

Papa's Plating: a composite case study
TNRCC Small Business and Local Government Assistance

April 20, 1999

Ten years ago, Papa started his own metal finishing company with a cadmium plating line. His company cleans and plates hydraulic fittings, oil field bonnets and connectors. Last year, Papa added a hard chrome plating line and now also chrome plates hydraulic cylinders. Using a rack system, the company's 22 employees finish 7,000 - 10,000 pounds of product per day.

When visitors enter the production area, Zippy the Dachshund and Thor the German Shepherd greet them. After petting the dogs, visitors usually comment on how clean the shop looks. There don't appear to be any spills. All supplies seem to have a place.

Looking around the shop a visitor would see the following equipment:

- ▶ 20-tank cadmium plating line
- ▶ 5-tank hard chrome plating line with 3 mist eliminators
- ▶ trichloroethylene vapor degreaser
- ▶ sand blasting equipment (enclosed)
- ▶ evaporator/sludge press

Johnny, the plant manager, keeps all environmental paperwork in his office. He has:

- ▶ copies of material safety data sheets (MSDSs) for all supplies
- ▶ a TNRCC Notice of Registration, dated 1988
- ▶ copies of TNRCC Annual Waste Summaries for 1988-1997
- ▶ copies of EPA chrome NESHAP testing data, Initial Notification form, Notification of Performance Test and Notification of Compliance Status
- ▶ copy of Texas Administrative Code §106.375 (exemption from air permitting)
- ▶ copy of Texas Administrative Code §106.262 (exemption from air permitting)
- ▶ manifests of hazardous waste shipments
- ▶ wastewater discharge permit from local wastewater treatment plant

Before the hard chrome plating line started up, Johnny completed and sent all chrome NESHAP paperwork to the EPA. He also has copies of the two TNRCC exemptions from air permitting on site: one for the cadmium plating line and one for the chrome plating line. Bobby Joe's Auto Finishing Shop is across the dry creek bed, 50 feet away. In the summer, Papa's Plating and Bobby Joe's Auto Finishing leave their windows open to cool down their shops. Depending on which way the wind is blowing, Bobby Joe says he can smell chemicals from Papa's, or Johnny says he can smell the paint fumes from Bobby Joe's car painting.

Near the chrome plating and cadmium plating lines are two satellite accumulation waste drums. These drums hold oil skimmed off the top of the plating tanks. Employees leave the tops off to

make it easier to add waste. They say they spill less by having the drums nearby, and it's more convenient to get rid of solvent-soaked paper towels.

Eddie, a former high school noseguard, usually handles the waste drums. Every week or so, when one of the sludge drums in the water treatment area fills up, Eddie secures the top on the drum and carts it to either the chemical storage area or outside to the patch of dirt under the big Live Oak tree. Once a year the satellite accumulation drum of TCE fills up and Eddie hauls that outside as well.

Johnny assumes that Papa's Plating is still a small quantity generator because they have been for years. The last time Johnny checked in and around the facility, there were a total of 9 full 55 gallon drums of hazardous waste closed and sealed. Here is his inventory of hazardous waste:

- * 3 full drums of cadmium hydroxide
- * 4 full drums of chrome sludge
- * 2 full drums of residue
- * 1 satellite accumulation drum near vapor degreaser
- * 1 satellite accum. drum near chrome evaporator
- * 1 satellite accum. drum near cadmium line

All drums that contain hazardous waste have yellow labels on the side that say "Hazardous Waste." Eddie wonders if it's time to get the hazardous waste drums hauled away because he thinks some of them have been there for a long time, but he doesn't say anything.

Most wastewater runs from the last tanks into the water treatment room. Several gallons of water a day drip between the tanks where it collects in the concrete-lined sump and is pumped to the water treatment room. There, the wastewater is treated to meet the local wastewater treatment plant specifications. An evaporator is used to treat water from the chrome plating tank. The water goes back into the plating tank after evaporation. Johnny finally heard some good news from the TNRCC: that wastewater doesn't need to be included on the Annual Waste Summary any more so next year he won't need to keep track of it.

In general, Johnny thinks they are in compliance with environmental regulations: the shop looks orderly, he has binders full of paperwork and they have never had a major spill.

Papa's Plating
Violations list

(for use by presenters only, not for dissemination to audience)

AIR

- _____ Doesn't have air authorization for hard chrome (needs to get a permit because is 50 feet from neighbor).
- _____ No exemption for sandblasting (S.E. 106.452 for dry abrasive cleaning- requires PI-7)
- _____ No exemption for solvent degreasing machine. (S.E. 106.454 for degreasing units, PI-7 only required if use >110 ga./year solvent)
- _____ Hasn't done his NESHAP for solvent degreasing machine. (Does TNRCC have delegation of this? Would TNRCC cite him?)

WASTE

- _____ Doesn't have a written hazardous waste determination. (All the information is on MSDSs and in Johnny's head. Also has not figured out if wastewater is hazardous or Class 1 so doesn't know if needs to go on Annual Waste Summary.)
- _____ Did not update NOR since added hard chrome line.
- _____ Has not filled out waste management unit paperwork.
- _____ No accumulation start date on hazardous waste drum labels.
- _____ Satellite accumulation drums are left open.
- _____ Haz waste not covered by roof, no 2dary containment would be noted by inspector if there were obvious leaks, ground discoloration or dead plants in area
- _____ If has Class 1, are there manifests for that too?
- _____ Prove sent haz waste to authorized facility
- _____ No TRI/Tier II reporting

WATER

- _____ Has not done EPA storm water program paperwork.
- _____ Need public drinking water available if there are >25 people in 60 days out of a year in the building.

OTHER

- _____ Nuisance violation if neighbor complains about the smell.

This is only a partial list.

Junior's Plating
TNRCC Small Business Assistance Program

April 2, 1998

Rex Jr. has always been interested in guns. Three years ago he opened his own gun plating shop out in the country. He has one employee, Emma Jean, who works on the nickel plating line part-time when he's out meeting with clients. Production ranges from 10-50 guns/day depending on the workload.

Rex and Emma Jean try to handle the wastes carefully. A 55-gallon drum holds sludge from the plating line. Rex labeled the sludge waste drum with a skull and crossbones to remind them which drums were for process and which for waste. When the hazardous waste drum filled up last year, his cousin Larry took it to a friend who runs a disposal company. Rex was a little worried but Larry reassured him that his friend "charges a great rate and has been doing this for years." The only other wastes Junior's Plating has are paper towels with a little lacquer thinner residue and the sand from the enclosed sandblasting equipment. Once the paper towels seem dry, they throw them in with their lunch trash and dispose of them like regular garbage. When the sandblasting sand is not as abrasive as it used to be, Rex dumps the sand in the backyard.

Every few weeks, the rinse water becomes too dirty to use. They release the rinse water to the septic system and refill it. There aren't drips or leaks because Rex runs a pipe right from the rinse water drum to the drain. When Rex and Emma Jean pull parts out of the drums they let the water drip for 15 seconds before they dip the part in the next drum. They want to be sure they don't drip anything on the concrete floor between the tanks.

Two years ago, before Emma Jean started working at Junior's there was a little spill in the shop. Rex's last employee was filling up the rinse tank when he received a phone call. He set the hose nozzle into the drum and when he returned, the drum had overflowed. Rex fired him right after that.

In general, Rex thinks he's following the environmental regulations because the shop doesn't smell too bad and he isn't dumping hazardous waste on the ground.

Junior's Plating
Violations List
(for internal use only)

AIR

- _____ 1. No air authorization (not a problem because doesn't have to register with TNRCC)

WASTE

- _____ 2. Improper disposal of hazardous waste (not using a registered, certified hauler)
_____ 3. Hazardous waste drum not properly labeled
_____ 4. Needs to do hazardous waste determination (can't prove improper disposal until does determination)
_____ 5. Nuisance if dump sand outside and blows around (but only if inspector sees it blowing)

WATER

- _____ 6. Improperly disposal of wastewater. Shouldn't send rinse water to a septic system
_____ 7. Did not report spill (falls below reportable quantity, look at potential for harm)

This is only a partial list.

3.26.98

Workshop for Metal Finishers **Agenda**

| | |
|------------------|--------------------------------------|
| 8:15 - 8:30 am | Welcome and Introductions |
| 8:30 - 8:45 am | Explanation of workshop and exercise |
| 8:45 - 9:15 am | Contest: analyze two case studies |
| 9:15 - 9:45 am | Discuss air regulations |
| 9:45 - 10:00 am | Break |
| 10:00 - 10:45 am | Discuss waste regulations |
| 10:45 - 11:15 am | Discuss water and other regulations |
| 11:15 - 11:45 am | Pollution prevention alternatives |
| 11:45 - 12:00 pm | Wrap up and determine winners |

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