

August 26, 1976

MEMORANDUM

TO: G. B. Welsh

FROM: W. M. Jernigan

RE: Polychlorinated Biphenyls  
General Electric Company  
Rome - Floyd County

General Electric Company, which began operation in 1954, at Rome, Floyd County, Georgia, manufactures transformers. Polychlorinated biphenyls (PCB's) have and are being used at the General Electric plant. PCB's are used in some transformers in a closed system for cooling. PCB's are used for this purpose since it is a non-conductor, good heat transferring media and non-flammable. PCB containing transformer oils are called askarels. General Electric's askarels are called Pyranol. PCB's are considered almost totally nonbiodegradable and toxic to aquatic life. PCB's are bioaccumulative particularly in fatty tissues. The Food and Drug Administration has a limitation of no more than 5 ppm in the edible portion of fish. Contamination by PCB's in humans can cause Yusho disease.

The first inspection by a member of the staff of the Industrial Wastewater Program of General Electric's wastewater discharges was on June 12, 1974, in regard to a telephoned complaint concerning oil on a stream in a residential area. General Electric has four discharges to surface waters in addition to their discharge to the City of Rome's sanitary sewer. The discharges to surface waters are from storm water runoff, cooling water, one floor drain, which is not in a PCB-containing area and normally does not have a discharge, hydrostatic test water, overflow from a cooling water spray pond, and steam condensate. Two of the discharges flow by different routes to Dry Creek which is a tributary to the Oosatanaula River. The other two discharges flow via an unnamed tributary into Horseleg Creek which flows into the Coosa River after its formation by the Etowah and the Oosatanaula Rivers. Attached is a map showing the discharges and receiving streams. Poor housekeeping practices in the past have caused significant contamination of the soil on the plant property. Housekeeping problems have been and will be corrected along with elimination of leaching of contaminated soils. Analytical results for samples collected at these points have been erratic but generally reflect the fact that certain plant areas have been more contaminated by past abuse than others. The samples are composites collected over 24 hours or a lesser period if due solely to runoff. The

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period covered and range of results is as follows:

| <u>PCB</u>             | <u>MINIMUM</u> | <u>MAXIMUM</u>      |
|------------------------|----------------|---------------------|
| 001<br>10/3/75-6/30/76 | 44             | 736 $\mu\text{g/l}$ |
| 002<br>4/30/75-6/17/76 | < 1            | 19 $\mu\text{g/l}$  |
| 003<br>10/8/75-6/30/76 | 1              | 104 $\mu\text{g/l}$ |
| 004<br>4/17/75-6/17/76 | < 1            | 11 $\mu\text{g/l}$  |

The following is a list of items that have already been undertaken to eliminate PCB's and oil contamination in the wastewater discharges:

1. A waste oil tank and a waste Pyranol tank were installed. The waste pyranol tank is within a concrete dike which has sufficient capacity to hold its contents. The area is provided with a roof to prevent precipitation from entering the dike. Any spillage within the dike is collected in a sump and pumped back into the tank. The waste Pyranol is shipped to Monsanto, the only manufacturer of PCB's in the United States, for incineration.
2. A catch basin was installed to receive oil from the radiator flushing and return it to the waste oil tank.
3. An oil house unloading station was installed. The unloading station consists of a covered concrete pad with separate unloading points for various oils. Any spilled Pyranol is collected in a sump and pumped to the Pyranol waste storage tank.
4. All supply piping between the utility buildings and the factory is located in overhead pipe trusses. To prevent rupture of the lines by in-plant vehicles clearance signs and overheight cables were installed adjacent to the pipe bridges.
5. Oil-water separators have been installed at two of the discharges which receive most of the oil and Pyranol contamination.
6. Eight oil storage dike valves have been plugged. Accumulated water in the diked areas is pumped out through an oil-water separator.
7. Since soil samples taken from the Pyranol storage dike showed significant quantities of PCB's and visual observations indicated some leaching in the corner of the dike, a concrete basin was constructed on the inside face and bottom of the existing earth diked area. All contaminated soil that was removed during construction was placed in 55 gallon steel drums and shipped to the chemical landfill in Texas. The basin was also covered with a roof to prevent precipitation from entering the basin and possibly becoming contaminated.

8. To minimize the oil and Pyranol contamination of the storm water runoff in the drainage ditches for two of the discharges, a concrete lining has been poured from the end of the drainage pipes to the oil-water separators.
9. A quick drainage system which is a holding pond with an underflow baffle for containing fuel oil spills was constructed since the fuel oil tank farm area does not drain to an oil-water separator.
10. The discharge of paint booth spray wastewater was eliminated by filtering and recirculating the wastewater.
11. Drum storage building used for storage of paints, solvents, etc., has been curbed to contain spills from leaky or ruptured containers. Spills within the curbed area are cleaned up with absorbant material.
12. Solid waste consisting of wood, rags, Fullers earth, filter paper, etc., which has been contaminated with PCB's is placed in 55-gallon drums and shipped to Texas for disposal in a chemical landfill. This has been the practice since about mid-1970 to early 1971 according to the company officials with which we deal. Prior to that time all waste material was disposed of in G.E.'s landfill on their property and that practice was followed for solid waste materials that had not been in contact with PCB's until recently. This was discontinued about one year ago and non-PCB contaminated materials are now disposed of at the Floyd County landfill.

A National Pollutant Discharge Elimination System (NPDES) permit was issued for General Electric on December 31, 1975, and will expire on September 30, 1976. Limitations were not placed on PCB's, but monitoring was required so that limitations on PCB's and other parameters and a schedule of compliance could be established. General Electric has proposed to do the following things to further reduce the contamination of their wastewater discharges:

1. General Electric has verbally committed to this office to phase out the manufacture of PCB containing transformers and the use of PCB's by June 30, 1977. It was requested that this information be kept confidential until General Electric makes its own public announcement within the next month.
2. After termination of the use of PCB's the wooden floor in the filling area where drips could have occurred will be removed and the tanks at the unloading station will be drained, capped, and left in place. All materials which will no longer be used will be disposed of at the special chemical landfill, incinerated or smelted as appropriate.
3. The diatomaceous earth filters used in purification of Pyranol must be renewed periodically. To achieve this the filter press is opened and the spent material is removed from the filter plates. To prevent loss of this contaminated material, drip pans will be fabricated and installed under each filter press. The house in which these are located has always been isolated from the plant building and the house is located at the bottom of the hill. The house is located at the bottom of the hill and the house is located at the bottom of the hill.

4. The sediment which contains some PCB's in the two oil-water separators will be removed. The sediment will be drummed and sent to the special chemical landfill in Texas. This will be undertaken after the unvegetated areas surrounding the drainage ditches leading to the separators has been replanted.
5. The outside face of the dikes around the Pyranol storage area will be concreted to prevent leaching.
6. An apron will be poured along part of the already concreted ditch for discharge 001 which runs adjacent to the Pyranol storage area to prevent leaching.
7. The retention basin next to the oil-water separator for discharge 003 will be concreted.
8. Part of the area adjacent to discharge 004 where reportedly non-PCB transformer and crankcase oils have been previously spilled and/or dumped in the fifties will be concreted to prevent leaching. The area has already been cleaned up, regraded and vegetated.
9. Additional soil samples will be collected and analyzed for PCB's to identify any further problems.

A new NPDES permit will be issued as soon as we receive a schedule for the above items, except for item #3 on which we have already received a schedule.

WML:jmg