July 1999 Vol. 8, No. 2

DPPEA FOCUS

WASTE MINIMIZATION

Water: a precious resource

North Carolina's water supply meeting many demands

Water is an essential resource that must meet increasing supply demands as North Carolina's population, industrial communities, and business sectors continue to grow at significant rates.

According to the University of North Carolina Water Resources Research Institute (WRRI), approximately four million North Carolinians rely on ground water for their water supply, and nearly 3.2 million depend on surface water. Excluding use by thermoelectric power plants, 1,333 million gallons per day (mgd) of surface water and 535 mgd of ground water are withdrawn to meet domestic, commercial, industrial, mining, irrigation, and livestock needs. Information in the 1992 Local Water Supply Plans indicated non-residential uses of water represented about 43 percent of the average daily demand of the systems submitting plans.

Areas of the state already are facing water supply challenges, especially in the coastal plain where ground water levels have dropped as a result of increased pumping, which potentially could limit the quantity available for future use. In other areas, numerous water supply systems are experiencing demands that are approaching the available supply. Some situations can be attributed to limited water resources while others are because of inadequate water treatment capacity to meet peak water

See **North Carolina,** page 5

Facilities can better manage water use

With increasing demands on the state's water supply systems, using less water is no longer an option but a management standard for maintaining and improving facility operations. The benefits of using less water to reduce supply and treatment costs is very evident, but for industries wishing to expand current operations, water conservation is the key to ensuring the availability of this natural resource. To gain an understanding of your facility's water usage and to make a difference, consider the following.

With increasing demands on the state's water supply systems, using less water is no longer an option, but a management standard for maintaining and improving facility operations.

Top Management Commitment

- Is water conservation included in the company's environmental policy statement?
- Have water reduction goals been established, tracked, and communicated to employees?
- Are incentives in place for employee participation and suggestions?

See **Facilities,** page 5

DENR divisions oversee most water quality related permits and regulations

The ever increasing complexity of water quality issues makes it more important to know which state agencies have the technical knowledge and responsibilities for protecting North Carolina's water resources. The N.C. Department of Environment and Natural Resources (DENR) is responsible for administering most water quality related permits and regulations, with different divisions overseeing specific areas. Below is a general reference of DENR divisions and other agencies with permits or regulations pertaining to water quality.

DENR welcomes any questions and encourages contact with any division or regional office nearest you. DENR's newly established **Customer Service Center** (toll free 1-877-623-6748) can provide assistance with permit needs and specific contacts.

DENR DIVISIONS	WATER QUALITY RELATED PERMITTING AND REGULATION	CONTACT INFORMATION
Division of Coastal Management	Enforces the Coastal Area Management Act (CAMA) for 20 coastal counties involving all major and minor projects/ construction including dredge and fill	(919) 733-2293 Web site: Dcm2.enr.state.nc.us/
Division of Environmental Health	Includes water issues such as public water supply systems, subsurface disposal of wastewater, and pest control (mosquitoes)	(919) 733-2870 Web site: www.deh.enr.state.nc.us/
Division of Forest Resources	Has laws on forest stream obstruction and has forest practice guidelines related to water quality protection	(919) 733-2162 Web site: www.dfr.state.nc.us/
Division of Land Resources	Involved with water quality issues through erosion and sedimentation control plans and permits for dam construction, modification, and repair	(919) 733-3833 Web site: www.enr.state.nc.us/ENR/DLR/scr0
Division of Parks and Recreation	Regulates activities and structures on State owned lakes	(919) 733-4181 Web site: Ils.unc.edu/parkproject/ncparks
Division of Waste Management	Involves water quality issues related to underground storage tanks, land fill placement, hazardous waste handling	(919) 733-4996 Web site wastenot.enr.state.nc.us/
Division of Water Quality	Permits cover water quality issues such as wetlands, wastewater, groundwater, laboratory certification, stormwater, liquid animal waste, wells, oil refining, and water shed protection	(919) 733-7015 Web site: h2o.enr.state.nc.us/
Division of Water Resources	Addresses larger water quality issues such as stream flow modification, large water withdrawals, transfer of waters between river basins, and approving municipal 20-year water supply plans	(919) 733-4064 Web site: www.dwr.ehnr.state.nc.us/home
N.C. Department of Administration, State Property Office	Covers easements for bridges, cable, and pipe crossings over/under navigable waters	(919) 733-4346
U.S. Army Corps of Engineers	Administers general and individual permits covering the altering or destruction wetlands and surface water bodies in North Carolina	(910) 251-4511

Waste Reduction Highlights

Industries in North Carolina may be faced with reduced water supplies in the near future. Additionally, ongoing nutrient problems in many river basins may result in lower discharge limits for municipal National Pollutant Discharge Elimination Systems (NPDES) permit holders. Although a majority of nutrient waste comes from non-point sources, the State is reducing nutrient discharge limits for selected NPDES permit holders. As a result, significant industrial users operating within municipalities with nutrient limits may face reduced pretreatment permit levels. To adequately address the potential of decreased water supplies and nutrient permit limits, users may be forced to consider additional treatment technologies and/or source reduction techniques. The following case studies present pollution prevention projects from two industrial operations that resulted in reduced water usage and nutrient discharges.

Ajinomoto

Nutrient Waste Stream Diversion - Ajinomoto Inc.'s Raleigh facility produces amino acids for intravenous medical applications. The production process involves fermentation of raw materials including water, glucose, ammonia, and growth nutrients. The amino acid mixture is sent through a cell separation process where microorganisms are removed. Approximately 4,000 gallons of the nutrient waste were discharged daily into the city sewer system. Faced with $50,000 in annual surcharges; periodic total suspended solids (TSS), biological oxygen demand (BOD), and ammonia permit violations; tightening nutrient limits; and significant increases in production, Ajinomoto investigated several methods to divert this material from the sewer system.

Waste Reduction Activities - The company installed an ultrafiltration unit that increased the solids content to a "marketable" 16 to 18 percent. Working with North Carolina State University (NCSU) and the Department of Horticulture, Ajinimoto investigated the material's suitability for use in composting, fertilizers, cement additives, and aquaculture. With the high nutrient level, the solids material is currently being sold to Granco, where it is used as an animal feed additive.

Economic Benefits - Since the material has been diverted to animal feed usage, the company has incurred no city surcharges and has also achieved 100 percent compliance with all pretreatment permit limits. Diversion of the nutrient-rich waste stream has had immediate environmental benefits and Ajinomoto estimates a financial return on its investment in less than five years. For more information about this waste reduction highlight, contact Gary Faw, Ajinomoto's utilities manager, at (919) 231-0100.

Hankison International

Wastewater Discharge Avoidance - Hankison International's Newport plant manufactures filter products and refrigerated air dryers for the compressed air industry. In 1995, the company installed a five-stage cleaning line and a powder coating system. Pre-installation planning indicated the cleaning line would consume 740 gallons of water per day; however, no public sewer was available and the high cost of off-site wastewater disposal was prohibitive. These factors limited the wastewater management options and led the company to implement water conservation strategies and an innovative evaporation system. These projects were partially funded by a grant from DPPEA.

Water Conservation Strategies - A countercurrent rinse configuration was adopted between the two rinse tanks on the cleaning line. Countercurrent rinsing significantly reduced expected water consumption. A float valve triggering the introduction of the rinse water to the preceding solution tank was also incorporated into the system. To further extend rinse water life, an ultrafiltration system was installed on the first rinse stage to remove contaminants and enable continued reuse.

Wastewater Handling - The company elected to use the powder coating system oven's waste heat to evaporate excess water from the final rinse stage. Hankison modified the oven's duct work to include a chamber where overflowing rinse water is sprayed into a 300 F waste heat stream for evaporation.

Economic Benefits - The evaporation system enables the facility to harness 3,000,000 BTUs per hour of waste heat used to evaporate 280 gallons of wastewater per shift, or about 500 gallons daily. Total capital costs for all projects amounted to $40,500, and total cost savings were $277,550. Thus the payback period on the investment was less than two months. Additionally, 467,000 gallons of water are conserved annually.

Contact Randy Donley at (252) 726-1011, ext. 24, for information about this wastewater discharge avoidance highlight.

Correction: In the April issue of *FOCUS: Waste Minimization,* Perfection Gear in Asheville was featured in this section as leasing water recycling units to facilitate the reuse of facility washdown water. The company instead is installing evaporation units to manage the wash water.

Exemplary municipal water programs

Asheville

Drought Management Plan - In 1998, many locations in North Carolina experienced severe water shortages and were officially declared in drought situations. To address the lack of water for industrial and residential users, many municipalities instituted drought restriction measures. With below average rainfall and water supply reservoirs at their lowest levels in recorded history, the Regional Water Authority of Asheville, Buncombe, and Henderson (RWA) Counties implemented an aggressive water use reduction program. RWA's drought management plan consisted of an integrated four-phase approach that included voluntary and mandatory restrictions on water uses (such as landscape watering and vehicle washing); increased public awareness and involvement; and surcharges. The Authority enhanced its own leak repair and maintenance programs and a plan was developed for all City and County departments and the area sewerage district to participate in efficiency measures. Excess water use surcharges were also instituted for residential and commercial customers.

Drought Response Team - One component of the RWA drought response was direct technical assistance to the industrial and commercial customers. Under a RWA contract, the Land of Sky Council's Waste Reduction and Technology Transfer (WRATT) program partnered with DPPEA to form a Drought Response Team. The team provided technical water efficiency audits to help meet the area's short and long-term water conservation goals. As part of the audits, users were provided with water efficiency manuals, resource guides, awareness posters, and water restriction information. The RWA awarded Water Efficiency Certifications to businesses that had enacted water-saving measures. The certifications exempted qualified users from the water surcharges. Reports from the RWA demonstrate that commercial, institutional, and industrials sectors had reduced water use by 25% and residential consumption was down by 14% during the critical months of the drought. While the drought restrictions can be unpopular, water customers responded to a message positively and reduced consumption demands on the system. Through a well-managed stepwise approach, good communications, customer education and awareness, and teamwork, the drought crisis was addressed. For more information on Asheville's drought policy, contact Rebecca Guggenheim with Asheville Water Resources at (828) 259-5955.

Cary

Water Reclamation Program - Increasing residential population and demands on local water supplies is causing the Town of Cary to incorporate a two million gallons per day (mgd) reclaimed water system into its total water management plan. This project will serve to ease the demands on the Cary Wastewater Treatment Plant (WWTP) and Jordan Lake, provide high-quality reclaimed water to its customers for non-potable uses, and mitigate impacts on the Neuse River due to WWTP discharges.

Cary's reclaimed water system will dedicate a high percentage of water for irrigation, which is seasonal in nature; therefore, the reclaimed water demand will be highest when the available supply is lowest (during the summer). The Town is presently negotiating with MCI and Weston Parkway Property Owners Association, the first two customers on the system. Other potential customers for the reclaimed water include large water users such as golf courses and commercial customers using potable water for irrigation and other uses such as cooling water. Ultimately, residential customers with separate irrigation systems will be incorporated into the reclaimed water system. Capital cost estimates total $8.1 million. Customers currently pay $4.40 per 1,000 gallons for treated water used for irrigation. The cost of the reclaimed water will be $2.50 - $2.80 per 1,000 gallons.

Water Conservation Program - To manage water usage in the Town of Cary, a water conservation and demand management program was begun in 1996. The program includes a combination of educational, financial, and regulatory initiatives to encourage water conservation practices. To decrease the average annual per capita usage of potable water, goals were established to support the high quality of life in Cary by providing safe, reliable water service while reducing per capita use of water; conserve a limited natural resource; and reduce costs of infrastructure expansion.

These goals will be implemented through additional ordinances, policies, and procedures that address the features and details of each facet of the program. For more information about Cary's Water Conservation Program, contact Jennifer Platt, water conservation specialist, at (919) 462-3872.

North Carolina, *from page 1*

needs. In some areas of the state, ground water from aquifers is being withdrawn at a rate that exceeds the available recharge capacity. For users in the central coastal plain, rules are being proposed that would require a permit for entities withdrawing more than 100,000 gallons of water per day.

The solution to North Carolina's water supply problems requires careful management by its users. Water management by both public and private sectors is crucial for meeting current and future demands. Public water conservation programs must address leaks, unaccounted for water use, drought planning, water efficiency awareness, and serve as role models for water use efficiency in public facilities. The private sector also should implement water conservation programs. Industrial and commercial facilities save money and improve environmental protection by using water more efficiently.

Many plant managers may initiate water-saving measures as actions necessary only in droughts, but many other important reasons exist to use water efficiently. These driving factors include preserving quality water supplies (surface and ground water); cost savings in water, sewer, chemical treatment, and energy; production expansion without increased water use; and delaying the need for new water supplies.

Pollution prevention is recognized as the most effective approach for ensuring a reliable, long- term, and safe supply of water at a reasonable cost to consumers. This edition of *FOCUS* provides guidance with examples on sound water-saving practices the public and private sectors can use to support the state's water management efforts.

Facilities, *from page 1*

Front Line Employees

- Are employees aware of water conservation importance?
- Are employees involved in using less water in facility operations (shipping, receiving, processing, and sanitation)?
- Do employees have the proper tools and training to conduct operations in an efficient manner?

Water Use Survey

- What is the actual breakdown of how much water is used in areas such as cooling and heating, domestic use, in-process activities, cleaning/sanitation activities, kitchens, laundries, landscaping, water treatment regeneration, evaporation, leaks, and others?
- Have costs been determined for water purchasing, wastewater treatment (chemicals, labor, and equipment), sewer/discharge, and heat and mechanical energy losses?
- Have inspections been made for leaks and unnecessary water usage?

Water Reduction Opportunities

- Domestic: Fix leaks. Replace toilets with low-flush units and install faucet aerators and low-flow shower heads.
- Heating/Cooling: Eliminate once-through cooling water used in air conditioners, air compressors, vacuum pumps, and ice machines.
  - Optimize blow-down/bleed-off control on boilers and cooling towers.
  - Reuse condensate.
- Process Rinsing and Cleaning: Improve rinsing by using counter current systems, sequential use from high quality to lower quality needs, conductivity flow controls, improved spray nozzles/pressure rinsing for rinsing.
  - Cut off water when not in use.
  - Extend the life of aqueous baths by filtration and proper maintenance controls.
  - Use "dry clean-up" practices, such as first-pass precleaning with squeegees, brushes, or brooms instead of hosing down.
- On-Site Water Reuse: Match water quantity with the necessary water quality.
  - Examine reuse applications for process water, landscape irrigation, flush water, and cooling towers.
- Landscaping: Install low-flow sprinklers or trickle/drip irrigation. Optimize watering schedules and water placement, preventive maintenance, and xeriscaping techniques.

Water Reduction Action Plan

- Conduct a cost analysis on water reduction opportunities.
- Develop an implementation schedule.

Tracking and Communicating Results

- Post-monthly water usage rates for employees and management to see.
- Recognize water reduction achievements.

For more in-depth information on how your facility can make a difference to reduce the amounts of water used in process operations, call DPPEA at 1-800-763-0136 or visit the Web site at www.p2pays.org.

Recognizing waste reduction excellence

Nominations are being accepted for the 2000 Governor's Awards for Excellence in Waste Reduction. North Carolina's businesses, industries, and state and local government agencies demonstrating outstanding commitment to protecting the state's environment with innovative waste reduction practices are encouraged to apply. These practices include waste elimination, source reduction, material reuse, recycling, and other waste reduction strategies that address all pollutants including air emissions, wastewater, hazardous waste, and commercial/industrial solid waste. Nominations have been expanded to include local governments. Application deadline is October 15, 1999. For an application, contact Barbara Satler (919) 715-6519, or apply online at www.p2pays.org.

Recognition for Outstanding and Significant Achievement in waste reduction will be awarded to large, medium, and small businesses; state agencies; federal facilities; and local governments. Awards will be presented in April 2000 at a special ceremony.

A panel of judges, chosen by DPPEA, will review applications, select finalists, and recommend winners. The panel represents industry, the environmental community, and government entities.

Recent regulatory compliance history of the company as determined by appropriate regulatory agencies will be taken into consideration for all semi-finalists. A summary of last year's winners follows.

1997 Award Winners

Outstanding

Alcatel Telecommunications Cable, Claremont, Large Business - Alcatel Telecommunications Cable installed an ultra-violet light activated system that replaced methyl ethyl ketone for color-coding individual optical fibers resulting in a 16-ton per year reduction in air emissions. Alcatel also installed a state-of-the-art chlorine and germanium recovery and recycling system, eliminating 90 percent of its release of these chemicals into North Carolina's receiving streams.

Darryl J. Dieffes, DDS, Whiteville, Small Business - Dr. Darryl Diefes installed a recovery system that reduced mercury levels from an average of 0.00214 parts per million (ppm) to a low average of 0.0004 ppm.

Seymour Johnson Air Force Base (AFB), Goldsboro, Federal Government - Seymour Johnson's comprehensive waste reduction program includes installation of an industrial centrifuge to recover fuels from absorbents, a "Green Building" program requiring use of recycled construction materials, and landfill diversion of 11,300 fluorescent lights.

N.C. Army National Guard, Statewide, State Government - The N.C. Army National Guard operates more than 130 different facilities statewide and makes pollution prevention a "way of life." A 50-percent reduction goal of release and use of toxic chemicals for 1999 was established, but was actually achieved in 1997.

Significant

Moen Inc. Sanford and New Bern, Large Business - Moen Inc. replaced a wet process in its Bright Dip Line with a dry vapor process to plate products. This resulted in a 54-percent reduction in water use and wastewater and a 90-percent reduction in hazardous waste per year.

The Timken Company, Lincolnton Bearing Plant (LBP), Lincolnton, Large Business - LBP manufactures tapered roller bearings for heavy-duty applications in truck, farm, and earth moving equipment. The plant has saved more than $305,000 per year by implementing waste, energy, and water reduction projects.

Wyeth-Ayerst Laboratories, Sanford, Small Business - Wyeth-Ayerst Laboratories renovated its wastewater pretreatment system to reduce use of hazardous chemicals. It also cut its utility costs by installing highly energy efficient light fixtures that contain no hazardous waste and lowered operating costs by 30 percent, and annual savings, costs avoided, and revenues have exceeded $20,000.

Naval Aviation Depot, Cherry Point, Federal Government - The Naval Aviation Depot reduced hazardous waste cost by 71 percent. Solid waste recycling efforts resulted in revenues and disposal cost avoidance of more than $1,000,000.

N.C. Department of Transportation (NCDOT), Statewide, State Government - Through system changes and operations automation, waste reduction activities saved nearly $500,000 in 1997.

Test your water IQ

Often we shuffle through daily routines without thinking about how our activities affect the quality and quantity of water available to us. Tremendous amounts of water are wasted because little thought is given about where water comes from and where it goes after it is used. Water makes up 71 percent of Earth's surface, yet less than one percent of it is available for human consumption. And, there is no "new" water on Earth. The following water facts and figures demonstrate that even the most basic activities of our daily lives can make a significant impact on our water resources.

Did you know that . . .

- About 1,400 gallons of water are used to process a meal of a one-quarter pound hamburger, french fries, and a soft drink.
- More than 200 million pounds of contaminants are dumped into water resources every year.
- Every day in the United States, we drink about 110 million gallons of water are consumed. Water suppliers take nearly 45 minutes to produce one glass of drinking water.
- Showering and bathing is one of the largest users (27 percent) of water domestically. The average American uses 140 to 160 gallons of water per day.
- One newspaper a day means the use of 66,000 gallons of water a year.
- Turning off the faucet while brushing your teeth can save as much as five gallons of water every day.
- A leaky faucet can waste 100 gallons a day.
- Strive not to drive! Six gallons of water are needed to produce one gallon of gasoline.
- Nearly 75 percent of the brain is water. Think about it, and use your brain to absorb more facts and tips on using water wisely!

These water facts as well as other water trivia are available from the Town of Cary's Water Conservation Program Department at http://www.getwise.org.

DPPEA's new water conservation literature now available

Reasons for Water Efficiency Efforts
Sound Principles of Water Management
Conducting a Successful Water Efficiency Program
Water Management Options
- *Sanitary/DomesticUses*
- *Cooling and Heating*
- *Landscaping*
- *Kitchen and Food Preparation*
- *Cleaning, Rinsing, and In-process Reuse*

Industry Specific Processes
- *Textile*
- *Food*
- *Metal Finishing*

Auditing Methodology and Tools
Resources
Water Survey Data Sheet
Water Efficiency Self-Assessment Checklist

To order copies

Electronic copies available at
http://www.p2pays.org/ref/01/00692.pdf

For hard copies, contact Norma Murphy at
919.715.6513 or
norma_murphy@p2pays.org

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

FOCUS: Waste Minimization is published by the divisions of Pollution Prevention and Environmental Assistance, Waste Management, Air Quality, and Water Quality of the North Carolina Department of Environment and Natural Resources (DENR). It is intended to provide North Carolina industries and other interested parties with current information concerning proper waste management and waste reduction. The information contained in this publication is believed to be accurate and reliable. However, the application of this information is at the reader's own risk. Mention of products and services in the publication does not constitute an endorsement by the State of North Carolina. The information contained in this publication may be cited freely.

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*, 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 McDevitt, DENR Secretary; Gary Hunt, DPPEA Director.

NCDENR

DPPEA

Multimedia News Update

Air Quality News

Court grants North Carolina request for delay on air rules

A federal court has granted a multi-state request to delay the U.S. Environmental Protection Agency's (EPA) order for states to adopt new rules for controlling smog-forming pollution by September 1999. The stay postpones EPA's mandate for North Carolina to revise its State Implementation Plan (SIP) and to adopt new rules for controlling nitrogen oxides (NOx). EPA had ordered North Carolina and 21 other states to revise their SIP plans and adopt new rules by September 1999. EPA based its mandate on the contention that NOx emissions, a major cause of ozone smog, from North Carolina were contributing to ozone problems in the Northeastern United States.

North Carolina opposes the EPA order, or "SIP Call," because it would require mandatory reductions in NOx emissions at all utilities and a number of industries before the state has had time to conduct studies on the best way to reduce ozone levels. The state believes the federal Clean Air Act gives it, not EPA, the authority to devise a plan to achieve air quality goals.

The EPA order also fails to address motor vehicle emissions, the major source of ozone-forming pollution in North Carolina's urban areas. North Carolina remains committed to meeting the new stricter federal standards for ozone smog and dust. A recent court ruling overturned the new standards. On May 14, the U.S. Court of Appeals issued a ruling that blocks EPA from enforcing new standards it adopted in 1997 for ozone and fine particulates. EPA will appeal the ruling, but the outcome of the case is uncertain.

Regardless of the outcome, the ruling does not prevent North Carolina from enforcing the new ozone and fine particulate standards adopted by the state Environmental Management Commission in April. Governor Jim Hunt also intends to move forward with his Clean Air Plan to start bringing North Carolina into compliance with the new ozone standard. To meet the new ozone standard and improve air quality in the state, Governor Hunt has proposed an aggressive ozone-reduction strategy that includes:

- Expanding the mobile emissions testing program to more counties, and testing for nitrogen oxides.
- Requiring use of low-sulfur gasoline.
- Increased funding for mass transit and rail.
- Expansion of the state's Air Awareness Program.
- Developing a market-based program to encourage voluntary NOx reductions.

For more information, contact DAQ at (919) 715-7408.

Facilities may need to submit Risk Management Plans

Manufacturers and other facilities that deal with toxic and hazardous chemicals may need to submit risk management plans for preventing and responding to chemical accidental releases, under a new federal program that took effect June 1999. The program, required under section 112(r) of the Clean Air Act, applies to facilities that use, produce or store more than threshold quantities of certain toxic or hazardous chemicals. The regulated chemicals include 77 acutely toxic substances and 63 flammable gases and volatile liquids, with threshold levels ranging from 500 to 20,000 pounds.

To find out if a facility must comply, companies should contact the Division of Air Quality (DAQ) at (919) 715-3467 or visit DAQ's Web site at *http://daq.state.nc.us/112r/*. Facilities subject to the rule were supposed to submit risk management plans by June 21. These plans are supposed to include a hazard assessment; a five-year history of accidents at the facility; predictions of areas that could be affected by worst-case accidental releases; and descriptions of programs for preventing accidents and responding to emergencies. Companies that missed the June 21, 1999 deadline are encouraged to contact DAQ.

Many of the chemicals covered under the rule are commonly used substances in industry. Some examples, with the threshold levels for complying with the rule, include:

- Anhydrous ammonia, 10,000 pounds or 1,560 gallons
- Chlorine, 2,500 pounds or 193 gallons
- Formaldehyde, 15,000 pounds
- Butane, 10,000 pounds
- Hydrogen, 10,000 pounds
- Methane, 10,000 pounds

Solid Waste News

Industrial waste management guide available

Annually, industrial facilities generate and manage 7.6 billion tons of nonhazardous industrial waste in surface impoundments, landfills, waste piles, and land application units. This waste usually is not classified as either municipal waste or hazardous waste by federal or state laws.

Although state, tribal, and some local governments have regulatory responsibility for ensuring proper management of industrial waste, their regulatory programs vary widely. For this reason, the Environmental Protection Agency collaborated with states, industry, and environmental groups to provide voluntary guidance that defines a baseline of management practices that protect human health and the environment.

The draft Guide for Industrial Waste Management is designed to complement existing regulatory programs and to assist decision-makers with an effective and user-friendly guide for managing nonhazardous industrial waste. It is available for public comment.

The Guide helps decision-makers to:

- Understand and comply with all existing federal, state, tribal, and local regulations, permits, and operating agreements that apply to a facility.
- Characterize waste constituents and concentrations, with special attention to ground water and air risks.
- Minimize waste disposal, reduce disposal costs, and conserve raw materials.
- Establish partnerships among the public, regulatory agencies, and facility managers.
- Tailor management practices to the wastes and the environmental setting of the unit.

The draft Guide is available for public comment. EPA encourages all interested parties to submit comments. For more information, or to order a copy of the Guide, call the RCRA Hotline at 1-800-424-9346.

Hazardous Waste News

Proposed rule promotes metals recovery

EPA's Common Sense Initiative (CSI) encourages recovery of metals from hazardous waste treatment sludge (i.e., RCRA listed hazardous waste, F006), generated from industrial electroplating processes. EPA is proposing to allow F006 waste generators up to 180 days (or 270 days if applicable) for on-site accumulation without a hazardous waste storage permit or interim status provided the generators meet certain conditions.

Generators currently may accumulate the F006 waste no more than 90 days. To accumulate F006 waste up to 180 days (or 270 days if applicable) generators must have implemented pollution prevention practices that reduce the volume or toxicity of the F006 waste or make it more amenable for metals recovery; recycle F006 waste by metals recovery; accumulate no more than 16,000 kilograms of F006 waste onsite at any one time; and comply with all applicable management standards. The proposed rule also allows generators to accumulate F006 waste up to 270 days without a hazardous waste storage permit or interim status if F006 waste is shipped offsite to a metals recovery facility located more than 200 miles away. The generator may also request additional accumulation time or accumulation of the F006 waste in excess of 16,000 kilograms in the event of unforeseen, temporary, and uncontrollable circumstances. The longer accumulation time will result in generators sending larger shipments of F006 waste for metals recovery less often, thereby reducing transportation costs of the F006 waste recycling.

For more information on the proposed rule, a fact sheet and other related documents are available electronically at http://epa.gov/oswer/hazwaste/gner/f006acum.htm, or call the RCRA/Superfund Hotline at 1-800-424-9346.

efficiency vs. conservation "Water efficiency" means using improved technologies and methods that provide the same or better service with less water. For example, using low-volume high pressure nozzles for sanitation operations that use water hoses. "Water conservation" is typically associated with curtailment of water use and is the first step of action during water shortages or drought situations. For example, minimizing lawn watering or automobile washing can conserve water. Water conservation also includes "demand management" to better manage how and when water is used. With similar meanings to simply use less water, the term "water efficiency" is used synonymously with "water conservation."

Calendar of Events

Event	Date	Location	Contact
EMS Models & Strategies: Gaining Competitive Advantage Through EMSs	Aug. 24	Charlotte Adams Mark Hotel	Beth Graves (919) 715-6506
ISO 14001 Overview		NCSU Campus Raleigh	Linda Taylor (919) 515-5958
WEA/AWWA Industrial Wastewater Seminar	Sept. 6	Greensboro	Cindy Finan (919) 387-0646
Pollution Prevention Week	Sept. 20 - 24	Universal	DPPEA (919) 715-6500
Water Efficiency Conference	Call for date	Eastern North Carolina	Rusty Harris-Biship (919) 733-4398
North Carolina Quality Conference	Oct. 11-12	Greensboro	Gertha Heggie (919) 515-2261
AWWA/WEA Pretreatment Workshop	Sept. 26-28	Atlantic Beach	Cindy Finan (919) 387-0646

CHECK OUT THESE WATER EFFICIENCY INTERNET SITES

world wide web

Division of Pollution Prevention and Environmental Assistance
http://www.p2pays.org

North Carolina Division of Water Resources
http://www.dwr.ehnr.state.nc.us/home.htm

North Carolina Division of Water Quality
http://h2o.ehnr.state.nc.us/

Waterwiser – Water Efficiency Resources
http://www.waterwiser.org

Office of Water and Wastewater Management
http://www.epa.gov/owm/genwave.htm

VendInfo – Pollution Prevention Vendors
http://es.epa.gov/vendors

Water Librarian's Home Page
http://www.wco.com/~rteeter/waterlib.html

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DPPEA
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FOCUS: WASTE MINIMIZATION
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES — DIVISION OF POLLUTION PREVENTION AND ENVIRONMENTAL ASSISTANCE
1639 MAIL SERVICE CENTER
RALEIGH, NC 27699-1639

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