RCRA Inspection Report

I. General Information

Facility Name:	Avco Lycoming Division 550 South Main Street Stratford, CT 06497
RCRA Contact/ Responsible Official:	John Fleming, Chief of Environmental Compliance (203) 385-3964
Date of Inspection:	June 10, 1984
Purpose of Inspection:	Federal facility inspection, joint inspection with State
Participants:	Terrence Conlon - EPA Arthur Wing - EPA Peter Zack - DEP John Fleming - Avco Lycoming

II. RCRA Reporting/Information Requirements

Facility I.D. No.:	CTD001181502
Type of operation:	TSD, Generator
Notification of operation:	TSD, Generator
Notification Date:	August 15, 1980
Part A Submittal:	November 19, 1980
Amended Part A Submittal:	November 25, 1985
Part B Submittal:	November 6, 1985

Avco is operating under interim status. Land disposal units are four surface impoundments

III. Source Description

The facility is located south of the center of Stratford. It is in an industrial and residential area. Avco Lycoming is bordered on the north by an abandoned industrial building, on the east by the Housatonic River, on the south by a marsh with housing under construction and to the west by Bridgeport Airport. To the south beyond the marsh is a marine basin. South of the marine basin is a closed landfill where recreational facilities are planned. The facility is owned by the U.S. Army and is operated by Avco Lycoming Division of Textron. Gas turbine engines are manufactured by Avco Lycoming for use in military and civilian equipment.

A. Electroplating operations

As part of the electroplating process, metal components are dipped in degreasers (1,1,1 trichloroethane, Varsol) and plating baths in building #2. The spent plating baths are treated at building #18, the wastewater treatment building. Avco operates an equalization lagoon where liquid wastes are allowed to mix. The liquids are pumped to building #18, where cyanide is destroyed and hexavalent chromium is reduced to trivalent chromium. The pH of the liquid is altered to allow metal hydroxides to form and precipitate. The precipitated sludge is pumped to three lagoons where the sludge is dewatered by infiltration and evaporation. Because of recent construction, the underground pipe that transports sludge from building #18 to the lagoon was damaged. Avco installed an above ground PVC pipe that transports sludge to the two northerly lagoons. Avco has submitted a plan for closure of the four surface impoundments.

On April 17, 1984 Avco signed a Consent Decree with the Natural Resource Defense Council and Connecticut Fund for the Environment. The Consent Decree required Avco to upgrade their wastewater treatment system. In order to comply with the Decree, Avco has constructed a new wastewater treatment building adjacent to building #18. The new system will eliminate the need for on-site land storage or disposal. Instead cyanide from spent rinse baths will be destroyed before entering the new wastewater treatment building. The wastewaters will be mixed in an equalization cement tank. Although the tank was newly constructed, Mr. Fleming showed many cracks through which water escaped during a test of the tanks. It is scheduled to be repaired before becoming operational. The liquids from the equalization tank will be treated in the existing system to reduce hexavalent chromium. The treated wastewater will pass through a sand filter and flowmeter (where samples may be withdrawn) before being discharged to the Housatonic River under an NPDES permit. The precipitated sludge will be pumped to a storage vessel where the sludge filter presses are located. The filter presses will dewater the sludge. The filter cake will be removed to a roll-off container where it will accumulate less than 90 days before being transported to an approved TSD facility.

The new system is expected to come on line this summer. On June 11, 1986 the cyanide treatment system was scheduled to be tested.

B. Electrochemical Machining ECM Wastes (Building #4)

Electrochemical machining wastes are generated at building #4. The wastes result from reshaping metal parts by chemical action. The waste are handled as hazardous wastes. The ECM sludge is filter pressed and stored in 30 cubic yard roll-off container near building #4. Since filter cake generation is at a low rate, ECM filter cake is stored longer than 90 days.

C. Radioactive Thorium/Magnesium Storage

Radioactive thorium/magnesium metal scraps from machining metal components are stored north of building #58. The area is fenced. Drums

are stacked. This waste is regulated by the Nuclear Regulatory Commission.

D. Oil Abatement System (Building 64-2)

Liquids collected in outdoor and indoor drains are treated by the oil abatement system. At the oil abatement building, alum and polymer are added to break the emulsion and allow the oil to float and solids to precipitate. Avco handles the still bottoms and skimmed waste as hazardous waste by shipping the material in drums with manifests to EWR. The treated water is discharged to the Housatonic under an NPDES permit.

E. Hazardous Waste Drum Storage Areas

Waste oils, degreasers, acids, cyanides, and spilled material from various points of generation are stored in drums for off-site treatment or disposal. Drums are presently stored in three covered areas with sloped concrete bases. Two drum storage areas are located next to building #18 and one is located next to the Tank Farm.

Avco is currently substituting tank storage for some drum storage. In the past, waste oils and waste 1,1,1,-trichloroethane were stored in drums. When pipe hook-ups are completed, waste oil will be either transported by pipe from the oil abatement system or by 250-500 gal. portable container to tanks in the tank farm. Avco is in the process of collecting in the staging area drummed wastes that will be organized for storage in tanks or off-site disposal. Once all drums from the three storage areas are transported off-site or stored in tanks, drum storage will only be necessary for hazardous wastes that are not stored in tanks because of their low rate of generation.

In response to EPA and DEP concern regarding discrepancies of volumes of solvents and used and disposed of, Avco has implemented a system to track raw products and wastes at the facility. Avco maintains records of raw products and wastes at the facility by labeling every drum with a number. The number is maintained in a computer data base and tracks what is put into the drums, the characteristics of the contents and the location of drums.

F. Tank Farm

The tank farm is contained by a concrete containment system that can hold a volume equal to the volume of material stored in tanks. Thirteen tanks ranging in size from 5,000 to 10,000 gal. contain raw products, wastes and hazardous wastes. Piping allows for transferral of material between tanks, and to and from trucks. At the time of the inspection, tanks were numbered but not labeled. Of the thirteen tanks, Mr. Fleming reported that a 10,000 gal. tank contained waste oil mixed with trichloroethane; a 10,000 gal. tank contained waste oil; a 10,000 gal. tank contained waste fuel and volatile solvents; and a 5,000 gal. tank contained waste trichloroethane. Three sumps at the oil abatement house are

used to collect wastes from various points of generation at the facility for storage in the tank farm. Wastes are transported to the tanks by pumping out the three sumps (one for oil mixed with trichloroethane, one for oil and one for flammable materials). Waste trichloroethane is pumped directly from its source of generation to the tank farm. The contents of the tanks can be removed through valves located just outside of the berm. A sump is located below the discharge nozzle to collect any spilled material. Mr. Fleming indicated that no incompatible materials are mixed in the tanks and that the lining of the tanks is compatible with the material stored.

IV. General Observations

The equalization lagoon had adequate freeboard. The inflow was green in color. The sludge lagoons were receiving greenish tan sludge. Only the two northerly lagoons were receiving sludge. A small amount of standing liquid was present in the northenrmost lagoon. There is no information suggesting the lagoons are lined.

Electrochemical sludge is filter pressed and stored in a labeled roll-off.

Radioactive thorium/magnesium scraps are double stacked on pallets in a fenced area.

Two drum storage areas are located next to building #18. One ares, placarded as acid wastes storage, contained 23 drums. Seven drums were open. Most drum labels had beginning dataes of accumulation around October 1985. The area did not have a warning signs in accordance with Part 265.14. The other storage area near building #18 was labeled Cyanide Storage Area. Of a total of 21 drums two were open.

The drum staging is located south of the tank farm. Of a total of 153 drums at least 21 were open, 14 were unlabeled, one was bulging, and many had accumulation dates prior to December 1985. Several drums were located outside of the cemented base and bermed area. AAisle space was inadequate.

Because tanks are not labeled, it was impossible to distinguish tanks containing hazardous wastes from other tanks. The farm was not properly marked with "No Smoking" and warning signs in accordance with Parts 265.14 and 265.17.

Documentation:

1. Waste Analysis Plan

The Waste Analysis Plan is deficient in that it only addresses metal hydroxide sludge. The waste analysis plan needs to address waste oils and other hazardous wastes produced at the facility. Subsequent correspondence has corrected this deficiency.

2. Inspection Schedule and Log

The inspection schedule and log is deficient because waste tanks are not inspected. Furthermore, the inspectors failed to indicate on the log that aisle space was inadequate and drums were open. Subsequent correspondence states that tanks are now labeled.

3. Closure Plan

The closure plan was present at the facility. Deficiencies of the plan were communicated to Mr. Fleming during prior review of the closure plan.

4. Contingency Plan

The contingency plan does not describe evacuation routes to be used in the event of an emergency.

5. Groundwater Monitoring

The September 30, 1985 groundwater assessment plan fails to list parameters and describe sampling and analytical procedures. Avco should prepare a groundwater assessment plan under one cover that either contains all necessary information or incorporate existing information by specific reference.

The steel casing of well 13 is bent so that it is in contact with the PVC well pipe. Protection must be provided for well 13.

Well 13 was found unlocked.

AVCO has failed to evaluate data to determine rate, extent and concentrations of contaminents.

Analytical results from well samples suggest that the contamination from the lagoons is impacting groundwater.

V. Summary of Violations

Violation	Regulation	Class
1. Date of accumulation missing on drums.	Part 262.34(a)(2)	I
2. No indication on containers that material is a hazardous waste.	Part 262.34(a)(3)	I
3. Failure to maintain closed drums containing hazardous waste.	Part 265.173(a)	I
4. Failure to maintain aisle space in drum storage areas to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination equipment.	Part 265.35	I

Violation	Regulation	Class
5. Facility inspection logs fail to show inadequacies of drum storage.	Part 265.15(d) Part 265.17	II
6. Failure to post warning signs at drum storage and tank storage areas.	Part 265.14(c)	II
7. Failure to post "No Smoking" sign at tank farm where waste jet fuel is stored.	Part 265.17(a)	I
8. Failure to maintain a graoundwater monitoring system capable of yielding groundwater samples for analysis. The damaged condition of well #13 cannot ensure that the well is capable of yielding samples representative of background groundwater quality or capable of detecting statistically significant amount of contamination migrating from the waste management units.	Part 265.91(a)	I
9. Failure to submit an adequate groundwater quality assessment plan including sampling and analytical procedures, a list of analytes and evaluation procedures.	Part 265.93(d)(3)	I
10. Failure to make first determination of rate and extent of migration of contamination and concentrations of contaminants in the groundwater as soon as technically possible, and failure to within 15 days after that determination submit to the Regional Administrator a written report containing an assessment of the groundwater quality.	Part 265.93(d)(5)	I
11. Failure to list evacuation routes in the contingency plan.	Part 265.53	I