewed and approved. AFE 2827 for three (3) P_2S_5 Safety Jobs was forwarded for approval. Work on the Plant Emergency Plan and Mechanical Guarding Task Force. Consulting and/or liaison and/or trouble shooting services were provided for fifteen (15) other jobs during the month.

TOWOLDMON0044544

TSD Objective A-5 Winterize Plant Safety Showers

Design Package transmittal schedule

1. AFE 2771 - KOH Department 5-20
2. AFE 2770 - Niran Department 6-25

TSD Objective A-7 Plant Emergency Plan

Various emergency equipment and storage cabinets will be ordered and AFE for additional Radio equipment will be forwarded for approval in April. Drafting on Plant and Utility Maps is scheduled for completion in May. Target date for completion of all jobs in this area is now 9/15.

TSD Objective A-8 Mechanical Guarding Task Force

Proceeding on schedule, Final Report to be issued by 5/15.

TSD Objective A-14 (a) Interlocks and Alarms on Critical Vessels in Parathion Department

Report to be issued by 6/1.

TSD Objective B-5 (f) Automatic Blending of Methyl Parathion

Completion of AFE delayed to 6/1.

TSD Objective D-1 Update Plant Maps

To be updated in May as part of Plant Emergency Plan. Plans are underway to have plant maps re-done by Aerial Photogrammetric Methods later in the year.

POLLUTION CONTROL - E. G. Wright, (J. C. Landwehr)

Summary

The State of Alabama dropped the law suit against Monsanto concerning the March 1966 fish kill. There were no Air or Water Pollution complaints in March. The Niran turn-around was completed and the Waste Treatment Plant made the transition to Methyl Parathion waste successfully. During four inspections of Choccolocco Creek and Coosa River conditions appeared normal.

TSD Objective F-2 Establish Liaison With Governmental Agencies Concerned With Pollution Control

J. C. Landwehr and E. G. Wright visited Montgomery on 3-19-68 and met with Mr. J. L. Crockett, Jr., Technical Staff Director of the Alabama Water Improvement Commission.

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TSD Objective F-6 Continue Annual Program of Biological Survey of Choccolocco Creek

Doctors Gunning and Suttkus of Tulane University have been contacted concerning a study of Choccolocco Creek. The AFE has been approved and the Legal Department is drafting the necessary contract. The study can be made in late April or early May.

Job No. 808 Install Solids Removal Equipment at Waste Treatment Plant

The AFE for equipment purchase was approved on 3-15-68. A surplus filter system was obtained from Pensacola and has been delivered. Special design effort will be required due to lack of drawings. This work is being scheduled.

Job No. 816 Install Adequate Drainage at Soda Ash Slurry Tank

AFE has been approved. Will submit design for scheduling of drafting.

Special Studies

The laboratory is conducting 2 special studies.

1. A C.O.D. correlation study between the (old) Manual Method and the (new) Instrumental Method.

2. A correlation study between the Averill-Norris and the G.L.C. method for Parathion in waste water.

PROCESS AND QUALITY CONTROL - W. B. Dunlap

Summary

The Right First Time Index for March was 97.4 with 16 lots rejected out of 617; 15 out of 529 from the Organic Division. The March Quality Score was 96.6, down 3.2 from February. Surveillance has shown no quality shift in the Parathion turnaround. An upward trend of color and iron in Muriatic, Water White, shows progressive iron contamination. A deviation of physical properties reveals a shift in Aroclor composition toward a lower-boiling mixture.

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TOWOLDMON0044546

COMMUNITY RELATIONS-PERSONNEL RECRUITING AND DEVELOPMENT

1. Three supervising engineer positions were established and the positions were filled by Vince Haupt, Don Malm and Red Taffee. Vince is responsible for Product Area 2 which includes Biphenyl, Aroclor, Santowax, and Muriatic Acid; Don Malm is responsible for Product Area 1 including Parathion, P_2S_5, PNP, and Chlorine; and Red Taffee heads up Engineering Design and Services.

2. Messrs. D. B. Hosmer and W. A. Kuhn visited the plant March 26 and 27. Mr. Hosmer addressed TSD on the importance of technology, security and retention.

3. W. G. Niemeyer attended Short Course in Operations Research at Georgia Tech, 3/11 - 3/15.

4. J. C. Landwehr and E. G. Wright visited Mr. J. L. Crockett, Jr., Technical Staff Director, Alabama Water Improvement Commission in Montgomery.

5. J. A. Veazey served as a judge for Northeast Alabama Science Fair held at Jacksonville State University.

6. J. MacPherson resigned from Monsanto employment 3/22 to take position with Fluor Corporation, Houston, Texas.

7. J. F. Benson, Chemical Engineer, started a two year military leave of absence 3/22.

8. Gary Moore, Georgia Tech Co-Op, returned to school 3/22. John Jones, alternate in Georgia Tech's Co-Op Program, returned to work 3/28.

9. J. W. McGee, Auburn Co-Op returned to school 3/22. We have no alternate.

10. G. C. Goodwin has been off since 3/5 due to illness. Expected back in mid-April.

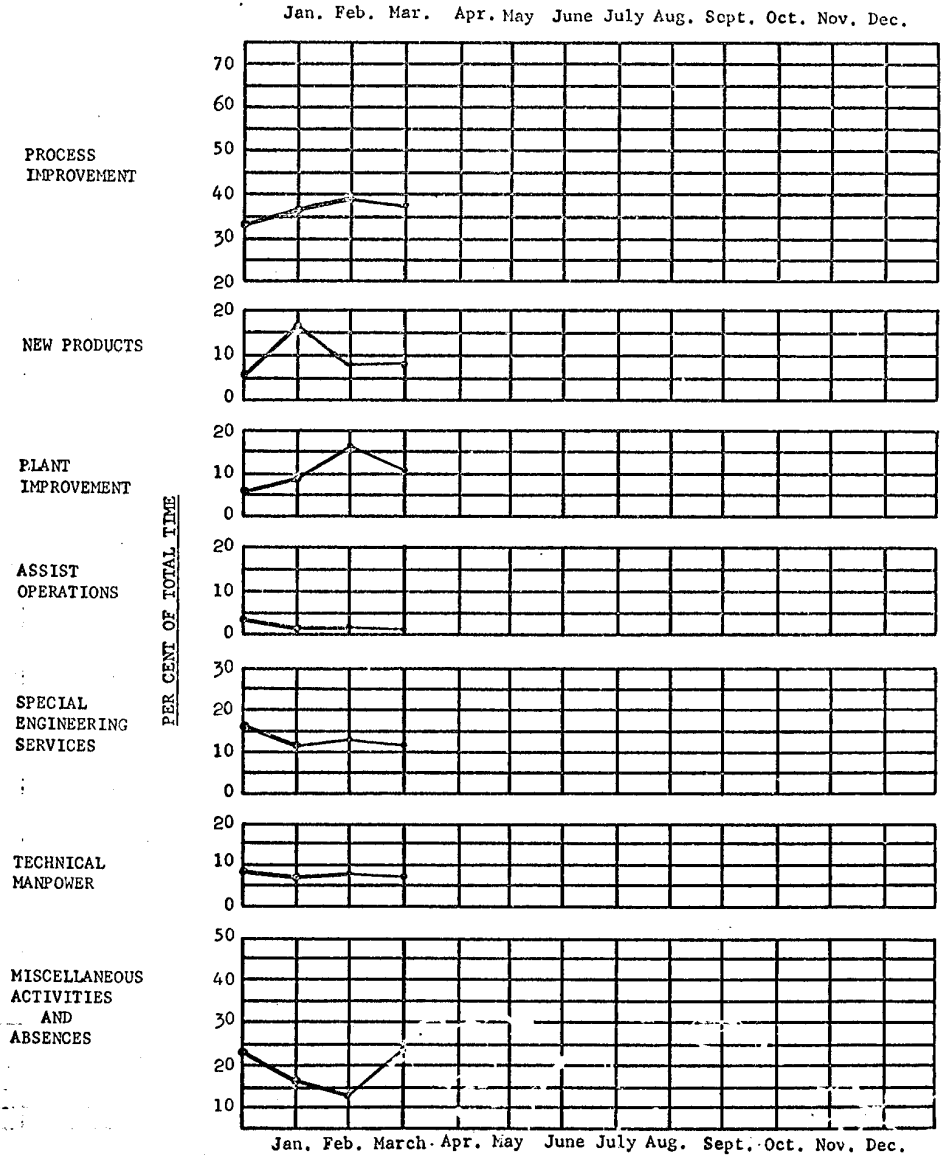
Visitors

1. H. P. Fielding, CED, was on site the week of March 4 through 8 working on CEA-1452, Warehouse layout.

2. R. W. Peterson and Bill Das, CED, were at the plant March 18-19, reviewing CEA-1430, Aroclor Expansion plans and progress.

TOWOLDMON0044547

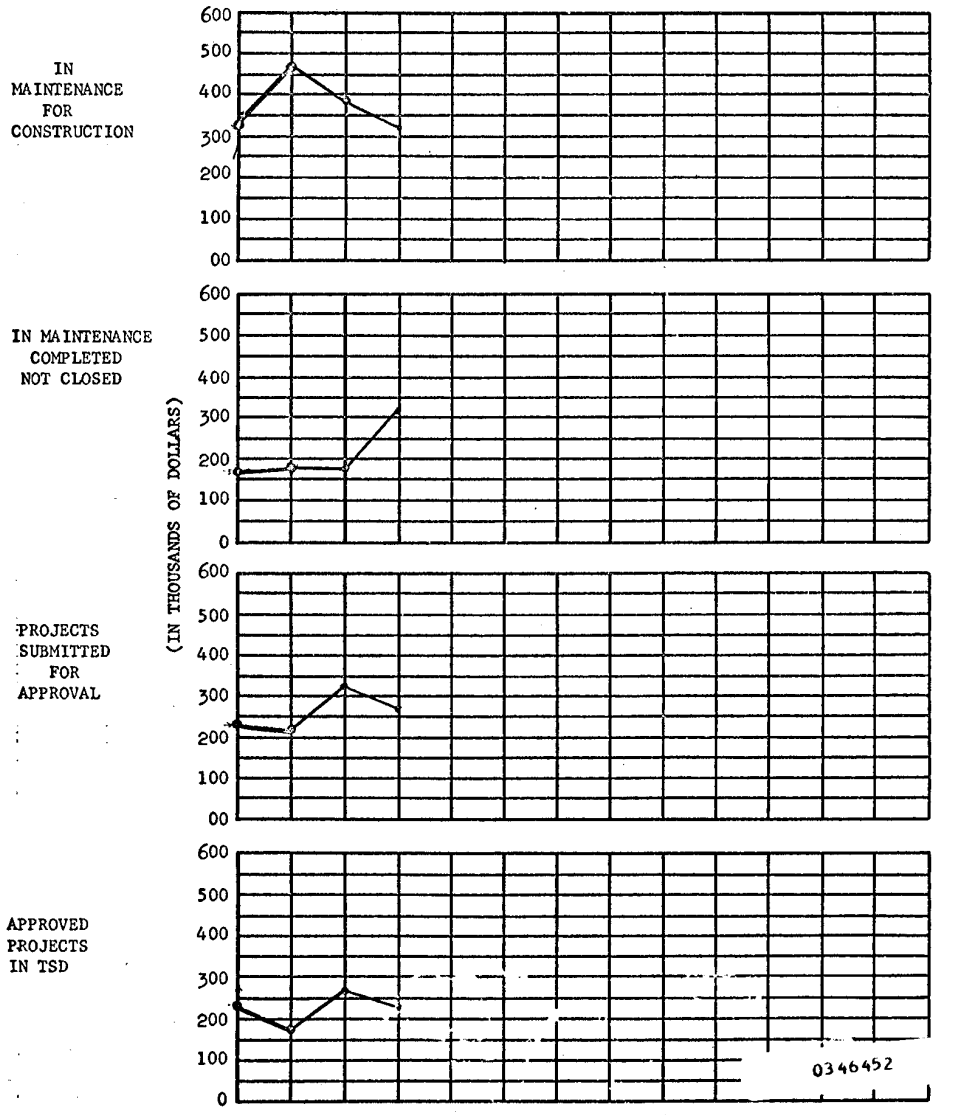
DISTRIBUTION OF TIME BY TECHNICAL SERVICE



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TOWOLDMON0044548

TSD PROJECT SUMMARY



TOWOLDMON0044549