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U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION 1

RCRA INSPECTION REPORT

DATE: September 1993

TO: Chief, CT Compliance and Enforcement Section

FROM: CT Waste Regulations Section

SUBJ: Academic Institution RCRA Inspection

I. GENERAL INFORMATION

A. Facility Name:
Academic Institution

B. Responsible Official:
Director
Chief, Construction & Engineering

C. Date of Inspection:

D. Purpose of Inspection:
Conduct RCRA CEI
Multi-Media Inspection

E. Persons Participated in the Inspection:
U.S. EPA
DEP

II. RCRA Reporting/Information Requirements

- Facility Identification Number: CT
- Type of Operation: Generator
- Date of Original Notification: 1981
- Type of Notification: Generator
- Date of Subsequent Notification: 1986

- Type of Notification: Generator/ Transporter

III. Source Description

Hazardous waste is generated from several activities, the facility's building and grounds maintenance activities. Along with faculty and students, approximately 100 staff are employed at the facility.

Hazardous wastes are generated at the facility from various chemistry and operations labs, the clinic area, and facilities engineering. Facilities engineering is responsible for managing the institutions's hazardous waste program. For more general source information see the 1992 CT DEP RCRA Inspection Report.

IV. General Observations

The inspection began with a formal in-brief describing EPA's Multi-Media Inspection Program. After a brief introduction, Academic Institution and EPA program representatives paired off to conduct the inspection.

Prior to initiating the RCRA portion of the inspection, the inspectors discussed changes to the facility's waste management program and the facility's RCRA operating status with the EHS director. During this conversation, the inspectors informed him that Academic Institution had been generating greater than 2,200 pounds of hazardous waste a month and were therefore considered a large quantity generator. (This fact had been pointed out to Academic Institution during previous inspections.) The inspectors therefore were going to inspect the facility in accordance with all the generator requirements of 40 CFR §262.

The inspection consisted of a tour of waste generation points, an area identified as the old container storage areas, and a new modular building (container storage area). A records review was conducted subsequent to the facility inspection. Following the records review, a debrief was held. Several problem areas were highlighted by the inspectors during the debrief.

FACILITY INSPECTION

Container Storage Area

The inspectors began at the new (modular building) container storage area. The Director indicated that the container storage area was being managed as a less than 90 day storage area. The building is a self-contained metal shed equipped with secondary containment and a fire suppression system. The building was posted with a "No Smoking" sign, a hazardous material/waste warning and a contact telephone number. The building is located on a bermed concrete pad at the end of a Road directly in front of the paint shop. The concrete does not appear coated, and according to the Director is not considered secondary containment. The rear of the pad has a drain pipe equipped with a valve. The valve was observed open on both days of

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the inspection. The inspectors noted a depression in the soil below the drain pipe which indicates that rain water accumulated within the pad discharges to the soil.

The following drums were observed being stored outside the modular building within the concrete pad:

- 1-55 gallon drum identified with a hazardous waste label as waste gas and oil. The label was dated 09 May 1993. Response to EPA Request for Information dated June 21, 1993 revealed that Academic Institution subsequently determined, based on testing the waste, that the waste was non-hazardous. Academic Institution, however, did not properly analyze this waste when determining that it was non-hazardous for the toxicity characteristics of 40 CFR § 261.24. The result indicated the following: (1) The analysis was not conducted for all the contaminants listed in Table 1 of 40 CFR § 261.24. Specifically, the analysis did not include a check for benzene, a known constituent of gasoline. (2) Detection levels used in the analysis of the waste were greater than regulatory levels. (3) The waste contains 23 ppm tetrachloroethylene, well above the regulatory level of 0.7 ppm. The point of generation for this waste was the motor pool.
- 1-55 gallon drum identified with a hazardous waste label as waste water and oil. The label was dated 11 May 1993. Response to EPA Request for Information revealed that Academic Institution subsequently determined, based on testing the waste, that the waste was non-hazardous. The sample tested to make this waste determination was a composition of the contents of this waste container and the seven drums listed in the following bullet. Based on user knowledge it was determined that these drums had the same point of generation; bilge water from the waterfront boats. Academic Institution did not properly analyze this waste when determining that it was non-hazardous for the toxicity characteristics of 40 CFR § 261.24. The result indicated the following: (1) The analysis was not conducted for all the contaminants listed in Table 1 of 40 CFR § 261.24. (2) Detection levels used in the analysis of the waste were greater than regulatory levels. (3) Analysis results showed the waste contains <10 ppm tetrachloroethylene, indicating that tetrachloroethylene was present in the waste stream. (Tetrachloroethylene's regulatory level is 0.7 ppm.)

  Note: Response to EPA Request for Information stated that the two waste streams in the above listed line-items had been removed by a private hauler for recycling. If these waste streams, or a portion of these wastes, were to be burned for energy recovery they would be presumed to be hazardous waste. Their respective total halogen contents were 1900 ppm and 5300 ppm. In a 1 July 1993 telephone conversation between EPA and Academic Institution, it was revealed that the hauler defines recycling as the burning of waste for energy recovery for industrial purposes.

- 7-55 gallon drums identified with non-hazardous waste labels as bilge water. Two drum labels were dated 23 March 1993. The remaining five drums were not dated. As

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stated above, the drums were removed by a hauler for recycling.

- 1 unlabeled 55 gallon drum. An MSDS attached to the drum was for fuel oil, however, spray painted on the side of the drum was waste antifreeze. The drum was dated (via a grease pencil) 9-1-92. Response to EPA Request for Information revealed that Academic Institution subsequently determined, based on testing the waste, that the waste was a listed hazardous waste, F002. The drum contained oily antifreeze. This hazardous waste determination was incomplete and incorrect. Academic Institution did not properly analyze this waste when determining that it was hazardous for the toxicity characteristics of 40 CFR § 261.24. The result indicated the following: (1) The analysis was not conducted for all the contaminants listed in Table 1 of 40 CFR § 261.24. Specifically, the analysis did not include a check for benzene, a prevalent hazardous constituent found in waste antifreeze. (2) Detection levels used in the analysis of the waste were greater than regulatory levels. (3) The waste was found to contain 580 ppm tetrachloroethylene, and was therefore classified as F002 hazardous waste. Since Academic Institution was analyzing the waste to determine if it exhibited a hazardous characteristic identified in 40 CFR 261 Subpart C, the proper waste identification number should have been D039. The point of generation for this waste was the "hobby shop".
- 1-55 gallon drum identified with a hazardous waste label. The writing on the label was not clear but appeared to identify the contents to be sorbent material. The label was dated 23 May 1993. Response to EPA Request for Information revealed that Academic Institution had determined, based on user knowledge, that the waste was hazardous. No EPA identification number was included in the response. The waste included absorbent towels used to clean up miscellaneous petroleum products, or to wipe down machinery. This waste was generated from small engine maintenance.
- 2-55 gallon drums identified with non-hazardous waste labels as saw-dust. According to the Director, the drums contained pressure treated saw-dust from the carpenter shop.
- 1-85 gallon poly overpack drum labeled "non waste recycle". According to the Director, this drum was used to collect off spec, un-used and reusable items. Response to EPA Request for Information revealed that the use of this "recyclable overpack" has been discontinued. The drum contained approximately 8 pints of unused paints, and 8 unused cans of sterno fluid.
- Adjacent to the modular building door was a full (determined by lifting) propane tank. The tank, which was rusted, was unlabeled.

The inspection proceeded to inside the modular container storage building. The building was full with containers of varying size. Limited aisle spacing was being maintained. Movement is restricted by the manner in which containerized hazardous waste is stored. Containers are stored abutting one another with no spacing throughout the entire building. There was no means of separating incompatible wastes. The following drums were stored inside the building:

- 2-55 gallon drums identified with hazardous waste labels as combustible liquid UN 1993. The labels were dated 10 March 1993 and 25 March 1993. Response to EPA Request for Information revealed that Academic Institution had determined, based on user knowledge, that both waste drums contained hazardous. No EPA identification number

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was included in the response. The drum dated 25 March 1993 contained a 5 gallon container of alkaline batteries (common flashlight batteries) and two nickel cadmium batteries. The nickel cadmium batteries were considered toxic. The drum dated 10 March 1993 contained two 5-gallon buckets of unused roofing tar which had exceeded its shelf-life.

! 1-55 gallon drum identified with a hazardous waste label as solid paints, D005, D006, D007, D008, D035 and D040. A piece of masking tape on top of the drum read "used paint filters". The label was dated 10 February 1993.

! 1-55 gallon drum identified with a non-hazardous waste label as non-regulated waste oil. The label was dated 19 March 1993.

! 2 approximate 20 gallon poly containers identified with hazardous waste labels as hazardous waste liquid, NA 9188. The labels were dated 12 April 1993. Response to EPA Request for Information revealed that Academic Institution had determined, based on user knowledge, that the waste was hazardous. No EPA identification number was included in the response. One contained Kodak Rapid Fixer, the other Kodak T-Max Developer. The wastes were generated by the photography laboratory which is presently closed.

! 2 approximate 10 gallon metal container and 1-5 gallon container identified with hazardous waste labels as flammable liquid D001 or flammable liquid adhesive D001. The labels were not dated. Response to EPA Request for Information revealed the contents of each container to be the same based on manufacturers labels. Their point of generation was **unknown**.

! 1-10 gallon poly container identified with a hazardous waste label as hazardous waste liquid oil, D005, D007 and D008. The label was dated 25 September 1992.

! 1-55 gallon drum identified with a hazardous waste label as waste oil, UN 1993. The label was dated 30 April 1993.

! 1-55 gallon drum identified with a hazardous waste label as RQ hazardous waste liquid oil; D005, D007 and D008. The label was dated 25 September 1992.

! 1-55 gallon drum identified with a hazardous waste label as bilge water and oil. The label was dated 19 April 1993. Response to EPA Request for Information indicated that this drum contained the same waste from the same point of generation as the eight 55-gallon drums stored outside the building identified in bullets 2 and 3 above. The drum was removed by a waste hauler for recycling.

! 1-55 gallon drum identified with both a hazardous and non-hazardous waste label as oil (R87INL053). The label was dated November 1992. Response to EPA Request for Information revealed that Academic Institution subsequently determined, based on testing the waste, that the waste was non-hazardous. Academic Institution, however, did not properly analyze this waste when determining that it was non-hazardous for the toxicity characteristics of 40 CFR § 261.24. The result indicated the following: (1) The analysis was not conducted for all the contaminants listed in Table 1 of 40 CFR § 261.24. The sample was only tested for pH, flashpoint, TOX, TOC and total metals. (2) The detection levels used in the analysis for selenium (D010) was greater than regulatory level. (3) The used oil contained 1,400 ppm total halogens, thus presumed to be hazardous waste. The

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drum was removed for recycling.

! 1-20 gallon container identified with a hazardous waste label as waste paint. The label was dated 25 March 1993. Response to EPA Request for Information revealed that Academic Institution had determined, based on user knowledge, that the waste was hazardous. The hazardous waste manifest indicated the waste was transported for disposal as D001 waste flammable liquid, UN1993. The waste was generated at the paint shop.

! 2-55 gallon drums identified with a hazardous waste labels as D009 bulbs. The labels were dated 23 February 1993.

! 1-55 gallon drum identified with a hazardous waste label as D002/D008 batteries. The label was dated 10 February 1993.

! 1-55 gallon red drum identified with a hazardous waste label as "needs testing". The label was dated 16 March 1993. Response to EPA Request for Information revealed that Academic Institution had determined, based on user knowledge, that the waste was non-hazardous waste oil. The waste was identified as being generated at the waterfront. Academic Institution's response further stated that this drum was sampled and tested with the result included in Enclosure 2 as Sample A. Sample A of Enclosure 2, however, has previously been identified as the analysis results of the 55-gallon drum of "waste gas and oil" located outside the modular building. **Note**: The waste "gas and oil" was identified by Academic Institution as having a different point of generation. (See the first bullet of drums located outside the modular building.) The drum was removed for recycling.

! 1-55 gallon green steel drum. The drum lacked any markings. Response to EPA Request for Information indicated that this drum contained non-hazardous waste oil. The response also stated that the waste determination was based on the results of the composite sample described in bullets 2 above. The drum was removed for recycling.

! 1-5 gallon container identified with a hazardous waste label as solid D005/D007/D008. The label was dated 15 April 1993.

! 1-5 gallon container identified with a hazardous waste label as acid D002. The label was dated 17 March 1993.

! 2-5 gallon containers identified with non-hazardous waste labels as unused glycol. The labels were dated 7 April 1993.

! 1-55 gallon drum identified with a non-hazardous waste label as oil (R87INL053). The label was not dated.

! 1-55 gallon drum identified with a hazardous waste label as "overpack D001". The label was not dated. Response to EPA Request for Information revealed that Academic Institution had determined, based on user knowledge, that the waste was waste methyl alcohol (a flammable liquid) generated by the paint shop.

! 1-55 gallon drum identified with a hazardous waste label as "oxidizer D001/D005 barium peroxide". The label was dated 19 March 1993. The drum contained moisture reactive devices.

! 1-5 gallon overpack container identified with a hazardous waste label as D009/D011, waste stream R87INL101. The label was dated 19 March 1993.

! 1 approximate 20 gallon container identified with a non-hazardous waste label as "boiler

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water". The label was dated 05 November 1992.

! 1-5 gallon container identified with a hazardous waste label as D009 KOH. The label was not dated.

! 1-55 gallon drum identified with a hazardous waste label as "liquid". The label was dated 12 April 1993. Response to EPA Request for Information indicated that this drum contained non-hazardous waste oil. The response also stated that the waste determination was based on sampling and testing with the result included in Enclosure 2 as Sample A. Sample A of Enclosure 2, however, has previously been identified as the analysis results of the 55-gallon drum of "waste gas and oil" located outside the modular building. The drum was removed for recycling.

! 1-55 gallon drum identified with a hazardous waste label as D001 paint. The label was dated 21 January 1993. Response to EPA Request for Information indicated that this drum contained waste paint generated from various places at Academic Institution. The hazardous determination was based on ignitability and/or possible volatiles and metals content. (No supporting documentation was provided in Academic Institution's response to support such a determination. It appears that Academic Institution uses information on paint cans and/or supporting document (i.e., MSDS) when selecting hazardous waste #s.) The paints were all contained in various sized cans ranging from pint to a gallon.

! 1-55 gallon drum identified with a hazardous waste label as combustible. The label was dated 23 April 1993. Response to EPA Request for Information indicated that this drum contained two 5-gallon cans of used crank case oil generated by the power lab. The drum also contained six aerosol cans of 1,1,1-trichloroethane as identified by the manufacturers labels. The generation point of the aerosol cans was "**unknown**".

! 1-55 gallon drum identified with a hazardous waste labels as D005/D007/D008 oil, waste stream R87INL055. The drum was dated 25 September 1992.

! 1-55 gallon drum identified with a non-hazardous waste label as oil, waste stream R87INL053. The drum was dated 19 March 1993.

! 1-85 gallon poly overpack drum identified with a hazardous waste label as D001 waste flammable liquid UN 1993. The label was dated 10 February 1993. Response to EPA Request for Information revealed that the overpack contained one 5-gallon can of unopened/unused roofing tar that was beyond its shelf-life. The disposal contractor disposed of this same material before, and has developed the profile from historical data.

! 1-85 gallon poly overpack drum identified with a hazardous waste label as waste combustible liquid NA 1993. The label was dated 30 April 1993. Response to EPA Request for Information revealed that the overpack contained hydrochloric acids generated at the metallurgy lab.

! 1-85 gallon poly overpack drum identified with a hazardous waste label as D003 waste solid NA 9188. The label was dated 18 December 1992. Response to EPA Request for Information revealed that the overpack contained a can of 1,1,1-trichloroethane and two nickel-cadmium batteries. The generation point for the 1,1,1-TCA was "**unknown**". The batteries were from the carpenter shop. The overpack was subsequently emptied and the waste segregated.

! 1-85 gallon poly overpack drum identified with a hazardous waste label as D001. The

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label was dated 15 December 1992. Response to EPA Request for Information revealed that the overpack contained polychlorinated biphenyl fluorescent light ballasts. This waste was generated by the electrical shop.

! 1-85 gallon poly overpack drum identified with a hazardous waste label liquid. (This overpack was partially inventoried by the inspectors. Contents included small containers of acids and unknowns.) The label was dated 25 March 1993. Response to EPA Request for Information revealed that the overpack contained acids generated at the metallurgy lab. The acids were pH tested and combined by a chemist in Academic Institution's science department. This waste is awaiting analysis results. Other contents of this overpack included items identified in Academic Institution's response as sample "D" and "E". The point of generation for these two wastes were **unknown**.

- Sample "D" was also determined to be corrosive.
- Sample "E" was determined to be a listed hazardous waste, F002. This waste determination was based on the presence of 68 ppb trichloroethylene. This hazardous waste determination appears incorrect. The results indicate the waste to be non-hazardous. (Analytical detection levels were below regulatory levels and the analysis was performed for both halogenated and aromatic volatile organics.)

The inspectors proceeded to numerous points of generation and the garage.

Garage

The garage was the hazardous waste container storage area described in the 1992 CT DEP inspection report. Many stains and cracks were evident in the base (floor) of the garage. The garage was presently being used for storing lawn care equipment and potted plants. Additionally, a bulb crushing operation takes place in the garage. Fluorescent bulbs are hand-fed by electrical shop personnel into a crushing device which sets on a large plastic garbage can. There were also chemical test-kits and reagents located inside the garage. Contents of some small poly bottles inside the test-kit cases was unknown. Items sitting on a shelf included: four full cans of aerosol paint (without tops), a pint of phenol (red indicator) and two 4-ounce containers of long range indicator (68% isopropyl, flammable/poisonous). They remain as evidence of former hazardous waste activities that took place in this area.

Several boxes of fluorescent bulbs were being stored in the garage. There were 5 boxes of uncrushed bulbs on the first floor and approximately 37 boxes of uncrushed bulbs on the second floor. (The bulbs were both straight and u-shaped. The u-shaped bulbs could not be treated in the current unit without first breaking the bulb.) Most boxes contained approximately 30 bulbs. The bulbs were identified as being mercury type (D009). None of the boxes had hazardous waste markers, labels or accumulation dates. Glass chips and pieces of fluorescent bulbs were noted on the floor of the garage.

Four electrical shop employees operate the bulb crusher unit. There are four employees, two of which were available for questioning at the electrical shop. They stated that they received no training pertaining to the specific tasks associated with bulb crushing. Rather, the training they receive is more like an OSHA right to know training. The carpenter shop supervisor provides the

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respirator training and selection of respirators. This training is inadequate. Tyvex coveralls and a full face respirator with dust filters is the only protective equipment worn. According to NIOSH standards, these respirators and cartridges are not permissible for use with mercury.

Paint Shop

Two 20-gallon poly containers are used for satellite accumulation for oil paint waste and thinner waste. The two containers were stored within a poly secondary containment unit. Both containers had hazardous waste markers and labels. The oily paint container had been removed from the secondary containment and was on a 2-wheeler. The container was approximately 7/8 full. The hazardous waste label was dated 08 March 1993.

Approximately 20 1-gallon cans of paint were observed drying in the sun. Along the side of the paint shop building were three 55-gallon drums. The drums contained tar, paint and an **unknown** respectively. The unknown drum had a corrosive label attached. The tar and paint were still being used. The unknown corrosive drum lacked hazardous waste determination.

A sink in the paint shop was being used to wash brushes used with latex paint. Residual latex paints are also washed out of containers in this sink.

The Black Hall of Calcutta

The building is sectioned-off into several work areas (bays). Work areas are used for fiberglass repair, sanding, painting and engine repair. A large bay is used for fiberglass repair and sanding. Resin mixing equipment located on a workbench had a small catch tray under the discharge tube on the floor. Tray approximately ½ full of what appeared to be hardened resin. There was also resin on the floor around the tray. Next to the workbench was a small sandblaster. The Area escort indicated that the unit was usually used for rust removal and was not used often. He did not know what happened to the waste grit. The floor within this large bay has three small drains. Drains discharge to an unknown location. The drain closest to the paint booth (about 6 feet) had a red colored stain around it. HNU photo ionization analyzer detected elevated levels (11 units) of hydrocarbons in the air in the floor drain. Monitoring of the other floor drains did not reveal elevated HNU readings. Sanding dust generated in this work area (generated from sanding boat hulls), which used to be washed into the floor drains, is now collected by sweeping. Personnel did not know how the dust was subsequently managed. Note: CT DEP inspector requested waste determination information for this sanding dust during the 1992 inspection. This waste stream was being disposed of in the "refuse" dumpster at that time.

Immediately adjacent to this area is a large dry filter paint booth. (According to the Director the paint booth dry filters are replaced annually.) There was an approximate 5-gallon fire can within the booth. The can was labeled hazardous waste. Another label on the can listed the contents to be various thinners. The wire mesh was removed from the can's cover. The can was observed to be about 1/4 full of solids, including a paint brush.

There was an open grate covered pit in the concrete floor of the paint booth. Paint over spray is washed into this floor sump when the booth is hosed down. The sump, measured to be

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approximately 18 inches deep, contained an upper liquid layer (dirty water) and about 2 inches of sludge on the bottom. The sludge appears to contain small paint chips. Drain discharges to an unknown location. Personnel could not recall the pit ever being cleaned and stated that it never overflowed. EPA's Inspector sampled the water and solids within the sump. A summary of the results are attached in Enclosure 1. The results indicate that RCRA listed solvents and metals have been discharged into the sump.

The engine shop was not supervised. It contained a parts washer made at Academic Institution. The unit used Activ O cleaner/degreaser as the cleaning medium. Cleaner manufactured by X Companies, PA.

Academic Institution's oil/water separator is located within a small shed-like building. The unit has been shut-down since a water compliance inspection. (Allegedly, the unit was not separating properly.) Academic Institution presently collects waste and engine oil in containers for off-site disposal. Within the shed was a 55-gallon drum with an open funnel in its large bung hole. (This same condition was noted during the 1992 inspection.) The drum was labeled hazardous waste oil & water. The label was dated 05 April 1993 (02 July 1993). The drum which was approximately 3/4 full was monitored with the HNU. HNU readings of 45-50 units were detected at the bung hole. The base of the drum was surrounded with speedi dry for collections of drips and spills.

Power Lab

A flammable cabinet in an area identified as Lab 117 was being used to store the following:

- 55-gallon poly drum labeled used anti-freeze only. The drum was open. Response to EPA Request for Information stated that this work area generates less than 10 gallons of waste anti-freeze a year and no "trend" has been established. EPA inspector interprets this to mean that no waste determination has been performed for this waste stream.
- 20-gallon poly container labeled hazardous material, used hydraulic oil. Label was dated 05 May 1993.
- 20-gallon poly container labeled hazardous waste, used crank case oil.

According to the area escort oily rags were disposed of as general trash.

Boiler Plant

Boiler water test chemicals are collected in a 20-gallon poly container. The container was labeled hazardous waste with an inventory sheet maintained in a sleeve attached to the container. The container was open. (This same condition was noted during the 1992 inspection.)

A/C Shop

Waste oil generated from compressors and A/C units are collected and accumulated with the waste oil collected in the motor pool. [The motor pool has a 55-gallon satellite drum for waste oil.]

Clinic

Academic Institution's dental and X-ray departments generate hazardous waste. Dental amalgam

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is collected in small satellite containers and disposed of off-site as D009/D011 hazardous waste. Dental X-ray solutions (developer and fixer) are collected in 1-gallon poly jugs. These containers are then given to the Medical X-ray department for silver recovery.

Medical X-ray has an in-line electrolytic silver recovery system for their waste fixer. The dental waste fixer and developer is manually fed into the system. Academic Institution provided a copy of its discharge permit for the silver recovery system in its Response to EPA Request for Information. The Minor Photographic Processing Wastewater Permit expires August 24, 1995. Academic Institution's response also provided information pertaining to the disposal of silver sludge. The sludge was manifested off-site in December 1992. This was the only disposal in the last two years.

Medical X-ray had a 1-gallon container of waste fixer from dental stored in its area. Dental X-ray also was storing a 1-gallon container of fixer and a 1-gallon container of developer in its work spaces. None of this containers had hazardous waste markings or labels. All were undated. According to a dental technician 1-gallon of fixer and developer is generated per week.

Copy Center

Small amounts of waste solvents and acids are generated. Copy center uses 1,1,1-trichloroethane (TCA), Blankrols roller wash (possibly contains perchloroethylene) and ITEK developer blanket wash (D002). Deglazing TCA contaminated cotton swabs and rollers are disposed of as general trash. According to an area worker the TCA evaporates off anyway. The ITEK developer is collected in 1-gallon containers and disposed of off-site. Another waste stream, roller wash (Blankrols) on paper mats is disposed of in the trash.

Labs

In the hood in a lab were two small beakers containing mercury. The area escort stated that the mercury was hazardous waste and was to be disposed. The beakers were not labeled or dated. Also in this hood was a 1-gallon glass container, approximately 3/4 full, of mixed acids. The container was labeled hazardous waste Solution; Ag, Mn, Ni, Co, Cu, Cr_2O_7. It was dated 23 February 1993. In the lab there was also a 5-gallon fire can labeled hazardous waste - non-halogenated organic waste. The area escort stated that the labs hazardous waste coordinator/technician delivers this container to the Container Storage Area for disposal. A similar fire can, currently not in use, is maintained for halogenated organic wastes. According to the Escort, metal acids and non-halogenated organic wastes were last sent to the Container Storage Area around January 1993.

A flammable storage room, previously used to store hazardous waste, is the labs chemical storage room. Various lab type chemicals were being stored on shelves within the room. Some of the containers were in deteriorated condition. They include: (1) quart bottle of **unknown**. NFPA ratings on the container were Health 3, Flammability 4, Reactivity ?; (2) quart metal can extremely corroded. NFPA ratings on the can were Health 3, Flammability 0, Reactivity 2. Area escort stated that Academic Institution intended to go through the room this summer and get rid of

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anything they don't use.

Motor Pool

Institution's motor pool is used after normal working hours as a "hobby shop". Wastes generated by hobby shop activities are pooled with motor pool wastes (i.e., oils, anti-freeze). Additionally, the A/C shop brings its waste oils to this area for pooling.

A Safety Kleen parts washer was located in this garage. It is a petroleum naphtha unit used for degreasing. The garage supervisor stated that the unit is changed out every six weeks.

> Note: Waste profiles and waste manifests used by Safety Kleen for waste naphtha include EPA Hazardous Waste ID #s D018 (benzene) and D039 (tetrachloroethylene) as well as D001. Waste Analysis results for several containers stored at the Container Storage Area revealed the presence of tetrachloroethylene. The samples were not analyzed for benzene.

A locked poly secondary containment unit is used to store two 55-gallon drums. One 55-gallon drum was marked waste antifreeze only and was dated 10 May 1993. The other was marked waste oil only - hazardous waste and was dated 01 May 1993. Both drums were open with a funnel on top.

Photo Lab

A photo lab in the basement was closing. It was scheduled to be closed the week after this inspection. A technician working in the area indicated that the lab generated approximately 10 gallons of developer and 20 gallons of fixer every one to two months. The waste was shipped to the Container Storage Area for off-site treatment/disposal. (These wastes were not treated with the similar waste streams at the Clinic.)

Paint Shop 2

The building contains a small bay used for minor fiberglass and painting repairs. The buildings hazardous waste coordinator stated that floor sweepings consisting of paint dust and overspray was swept into the river. Waste solvents were accumulated in a 5-gallon poly pail. The pail, approximately 3/4 full, was open with a funnel. It was labeled hazardous waste and was dated 02 April 1993. Contents included acetone, uncured gel coat, MEKP, polyester resin and gelcoat pigments.

Rags contaminated with various solvents were being disposed of in an unlabeled 10-gallon red fire can. The can was 3/4 full. The rags go into the trash. The dumpster outside is kept locked. The dumpster was checked and found to contain a thick dark sludge/tar type material inside. A solvent type smell was also evident.

V. Records Review

Various records were reviewed by the EPA inspectors. (Some records were reviewed subsequent

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to the inspection following receipt of Academic Institution's Response to EPA Request for Information.)

Inspection Log
Logs dated back to May 1992 were reviewed. Inspection schedule appears to address all requirements for a large quantity generator. The logs are computer generated with preprinted "OKs" included in the status column for each item. Apparently, if an item is satisfactorily in compliance, there is no notations made on the sheet. Discrepancies were being noted in the logs. The sheets also include the inspectors name. (They were tailored for inspections by the Director.) The date and time were hand written on each log. Inspectors were not signing the sheets however.

Contingency Plan
The Director is listed as the primary Emergency Coordinator.

Emergency procedures are brief and describe notification and evacuation procedures only. No actual emergency response procedures exist. Additionally, the plan does not mention either Container Storage Area. The plan still does not address capabilities of emergency response equipment/ personnel protection equipment. (This same condition was noted during the 1992 inspection.) No absorbent material is listed in the plan except "pigs". Sand was observed being stored in a 5-gallon poly pail at the Container Storage Area. Speedi-dri was used at various oil-type spill areas noted during the inspection. A hazardous materials response equipment schedule and checklist was being completed quarterly. This log does include various absorbent pads and rolls.

Biennial Report
According to the Director Academic Institution has never completed and filed such a report.

Waste Determination
Hazardous waste determinations were not being made properly for several waste streams generated at Academic Institution. Other waste streams still lack proper waste determinations (this same condition was noted during the 1992 inspection). Improper waste determinations have led to inappropriate designation and/or disposal of some wastes.

Waste oils, and oil & water were waste streams present in large quantities at Academic Institution during the inspection. These wastes were observed to be labeled as both hazardous and non-hazardous waste. Academic Institution's Response to EPA Request for Information stated that the past practice was to treat waste oil as hazardous waste based on user knowledge. No supporting documentation was provided in Academic Institution's response to support this determination. Manifests, however, revealed that some waste oils were disposed of as CT regulated waste (non-hazardous). For example, one manifest (State Manifest Document No. CTF0000001) signed by the Director and date 12 January 1993 indicated transportation of 1,018 gallon of waste oil as CT regulated waste. This manifest was located in a folder marked "Garage Oil". Additionally, on the second day of the inspection, 12 May 1993, 1,600 pounds of waste oil

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was manifested off as non-regulated liquid (Manifest # CT00000002).

On 22 March 1993, 1,440 pounds of waste oil was shipped offsite (Manifest # CT00000003) as hazardous waste liquid (D005/D007/D008). On 15 September 1992, 2,250 pounds of waste oil was shipped offsite (Manifest # CT000004) as hazardous waste liquid (D008). On 24 June 1992, 840 gallons of waste oil was shipped offsite (Manifest # CWMA 000005) as hazardous waste liquid (D008). D001 was later added to this manifest. Further waste determination problems with these waste streams were described in the previous section of this report.

Similar inconsistencies were noted in the waste designation of other oil-type waste streams, specifically oil & gas, fuel oil and oil & antifreeze. Some of these problems were delineated in the previous section of this report. Additionally, on 06 November 1992, 800 pounds and 400 pounds of non-regulated antifreeze coolant was shipped offsite (Manifest # CT 000006 and CT 000007 respectively) as non-hazardous waste (CR04). On 15 September 1992, 440 pounds of oil & antifreeze (D008) was shipped offsite (Manifest # CT 000008) as hazardous waste liquid. On 22 March 1993, 40 pounds of contaminated fuel oil was manifested offsite (Manifest # CT 00000009) as waste flammable liquid, fuel oil and toluene (D001/F005). On 06 November 1992, 112 pounds of contaminated fuel oil was manifested offsite (Manifest # CT 000010) as waste flammable liquid, fuel oil, benzene and toluene (D001/F005).

Various paint related waste streams were being managed at Academic Institution. Waste determinations for these waste streams are also inconsistent. Academic Institution's Response to EPA Request for Information revealed that hazardous waste determinations were based on user knowledge as to whether a paint waste possessed a hazardous waste characteristic of 40 CFR § 261 Subpart C (i.e.,ignitability and/or possible volatiles and metals content). No supporting documentation was provided in Academic Institution's response to support such a determination. Manifests dating back to 01 April 1992 were reviewed. Of the nine identifiable as paint related waste, seven were for liquid paint. Five of these seven were classified with the same Academic Institution waste stream number (RP871007). Four of the five were manifested as waste paint related material, flammable liquid (D001/D005/D006/D007/D008/D035/D040). One shipment, however, (Manifest # CT 000011) was disposed of as D001 only. Additionally, the inspectors noted a 20-gallon container identified with a hazardous waste label as waste paint at the CSA. Response to EPA Request for Information revealed that Academic Institution had determined, based on user knowledge, that the waste was hazardous. The hazardous waste manifest (# CT 00000012) indicated the waste was transported for disposal as a lab pack, D001 waste flammable liquid, UN1993. UN1993 is not the proper designation for waste paint related material. Further, the manifest does not actually describe the waste as paint. The waste stream number for this waste was R871IL101.

> **Note**: The LDR form/lab pack container contents form accompanying this manifest (# CT 00000012) identify the waste as ignitable toner.

Rags contaminated with both listed solvents and oily wastes were being disposed of as "general refuse". All areas generating waste rags were not determined by the inspectors. The following

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are examples noted during the inspection:

- Rags are wetted with solvents and used in cleaning at the Copy Center, and two Halls and one paint shop. The Copy Center uses 1,1,1-trichloroethane (TCA) as a solvent. The others use methyl ethyl ketone (MEK) and trichloroethylene (TCE).
- Oily rags were generated at the Power Lab. Waste oils are potentially hazardous waste.

Waste determinations for floor sweepings have not been conducted. Previous CT DEP inspections have identified the need for waste determinations due to the painting/sanding operations generating these wastes.

Closure

The 1992 CT DEP inspection report addressed Academic Institution's underground storage tank excavated in December 1990. This issue is still unresolved.

The former Container Storage Area (Garage) has several stained areas (evidences of spills) and a base with numerous cracks. Since mercury fluorescent light bulbs were being stored in unlabeled/undated boxes and the 1992 CTDEP inspection noted storage for greater than 90 days in this area, a formal closure plan should be prepared.

Training

Academic Institution's Response to EPA Request for Information indicates that Academic Institution has established a program of personnel training in accordance with 40 CFR § 265.16(a-c). Training is to be provided for all Academic Institution personnel within the next six months and annually thereafter. The information provided in this response indicates that previous training provided to facility personnel was OSHA-type training only. Training course consisted of seven lesson plans but did not include job-specific RCRA training. This is consistent with the feedback the inspectors got when questioning facility personnel about the training they had received related to their job functions.

Academic Institution's training program has been rewritten. Information provided in Academic Institution's Response indicate that training will be given to emergency coordinators, hazardous material coordinators, and any person who performs duties delegated under a hazardous material coordinator. Various functions were listed under the later including: collection of hazardous waste, maintenance of satellite accumulation containers, movement or transfer of hazardous waste, or any other aspect of management of hazardous waste. It is unclear whether the above described applicability (i.e., positions which relate to hazardous waste management) includes personnel whom generate waste.

The Response included a list identified as the positions encompassing the entire scope of hazardous waste management at Academic Institution. The list consisting of: Job Titles, Names, Job Descriptions, Duties, Training, and Records of Documentation. This list included only twelve (**12**) individuals and did not include an alternate emergency coordinator listed in the contingency plan. Documentation of training indicated that RCRA training (initial and annual) for these individuals was not provided in accordance with 40 CFR § 265.16.

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Note: On 26 May and 11 June 1993 a total of twenty-nine (**29**) persons were provided RCRA training at Academic Institution.

Manifests

Manifests and corresponding Land Disposal Restriction (LDR) forms dating back to May, 1992 were reviewed. Manifests and LDR forms were supplied in Academic Institution's Response to EPA Request for Information. (In several instances all LDR form sheets were not received.) Problems noted during the review included:

- Manifest CT00000013 dated 12 May 1993 included a shipment of waste adhesive. The manifest identified its EPA waste no. as D001, waste stream R871IL006. An attached material profile sheet listed the waste stream EPA waste codes as D001, D018, D019, D023, D024, D025, D026, D035, D039, D041, and F001-5. The attached LDR form listed only D001 for this waste stream. The applicable constituents of F001-5 should have been listed.
- A shipment (manifest CTF000014 dated 24 June 1992) of trichloroflouromethane (F002) without an LDR form.
- Seven shipments of waste petroleum naphtha (D001/D018/D039) without LDR forms (manifest #s CTF00000015, CTF000016, CTF000017, CTF000018, CTF000019, CTF000020, and CTF000021).

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