



# FOCUS

## WASTE MINIMIZATION

### Industrial assessments tailored to suit

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### Celebrate Earth Day



## APRIL 22

# DPPEA: helping solve the environmental puzzle

“We’re from the government and we’re here to help” is often thought to be a contradictory phrase. However, for the North Carolina Division of Pollution Prevention and Environmental Assistance (NC DPPEA) this is a true statement.

DPPEA offers **non-regulatory, free** technical assistance to industry, business, and government agencies. DPPEA’s assistance frequently results in reduced waste generation, decreased environmental impacts, and improved environmental compliance. One key method for providing this assistance is on-site assessments of waste reduction opportunities.

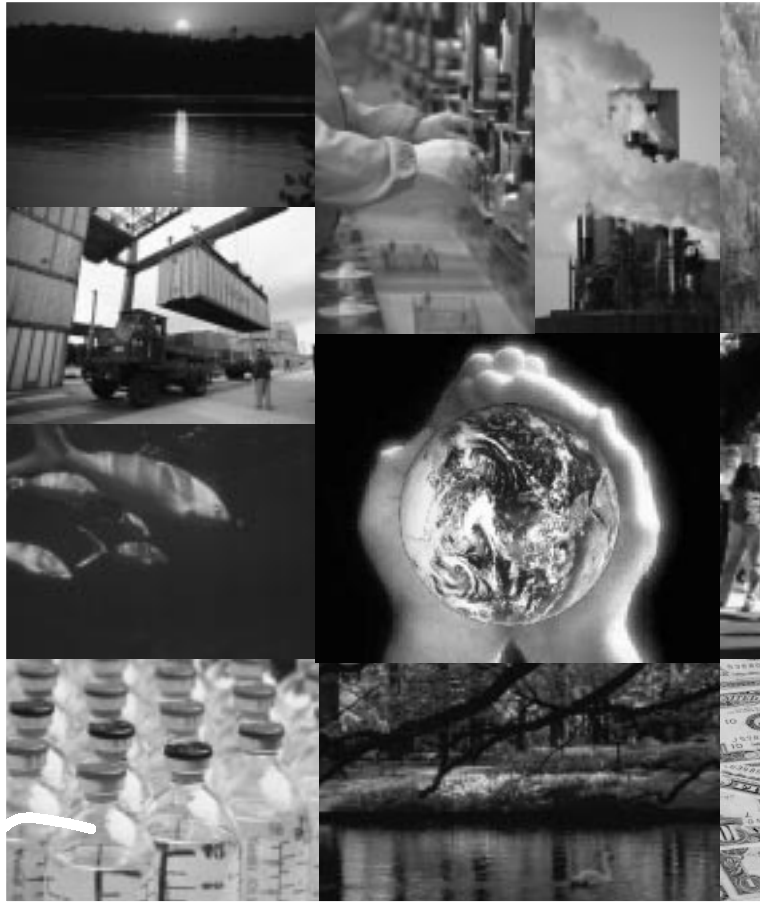
DPPEA’s experienced staff assesses current practices and researches techniques, technologies, and resources applicable to facility issues. With this information, DPPEA provides the facility with a customized report containing suggestions for improving process efficiency, initiating reuse or recycling of byproducts, and/or improving environmental compliance.

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# Solving the environmental puzzle

# DPPEA



## DPPEA, from page 1

In a typical year, DPPEA makes nearly 350 suggestions for environmental improvement to facilities participating in assessments. Usually more than half of these suggestions are implemented by the facilities. Reasons given for implementing these recommendations include improved product quality, low capital expenditure, relief from regulatory burden, improved public relations, short payback period, and reduced worker exposure.

“DPPEA provided a very professional and helpful toxicity reduction assessment,” said Jimmy Summers of Guilford Industries. “DPPEA was successful in identifying some potentially problematic constituents of selected incoming raw materials and discussing opportunities for reducing those constituents. This was a valuable service.”

DPPEA has a unique staff of engineers and waste analysts with manufacturing, regulatory, and consulting backgrounds. They bring added experience and knowledge from conducting more than 500 industrial on-site assessments during the past 11 years. The knowledge and experience of DPPEA staff enables them to make suggestions on possible material substitutions, process improvements, water and chemical conservation, inventory management, preventative maintenance, housekeeping, and reuse and recycling opportunities.

Depending on facility needs, assessments can include evaluations of any one or all waste streams (e.g., air emissions, hazardous/

Continue on next page.

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solid/organic wastes, and wastewater). The following section describes the different types of opportunity assessments conducted by DPPEA.

**Compliance Requests**

DPPEA is frequently contacted to assist facilities experiencing compliance problems. On-site compliance assistance typically involves educating the facility personnel about regulations with which they are having problems, identifying the source(s) of the compliance issues, and providing confidential recommendations on improving and maintaining compliance.

Waste reduction techniques frequently enable companies to reduce waste generation and achieve compliance with environmental regulations. Occasionally, facilities are able to reduce or eliminate a waste stream to the point where some permits or other regulatory requirements no longer apply. Many companies have commented on the ability of DPPEA staff to identify production issues that impact both compliance and efficiency and also provide recommendations on improving facility operations.

**Beyond Compliance Requests**

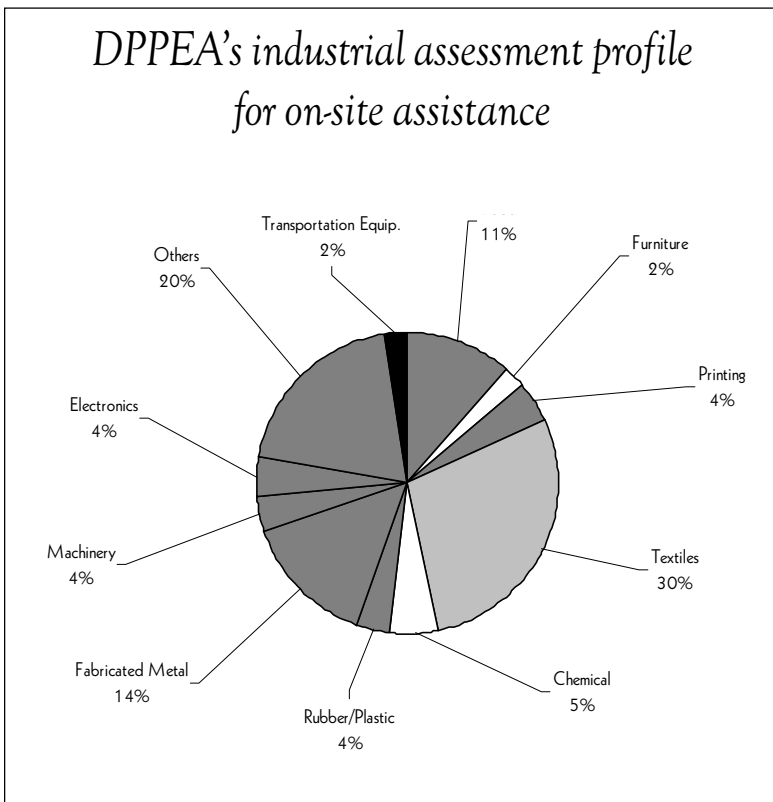
Facilities have many reasons to implement waste reduction techniques other than compliance problems. Saving money, improving public relations, and concern for the environment are a few reasons why many North Carolina facilities are becoming more proactive in environmental management.

DPPEA staff provides on-site technical assistance to help a facility evaluate current operations and look for opportunities to save money and go “beyond compliance.” DPPEA provides information on specific areas and assists facilities with developing an environmental management system (EMS), such as the ISO 14001 model. Assistance includes providing literature, helping with EMS design and implementation, and providing training. DPPEA maintains a Web site at <http://www.p2pays.org/iso/index.htm> with information on ISO 14001, DENR’s EMS pilot program, and other EMS-related topics. DPPEA also encourages participation in EPA’s voluntary environmental programs such as ClimateWise, WasteWise, and Green Lights.

**Feedstock Conversion Requests**

Feedstock conversion projects are typically not linked to regulatory issues such as rule changes and permit amendments, but are driven by materials diversion/reuse and cost avoidance associated

*DPPEA’s industrial assessment profile for on-site assistance*



with disposal. DPPEA’s assistance on feedstock conversion typically begins with a waste assessment to initially determine the types of materials generated requiring disposal.

This preliminary assessment focuses on specific materials and is not a multi-media evaluation of the entire facility operations. Because of a company’s economic evaluations, these projects may take longer to implement than those suggested from traditional waste assessments. Such evaluations may inhibit proceeding with feedstock conversion efforts if results do not dramatically impact a company’s bottom line. A full-scale feedstock conversion project may incorporate research and product development. In most cases, determinations about capital investments, materials changes, and equipment needs, including retrofitting, are evaluated prior to proceeding with such projects.

**Industrial Discards Requests**

Facilities interested in reducing solid waste generation, may consider an assessment based on DPPEA’s Industrial Discards Project (IDP). IDP offers opportunities to commercial and industrial generators to gain control of solid waste volumes and associated waste management costs. Participation in the project has allowed DPPEA

Continue on next page.

## DPPEA, from page 3

to partner with 11 North Carolina counties to potentially divert 15,000 tons of solid waste from state landfills.

For the IDP participant, DPPEA analyzes solid waste streams to determine technically and economically feasible source reduction strategies and to locate markets for identified wastes. A waste stream profile will be developed for each participant that includes solid waste identification, quantities generated, quantities reused/recycled/disposed, associated management costs, and source reduction options.

### WRATT – Experience in the Field

DPPEA is fortunate to have access to an experienced team of engineers who provide on-site waste reduction opportunity assessments in western North Carolina. The Waste Reduction and Technology Transfer Program (WRATT) in Asheville, N.C., offers waste reduction and energy efficiency assessments for North Carolina businesses and industries. Since 1991, the WRATT Program has performed more than 250 industrial assessments using a team of 37 assessors. WRATT is administered by the Land-of-Sky Regional Council and works in partnership with DPPEA.

In 1998, WRATT helped divert 1,300 tons of solid waste from

landfills and recommended annual savings of \$255,000 to clients. WRATT technical assistance efforts resulted in reducing more than 120 million gallons per year in water use and more than one million kilowatts annually in lighting energy consumption for Western North Carolina businesses.

### Training Requests

Follow-up to many assessments has resulted in facility training by DPPEA staff as a method to increase employee awareness and help reduce waste generation. Facility requests have ranged from basic pollution prevention instruction to detailed process-oriented evaluations. Training participants has included process line employees, waste reduction team members, sanitation crews, and upper management. Instructions and materials are designed to meet the facility's specific needs and to relay the message that waste generation affects company economic performance. Employee training following an assessment provides a comprehensive method to determine waste generation/compliance concerns, identify solutions, and reinforce employee education efforts.

*For further information about DPPEA industrial assessment services or to request assistance, contact Ron Pridgeon, environmental engineer, at (919) 715-6517. ▼*

# Celebrate Earth Day Every Day

**Earth Day:**  
**APRIL 22**



### **10 Earth Day Tips For Work:**

1. Carpool as often as possible.
2. Bring your lunch in a reusable/washable container.
3. Use e-mail instead of paper copies whenever possible.
4. Conserve energy by turning off lights, computers, and other appliances when out of the office.
5. Drink beverages from reusable, rewashable mugs.
6. Print double-sided whenever possible.
7. Buy and use products made from recycled materials.
8. Participate in the recycling program at work.
9. Keep track of the things you throw away at work each day. Think of ways to prevent waste in the future.
10. Lower thermostats in the winter or raise them in the summer by one or two degrees to save energy.

# WASTE REDUCTION HIGHLIGHTS

## Perfection Gear - Asheville, N.C.

A small capital investment and an on-site assessment by DPPEA is saving an Asheville manufacturer nearly \$10,000 annually in waste management costs. Significant reductions were also realized in permitting fees and monitoring costs.

Perfection Gear, a manufacturer of drives, gears, and other motor components, was generating 200 oily rags per week for its routine maintenance and cleaning. These rags were being laundered offsite at an annual cost of \$4,000. Additionally, the company discharged no process effluent, and as a result was shipping all mop water offsite at an annual cost of \$9,600.

Rather than obtain a pretreatment permit to discharge these waste streams and to reduce increasing waste management costs, Perfection Gear contacted DPPEA to conduct an on-site waste assessment. After the assessment, DPPEA developed a report specific

to the company's needs that outlined many potential options for addressing the company's environmental and economic concerns.

Using information provided in DPPEA's report, Perfection Gear installed a low-flow washing machine and leased a gray-water recycling system. The washing machine, installed for \$400, launders the oily rags onsite. The water recycling system, being leased for \$3,190 per year, removes oils from the laundry water for reuse as facility wash-down water. The water recycling system also treats the wash-down water.

Perfection Gear has learned that the effluent from the recycling system is excellent for floor cleaning because it still contains soaps from the laundering operation. The vendor leasing the water recycling system to Perfection Gear removes the collected oil for recycling. ▼

## Holt Manufacturing - Burlington, N.C.

Holt Manufacturing has eliminated many hazardous and toxic air pollutants from its line of business, thus going beyond compliance.

A Burlington graphics art producer and sportswear manufacturer, Holt Manufacturing converts designs and graphics onto mediums that are then transferred onto various types of fabrics. As part of an unrelated activity with another state agency, Holt became aware of the possible need for an air permit. DPPEA assisted the company by cooperatively reviewing the contents of their inks and dyes for hazardous and toxic air pollutants, developing a computerized system for calculating emissions, establishing a recording keeping system, and providing a computerized system to evaluate various alternatives. DPPEA also assisted Holt with evaluating its use of photochemical reactive substances.

Holt's manufacturing and quality control managers immediately addressed the photochemical reactive substance issue by identifying acceptable substitutes and completely eliminating use of these substances. Holt also replaced a large number of inks and dyes containing hazardous air pollutants with non-hazardous materials, reducing its hazardous air pollutant emissions by more than 85 percent.

Consequently, the company no longer was restricted by the photochemical reactive daily air emission limit, and the hazardous air pollutant (HAP) emissions dropped well below threshold levels for an air permit. Although the elimination of the need for a permit reduced its record-keeping requirements, they continue to use the computerized usage systems to closely monitor emissions, especially as the business continues to expand. ▼

visit DPPEA on the Internet at <http://www.p2pays.org>

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If you have comments, waste minimization case summaries, resource information, or questions for the next issue of the *FOCUS* newsletter, call Norma Murphy at (919) 715-6513, fax (919) 715-6794, e-mail [Norma\\_Murphy@p2pays.org](mailto:Norma_Murphy@p2pays.org), or write the North Carolina Division of Pollution Prevention and Environmental Assistance (DPPEA), P.O. Box 29569, Raleigh, NC 27626-9569.

State of North Carolina: James B. Hunt, Jr., Governor, Wayne McDewitt, DENR Secretary; Gary Hunt, DPPEA Director.



# Multimedia News Update

## *Air Quality News*

### **EMC adopts temporary animal odor control rules**

Under new rules adopted by the state Environmental Management Commission (EMC), North Carolina will begin enforcing one of the nation's first comprehensive programs for controlling odors from livestock operations. The odor control rules require management practices for animal operations using liquid waste-treatment systems, such as lagoons and sprayfields. Regulated facilities also must contain at least 250 hogs, 100 cattle, 75 horses, 1,000 sheep, or 30,000 chickens or turkeys. The rules do not apply to smaller facilities or those with dry litter operations. The rules, effective March 1, are considered temporary measures until the EMC adopts permanent regulations.

The odor rules are aimed at reducing objectionable odors beyond the boundaries of animal operations by phasing in increasing levels of control. As a first step, all animal operations that meet the size thresholds and use liquid waste-treatment systems must comply with a list of required management practices for controlling odors. For example, farm operators are not allowed to use sprayfields when winds could cause wastewater to drift offsite, except during emergencies when waste lagoons are in danger of spilling.

As a second level of control, DENR will require farms to prepare detailed best management plans for controlling odors at all new or modified animal operations and existing facilities that cause objectionable odors. These best management plans will contain a list

of low-cost actions for reducing odors. If objectionable odors persist, facilities will have to submit modified plans and eventually could be required to install odor-control equipment.

DENR inspectors will determine whether animal operations have objectionable odors based on a combination of factors, including personal observations, complaints from nearby residents, and health studies. Other factors to be considered include the nature, intensity, frequency, pervasiveness and duration of odors.

The 1997 session of the General Assembly called for the odor controls in response to increasing complaints about animal operations, largely due to the expansion of the hog industry in Eastern North Carolina. The number of hogs in the state has increased by four-fold since 1990. Odor problems also can be associated with other kinds of animal operations including chickens, turkeys, and cattle.

Citizens with complaints about animal odors should contact the Division of Air Quality (DAQ) at (919) 733-3340. DAQ will provide citizens with a brochure describing the new rules and logbooks for recording odor problems. "Inspectors will respond to animal odor complaints as quickly and fairly as possible," said DAQ Director Alan Klimek. "Our inspectors will be able to respond much more effectively if citizens help us by keeping daily logbooks that describe the odor problems." ▼

### **Air quality agreement signed to protect pristine areas**

On Dec. 22, 1998, DENR's Secretary Wayne McDevitt signed on behalf of Governor Jim Hunt an agreement aimed at ensuring that new industrial emissions do not degrade air quality in the Great Smoky Mountains and other pristine natural areas. The agreement, or memorandum of understanding (MOU), establishes formal procedures for reviewing permit applications for new or expanded utilities and other large industries. The procedures only apply to North Carolina facilities whose air emissions could be great enough to affect air quality in national parks and wilderness areas, generally less than a half a dozen permits annually.

"This agreement is an important step toward protecting air quality and visibility in North Carolina's most pristine natural areas, from the Great Smoky Mountains to the coast," said Secretary McDevitt.

"It also illustrates North Carolina's on-going commitment to improving air quality problems in the Southern Appalachian Mountains."

Under the new procedures, large new industries located near Class I Areas would be required to meet MOU guidelines, which may include conducting computer modeling to determine whether their emissions would affect air quality in national parks and wilderness areas. In return, industries would benefit from having a more consistent permit review process and predetermined deadlines for federal reviews. Federal land managers would benefit from receiving notifications about new facilities early in the permit application process but would have 60 days to respond, according to the new guidelines. Previously, there had been no deadline. ▼

## *Solid Waste News*

### Wooden pallets: supply and demand in North Carolina

North Carolina's pallet recycling infrastructure appears healthy and growing. A much higher diversion rate for pallets will be an important part of North Carolina's overall management of both waste and wood resources.

#### Supply

In 1997, nearly 433,665 tons of pallets were generated in North Carolina. This number is expected to increase to 474,863 tons in 2002. Nearly 151,661 tons of pallets were recovered in North Carolina in 1997, about a 35 percent recovery rate. Fortunately, North Carolina's growing pallet recycling infrastructure should allow the recovery number to expand over time.

#### Demand

Market demand for pallets follows a hierarchy of direct reuse, refurbishing (then reuse), and finally processing into other products (e.g., mulch, boiler fuel). These varying levels of potential market uses mean a high degree of flexibility in diverting pallets from disposal. The positive trajectory of overall market demand for recycled pallets through the early to mid 1990s is expected to continue.

A significant development in pallet recycling is the emergence of "third-party" management and "networks" of individual pallet recyclers. As third party management develops, greater overall recovery of wooden pallets will result. These developments signal a form of consolidation among pallet recyclers. The industry seems to be moving from many small family operations to larger companies and networks that reduce the independence of individual firms.

Wooden pallets recovered by pallet recycling companies that cannot be directly reused or repaired are usually processed for other uses such as mulching, composting, and boiler fuel. In contrast to high recovery rates of reusable wood indicated by private recyclers, landfills tend to consign discarded pallets directly to grinding operations. Reuse will continue to be the higher value market for pallets, but fuel and mulch markets will play an important role in disposal diversion for the foreseeable future.

For more information on pallet recycling or reduction, please call DPPEA at 919-715-6500. 


## *Hazardous Waste News*

### Rule increases recycling

In an effort to streamline hazardous waste management regulations governing collection and management of widely generated wastes (batteries, pesticides, and thermostats), EPA established the Universal Waste Rule (Federal Register Volume 60, No. 91). The major goal associated with the rule is to facilitate environmentally-sound collection and increase proper recycling or treatment of the wastes. Previous regulations were an impediment to collection and recycling programs. The rule eases regulatory burdens on generators of the universal wastes and reduces the quantities disposed into municipal solid waste landfills. EPA's final rule also includes pesticides (these include suspended or canceled wastes under FIFRA, the federal insecticide, fungicide, and rodenticide act and pesticides collected in a waste pesticide collection program).

Four management categories are in the universal waste program: small quantity handlers, large quantity handlers, transporters, and destination facilities. Small quantity handlers generate, collect, accumulate, but do not treat or dispose of less than 5,000 kilograms of universal wastes. EPA requires no notification, employees must be informed of handling and emergency procedures, and shipping records do not have to be maintained.

Large quantity handlers of universal waste generate, collect, accumulate, but do not treat or dispose more than 5,000 kilograms of these particular types of wastes. These generators must notify EPA, familiarize employees must be thoroughly familiar with proper handling and emergency procedures, and maintain shipping records for at least three years.

Transporters of universal wastes transport these types of wastes offsite. This includes companies transporting their own wastes to another plant with no quantity limits. Transporters are prohibited from diluting, treating, or disposing of waste; they may store waste 10 days at the transfer facility. Transporters must immediately contain all releases and can only take waste to another handler or destination facility. The destination facility is defined as a facility receiving, treating, recycling, or disposing of universal waste. These facilities are subject to hazardous waste regulations and can only send waste to another handler or destination facility. Shipping records must be maintained at the destination facility for at least three years from receipt of waste. For more information contact The North Carolina Hazardous Waste Section at (919)733-2178. 




## Water Quality News

### New measures established

The Division of Water Quality (DWQ) has launched several new enforcement initiatives that establish compliance criteria for wastewater collection systems, delegate some penalty assessment authority to regional offices, and urge creation of more environmental projects to settle portions of certain civil penalty cases. The measures are part of the division's new enforcement policy that is still under development.

These policy changes are intended to strengthen water quality protection by encouraging compliance and rewarding those who go above and beyond. Those who violate laws, however, will be seeing higher and more frequent penalties. Repeat and willful offenders will get the closest scrutiny.

DWQ's new policy is in response to calls from both Gov. James B. Hunt Jr. and Secretary Wayne McDevitt of the Department of Environment and Natural Resources for better compliance, tighter enforcement, and higher fines. For a complete description of the new enforcement initiatives go to [www.ehnr.state.nc.us/EHNR/newsrels/newwat.htm](http://www.ehnr.state.nc.us/EHNR/newsrels/newwat.htm).

These new initiatives undoubtedly will lead to a greater need for municipal industrial wastewater dischargers to identify and reduce problematic wastewater constituents. For industrial assistance in identifying sources of wastewater pollutants and providing low cost options for managing and reducing those sources, contact DPPEA at (919) 715-6500. 

## Calendar of Events

Event	Date	Location	Contact
Household Hazardous Waste Workshop	April 12	Asheville, N.C.	Carolina Recycling Association (919) 851-8444
Earth Week	April 19-23		
ISO 14001 EPA Broadcast by EPA's Air Pollution Training Institute COURSE # T015-99	May 18, 2-4 p.m.		Jean Taylor (919) 541-4946
Low-VOC Wood Coating Technology Fair	May 21	RTP, N.C.	Amy Marshall (919) 851-8181
Pollution Prevention in Metal Finishing Workshop	June 9	Greensboro	Greg Newman (919) 715-6515
ISO 14001 Lead Auditor Training	June 14-18	Asheville, N.C.	Western Carolina Ind. (282) 667-3311



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