



Air Products and Chemicals
INC.

CALVERT CITY PLANT
INTEROFFICE MEMORANDUM

To: B. D. Helms

Date: 1 April 1980

From: R. E. Luken

Copies: L. C. Toney
A. J. Diglio, Trexlertown

Re: Environmental Control
Report - March, 1980

WATER

Activated Sludge Project

All of the major mechanical revisions to convert the Waste Water Treatment plant to activated sludge have been completed. Phase I of the project was started up on 8 February. The official start-up date for Phase II was 18 March when the new pH adjustment pit was placed in service. Phase II start-up was delayed because of instrumentation problems, primarily with the pH probes.

To avoid operational problems converting over to the new transformer was done in two stages. A 30-minute total power outage was taken on 26 March and a partial power outage on 27 March which only affected the new equipment. This schedule avoided a potential 2½ hour total outage which might have been detrimental to the biological system. No operational problems developed during the change over to the new transformer.

The treatment plant's performance during March has been excellent in respect to the effluent which is well below the discharge limits. Further improvements in the efficiency of the biological system is anticipated over the next several months. The biological system is still undergoing an adaptation change. All of the recycle sludge has been returned to the system during the month and the VSS now 2,500 mg/l. An increase in the food supply will be initiated soon by diverting part of the equalization lagoon directly to No. 2 lagoon. This will be done in increments. It is planned to increase the BOD F/M ratio to a minimum of 0.07. During this period sludge wasting will be started. These changes will produce a more viable biomass which will be more efficient and resistant to shock loadings.

AP00045066

With the changes in the biomass the amount of polymer addition needed to control the TSS in the clarifier overflow has been reduced from 25 ppm to 4 ppm. Because of the current low BOD F/M ratio polymer addition is still needed to settle out the finely divided particles. With the proper F/M ratio it may be possible to eliminate the polymer addition. Operating experience will determine the actual polymer requirements during summer and winter time conditions.

Agency Reports

To fulfill the terms of the activated sludge construction permit a letter was issued 28 March to the State Division of Water Quality certifying that the treatment plant revisions have been constructed in accordance with the approved plans and specifications.

Catalytic's (for EPA) computer printout corrections for the BPT 308 questionnaire was submitted to Catalytic on 28 February by our corporate staff.

Received correspondence from the EPA Effluent Guidelines Division on 21 March requesting conventional pollutant data on the influents and effluent from the treatment plant for the months of June and July, 1979. This data is to be used to study the relationship between conventional and priority pollutants. A priority pollutant verification study was conducted by EPA in July, 1979. The required data has been tabulated and submitted to our corporate staff for approval.

Submitted NPDES monitoring report for February on 11 March.

Agency Inspections

L. P. Adams, Kentucky Water Quality Division Inspector, made a surveillance inspection on the treatment plant on 13 March. Mr. Adams was pleased with the activated sludge revisions. He stated that a complaint had been received about odors from the slough located east of our plant. Mr. Adams had sampled the slough and expressed concern over possible spills to the ditches that flow to the slough.

In conjunction with samples taken at the landfill on 19 March, Mr. Adams also requested information on the plant ditches that flow to the slough and wanted to take split samples. A sample was taken on the ditch located between our property and the Airco lagoon. Some Acetylenics products were trapped in the ditch. As a result of this situation the Water Quality Division called on 21 March to inform us that an enforcement meeting has been scheduled on 15 April to discuss this situation. A letter of confirmation was received 24 March. We have been directed to attend an informal conference and to provide a copy of our SPCC plan, spill records, storm water plot plan, lab results on the split sample and possible resolutions to this violation.

AP00045067

WASTE DISPOSAL

Hazardous Waste Regulations

The Emergency Hazardous Waste Regulations were reissued by the Governor and were published in the 1 March 1980 "Administrative Register of Kentucky". The regulations were also published as Proposed Regulations with a public hearing scheduled on 7 April 1980. The final regulations are still pending depending on the State Legislature's approval of the various hazardous waste laws under consideration.

New Landfill Site

At the request of State Officials a meeting was held in Frankfort on 14 March to discuss the construction permit application for the new landfill site and the test results on the samples from the existing landfill. The State Permitting Section is receiving pressure from the Enforcement Section for approval of the new site so that the existing site can be closed out.

The meeting on the construction permit application was attended by Calvert City and Allentown personnel, our consultants and several State officials. Mr. Ritchie, the reviewing official, was the main spokesman for the State. The major areas of concern were the slope of the dikes, soil permeability data, operating plan for water ponding, drain lines through the dikes, fencing, TVA and Airco easements, buffer zone, landfill covering, equipment requirements, leachate contingency plan and landspreading requirements for the biological solids.

Our consultant, H. K. Bell, has revised the permit application to cover most of the items. Additional revisions will be needed before it is acceptable for submittal to the State. All of the information and data must be submitted before permission is granted to publish the public notice. The major delay will probably be the laboratory soil permeability data. This data is not currently available. Soil core samples must be taken again. Arrangements have been made with Florence and Hutcheson for the required samples and data, but have been delayed because of wet grounds. It is estimated that it will take two weeks to perform the analyses after the core samples have been taken. The revised permit application will be submitted if completed first and the soil data submitted when available.

Existing Landfill

After the meeting with the State Officials on the landfill construction permit, a discussion was held with the same group plus Ken Yates, Environmental Supervisor, Hazardous Material Management Section, to review the results of the split samples taken at the existing landfill on 22 January 1980. The State officials are convinced that we have a serious leachate problem at the site. Their results on the landfill samples were much

AP00045068

higher than ours for COD and many of the metals. They claimed that the COD was high enough to kill fish. Several of the metals (mercury, lead and chromium) on their sample B were above the drinking water standards. Our results on the metals, analyzed by McCoy and McCoy, also showed higher results on sample B, but much lower than the State results. It was mutually agreed that there was too wide a variation in the split sample analyses and additional samples are required.

On 19 March Ken Yates and Peyton Adams returned to Calvert to obtain the additional samples. The Tennessee River has been rising and on 19 March was high enough to cover up sample point A. This sample point was the small stream of water flowing from the east side of the dam into the slough. No sample was taken at this point. Sample point B, which is the drainage ditch below the working area flowing into the small pond, and sample point C, which is a small flow south of the pond were sampled. We will have the samples analyzed by two independent labs for metals to compare with the State results. The results of the test will probably dictate the State's course of action on the existing landfill. Mr. Yates returned to Calvert last week to obtain more samples for GC-mass spec analyses. No samples were taken because the Tennessee River has continued to rise and all of the sample points were under water.

TOXIC SUBSTANCES CONTROL ACT

PCB Records

All of our electrical transformers were analyzed to determine the PCB content. The results showed that we have two more transformers that contain commercial grade PCB and two that exceeded the 50 ppm level. A revised PCB Record was issued 13 March to include these four transformers.

Oxytite

A letter was issued by PSG Operations stating that Oxytite, a thread-sealing compound, contains PCB and has been banned by EPA. According to our Maintenance department, Calvert does not have this material.

R. E. Luken

R. E. Luken

AP00045069

PLANS FOR NEXT MONTH

<u>Project</u>	<u>Status</u>	<u>Benefits</u>
Activated Sludge	Phase I started up 8 February. Phase II started up 18 March. System operating well but will take about 2 more months to attain optimum efficiency.	Will substantially increase treatment plant's BOD ₅ removal efficiency. Will allow diversions of ditches to sewers.
New Landfill	Construction permit still pending. H. K. Bell has revised application but not acceptable. Will be revised before submitted to State.	Need permit for new landfill in order to close out existing landfill. State officials believe we have serious leachate problems at existing site.
Existing Landfill	Letter issued to State on wastes to landfill since 1971. Airco has not responded on their wastes for prior years. Second set of samples from landfill pending.	A potential serious environmental problem for both Airco and APCI. Analytical results on second set of samples will probably determine State's course of action.
Hazardous Waste Regulations	No response from State on Hazardous Waste Registration application. Emergency regulations extended by Governor. Final regulations pending.	Compliance with regulations.

AP00045070

OFFICIAL CORRESPONDENCE

<u>Date</u>	<u>Agency</u>	<u>Nature of Correspondence</u>
28 February 1980	Catalytic (for EPA)	Computer printout corrections on 308 questionnaires - Zarytkiewicz to Catalytic (R. E. Luken)
11 March 1980	EPA, Water Enforcement	NPDES monitoring report - Baliker to EPA (R. E. Luken)
28 March 1980	Kentucky Water Quality Division	Letter to certify that treatment plant construction permit completed as approved - Baliker to Baldwin (R. E. Luken)

AP00045071