HAZARDOUS WASTE: THE AUTO INDUSTRY'S $500 BILLION MESS?

By JON LOWELL
STEPHEN E. PLUMB
MARJORIE SORGE
DREW WINTER

Turning the fragrant, lush farm-lands of the American Midwest, Appalachia and the South into sprawling industrial mega-complexes was hardly the goal of 1980s high-profile environmental activists.

Nor did they expect millions in tax dollars to be spent to train thousands of workers, many for Japanese transplant auto factories, in other largely rural regions where huge factories were unheard of 10 years ago.

But all those things have happened at least partially because "environmentalism" became a sacred cow during the 1980s, and political popularity trampled real-world analysis.

Major successes using government regulation to deal with frequently visible air and water pollution problems have been followed by a legal quagmire aimed at less-visible hazardous waste buried under plant sites or in landfills. Simply defining what constitutes hazardous waste or deciding how much of a health threat a given substance represents to both those in the factory and in surrounding neighborhoods has proven extremely difficult.

By at least one knowledgeable estimate, the cost to clean up hazardous waste for automakers and their suppliers could reach a mind-boggling $500 billion over time. Put into perspective, that's 10 times the current annual U.S. trade deficit with Japan and it exactly equals President Clinton's deficit-reduction program between now and 1997.

But more than money is involved. "Recently, environmental issues have proven to be a barrier to the redevelopment of obsolete or abandoned plants and parcels of property," says Louis E. Tossi, an environmental attorney with Fuller & Henry in Toledo, OH, who's lobbying for changes in Ohio's environmental laws.

"As a result, some of our best industrial locations will be lost to new development. Ironically, these same environmental barriers to redevelopment can actually inhibit the cleanup of these parcels of property. Most disconcerting is the fact that many of these sites are in our urban areas, which are badly in need of new tax bases and jobs."

How The Auto Industry Controls Waste

Source: Ford Motor Company, Environmental and Safety Communications

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Although General Motors Corp. is now reassessing its future capacity plans, it has scheduled “idling” or closing 23 facilities between 1992 and 1995. Nearly all of those set to close are located in urban areas, which promises to make them a tough sell.

With painfully few exceptions, “greenfield” sites for new auto and supplier plants have become the choice because, among other things, cleaning up the hazardous waste from existing sites to meet vague, unevenly enforced, environmental laws has become financially impossible.

The term “hazardous waste” (“toxic waste” apparently was thought to be too narrow) can be used to describe everything from murderously dangerous radioactive by-products of weapons programs to spare windshield-washer fluid left in drums at an automotive assembly plant.

Debates continue over just how hazardous some of these wastes are, what safe exposure levels may be and what represents the best and least hazardous method of disposal. There are no automotive operations that fail to produce hazardous waste, but plants involved in plating, foundry operations, and painting present the biggest problems.

The hazardous waste thread runs through the entire auto industry network because of its strong link to industries such as chemical, rubber and plastics, which often find themselves spending millions to clean up sites. Cars, for example, used about 220 lbs. (100 kg) of plastics in 1993. That will jump to 272 lbs. (124 kg) by year 2000, says Market Search, a consulting group based in Toledo, OH. Not surprisingly, recycling of plastic scrap in plants and junkyards these days is getting high priority.

It’s difficult to sort out exactly how much of the automakers’ supporting industries contribute to the industry’s overall hazardous waste problem but considered separately, auto factories apparently produce less waste than many others. Based on the EPA’s most recent bi-annual hazardous waste report, using 1989 data, Nissan Motor Mfg. Corp., its complex in Smyrna, TN. ranked 34th on that state’s list. producing only 672 tons. The No.1 source — Eastman Kodak Co. in Kingsport — by contrast produced 32.5 million tons, says the EPA. In Georgia, GM’s Doraville assembly plant handled 1,795 tons while the top waste producer was Merck & Co. Inc., the big pharmaceutical company with production in Albany, which produced 2.2 million tons.

In the Big Three’s home state. Michigan, Ford’s Romeo engine plant produced 19,426 tons, while Dow Chemical Co. in Midland, led the state with a hefty 33.7 million tons.

GM Vice President Dennis R. Minano, one of its top environmental attorneys says only one 55-gal. (208L) drum can cause a world of problems. “It doesn’t take much to contaminate an awful lot of soil and water,” says an environmental adviser with Arthur D. Little, a consulting firm in Cambridge, MA. He recalls an incident where a manufacturer accidentally spilled a 55-gal. (208L) drum of a common industrial solvent. It seeped into the water table and threatened local drinking water. The cleanup cost: $1 million.

The Superfund effort is a national cleanup of “hazardous waste” that the authors of the acclaimed book Cleaning Up the Mess estimate might cost a staggering $1.7 trillion. The auto and supplier industry share of that, given the industry’s huge presence in the economy, could be $500 billion. “Nationwide environmental expenditures exceeded $90 billion in 1990 and are estimated to be 2.7% of the GNP by the year 2000,” says Mr. Tossi, the Toledo attorney.

The Big Three 10K filings with the Securities and Exchange Commission contain lists of unresolved hazardous waste disposal cases involving possible payouts of about $2 billion. GM lists $726 million; Ford, $700 million; and Chrysler Corp., $164 million. By comparison, analysts peg Ford’s profits at about $2 billion this year. "Automotive managers are being forced to become managers of garbage," says James Tozzi of Multinational Business Services, an environmental consulting firm in Washington, DC. That means there’s less time and money available to spend on becoming more competitive and creating new products, he suggests.

Big Three and domestic supplier executives point out that while they are spending millions trying to meet environmental cleanup regulations, the Japanese transplants are enjoying yet another competitive advantage because their facilities are new and built on clean greenfield sites.

And these frustrated Big Three executives say they don’t even have a fighting
**BIG 3 SCORECARD:**

**SHRINKING PLANT NUMBERS ADD TO POTENTIAL PROBLEMS**

The downsizing of Big Three production capacity has added to hazardous waste problems. Open plants don’t face the sometimes arbitrary cleanup requirements that confront officially closed facilities. Interested buyers demand exemption from any past problems.

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**HAZARDOUS WASTE**

Sometimes you should pay attention to Murphy’s Law.

In 1984 GM closed its 63-year-old Coit Rd. stamping plant in Cleveland and sold it to a charitable organization, the National Council for Community Development, for $200,000 in exchange for a tax writeoff. NCCE immediately sold it to Park Corp. for development.

Park sold the land to the Ohio Dept. of Corrections (ODOC), creating a neighborhood uproar: Folks didn’t want criminals living next to them and launched a legal and political battle that dragged on for about four years. Meanwhile, the ODOC failed to provide adequate security at the site. Vandals broke in, trashed the plant, broke into the transformers with pickaxes and stole the copper, spilling cancer-causing PCBs all over the floor.

**Plans for the prison finally were dropped, but that political nightmare was traded for another: cleaning up the PCBs. The price tag: $31 million. GM says it conducted a thorough cleanup before selling the plant but says it will work with state and local government to determine if it has any responsibility.**

GM also has been socked with a $116 million cleanup at its Massena, NY, central foundry, designated as a federal government Superfund cleanup site since 1983. At issue now is how GM should dispose of sludge from the plant. The state wants it incinerated; GM maintains it should continue to go to a hazardous-waste landfill.

Making matters worse, the two incinerators that would take the sludge — one in Gary, IN, and another in Calumet City, IL. (just outside Chicago) — are backed up for nine months.

— Marjorie Sorge

OSAT study shows that “interpreting and implementing environmental laws” was one of the two major sticking points in locating in Michigan, a state that once claimed 40% of all automotive jobs and now may be lucky to sport a 33% share.

Mr. Tozzi points out that states can set their own standards, and in some cases they often have stricter rules than those issued by the EPA. “States like Kentucky and Tennessee are not as off the wall as (some states in the) Northeast and Midwest,” he maintains.

Although hazardous waste problems clearly aren’t the only reason new auto plants almost always end up in farm fields instead of on existing sites, they are a dramatically larger factor than most people.

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An example is the “idled” Cadillac Clark St. assembly plant in Detroit. The 68-year-old plant has a world-class wastewater treatment facility plus a major rail line coming through it and easy access to major expressways and the Detroit River.

In an attempt to keep at least part of that operation open, United Auto Workers union Vice President Stephen P. Yokich (Rep. Yokich’s father) sent GM a proposal in early June recommending that the automaker use the state-of-the-art wastewater treatment center at the plant to refine waste oil and sell it. “It’s another way to attack the problem, and make money,” he says. It also provides jobs for laid-off workers. GM will decide by mid-summer.

But could Clark St. be sold? It would be difficult, admits GM’s Mr. Minano. “Has that been a heavy manufacturing site? Sure,” he says. “Would a buyer want to look at that very closely? Absolutely. There will be a very close examination of what the soil is like.” But in the current environmental climate there is no guarantee that new research or legislation won’t reopen the industrial history of the planet for yet another inspection and another round of litigation and cost.

A brief history of what may be the final two new urban auto plants in U.S. history is in order to demonstrate the rapid rise of environmental issues.

The first, GM’s Detroit/Hamtramck Assembly Center, faced more political than environmental challenges when it was built during the early ’80s. Debate focused on relocating long-time residents and businesses and the closing of such institutions as a neighborhood Catholic church. But the site included the huge Chrysler Dodge Main plant built in 1914, and could have presented GM with massive cleanup nightmares except for one thing: The project preceded the budding area of tough hazardous waste laws.

The environmental vice had tightened by 1989 when Chrysler began to rebuild its Jefferson Ave. plant in Detroit, a turn-of-the-century automotive site: coping with environmental rules easily eclipsed the predictable political debate.

Chrysler and the City of Detroit teamed up on the project, which also includes revitalization of a large chunk of the city’s lower east side. The city assembled all of the parcels, then sold the new plant site back to Chrysler. To their surprise and dismay they discovered that much of the soil under the 283-acre (114 ha) site was contaminated by leaking petroleum from underground tanks, benzene, dichloroplane and trichloroethane.

The state ordered 5 million sq. ft. (465,000 sq. m) of earth capped and surrounded by an irrigation system. The cleanup cost the city $25 million.

The fact that from the beginning most people involved in the debates that led to current environmental legislation and enforcement activity had nothing but good intentions now seems sadly irrelevant. “In the name of environmental protection, more has been done to encourage urban sprawl than I’ve ever seen,” says Jerome S. Amber, manager-waste and hazardous substances in Ford Motor Co.’s Environmental Quality Office.

Faced with big cleanup costs and government hassles to remediate existing industrial sites, companies are more likely to select greenfield sites, he implies.

What’s needed, say the experts, are new laws and policies grounded both in public health and financial realities.

That means tailoring cleanup standards according to land-use designations, rather than trying to bring all sites back to a theoretically pristine condition — the “Garden of Eden” approach. It makes sense if an old factory site is being turned into a day-care center, they argue, but if it’s just going to be paved over and turned into another industrial facility, a different set of rules should apply. Without that, says Chrysler energy affairs director Peter R. Gilezan, urban properties simply won’t be redeveloped.

Landfills Today Are ‘Hungry for Waste’

In about 15 years, all current commercial hazardous waste landfills will be full. But right now just the opposite is true: There’s barely enough hazardous material to keep disposal sites busy, triggering discount pricing by facility owners.

They’re hungry for waste,” attests Jeffrey Smith, an industry analyst at Environmental Information Ltd., a research firm in Minneapolis, MN. The going rate to dispose of hazardous waste is about $100 per ton, and some rates are as low as $50 per ton. That’s only a third of what operators charged a few years ago and compares with $35 to $40 per ton 10 years ago.

Landfill overcapacity has numerous roots, says Mr. Smith. For starters, new regulations ban traditional landfill waste such as liquids and solvents because of potential leakage. Meanwhile, other materials now are being incinerated first. The push to minimize waste at the source, and the recession in the early ’90s, also are contributing factors.

Currently there are 19 commercial and about 40 private landfills nationwide. Over 90% of the 2.2 million cubic yards of landfill waste disposed of each year goes to commercial facilities. Each year 1 million cubic yards of non-hazardous waste also goes to hazardous landfills — just to be safe.

Although it’s doubtful any existing landfills will shut down from lack of business, don’t expect new facilities soon. Only one new hazardous disposal site has opened in 10 years: if needed, most existing sites can be expanded.

Bucking the trend is Envitech Management Services Inc., which operates the only commercial plant in Wayne, MI. The site is owned by Ford Motor Co., but Ford isn’t involved in the management.

Ford also operates its own landfill in Allen Park, MI, and recently spent $12 million to expand both hazardous and non-hazardous capacity. “One of the reasons we do our own (landfill) is because we don’t want it (hazardous waste) to fall into the wrong hands,” confides Jerome S. Amber, manager-waste and hazardous substances in Ford’s Environmental Quality Office.

—Stephen E. Plumh
Why Grass is Greener at Toyota—Georgetown

In a round-about way, the Big Three helped Toyota Motor Co. jump ahead environmentally when it built its Georgetown, KY, plant in 1988.

The law requires companies to file an extremely detailed environmental report when building or updating a plant. It’s public information and, says one automotive executive, "every company in the world can read that and see how you’ve laid out all your processes. They’ll just copy the permit. They know what they’re doing.”

"We usually went above (what the Big Three had done)," says Kim A. Minke, manager of environmental affairs at Georgetown, who adds that it’s standard for Toyota to evaluate other operations before beginning construction. "One of the things we did was an assessment of the wells to make sure we knew what was in the area before we came."

A few old farm dumps turned up on the 1,300-acre (526-ha) site with empty drums of pesticides, tires and herbicides, but "we didn’t find anything in any measurable quantity," he says. However, every bit of questionable waste was disposed of as if it was hazardous just to be sure Toyota would not be ensnared by future, stricter legislation, he says.

During the next several years Toyota expanded Georgetown and improved its environmental technology based on what it learned from the past. The Big Three automakers do the same. Toyota had one run-in with Kentucky environmental agencies when too much solid waste got into the water systems while the plant was being built. There are four retention ponds on the site that handle things like rainwater from the parking lots, but moving so much earth during construction produced more waste than was allowed by law. There were no fines, just improvements.

Toyota now uses silt fences and silt traps that must be cleaned out periodically before the water is allowed to flow into nearby streams. The new expansion, which will be completed in 1994, uses the same technology.

"The only people happy with Superfund are lawyers because they are getting all the money," says an influential Congressional staff member, Michigan Democratic Congressman John D. Dingell, the powerful chairman of the House Energy and Commerce Committee, which will play a pivotal role in any new legislation, is even less charitable. "It’s a scam full of incompetents and possibly corruption," he says of the existing Superfund. "It’s a sinkhole full of lawyers, and a mess for everyone else."

Armed with a portfolio of eight less-than-flattering GAO audits of Superfund, the congressman says he awaits guidance from the White House on new environmental directions.

Pulling one way is Vice President Albert Gore, viewed by some as an environmental extremist (EPA head Carol Browner helped write his activist-oriented environmental book Earth in the Balance), while President Clinton has gone to great lengths to listen to the opinions of Big Three leaders.

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area, which averages about $100,000, to prove its case. And the companies say the regulatory agencies are predisposed not to approve Type C cleanups.

Chrysler did win Type C approval for the new Jefferson plant, however. That, says Ford’s Mr. Amber, was "a watershed event." He adds that there’s a strong movement among Michigan legislators to tailor the programs to future land use.

However, the federal government’s costly and controversial “Superfund” hazardous-waste cleanup program launched in 1980 stands to place an even heavier burden on companies. Under Superfund, which comes under the EPA’s aegis, part of the cleanup costs are borne by the federal government. But unless special interest groups can lobby hard enough to change the law, the EPA will spend more time going after the responsible parties.

The catch is, Superfund liability currently is retroactive, so the EPA and the companies spend large sums and an inordinate amount of time reviewing old, often incomplete records, to figure out how to spread remediation costs.

The battle over who owes what for a Superfund landfill in Metamora, MI, is a prime example. Each of the Big Three automakers is named as a responsible party, but to equally spread the cost the auto companies found themselves naming the Girl Scouts and Boy Scouts of America, who own neighboring camps in the area.

Superfund currently lists about 1,200 “uncontrolled hazardous waste sites” and adds 50 to 100 new locations every year. The EPA says it has spent $7 billion since the program began in 1980, and potentially responsible parties have committed $6.5 billion. But only about 10% of the identified sites have been completely cleaned up, says the National Environmental Trust Fund (NETF), a coalition of businesses, governments and individuals seeking Superfund reform.

Completely cleaning up the spots currently listed on the National Priorities List could cost at least $150 billion, NETF says.

In addition to Superfund, several states have compiled their own lists of contaminated sites, which usually aren’t as dirty, with a Superfund tag. In Michigan, for example, the Michigan Environmental Response Act (Public Act 307) lists over 2,500 sites. For fiscal 1993, $64.4 million was appropriated for the program.

Another federal regulation, the Resource and Conservation Recovery Act (RCRA), tries to avoid costly future cleanups by getting facilities to manage their wastes in less polluting ways. That’s a great idea, but the way these sites are investigated is time-consuming and expensive, says a study by the General Accounting Office (GAO). RCRA procedures can even run counter to environmental principles, experts say. The estimated total for RCRA cleanups alone is a staggering $500 million, says the NETF.

Finding supporters for existing legislation, which most everyone concedes has become a horrendously expensive nightmare, is next to impossible.

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Big Three Urged to Join Forces

Top environmental attorneys from the Big Three should join forces and petition the Environmental Protection Agency (EPA) for a special review of the burdens Superfund — the federal hazardous waste cleanup program — puts on the auto industry, says James Tozzi of multinational Business Services, environmental consultants in Washington, DC.

He suggests a collective letter saying that studies show Superfund has minimum benefits compared to costs and that the auto industry is being hit with an inordinately large part of the bill.

"The EPA has the capability to solve the problem now," says Mr. Tozzi. "It just takes somebody to stand up and say 'This does not make sense.'" Congress expects to review Superfund legislation before year's end.

Peter R. Gilezan, Chrysler Corp.'s director of environmental and energy affairs, isn't sure this is the best plan; he says the law should be modified to take intended usage into consideration. "We spend much too much money and too great a percentage on transaction cost rather than actual remediation. Half of everything spent is sent to lawyers and consultants," he says.

An interim EPA risk-assessment study cataloging the sites could be ready in about six months, he claims. A full report would take about a year.

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Auto Industry's Home State Goes After Waste

Besides the federal Superfund hazardous waste program, several states have compiled lists of contaminated sites. In Michigan, the automotive industry's home state, the Michigan Environmental Response Act (Public Act 307) lists more than 2,500 sites (not including those defined as Leaking Underground Storage Tanks, or LUST).

The List of Sites of Environmental Contamination is designed to assist in developing recommendations to the Michigan Legislature for funding site evaluation, interim-response and final-response activities. For fiscal 1993, $64.4 million was appropriated. Although Superfund sites tend to be more hazardous than PA307 locales — all Michigan Superfund properties also are identified under 307 — a 307 site technically may qualify for Superfund even though it's not listed by the feds.

Legislative efforts in Michigan address broader lender liability exemptions and a better overall clarification of liability; standardization of site assessment requirements; expanded use of covenants-not-to-trode; and increased use of less demanding so-called Type C cleanups, as well as restraints on areas where contamination levels are low and reuse is high. The bills have strong support and are expected to pass later this year.

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July 1993
It's a Dirty Business, But It's Getting Cleaner

The process of building vehicles and components is swiftly getting cleaner, but because of its enormous size and complexity, automaking likely will remain potentially threatening to the environment.

Toxic heavy metals such as cadmium (used in paints), chrome (plating), lead (filling and soldering operations) can create problems in some circumstances. More importantly, experts say everyday chemicals stored in large quantities at auto plants such as gasoline (for filling new cars), oil (for new cars, press lubricants and machining) fuel oil (plant heating), hydraulic fluid (for cars and heavy plant equipment) and common acids (metal-treating operations) and cleaning solvents used in plant maintenance can cause even bigger soil contamination problems, mainly by leaking out of underground storage tanks.

The huge amounts of sand contaminated with sticky resin binders created by automotive foundries also cause long-term headaches. And even the most modern painting and metal stamping operations still will produce their share of problem materials, such as solvents, acids and oils used in plastic and metal cleaning and treatment operations.

Things are improving, though. New storage tanks now have double walls to prevent leaks, cadmium is being removed from paints, and chromium and lead are being eliminated from most vehicle assembly and component operations. Oils and numerous other compounds are being recycled. Most harmful cleaning solvents are being replaced with water-based cleaners, although there are complaints that — like many environmentally friendly products — they are more expensive and don't work as well.

—Drew Winter

also to anticipate what future rules might be. That includes eliminating as well as trying to identify materials that one day might be considered hazardous but aren't now. "We don't want to reintroduce something that may cause a problem later," emphasizes Chrysler's Mr. Gilezan.

For today, however, administering the cleanup of hazardous wastes remains a nightmare. "The 1970s was a decade when environmental decisions were made through pure emotion," says GM's Mr. Abdul. "In the 1980s they were made for political reasons. Our hope is that those decisions will be based on technical and scientific reasons in the 1990s."

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