

# Florida Specifier

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May 9-10, 2013  
Ft. Lauderdale  
See Page 6 for details

Practical Information For Environmental Professionals

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## Walk the waterbody

5

Harmful bacteria impair the use of many Florida waterbodies for recreation, shellfish harvesting or as sources of drinking water. One of the best ways to identify where the bacteria are coming from is to simply walk the waterbody, as DEP's Anita Nash explains.

## Time to reconvene CSF

8

Over a decade ago, the state of Florida used the Contaminated Soils Forum to bring risk-based corrective action into their environmental rules. HSA Engineers & Scientists' Richard Lewis thinks it's time to reconvene the forum.

## Pinellas stormwater

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Pinellas County officials will sit down at a May workshop and set the county on a course to solving its growing stormwater management problem. But the county's stormwater issues have been in the making for decades and will not be resolved overnight.

## TECO reclaim

13

Tampa Electric Company will soon begin construction on a reclaimed water transmission pipeline that will transfer wastewater from the city of Lakeland's effluent wetland treatment system to TECO's Polk Power Station. Five years in the making, the project facilitates South Florida Water Management District's objective of utilizing alternative water sources to offset potable water use.

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## Got a story lead?

Got an idea for a story? Like to submit a column for consideration? Fire away. And don't forget to fill us in on your organization's new people and programs, projects and technologies—anything of interest to environmental professionals in the state. Send to P.O. Box 2175, Goldenrod, FL 32733. Call us at (407) 671-7777; fax us at (407) 671-7757, or email [mreast@enviro-net.com](mailto:mreast@enviro-net.com).

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## Crystal River plant shutdown expected to take years

By DAN MILLOTT

When Duke Energy, the parent company of Progress Energy Florida, recently announced that they were shutting down the Crystal River nuclear plant, there was much hand wringing over the possible economic impacts in Citrus County.

But decommissioning a nuclear plant is not a simple matter. As PEF spokesman Sterling Ivey put it, "you just don't shut the door and send everybody home."

The Crystal River nuclear plant was the only operated by Progress Energy Florida, the state's second largest utility. The plant went into service in 1977.

Crystal River is the site of five power units—the nuclear plant and four coal-fired units. The decision to close CR3—the nuclear plant—and the aging condition of two of the four coal-fired plants, means PEF and Duke Energy will be looking for more generating capacity.

The nuclear plant has been off line since October, 2009, so all of the utility's power production at Crystal River has been confined to the four coal-fired units.

Ivey said that two of the coal-fired units are about 40 years old and are licensed until 2015, so that's where PEF's future plans become clearer. Duke Energy and their Florida subsidiary envision the possible construction of a 12-megawatt natural gas plant at Crystal River.

For Citrus County, the CR3 plant is a major economic engine with 600 full-time employees working there.

Heather Danenhowe, the on-site spokesperson for Duke Energy/PEF at Crystal River, said the 2009 shutdown

**CRYSTAL**  
Continued on Page 13

## Feds, Beazer East finally reach agreement on Koppers Superfund site cleanup plans

By PRAKASH GANDHI

The long-running effort to clean up contamination at the Koppers Superfund site in Gainesville may be taking a major step forward. An agreement has been filed in federal court between the federal government and Beazer East Inc., one of the parties legally responsible for the cleanup.

The agreement addresses the cleanup of the former wood treatment plant. The estimated \$90-million project includes cleanup of off-site soil to the state's stringent standards for dioxin.

Most of the off-site work will focus on residential properties in the area of the Stephen Foster neighborhood west of Koppers to Northwest 6th Street and north to NW 32nd Avenue.

The U.S. Department of Justice placed a notice in the Federal Register to give the public a chance to review the consent decree. The notice started a 30-day public comment period that was



Photo courtesy of SFWMD

The South Florida Water Management District is installing remotely controlled robotic rakes on two upgraded control structures at the north and south sides of Lake Okeechobee. They are much like this rake at the S-5A structure in Palm Beach, except they will be operated remotely, even during hurricanes, from a central control facility in Palm Beach County. See story on Page 14.

scheduled to end in March.

When the comment period ends, the U.S. Environmental Protection Agency and U.S. Department of Justice will review the comments and prepare a response. Once a consent decree is entered, the remediation work can begin.

The Cabot-Koppers property in Alachua County was placed on the federal

Superfund priority list three decades ago.

About two years ago, the EPA issued the final record of decision detailing the cleanup requirements. Beazer East signed off on the document in October.

**KOPPERS**  
Continued on Page 9

## Brown resigns as chief of petroleum program at DEP

Staff report

On March 21, Robert Brown resigned as chief of the Bureau of Petroleum Storage Systems within the Division of Waste Management at the Florida Department of Environmental Protection in Tallahassee.

Valerie Huegel, program administrator with the department's Northwest District office in Pensacola was appointed as acting chief for the bureau.

Huegel was previously responsible for budgeting, human resources and information technology at the DEP's Northwest District office and is a rear admiral in the U.S. Navy Reserve, serving as deputy commander, Navy Supply Systems Command Global Logistics Support.

She has more than 25 years experience related to conflict resolution, change management, strategic planning, human resources and budgetary issues.

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# Inspector general: EPA lacks reliable data describing emissions from fracking

## Staff report

Substitution of natural gas for coal at power plants leads some to say that the U.S. emits less greenhouse gases now than it has for the prior decade. However, the U.S. Environmental Protection Agency may not have the data to back up that claim.

Unmonitored and unmeasured emissions of methane and other greenhouse gases from hydraulic fracturing may be contributing more to climate change than reduced CO<sub>2</sub> emission from natural gas combustion.

EPA's Inspector General Arthur Elkins Jr. released a report on the EPA's database for air emissions resulting from fracking operations that produce natural gas and petroleum. The report's overall message was that EPA needs to improve its air emissions data for the oil and natural gas production sector.

The reviewers noted that emission factors for a variety of air emission components released by fracking "are of questionable quality." The report attributes this to limitations in EPA's air emissions data.

In aggregate, about half of the emission factors derived from EPA data are either unrated or below average because data available are insufficient or of low quality.

The data to which the report refers is the EPA's National Emissions Inventory. That data is intended to be useful for assessing risk, trends and in analysis of proposed regulatory actions.

But because only nine states submitted criteria emission data for small stationary sources such as fracking wells, the report suggests that the NEI data underestimated total oil and gas well emissions.

The report noted that EPA did not concur with the IG's recommendation that the agency ensure that states submit required

data and develop default calculation guidelines.

In response to the report, Gina McCarthy, assistant administrator for air and radiation, sent a single page letter noting that her section has initiated efforts to obtain the needed air quality emission data. She said the agency has field studies underway to collect data and is investing in a new emissions inventory system.

Shortly after the letter was prepared, President Obama nominated McCarthy to replace Lisa P. Jackson as EPA administrator.

**EPA updates GHG emissions inventory.** The EPA's Greenhouse Gas Emissions Inventory Data scored a notable success in January, notwithstanding the inspector general's report critical of fracking emissions data.

The EPA released data for 2011 Greenhouse Gas Emissions from Large Facilities report, including fossil fuel-powered electrical generating plants, refineries, chemical production facilities, smelters, pulp and paper mills, and waste incinerators.

The top four GHG emitters in order of emission mass are power plants, petroleum and natural gas systems, refineries and chemical manufacturing facilities. In millions of metric tons of CO<sub>2</sub>e, emissions from the four facility categories were 2,221, 225, 182, and 180, respectively.

Of the remaining five categories in the EPA database, none came close to these high emitting categories.

Several atmospheric gases, including water vapor, carbon dioxide, methane, nitrous oxide and ozone, may contribute significantly to the greenhouse effect on climate. Some such as methane absorb infrared solar radiation even more strongly than CO<sub>2</sub>. The atmospheric concentration of these greenhouse gases varies over time and location.

The EPA uses the term CO<sub>2</sub>e to express the total greenhouse effect of several greenhouse gases in terms of an equivalent mass of CO<sub>2</sub>.

This was only the second year that the agency collected greenhouse gas emission data. This year, an additional 12 categories expanded the EPA's database. The database now includes data for 29 greenhouse gas emission sources.

Power plants are the 800-pound gorilla of U.S. greenhouse emitters. The combined emissions of all other categories—1073 million metric tons CO<sub>2</sub>e—is not half of the total for fossil fuel power plants alone.

The good news is that across all 29 source categories, CO<sub>2</sub>e emissions are 3.0 percent lower in 2011 than in 2010. For the power plant category alone, 2011 emissions are 4.6 percent less than 2010 emissions.

The agency attributes the decrease to the conversion to natural gas use and the increasing contribution of renewable energy generation. Refineries, chemical producers and the metals industry reported increased CO<sub>2</sub>e emissions in 2011, compared to 2010.

In the future, the EPA will expand data collection to 41 industry types to allow comparison by facility in sector.

**More chemical data.** In early February, EPA released its 2012 Chemical Data Reporting information. The database includes comprehensive use and exposure information for more than 7,600 chemicals, those most widely used in commerce in the U.S.

The rule under which the EPA collects this data is a component of the Toxic Substances Control Act. Manufacturers or importers of chemicals must report quantities of chemicals involved every four years when site-specific production volume exceeds 25,000 pounds.

In calendar year 2011, manufacturers and importers reported data for 7,674 chemicals. In 2011, the reporting compa-

nies were required for the first time to provide information about chemicals used in children's and other consumer products. Reports on commercial applications and industrial uses of chemicals were also reported for the first time.

This year, 354 chemicals were reported used in children's products; 1704 chemicals were reported used in consumer products and 3073 were reported used in commercial applications and products.

In its press release, the agency noted that in spite of the potential for direct human exposure risks posed by chemicals in children's items and consumer goods, TSCA has no current requirements that existing chemicals be evaluated for safety. TSCA requires only that they be reported.

EPA noted that it had begun an evaluation of some of these chemicals that could be added to its list of chemicals for near-term review and risk assessment under TSCA.

**Mercury in seafood.** A recently released report of research findings claims that mercury contamination is ubiquitous in marine and freshwater ecosystems around the world.

Hot spots of mercury contamination are directly related to anthropogenic mercury releases and the releases occur from many industrial operations.

As a result, mercury levels in edible fish flesh now regularly exceed EPA guidelines.

Because EPA guidelines are stricter than those issued by most other government authorities globally, investigators evaluated human hair samples from people living near hot spots to determine if they exceed human health advisory guidelines based on the EPA reference dose.

Those four points summarize the findings of a recent chemical analysis project jointly conducted by the International POPs Elimination Network and the Biodiversity Research Institute.

The analysis focused on samples from nine countries on four continents characterized as hot spots for anthropogenic mercury releases to the environment. Samples of fish and human hair were collected from people living or working in targeted areas.

Mercury analyses were done at a lab in Gorham, ME, using a direct mercury analyzer.

With respect to mercury in fish, contamination above the EPA reference dose, 0.22 parts per million, range from a low of 43 percent in Alaska to above 50 percent in samples from the remaining eight countries. 100 percent of samples from Italy, Japan, Uruguay and Portugal exceeded the 0.22 ppm criterion used in the U.S. Russia scored 97 percent and the Czech Republic 88 percent.

The data suggest that fish will likely be contaminated by mercury to levels that make them a health risk if eaten wherever mercury is released into the environment by anthropogenic activity.

The report goes a step further than many other seafood mercury studies because it attempts to follow mercury through the food chain from fish to human hair obtained from people likely to have eaten the fish or otherwise been exposed to mercury in the same region.

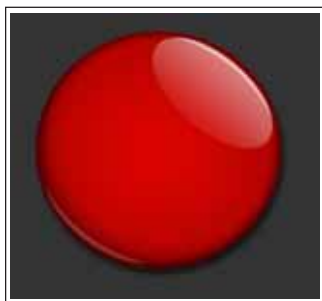
**Obama administration announces nominees.** President Obama nominated Gina McCarthy to become administrator of the EPA and Ernest Moniz to be secretary of the U.S. Department of Energy.

McCarthy, the current assistant administrator for the EPA Office of Air and Radiation, has a reputation for working with both utilities and state regulators, two primary stakeholders in the EPA programs that she administers.

She received her bachelor of arts degree in social anthropology in 1976 and an MS degree in environmental health engi-



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**FEDFILES**  
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## Waste Management keeps Brevard County trash contract

### Staff report

Waste Management Inc. has retained its contract to collect trash in unincorporated Brevard County for at least the next seven years.

As part of the contract, Waste Management's roughly 100,000 residential customers will receive 64-gallon carts for placing their trash and recycling at curbside for pickup.

That will allow the company to convert from the current manual trash pickup system to an automated system.

Waste Management lowered its proposed contract price for authorized trash pickup by about \$2.5 million.

Officials believe the switch to automated trash pickup is likely to increase the amount of recycling done by customers. Plus, they believe this will increase the life of the county's landfill.

As part of the contract, Waste Management will build a \$12-million facility near Interstate 95 and State Road 520 outside Cocoa to process recyclable materials.

The company will also convert to trucks fueled by compressed natural gas that have lower emissions and will produce less roadside noise than its current diesel fleet.

**Fort Walton Beach brownfield.** The former dump site at the corner of Bayou Woods Drive and Sotir Street in Fort Walton Beach has been designated as a brownfield area.

The city owns the vacant 6.8-acre property, which has been unused since the late 1960s.

The brownfield designation will allow the city to obtain a grant from the U.S. Environmental Protection Agency to pay for a full environmental assessment of the potentially contaminated site.

The EPA will fully fund the assessment, expected to cost \$120,000. The city will also enter into a brownfield site rehabilitation agreement with the Florida Department of Environmental Protection.

Soil and groundwater samples taken in late 2011 by Pensacola-based Professional Service Industries Inc. showed the site has low levels of dieldrin and polyaromatic hydrocarbons above state standards.

**Fernandina Beach cleanup funds sought.** Florida Public Utilities has asked the city of Fernandina Beach to pay \$400,000 for the cleanup of a contaminated site they bought from the city in 2012.

FPU submitted a formal notice claiming the city did not disclose information on solid waste buried under 8.3 acres on the property.

According to the notice, the city recognized and remediated two environmental problems at the Fernandina Beach property after an environmental assessment by FPU during the due diligence phase of purchasing the property.

FPU claims cleanup costs are estimated to exceed \$400,000 for solid waste in excess of 10,000 cubic yards on at least two separate dump sites.

City officials claim that they are not liable for any costs associated with the cleanup.

**Oil spill fund issues.** The state of Florida is questioning the handling of funds awarded from BP after the Deepwater Horizon oil spill.

State lawmakers say they may take over a BP-financed tourism program because there have been problems with how the money has been handled in a couple of Panhandle counties.

In March, the Greater Pensacola Chamber's board of directors agreed to look into what happened to about \$600,000 worth of American Express Co. gift cards that were intended for tourists that were lured back to Escambia County following the oil spill in the Gulf of Mexico three years ago.

**Brownfield tax incentive.** A Senate committee has unanimously passed legis-

lation that would tighten Florida's brownfield tax-incentive program.

Although the program was created to encourage redevelopment of contaminated properties, Florida's brownfield program doesn't require documented proof of pollution for businesses to receive incentives. A perception of contamination is all that's needed.

State law currently provides no definition of what "perception" means.

The bill approved in March by a Florida Senate committee would require a cleanup agreement with the state to make property eligible for incentives.

Those incentives include up to \$2,500 per new job and sales tax exemptions on building materials for redevelopment projects.

**Poll results.** According to results from a poll released in March by Quinnipiac University, only 32 percent of voters think Gov. Rick Scott deserves a second term. His job approval rating was 36 percent—well below the 49 percent of voters with a negative opinion of his efforts.

In a match-up between Scott and former

Gov. Charlie Crist, the incumbent governor would lose to Crist by 16 points if the election was held today.

**Company news.** Integrated Environmental Services has expanded to Sarasota. The new office is one of four the Australian company has opened in the U.S. during the past year. The company provides air quality testing in addition to hydrology and water quality testing.

**Progressions.** Lindsey Marks has joined the Suwannee River Water Management District as a professional geologist. She will work in the resource management division.

Marks previously served as an engineering intern for Engineering Ministries International.

Carl Asprinio has joined Ground/Water Treatment & Technology Inc. in Tampa as Southeast regional account manager. With over 33 years of experience in the environmental construction and consulting business, he will be responsible for business development and client relationship management in the Southeast including Florida, South Carolina, Georgia, Alabama, Mississippi, Louisiana and Texas.

## Florida Notes



# Prestressed Concrete Tanks



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# Flagler County, Bunnell to purchase, repair ailing utility system

## Staff report

On a divided vote, Flagler County and the city of Bunnell moved to purchase and repair the ailing Plantation Bay water and wastewater utility for \$13.5 million.

The Florida Department of Environmental Protection issued an administrative order ending in 2010 that cited the system for various inadequacies in its wastewater processing.

That order was extended until 2012, but without corrective work to resolve the violations, fines could be forthcoming.

Consulting Engineer Clayton McCormack, PE, told a joint Flagler-Bunnell workshop in February that the Plantation Bay wastewater system has only one tank so there is no way to clean it.

To make the minimum repairs to meet the DEP administrative order would cost an estimated \$3.4 million. Additional capital improvements such as water supply wells and new lift stations will up the ante by another \$4.2 million.

With Flagler County Commissioner George Hanns and Bunnell City Commissioner John Rogers opposing, a majority approved an inter-local agreement to pur-

chase the utility and make the needed improvements.

**Palmetto alternative water supply.** For 10 years, officials with the city of Palmetto have been working on a project that will result in a reliable and sustainable water supply for the city.

Within two years, a 500-foot aquifer storage and recovery well is expected to be operational at the city's wastewater treatment facility.

The ASR system will allow the city to store treated reclaim water underground, and eliminate the expense and environmental issues related to discharging its effluent to surface waters.

Under the system, treated wastewater is pumped into the aquifer for storage, and then withdrawn through the city's water reuse system for irrigation.

In 1999, after the city was fined \$96,200 for discharging treated wastewa-

ter with high amounts of copper and nickel into Terra Ceia Bay, the city began working on the project.

A feasibility study in 2005 steered the city toward the ASR concept.

Allen Tusing, Palmetto's public works director, said they are now in the final stages of the project.

The ASR system will store an estimated 144 million gallons of reclaimed water during wet weather periods to help augment future groundwater supply.

The \$2.3-million project price tag is being split between the Southwest Florida Water Management District and the city.

**Holly Hill water treatment.** The city of Holly Hill instituted a change in disinfecting their water in February, a process that was to conclude in early March.

Officials announced they were changing the type of chlorine used in the water supply from chloramines to free chlorine.

**Water quality grant.** The Northwest Florida Water Management District's governing board okayed a \$71,500 grant for the Franklin County city of Apalachicola to improve water quality in Apalachicola Bay.

The grant will cover the costs of designing and engineering a stormwater project within the Battery Park basin.

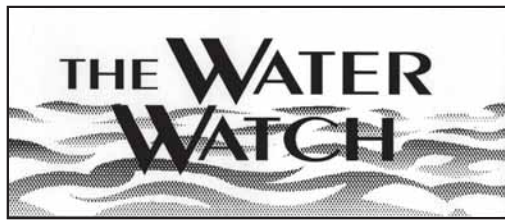
The proposed project calls for construction of large wet detention facility designed to capture and treat stormwater runoff before it enters the bay.

The grant is expected to cover the costs of engineering, design, surveying and permitting for the project.

**Water upgrades in Santa Fe basin.** Several Santa Fe River basin agricultural operations will receive \$193,750 in cost-share funds for projects to help conserve water and protect water quality.

The Florida Department of Environmental Protection provided a \$900,000 grant to the Suwannee River Water Management District for the program earlier this fiscal year. This is the second round of funding.

The cost-share projects will save an estimated 224 million gallons of water annually and reduce the release of about 266,000 pounds of nitrogen per year into the basin.



Twenty-seven producers received \$662,750 during the first funding cycle for the cost-share program.

This latest round of funding will cover the costs for retrofitting 14 irrigation systems and incorporating the practice of fertigation for 13 systems.

The retrofits will permit a more uniform and efficient application of water and fertilizer, reducing water use and the potential for nutrients to leach into the water table.

**Stormwater project.** Pinellas County officials have developed a new plan that is expected to improve a flooding problem in the Tarpon Woods subdivision.

The \$1.75 million stormwater project will break ground in mid-April. It calls for the installation of 5,600 feet of drainage pipes that will empty stormwater runoff into the lower portion of Brooker Creek.

The project is jointly funded by the Southwest Florida Water Management District and revenue from the Penny for Pinellas sales tax.

Nancy McKibben, project manager for Pinellas County Engineering, said different regulations were in place when the development was originally built.

The project is due to be complete in November.

**New SWFWMD board members.** Gov. Rick Scott named two new members to the Southwest Florida Water Management District Governing Board.

The new appointees are Thomas E. "Tommy" Bronson of Brooksville and Bryan K. Beswick of Arcadia.

Bronson is the retired CEO of Meridian Aggregates and a former member of the Pithlachascotee River Basin Board and the Withlacoochee Regional Planning Council.

Beswick is grove manager for Blue Goose Growers LLC and a sales associate with Blue Goose Realty. He previously served on the Southwest Florida Water Management District's Peace River Basin Board.

## Santa Rosa landfill permit denied

### Staff report

Santa Rosa County commissioners denied a permit for the building of a construction and demolition debris landfill in Milton. The decision came during a commission meeting in February after strong opposition from local residents.

The landfill has sparked controversy since Bluewater Holdings initially purchased the land from a private owner.

The proposed East Milton C&D facility was originally permitted in 2008. But the owner failed to follow through with the annual permit renewal process. Bluewater tried to renew their operational permit last year but were asked to reapply instead.

The initial recommendation was to deny the permit due to failure to meet financial disclosure requirements. Bluewater Holdings had not put in place the bond required to cover closure and cleanup for the initial 16-acre disposal area.

According to county documents, a potable well location survey showed that there were no potable wells within 500 feet and no community wells within 1,000 feet of the proposed location.

"The application for operational permit for Bluewater Holdings was denied based on the fact that the applicant had not provided financial assurance to the county for the closure and post-closure care of the facility as is required by our ordinance," said Angie Jones, Santa Rosa county attorney.

According to county documents, the ultimate disposal footprint would consist of about 127 acres, totaling 18 cells. There would be four groundwater monitoring wells installed with sampling performed semiannually with the results submitted to the Department of Environmental Protection for compliance with standards.

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- 2001 EPA Region 6 Phoenix Award: Victory Redevelopment/American Airlines Center, \$475 million investment.
- 2005 EPA Region 7 Phoenix Award: Ice Harbor/Port of Dubuque Redevelopment, \$288 million investment.
- 2006 EPA Region 6 Phoenix Award: Heifer International World Headquarters, \$17.5 million investment.
- 2007 EPA Region 7 1st National Runner-up Phoenix Award, Regional Phoenix Award: Iowa River Landing Redevelopment, \$266 million investment.
- 2010 EPA Region 6 Phoenix Award: City of Oklahoma Landfill/Dell Center, \$62 million investment.



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## New DEP program helps to identify surface water quality issues

By ANITA NASH

Okham's razor suggests the simplest answers are often the best, or at least the best place to begin. In many of Florida's rivers, lakes and streams, harmful bacteria impair the use of waterbodies for recreation, shellfish harvesting or as sources of drinking water.

One of the surest ways to identify where the bacteria are coming from is to simply "Walk the Waterbody."

To make this happen, the Florida Department of Environmental Protection first coordinates with local government and other agency staff to review area maps and share existing knowledge about local watersheds. The team then takes to the field for a day-long Walk the Waterbody event.

The team walks as much of the watershed as possible, popping manhole covers, looking for animal footprints, talking to residents, identifying "fragrances," as well as taking pictures, notes and geographic coordinates in search of pathogens.

Pathogens, contaminants that can cause diseases, are typically indicated by the presence of fecal coliform bacteria. Prime candidate sources of fecal coliform include failing septic tanks, leaking sewer pipes and pump stations, broken stormwater conveyances, poorly maintained drainage ditches, illegal connections to wastewater and stormwater systems, as well as animal waste sites.

Following the tour, participants debrief one another and summarize their findings in writing. These reports identify what is

## FWF sues state over land leases

Staff report

The Florida Wildlife Federation filed suit against Gov. Rick Scott and the Florida Cabinet in an effort to stop the state from allowing Florida Crystals and A. Duda and Sons to continue no-bid, long-term leasing of state-owned land in the Everglades for another 30 years.

Filed on behalf of the federation by attorney David Guest of Earthjustice, the suit alleges that "the farming has the potential to exacerbate the pollution the state is attempting to clean up and the 30-year deal violates a state law requiring private leases on state lands to serve the public interest."

The leases were originally negotiated in 1994 when land from sugar and vegetable operations was being used for artificial water treatment marshes for fertilizer uptake—now referred to as stormwater treatment areas.

On Jan. 23, environmental groups implored Gov. Scott and the cabinet to renegotiate shorter-term leases that would give the state more flexibility for land use and clean up efforts. But South Florida Water Management District representatives assured the cabinet that the state would continue to have authority to enforce environmental requirements on the leased land.

A joint statement released by representatives of SFWMD and DEP supported the long-term leases claiming that the land deals will allow them to move forward with plans for water quality improvement.

In the past, the state had agreed to six-year leases, but the state agreed to give the companies 30-year leases in exchange for clean up efforts. Under the current arrangement, the state will renew leases on 13,000 acres of the Everglades Agricultural Area in exchange for land needed for water quality projects.

Activists continue to question the logic of 30-year leases that allow the pollution to persist, while at the same time using taxpayer money to clean it all up.

But Gaston Cantens, vice president of Florida Crystal, disagrees with that thinking. "The lawsuit will only serve to delay progress in the restoration of the Everglades," he said. "Our goal is Everglades restoration."

happening throughout the watershed and recommend follow-up actions, noting which agency is responsible for each.

Follow-up actions may include local code enforcement, expanded water quality monitoring, initiation of more aggressive wastewater and stormwater inspection programs, sewer and stormwater system repairs, drainage ditch maintenance, septic tank replacement and installation of pet waste disposal systems along dog walking areas.

Responsive actions also may involve public education programs to enhance the public's awareness of the problem and to educate citizens about solutions they can readily implement themselves.

Walking the waterbody is an effective and inexpensive way to make a difference in local water quality. It leads to better communications between state and local partners, and encourages further collective and collaborative action in the future.

Anita Nash is an environmental consultant with the Division of Environmental Assessment and Restoration at the Florida Department of Environmental Protection in Tallahassee.

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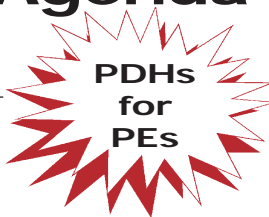
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# A South Florida Soil and Groundwater Cleanup Conference

May 9-10, 2013 • Embassy Suites Hotel • Ft. Lauderdale, Florida

## Technical Session Agenda



### Day One: Thursday, May 9

8:00 Exhibits open

9:00 **Keynote address:**  
Douglas Halsey, Partner  
White & Case, Miami



Doug's practice covers all aspects of environmental and land use law including litigation, transactional advice and regulatory matters. During the last thirty years, he has tried numerous cases in state and federal court with special emphasis on cost recovery claims and land use disputes involving wetlands and endangered species. He has represented manufacturers, developers and property owners in complex civil litigation and defended enforcement actions brought by the EPA and other federal, state and local government agencies under the Clean Water Act, CERCLA, RCRA, CAA, NEPA, and parallel state and local government regulatory schemes. He has also defended numerous toxic tort cases based on alleged exposure to a variety of hazardous substances, including creosote, chlorinated solvents and mercury. He is a former chairman of the Environmental and Land Use Law Section of the Florida Bar.

### Session 1

9:30 **Complying with Continuing Obligations on Real Property**  
Nick Albergo, President & CEO  
HSA Engineers & Scientists, Tampa, FL

The Small Business Liability Relief and Brownfields Revitalization Act, enacted Jan. 11, 2002, amended the Comprehensive Environmental Response, Compensation and Liability Act to provide important liability limitations for landowners that qualify as: 1) bona fide prospective purchasers, 2) contiguous property owners, or 3) innocent landowners, referred to as landowner liability protection or LLP. To maintain the LLP to CERCLA, users must satisfy certain continuing obligations. These obligations include, among others, taking "reasonable steps," such as, stop any continuing release, prevent any threatened future release, and prevent or limit any human, environmental, or natural resource exposure to any previously released hazardous substance, with respect to hazardous substances affecting a landowner's property. Although the statute delegated rulemaking authority to EPA to implement the pre-acquisition "all appropriate inquiries" requirements, no rulemaking authority was delegated to EPA to define the post-acquisition continuing obligations. The proposed ASTM guidance for continuing obligations is pertinent given that it is estimated that nearly one million properties in the U.S. are either directly or indirectly impacted by contamination, and as many as fifty thousand activity and use limitations including institutional controls, land use restrictions, land use controls, and engineering controls affect many of these properties.

10:00 **2013 Florida Legislative Session: Environmental & Water Legislation**  
John J. Fumero, Partner  
Sundstrom, Friedman & Fumero, LLP, Boca Raton

An overview of what passed during the 2013 Florida Legislative Session and the potential impact of new laws for environmental professionals.

10:30 Morning Break

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Session 2: Chair -- Craig Hurst, Groundwater & Environmental Services Inc.

### 11:00 Industry Trends and Implications

Craig Hurst, Senior Project Manager  
Groundwater & Environmental Services Inc., Ft. Lauderdale, Florida

As is typical with most businesses, environmental consulting and remediation work is constantly changing. While some clear trends are obvious, the implications for environmental professionals are less certain. A recent presentation by the National Research Council's Water Science and Technology Board summarized 30 years of remediation progress at federal waste sites. They identified a significant number of sites (approx. 12,600 or 10% of all sites) where complex physical or chemical issues would effectively prevent restoration to meet identified closure goals. Additional NRC findings suggest that significant technical limitations persist in the remediation industry. However, examples of progress include increased acknowledgment of the practical benefits of engineering and institutional controls. In addition, there is greater emphasis on data quantity and statistical evaluation. High resolution site characterization tools acknowledge that 90% of contaminant mass may move in 10% of the system and past experience has led to the realization that detailed features, easy to miss using conventional investigative techniques, often dictate contaminant transport. Improved data analysis using statistical methods is becoming more common. Low cost or free software applications are available from EPA, API and others for optimization of monitoring networks, risk screening, evaluation of MNA processes, groundwater concentration trend analysis, etc. Strategies combining improved contaminant delineation, conceptual site model development to incorporate reasonable exposure pathway evaluations, predictive modeling (F&T analysis) and implementation of institutional controls are becoming more acceptable to regulators. If active sources are eliminated, uncertainty in impact definition can be reduced, exposure pathways can be demonstrated to be incomplete and coupled with a responsible MNA or monitoring plan, very few projects will require large-scale or long-term remediation. Key skills for consultants to develop now include the use of ASTM and EPA monitored natural attenuation technical protocols, statistical data analysis to improve efficiency of effort, and participation in regulatory advocacy to deliver responsible, cost-effective solutions for stakeholders.

### 11:30 Can we PARM Yet? Groundwater Quality after Remediation at Multiple Sites in Florida

Drew Baird, PG, East Region Manager  
REGENESIS, Greenville, SC

In-situ chemical oxidation and enhanced aerobic bioremediation are proven, cost-effective and widely-applied methods for contaminant mass depletion, plume stabilization and site closure. Various monitoring parameters—DO, ORP, pH, among others—are important for determining the distribution and/or longevity of ISCO and EAB amendments and are therefore critical in interpreting treatment performance. Other parameters—TDS and other inorganics—may be indicators of distribution but more often measure the effects of the applied chemicals on groundwater quality, and many have state or federal limits in drinking water. There is some overlap between remediation performance parameters and groundwater quality parameters, but current Florida Department of Environmental Protection guidance does not differentiate between remediation performance parameters and groundwater quality parameters. The lack of differentiation directly affects transition from active remediation to Post-Active Remediation Monitoring, or PARM. This presentation will evaluate groundwater quality data from sites where ISCO and/or EAB have been employed to treat petroleum hydrocarbons in Florida and to clarify the role of various constituents in ISCO/EAB processes. Site examples include a former roadside spill in Broward County, where a combined ISCO/EAB treatment was employed to deplete the contaminant source area and shrink the size of the plume prior to road improvement. The treatments were implemented during three injection events from May-July 2011 and resulted in 82-95% reductions in benzene concentrations and 82-92% reductions in TRPH. The groundwater quality data show substantial increases in many indicator parameters followed by variable attenuation rates of these constituents. There is generally good correlation between the DO and sulfate concentrations and reductions in PHC constituents but poor correlation between the contaminant reductions and the concentrations of many other parameters such as iron, sodium, and TDS. Similar patterns will be presented from sites in Citrus and Miami-Dade counties. At all three sites, entry into PARM was delayed due to the presence of various parameters that have little, if any, bearing on active remediation. Many of these parameters are indicators of residual presence of injected fluids but do not indicate that the active components remained within the zone of discharge.

12:00 Lunch

### Session 3

#### 1:30 Regulatory Panel Discussion

Moderator: Glenn MacGraw, PG, Vice President  
The FGS Group, Tallahassee

Panelists:  
Wilbur Mayorga, PE, Chief, EM&R Division, Miami-Dade County, Miami  
David Vanlandingham, PE, Engineer IV, Broward County, Plantation  
Dave Gibson, Supervisor, Dept. of Env. Resource Management  
Palm Beach County, West Palm Beach

3:00 Afternoon Break

Session 4: Chair -- Tim Harman, Handex Consulting & Remediation

### 3:30 A Cost-Effective and Efficient Method for Assessment and Remediation of Former Golf Courses and Agricultural Parcels in Florida

Jeff Flairty, Director of Environmental Risk Management  
CABE Associates Inc., Dover, DE

With the upturn in the Florida land development industry, residential and commercial developers are increasingly forced to focus on properties previously not considered economically feasible due

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The registration fee for the full 2013 FRC-South event is \$295; Day One only is \$225, and Day Two only is \$125. The fee includes conference manuals and flash drive, continental breakfast(s), beverage break(s), and the luncheon and reception for all Day One attendees. To register for FRC-South, complete and return the form on the next page with payment in full to: NTCC Inc., P.O. Box 2175, Goldenrod, FL 32733, or fax your completed registration form with credit card information to (407) 671-7757. This is a secure fax number. Purchase order numbers are accepted for government employees. We encourage you to register early. Conference registration is limited to avoid overcrowding. Note: Payment in full is required to confirm your registration. Cancellations received before April 9, 2013, will be refunded, less a \$65 service charge. No refunds will be made for cancellations received after this date. However, paid no-shows will receive a copy of the presentation materials upon request. Substitutions will be accepted at any time, preferably with advance notice.

to perceived or actual environmental contamination. Former golf courses or agricultural parcels are ideal candidates for development since they are large, contiguous parcels located within existing communities. Due to widespread soil and groundwater impacts from previous applications of agricultural chemicals—specifically arsenical herbicides—developers, regulators, property owners and the consulting industry have all been unwilling or unable to economically facilitate the necessary land use changes to affect any type of development. For this presentation, four examples of former golf courses in South and Central Florida will be profiled for assessment techniques, remedial approaches, cost effectiveness, regulatory acceptance and complexity of RAP implementation. Traditionally, contaminated site assessment and remediation strategies have been based on a perception that contamination is primarily due to a “point source.” In these case studies, we will show how a contamination source-transport-receptor site model is a simpler and more cost-effective way to evaluate existing site conditions and communicate to the regulatory community site conditions without the use of thousands of soil samples. Understanding the transport mechanisms of stormwater runoff or infiltration, and characteristics of the receptor material (silica sand or highly organic muck) can result in a better understanding of the unique contaminant distributions at each site and, therefore, site-specific remedial strategies. With volumes of impacted soil often exceeding 500,000 cubic yards, off-site disposal were cost prohibitive. RBCA-based solutions were employed for on-site soil configuring the site development plan to meet the state’s soil exposure SCTL requirements. Institutional controls were approved for both soil and groundwater to reflect land use changes and long term contaminant exposure. With the benefit of hindsight, we will explore a number of lessons learned along the process including techniques to assist regulators with familiarization of site conditions as well as site assessment and remedial approaches. We will examine common pitfalls in communications with the client, the remediation contractors and the site development team during the RAP implementation. Finally, this presentation will provide consultants, regulators and property owners with a general roadmap for addressing large parcels of land contaminated by historical application of agricultural chemicals.

**4:00 Vapor Intrusion Mitigation by Sustainable Soil Vapor Extraction**

Gary M. Birk, PE, Managing Partner  
Tersus Environmental, Wake Forest, NC

A growing trend in environmental remediation is the use of natural processes. These approaches are reducing the costs of cleanup and intruding less on the environment. Sustainable soil vapor extraction is an enhanced attenuation approach that removes volatile contaminants from the vadose zone. The MicroBlower™ Sustainable Soil Vapor Extraction System (U.S. Patent No. 6,971,820) developed by the U.S. Department of Energy’s Savannah River National Laboratory is an example of such an approach. Targeting the vadose zone during remediation traditionally has been difficult. The MicroBlower Soil Vapor Extraction System is a simple, cost-effective device with the potential to play a large role in the arsenal of tools for environmental remediation activities and is specifically designed for remediation of organic compounds in the vadose zone and remediation of vapor intrusion impacts. The system uses a small, low power vacuum blower to extract or inject gases into the subsurface for remediation. The system is useful for long-term cleanup operations particularly where mass transfer limits the rate of remediation. MicroBlower is effective in targeting small source zones where conventional SVE is too excessive. While similar in design to an active soil vapor extraction blower, the MicroBlower is designed to run on renewable sources of energy to treat volatile organic compound contamination in the unsaturated zone. MicroBlowers require between 20 and 40 watts and can be powered using photovoltaic panels, wind generators, 24-volt battery banks recharged by either photovoltaic panels or wind generators, or 24-volt power from a 110 to 24 volt transformer. MicroBlowers are ideal for remote locations with limited or no ancillary infrastructure. By using renewable sources of energy, the system eliminates the need for generators and fuel storage at remote locations. MicroBlowers offer the advantage of a reduced carbon footprint and very low operating and maintenance expenses. This presentation will cover results and lessons learned from remediation of vapor intrusion impacts from petroleum and chlorinated solvent sites in Alabama and a petroleum site in Colorado.

**4:30 Pesticide Bioremediation: Cost-Effective Source Treatment and Plume Reduction by Leveraging Groundwater Conditions and the Beneficial Microbial Population**

Michael Saul, Principal  
CL Solutions, Cincinnati, OH

The extremely low remediation goals for pesticide contamination in groundwater can make pesticide remediation impractical and cost prohibitive. However, cost-effective bioremediation was used to remediate pesticides at a Pensacola site by leveraging monitoring data to adjust the microbial growth conditions for optimal results. The site was impacted by pesticides during its long-term use for commercial pesticide storage. The pesticides leached from the soil surface into the groundwater forming a plume that was approximately 1,000 feet long and 160 feet wide. During soil source removal 1,272 tons of impacted soil were excavated and disposed off-site. Further source soil excavation was impractical and cost prohibitive. Petrox® bioremediation was selected to remediate the residual impacted soil and groundwater. Following a bench-scale treatability study, a pilot study was implemented in the source area to verify successful field results. During the pilot study, the source area dieldrin concentrations were reduced by 50% to 95% and groundwater concentrations were reduced by 80% to 99%. Following the successful pilot study, three full-scale applications of bioaugmentation were completed. Petrox bioremediation was applied to the source area soil and groundwater, and groundwater at a mid-plume down gradient area. Groundwater conditions, nutrient levels and microbial plate counts were monitored before and after each application event. The monitoring information was used to adjust the treatment for optimal results. Following full-scale bioaugmentation, pesticide concentrations were reduced in soil and groundwater in the source area. Most of the post-treatment soil sample concentrations were less than 1% of the original concentrations. The source area groundwater concentrations were reduced by more than 95% in most source area wells. The combined pilot treatment and full-scale applications of bioremediation significantly reduced both the plume area and contaminant mass. This case study shows that by managing nutrient levels, groundwater conditions and the beneficial microbial population, bioremediation can effectively and economically remediate a large pesticide site.

5:00 *Adjourn Day One Reception*

**Day Two: Friday, May 10**

**Session 5:** Chair -- Michael R. Goldstein Esq., Managing Partner, The Goldstein Environmental Law Firm, Miami

**8:30 Brownfields Advantaged Cleanups in Florida: Policy, Practice, Metrics, Mechanics & Economics**

Michael R. Goldstein Esq., Managing Partner  
The Goldstein Environmental Law Firm, Miami  
David Vanlandingham, PE, Engineer IV, Brownfields Coordinator  
Pollution Prevention Division, Broward County Env. Protection & Growth Management Department, Plantation  
David Goldman, PG, Brownfields Practice Leader  
Kimley-Horn & Associates, Jacksonville

Three experienced brownfield practitioners in the state of Florida representing the public and private sector perspectives of a professional engineer, professional geologist and environmental lawyer combine efforts for this session on brownfields. The first speaker, Michael Goldstein, will present “The Financial and Liability Management Case for Redeveloping and Closing Contaminated Sites through the Florida Brownfields Program” with an emphasis on the tax credits and refunds that can help subsidize cleanup costs as well as the statutory protections against cost recovery and pollution litigation that can provide the assurances that developers, lenders and investors need to green light projects. Michael will also present a concise economic and project-based summary of the 16-year history of the Florida Brownfields Program. David Vanlandingham will present “Brownfields Practice Before the Broward County EPGMD” and share proven strategies for taking complicated remediation and redevelopment projects through the regulatory and construction process utilizing the advantages of the Florida Brownfields Program and Chapter 62-785, F.A.C., while complying with agency protocols. The final speaker, David Goldman, will present “Preparing the Technical Brownfields Redevelopment Case for Review and Expedited Approval,” a discussion designed to educate environmental consultants on how to properly set expectations of utility and success with private and public sector clients, design due diligence and remedial action strategies that leverage the closure options that the Florida Brownfields Program and Chapter 62-785, F.A.C. make available, and work in harmony with environmental regulators to achieve site rehabilitation completion as quickly and cost-efficiently as possible.

10:00 *Morning Break*

**Session 6:** Chair -- Susan Bostian, Innovea Technologies

**10:30 In-Situ Soil Blending**

John Haselow, PhD, PE, President  
Redox Tech LLC, Cary, NC

Redox Tech has been performing soil blending since 2006 and has completed numerous soil blending projects with oxidants, reductants, bioamendments and metal stabilizers. We recently unveiled a new soil blender with many improvements. The improvements include a dual motor blender so each side of the blending head works independently. Also, torque sensing was added to both motors so that the blending speed changes automatically on each head according to the effort required to mix the soil—lower torque soil is automatically mixed at higher speeds without operator intervention. Also, the overall soil blending unit is now roughly 25% less, while the overall blending power increased nearly doubled. This saves on mobilization costs and increases productivity.

**10:50 Use of Horizontal In-Situ Thermal Remediation Wells for Remediation of Hydrocarbons in Urban Environments**

Grant Geckeler, Executive Vice President  
TPS Tech America, Los Angeles, CA

Horizontal wells for in-situ thermal remediation are now commonly used for thermal conduction heating applications and are not limited to electrical resistance heating methods. Two recently completed projects highlight the use of horizontal heating wells to remediate both difficult-to-access areas and shallow soil volumes. The first project was an in-situ thermal remediation of C10 - C40 range hydrocarbons from a former aboveground storage tank leak. The 800-cubic-meter treatment volume could not be accessed with vertical wells, as it was recently built upon. A proximate below grade area was accessible. Both horizontal and slant wells were constructed in order to

access the treatment volume without above grade equipment. This approach is now being used at several operational projects including retail gasoline stations and active commercial facilities such as dry cleaners and restaurants. Target treatment temperatures between 100°C and 200°C were attained, depending on the COC and treatment zone. The second project thermally remediated a shallow zone of soil impacted by naphthalene. Trenching techniques were used to horizontally place the thermal conduction heating wells at an average depth of five feet bgs. The project was extremely sensitive in nature and was located within 200 feet of a large residential apartment unit. Continuous emissions monitoring equipment was utilized to confirm that no VOCs were mobilized to the atmosphere from the treatment zone. All remedial goals and ambient air quality requirements were met on time and on budget.

**11:10 Oxidation or Reduction: Not Mutually Exclusive Options**

Patrick Hicks, Technical Sales Manager  
FMC Environmental Solutions, Raleigh, NC

Many compounds can be degraded via oxidative or reductive processes. The decision process used to select an option should be prefaced with the understanding that the technologies are NOT mutually exclusive or related such that each excludes or precludes the other. Instead, the selection process should include consideration of both oxidative and reductive processes, but perhaps different applications over the course of the remediation project. Various in-situ chemical oxidation technologies using oxidizing agents such as hydrogen peroxide, permanganate, ozone and activated persulfate have been used to remediate impacted environments. Each of these oxidants and their activators offer unique features and they can be very effective on a broad range of more oxidized/chlorinated hydrocarbons to more reduced/petroleum hydrocarbons. This presentation will focus on the application of activated persulfate across a spectrum of contaminants. In-situ chemical reduction approaches using a combination of zero-valent iron and controlled release carbon generate environmental conditions that can facilitate the chemical reduction of oxidized/chlorinated hydrocarbons and other contaminants such as metals. Many factors may need to be considered when making a decision to use ISCO and ISCR approaches for a specific site. These may include the following, which will be discussed as part of this presentation: Targeted treatment area (source removal, plume control or both); Contaminant characteristics, concentrations and goals; Presence of free product or product residuals; Desired clean-up time; Aquifer geochemistry (aerobic to anaerobic); Soil oxidant demand; Hydrogeology and groundwater flow velocity; and Application method (soil blending, direct injection, injection through wells, etc.)

**11:30 Case Study: Enhanced Bioremediation of Acetone, Isopropanol and Methyl-Isobutyl Ketone at levels Toxic to Microorganisms**

Gordon L. Walters Jr., PE, Environmental Department Manager  
HSA Engineers & Scientists, Fort Myers

Acetone, isopropyl alcohol and methyl-isobutyl ketone are not chemicals that very many environmental professionals get an opportunity to work with because of their high volatility and high rate of biodegradation. However, at high concentrations, acetone, IPA and MIBK can be very toxic to the microorganisms that typically use them for energy and biomass. These chemicals are also very difficult to separate from water, despite the volatility of the pure phase. This presentation will cover the challenges associated with remediating a high concentration acetone/IPA plume and how a unique use of ex-situ bioremediation was used to remediate a toxic acetone/IPA plume in-situ.

12:00 *Conference adjourns*

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# It's time to reconvene a new forum on risk-based corrective action

By RICHARD LEWIS, PhD, PE

More than 2,000 years ago, the Romans used the Forum as a marketplace for exchanging goods and ideas. Over a decade ago, the state of Florida used the Contaminated Soils Forum in a similar fashion to bring risk-based corrective action into the environmental rules.

We needn't wait. It is time to reconvene. The CSF began meeting in the late 1990s, culminating in several accomplishments in the mid-2000s, most notably Chapter 62-780 of the Florida Administra-

tive Code. Also known as global risk-based corrective action, it was a significant shift for Florida, propelling the state to national recognition for having one of the first internally consistent methods for calculating risk-based cleanup values.

For the first time, "non-program" sites had a home and one set of numbers. There were clear paths to consider natural attenuation, institutional controls, engineering controls and *de minimis* releases. FL UCL software was developed, along with a thick guidance document that made transparent, even if in a detailed fashion, how the team developed Chapter 62-777 FAC.

CSF participants put in many hours preparing white papers to address the myriad concerns regarding significant changes to handling notification and maintaining land use in perpetuity.

Most importantly, all the stakeholders were there. At that time, the CSF provided one of the few settings where the regulated parties, multiple departments within the state and local governments, those directly affected by environmental sites, environmental protection groups, lawyers, multi-discipline engineers and scientists, and academia could come together and have civil, pointed discussions that culminated in a series of documents acceptable to all.

It was quite an accomplishment—the sort that produced both pride and exhaustion among all of those involved.

Fast forward a decade and these documents are still in place and have helped Florida to achieve a unified, consistent approach to addressing impacted sites.

Even the federal RCRA program has been successfully wed to the RBCA process. That being said, a look at several outstanding issues indicates that it is time to reinstate the CSF.

The most obvious issue is Associated Industries of Florida's challenge to the new combined rule, a rule that brings the global RBCA, brownfields, petroleum and drycleaning programs under one umbrella.

The challenge focuses on allowing the Risk Management Option III to be used with more flexibility. An example is the use of alternative frequencies and durations of exposure for hypothetical future commercial workers in industrial scenarios.

The flexibility in the RMO's is not the only issue that could be addressed by a repurposed CSF. With the gauntlet thrown down and spurred by the challenge, a number of other issues that would be difficult to resolve without broad-based vetting by the stakeholders could be addressed.

Development of a regional background level for chemicals in soil and groundwater is one important issue. HSA has done a number of background studies of soil and groundwater across Florida and we know others have too. By combining these datasets and others that will be generated, a database of broad areas of Florida could be designated as having elevated natural background levels of iron, aluminum, manganese, color and other constituents, greatly reducing assessment costs and remedial haggling.

Once a background study is accepted by the Florida Department of Environmental Protection, it seems appropriate to use the same data within a predetermined radius of the site.

For some constituents like iron in surficial groundwater, broad areas of the state are known to exceed the default values. Moreover, the published soil and groundwater guidance documents for determining background themselves can be vetted.

In addition to updating numerous chemicals using new physiochemical and toxicological data (the information that those "in the know" currently get to use), the use of new soil sampling methodologies such as incremental sampling methodology, ISM, and modified active gas sampling, MAGS, could be incorporated

into the rule.

Having served on the Interstate Technology and Regulatory Council ISM Team, I've seen first-hand how ISM could provide significant savings in analytical costs at many golf courses and agricultural areas.

The national pilot testing of the technique was performed at an HSA site and conducted with the support of DEP, the federal departments of Defense and Energy, the U.S. Environmental Protection Agency and numerous regulatory agencies from other states.

Another ITRC Team with which HSA has participated, Enhanced Attenuation of Chlorinated Organics, provides guidance on the use of sustainability concepts in assessment and remediation. These lower-energy ideas often save money, reduce real exposure and waste fewer natural resources. Again, the department was an important and supporting member of this team.

MAGS is another technology that should be included in the rule as an acceptable assessment technique, allowing broad areas to be sampled for volatile organic compounds in a way discrete soil sampling cannot. (In the spirit of full disclosure, HSA invented MAGS, though it is currently in use nationally by many consultants and by the DEP's Drycleaning Program).

If we have the intestinal fortitude, we could even tackle arsenic regulation. For example, a clarification is needed of the Federal Insecticide, Fungicide and Rodenticide Act exemption under Comprehensive Environmental Response, Compensation, and Liability Act.

Another issue is the regulatory level itself. Canada's regulatory number is 12 mg/Kg and Georgia's is 20 mg/Kg. Florida's is 2.1 mg/Kg.

Vast areas of agricultural land including grapefruit groves and gladiolus farms and, importantly, golf courses, have arsenic soil concentrations in the 5 to 10 mg/Kg range. In many states, this soil would be clean fill, but for many areas of Florida it is an economic development issue, ultimately and directly relating to jobs.

There are no good alternatives considering the hundreds of thousands of acres of impacted land. Do the math; there is simply not enough landfill space available. This property cannot be abandoned and the toxicological data that yield such low values are controversial.

At the same time, knowing that our regulatory levels are protective of human health and the environment is paramount. Only a team like the CSF could get the right people together to tackle this problem.

CSF's real value may lie in its innate ability to tackle the most fiercely contested issues. Vapor intrusion, for example, is a hot topic that would be best (notice I did not say easily) handled by CSF.

As testament to the value and viability of such an idea, the Romans got centuries of use from the Roman Forum. We think that the CSF has at least a little life left in it.

Richard Lewis, PhD, PE, is principal engineer in HSA Engineers & Scientists' Fort Myers office. He can be reached at rlewis@hsa-env.com.

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## Broward to standardize solar permitting

By DAN MILLOTT

Armed with a \$673,000 U.S. Department of Energy grant, officials in Broward County are moving forward to standardize the cost of permits for installing solar panels.

With 31 municipal and county building permit-issuing agencies, standardizing and streamlining the permitting process will go a long way toward encouraging the use of solar options for homeowners and businesses.

Armando Lianes, deputy director for the Broward County Environmental Protection and Growth Management Department, said 14 jurisdictions in the county signed up immediately to the simplified

permitting plan. Another nine cities in Broward have shown interest

He said that while the initial grant was just for Broward County, a second grant of \$2 million is being sought to cover the rest of the state.

Broward received the phase one grant in January so implementation is in its initial phase.

With so many days of sunshine in Florida, solar energy should find a home here but it's been slow to catch on.

Wayne Wallace, president of the Florida Solar Energy Industries Association, said 38 states have enacted measures to encour-

**SOLAR**  
Continued on Page 16



# Pinellas seeks long term solution to stormwater management issues

By DAN MILLOTT

On May 16, Pinellas County commissioners and administrators will sit down at a workshop and set the county on a course to solve its growing stormwater management problems.

Kelli Levy, manager of the county's Watershed Management section, said the stormwater issue has been in the making for decades. "It took us a long time to get into this problem, so it will take a long time to get out of it."

She said water managers began an education process with commissioners in December, 2011. "We took them on a field trip to show them the problems the county is facing—aging infrastructure, ditches and channels getting filled with sediment and debris."

Another emphasis of the education process was to highlight upcoming state and federal regulations that require action and their responsibility as stewards of the county's natural resources.

Since the trip, commissioners have signed off on the concept of being proactive instead of reactive to the issues.

In May, County Administrator Robert LaSala and Levy will recommend a plan of action that will include a stormwater fee for the unincorporated parts of the county. That represents about half of Pinellas' land area.

County Commissioner Norm Roche, who worked for the water and sewer utility department for 10 years before he was elected to the commission, wants to be more aggressive with the stormwater fee. He thinks it should be applied countywide.

"In Pinellas, we have 1,800 lakes and retention ponds. As the county (grew), developers turned over the lakes and ponds to homeowners associations," he said. "When the county was flush, we went ahead and cleaned many of the lakes and ponds. But when the economy crashed and things got tighter, we had to cutback."

The cutbacks involved 120 positions, including many maintenance workers in the transportation and stormwater departments.

There are 24 incorporated cities in

Pinellas and 10 of them currently have stormwater fees ranging from \$3 to \$13 monthly. Roche doesn't think the current piecemeal approach will work.

"We have to assume it is countywide problem," he said. "So we should have a countywide solution."

Lake Seminole, which is in Roche's district, has been a gathering point for stormwater containing all sorts of pollutants, animal waste and sewage. Some of its outflow goes into Boca Ciega Bay and can breed red tide in the Gulf of Mexico.

Lake Seminole and about 25 other waterbodies in Pinellas have been cited by the state for high levels of contamination.

Levy said there are 28 miles of corrugated drainage pipe deteriorating, plus the critical need to open up ditches and conveyances so water can flow more freely.

In May, county commissioners will be presented with a plan that will show how much it will cost annually to begin solving the problems. But it won't be a quick fix.

Roche noted that the county has been using \$10 million a year from the gasoline tax to resolve drainage problems that can be linked to transportation improvements.

Some years ago voters approved a "Penny for Pinellas" sales tax, but funds from that tax can only be used for capital

improvement projects.

Roche says a general countywide stormwater fee can be implemented by a vote of the county commission without a referendum. If approved, the new fee would replace any that the cities now impose for stormwater management.

"The countywide fee would spread out the costs and in some cases it would be lower than what the cities are now charging," he said.

## DEP, Mulberry officials working to resolve arsenic in water wells

By PRAKASH GANDHI

Officials in Mulberry are working with the state to deal with the serious problem of arsenic in drinking water wells.

Elevated levels of arsenic have been found in dozens of residential drinking water wells in a community near the old Kingsford Mine just south of the city.

High levels of arsenic can lead to neurological problems and cancer, according to the federal Centers for Disease Control and Prevention.

DEP's water supply restoration pro-

gram has assisted with the installation of filters at about two-thirds of these residences, said agency spokesman Patrick Gillespie.

State environmental officials have paid nearly \$21,000 over the past decade to install filters on 21 wells in the city. Installation of filters started in 2007.

Officials are spending about \$12,600 annually changing out the filters. The state has identified another 16 wells with elevated arsenic levels.

**ARSENIC**  
Continued on Page 16

### KOPPERS

From Page 1

Although it will be a year before remediation work kicks off, the latest efforts to advance site cleanup received mostly support from Alachua County environmental officials.

"We are recommending that they move forward and enter into the consent decree," said Chris Bird, director of the county's environmental protection department.

"There are about 100 homes in the neighborhood that have levels of dioxin that exceed state standards," he said. "We do want to make sure that the neighborhood is restored so that people feel safe living there."

However, Bird added that some of the proposed remedies for the site cleanup don't have a proven track record. "We are skeptical about these remedies," he said.

"We think there are some shortcomings with this cleanup plan. But the issues that have not been resolved don't justify stalling the good things in this plan," he said. "We think those responsible for the cleanup need to implement the good measures in this plan. We intend to monitor the site carefully."

The contaminated site includes two properties: the Koppers property and the Cabot Carbon property. The Koppers property includes the area where a wood treating facility operated between 1916 and 2009. The Cabot Carbon property includes the area where a charcoal production facility operated.

EPA placed the site on the National Priorities List in 1984 because of contaminated soil and groundwater resulting from facility operations.

Site investigations found contamination in groundwater and soil that could potentially harm people in the area. Contaminants of concern include arsenic, dioxins/furans and creosote compounds.

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# The development of numeric nutrient criteria in Florida: Administrative rulemaking and challenges

By FREDERICK L. ASCHAUER, JR, ESQ

On Feb. 25, 2013, the First District Court of Appeal issued an opinion in Florida Wildlife Federation Inc. et al. v. Florida Department of Environmental Protection et al. that affirmed a final order from Administrative Law Judge Bram D.E. Canter.

The final order, in turn, affirmed the proposed numeric nutrient rules of DEP.

The original proceeding, which concluded in early March, 2012, and resulted in the final order, was a challenge to DEP's proposed numeric nutrient criteria and DEP's existing narrative criterion.

The original proceeding and appellate decision have rightly been trumpeted as a vindication of the good work of DEP and two legal victories for the parties supporting DEP's rules.

The legal proceedings surrounding the development of numeric nutrient criteria in Florida have been ongoing since 2008. Indeed, the citizens of Florida have seen: the filing of a 2008 federal lawsuit seeking to compel the U.S. Environmental Protection Agency to promulgate NNC for Class I, Class II and Class III waters throughout the state; a 2009 determination under the Clean Water Act by EPA that the state of Florida needs NNC; a settlement in the form of a consent decree of the 2008 fed-

eral litigation, which required EPA to promulgate NNC for Class I, Class II and Class III waters for the entire state in the absence of a rule by Florida establishing NNC; a rule establishing NNC for lakes and inland flowing waters excluding South Florida canals promulgated by EPA; the challenge of the EPA determination and rule in federal court; an order of the federal court affirming EPA's determination and rule; an appeal of that federal court ruling; DEP-proposed rule amendments to establish NNC; a challenge of DEP's proposed rules and its existing narrative rule; the final order discussed above; and an appeal of that final order, also discussed above.

To be sure, the legal wrangling surrounding the establishment of NNC could very well serve as the source of a full-length book. The purpose of this column, however, is not to rehash that history, but to focus on the administrative proceeding that recently affirmed the work of DEP and to consider the future of numeric nutrient criteria in the state.

## DEP's numeric nutrient rules

On Nov. 10, 2011, DEP published its intent to adopt rules amending Chapters 62-302 and 62-303, Florida Administrative Code. These amendments would establish NNC for several estuaries, springs, lakes

and streams. South Florida canals were not addressed in the rule amendment proposal.

On Dec. 8, 2011, the state's Environmental Regulation Commission approved the proposed rules with some amendments. Perhaps the two most controversial amendments were the amendment to the definition of "stream" and the amendment adding a section precluding the rules from taking effect absent some specific action by EPA. All of the amendments were published in the Florida Administrative Weekly on Dec. 22, 2011.

The Nov. 10, 2011, proposed rules included: (1) the addition of 62-302.531 that established numeric nutrients in Florida and created a hierarchy for same; (2) the addition of 62-302.532 that created numeric criteria for certain estuaries; (3) the amendment of 62-302.800 that created a Type III site specific alternative criteria for nutrients; and (4) the addition of 32-303.390 that created the study list.

The Dec. 8, 2011, amendments included multiple non-substantive amendments and the two amendments addressed above. Specifically, it was the exclusion of waterbodies from the definition of "stream" that drew the ire of the petitioners challenging the amendments.

Also of great significance was the

amendment of proposed subparagraph (9) in 62-302.531, which was amended to read:

"The Commission adopts subsections 62-302.200(4), 62-302.200(16) - (17), 62-302.200(22) - (25), 62-302.200(35) - (37), 62-302.200(39), Rule 62-302.531 and subsection 62-302.532(3), FAC, to ensure, as a matter of policy, that nutrient pollution is addressed in Florida in an integrated, comprehensive and consistent manner. Accordingly, these rules shall be effective only if EPA approves these rules in their entirety, concludes rulemaking that removes federal numeric nutrient criteria in response to the approval, and determines, in accordance with 33 U.S.C. § 1313(c)(3), that these rules sufficiently address EPA's January 14, 2009 determination. If any provision of these rules is determined to be invalid by EPA or in any administrative or judicial proceeding, then the entirety of these rules shall not be implemented."

This amendment was recently referenced by EPA in its rulemaking and will be discussed in greater detail below.

## The rule challenges and final order

On Dec. 1, 2011, the Florida Wildlife Federation, Sierra Club Inc., Conservancy of Southwest Florida Inc., Environmental Confederation of Southwest Florida Inc. and St. Johns Riverkeeper Inc. challenged the DEP-proposed rules, published on Nov. 10, 2011, as well as the narrative criterion at 62-302.530(47)(b), FAC, by filing a petition with the clerk of the Division of Administrative Hearings.

On Jan. 11, 2012, the petitioners filed a petition with the clerk at DOAH challenging the amendments adopted by the ERC on Dec. 8, 2011.

The two proceedings were consolidated for final hearing, which was held in Tallahassee from Feb. 29, 2012, through March 5, 2012. Several parties joined in the proceeding as interveners, all in support of DEP's proposed rules.

While the petitioners raised several issues in the individual petitions, they focused their trial presentation on only certain issues. Four of the arguments advanced by the petitioners addressed: (1) the narrative criterion; (2) the newly-proposed definition for "stream," specifically what that definition excluded; (3) the use of the Stream Condition Index as part of the evaluation of streams; and (4) the sampling requirements under the rule.

With regard to the narrative criterion, the petitioners' argument was that "the narrative criterion does not work." The petitioners presented evidence that there had been algal blooms in Florida. However, as noted by the ALJ, "proving that nutrient pollution has not been prevented is not the same thing as proving the narrative criterion is the cause."

Emphasizing this point, the ALJ stated that the "petitioners' evidence was not sufficient to demonstrate, for example, that in the absence of the narrative criterion there would have been less nutrient pollution in Florida. The more persuasive evidence is that the narrative criterion has some beneficial effect in controlling nutrient pollution. The narrative criterion has been used, for example, to limit nutrient discharges in permits issued by the Department."

Ultimately, the ALJ found that the "petitioners failed to prove by a preponderance of the evidence that the narrative criterion contravenes the law implemented or is arbitrary or capricious."

The petitioners objected to the newly-proposed definition of "stream" because it excluded "non-perennial water segments." The petitioners argued that such exclusion resulted in an absence of water quality standards for nutrients in those waterbodies, in contravention of section 403.061(11), FS, and that it created a new use classification.

Addressing this argument, the ALJ pointed out the clear fallacy of the petitioners' argument: "The exclusion of intermittent streams from the definition of 'stream' means that the numeric criteria will

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ASCHAUER

Continued on Page 14

# Calendar

## April

APR. 4 – Conference: Geotechnical and Materials Engineers Council 2013 Conference, Altamonte Springs, FL. Presented by the Florida Engineering Society. Call (850) 224-7121 or visit [www.fleng.org](http://www.fleng.org).

APR. 4-5 – Conference: The Native Plant Show, Kissimmee, FL. Produced by the Florida Association of Native Nurseries. Call (321) 917-1960 or visit [www.floridanativenurseries.org](http://www.floridanativenurseries.org).

APR. 5 – Course: Backflow Prevention Recertification Review, West Palm Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

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APR. 7-10 – Conference: Sustainable Water Management Conference, Nashville, TN. Presented by the American Water Works Association. Visit [www.awwa.org](http://www.awwa.org).

APR. 8-12 – Course: Asbestos: Contractor/Supervisor, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 4-10 – Course: Spotter Training for Solid Waste Facilities, Palm City, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 11 – Course: Waste Screening Refresher, Palm City, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 11 – Course: Solid Waste Workplace Health and Safety Training-4 hours, Palm City, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 12-20 – Course: Backflow Prevention Assembly Tester Training and Certification, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 13-21 – Course: Backflow Prevention Recertification Review, Jacksonville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 13 – Course: Backflow Prevention Recertification Review, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 14 – Course: Backflow Prevention Recertification Exam, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 15-17 – Course: Initial Training Course for Landfill Operators and C&D Sites 24 Hour, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 15 – Course: 4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 15 – Course: 8-Hour Training Course for Spotters at Landfills, C&D Sites and Transfer Stations, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

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versity of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 16 – Summit: National Water Infrastructure Summit, Washington, DC. Presented by the Water Environment Federation. Call 1-800-666-0206 or visit [www.wef.org](http://www.wef.org).

APR. 16 – Course: Exposure to Bloodborne and Waterborne Pathogens, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 17 – Course: Introduction to DEP SOPs for Surface and Groundwater Sampling, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 17-19 – Course: Fundamentals of Slope Stability and Settlement for Solid Waste Disposal Facilities, Orlando, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 17-19 – Conference: CAPCA Spring Conference, Asheville, NC. Presented by the Carolinas Air Pollution Control Association. Call (919) 676-6099 or visit [www.capca-carolinas.org](http://www.capca-carolinas.org).

APR. 18 – Meeting: Monthly meeting of the Central Florida Association of Environmental Professionals, Winter Park, FL. Contact Amy Guilfoyle at (407) 240-1127 or [aguilfoyle@ppmco.com](mailto:aguilfoyle@ppmco.com).

APR. 19 – Seminar: Stormwater BMPs and LID, Atlanta, GA. Presented by the Southeast Stormwater Association. Call (850) 425-2610 or visit [www.seswa.org](http://www.seswa.org).

APR. 19 – Workshop: Adaptive Planning for Sea-Level Rise—Legal Issues for Local Government, Broward County, FL. Presented by the Florida Sea Grant College Program with support from the National Oceanic and Atmospheric Administration. Contact Thomas Ruppert at (352) 392-5870 or [truppert@ufl.edu](mailto:truppert@ufl.edu) or visit [www.floridalanning.org](http://www.floridalanning.org).

APR. 21-24 – Forum: National Environmental Policy Forum, Washington, DC. Presented by the National Association of Clean Water Agencies. Call 202.833.2672 or visit [www.nacwa.org](http://www.nacwa.org).

APR. 22 – Course: Asbestos Refresher: Project Design, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 22-24 – Conference: 21st Annual North American Waste-to-Energy Conference, Fort Myers, FL. Cosponsored by the Solid Waste Association of North America, the Energy Recovery Council, ASME and in partnership with the Waste-to-Energy Research and Technology Council at Columbia University. Call 1-800-467-9262 or visit [swana.org](http://swana.org).

APR. 23 – Course: Asbestos Refresher: Inspector, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570.

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APR. 24 – Course: Asbestos Refresher: Contractor/Supervisor, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 25 – Course: Backflow Prevention Recertification Review, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 26-27 – Course: Backflow Prevention Assembly Repair and Maintenance Training and Certification, Venice, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 26 – Course: Backflow Prevention Recertification Exam, Gainesville, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

APR. 26 – Symposium: 5<sup>th</sup> Annual Green Symposium, DeLand, FL. Presented by the Florida Chapter of the American Planning Association. Call (386) 822-7500 or visit [www.floridaplanning.org](http://www.floridaplanning.org).

APR. 28 – Conference: Florida Water Resources Conference, Orlando, FL. Presented by the of the Florida Section of the American Water Works Association, the Florida Water Environment Association and the Florida Water and Pollution Control Operators Association. Call (407) 957-8448 or visit [www.frwc.org](http://www.frwc.org).

## May

MAY 1 – Course: Spotter Training for Solid Waste Facilities, West Palm Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAY 2 – Course: Backflow Prevention Recertification Review, Destin, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAY 2-4 – Conference: 2013 Florida Ground Water Association Annual Convention and Trade Show, Orlando, FL. Call (850) 295-5641 or visit [www.fgwa.org](http://www.fgwa.org).

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MAY 6 – Course: Asbestos Refresher: Project Design, Dania Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAY 7-9 – Course: Activated Sludge Process Control & Troubleshooting, Tampa, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).

MAY 7 – Course: Asbestos Refresher: Inspector, Dania Beach, FL. Presented by the University of Florida TREEO Center. Call (352) 392-9570 or visit [www.treeo.ufl.edu](http://www.treeo.ufl.edu).



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# Chinese drywall class action settlement helps some victims but shows little teeth

By SUSAN TELFORD

Homeowners affected by tainted Chinese drywall will finally receive some long overdue help after a federal judge in New Orleans approved several class-action settlements requesting that at least one manufacturer pay restitution to the victims.

The drywall was used in the construction of close to 20,000 homes and businesses throughout the South after hurricanes ravaged the area in 2004 and during

the building boom.

Foul odors, corroding pipes and wiring, and respiratory problems were just a few of the severe issues caused by the high level of sulfur gases emitted by the substandard product.

"We just had to get out," said a Palm Beach County homeowner who didn't want to be identified because of a pending settlement. "My husband started to pull the drywall down, but we were getting sick and

had to get out immediately. We haven't been back."

U.S. District Judge Eldon Fallon in New Orleans used a hearing last fall to help him assess five separate but related settlement agreements between plaintiff's lawyers and companies that made, supplied or installed defective Chinese drywall.

Fallon's order certified settlements for Interior/Exterior Building Supply LP, several Banner companies, L&W Supply Corp., Knauf and participating builders, suppliers and installers.

Attorneys for the plaintiffs said that the settlements will benefit more than 10,000 property owners and are estimated to be in excess of \$1 billion, most of which will be paid by Knauf Plasterboard Tianjin Co.

Knauf agreed to create an uncapped fund to pay for repairing 5,200 properties located in Florida, Louisiana, Mississippi and Alabama.

A separate fund capped at \$30 million will pay for other types of loss linked to the tainted product, such as health related problems.

Attorneys' fees and costs paid by Knauf are capped at \$160 million and will not be deducted from homeowners' shares of the settlement money.

Fallon, who presides over more than 10,000 claims involving Chinese drywall, refused last September to dismiss property owners' claims against a different Chinese drywall manufacturer, Taishan Gypsum Co. Ltd.

Taishan argued that the U.S. courts have no jurisdiction over claims against it and plans to appeal Fallon's ruling.

Stronger legislation proposed in the last session of Congress required all international manufacturers doing business in America to submit to U.S. jurisdiction.

But the Foreign Manufacturers Legal Accountability Act failed to move forward after it was deemed costly and a threat to jobs by industry groups, giving foreign companies the ability to circumvent U.S. courts.

In the meantime, Americans have little recourse with the Chinese manufacturers who refuse to comply.

In January, President Obama signed into law a bill that Congress said addresses the drywall dilemma. But some say the new law put into place does not set the standards necessary to stop the future sale or

distribution of the substandard drywall—imported or domestically produced—nor does it set a standard for the amount of sulfuric gas the drywall releases.

The Drywall Safety Act had stronger wording when first introduced by U.S. Rep. Scott Rigell, R-VA, over a year ago, calling for the making, buying, selling and using contaminated Chinese drywall to be illegal.

It called for the toxic drywall to be treated as a hazardous substance under Federal Hazardous Substances Act regulations and regarded as an imminent hazard under the Consumer Product Safety Act.

After industry lobbying, the Drywall Safety Act was watered down, simply calling for better identifying marks on drywall and for a standard on sulfur content.

The new law passes on responsibility to drywall makers rather than government regulators.

It also gives the original regulators the option of simply deferring to an industry-developed voluntary standard when it comes to outgassing. To date, there is no set standard for an acceptable level of sulfur gas emissions from drywall.

"If we have a standard for outgassing, then it takes care of the problem. It's really as simple as that," said Michael Foreman, head of Sarasota-based Foreman & Associates in a written statement. "The outgassing is the only thing that matters. That's why you need a standard for what's an acceptable level of sulfur gas emissions from drywall. That would keep this from happening."

Foreman's firm has investigated the defective drywall since it first became a problem in the marketplace.

"Setting standards based on limiting emissions similar to the standards set for formaldehyde levels allowed from composite wood would stop bad drywall from entering the marketplace and would force manufacturers to comply to an acceptable industry standard," he said.

The foreign companies' ability to avoid the U.S. courts was addressed in the Drywall Safety Act, which states that it is the "sense of Congress" that the Chinese government should order companies that made the inferior product to submit to the U.S. courts and to comply with their decisions.

To date, this language carries no legal weight in China. Chinese authorities have shown no indication of complying.

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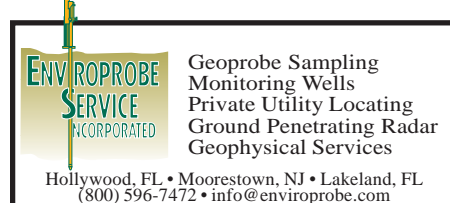
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# TECO initiates first phase of alternative water supply projects for Polk Power Station

By **BLANCHE HARDY, PG**

**T**ampa Electric Company is poised to begin construction on a 15-mile reclaimed water transmission main that will convey wastewater from the city of Lakeland's effluent wetland treatment system to TECO's Polk Power Station.

The \$72 million project—five years in the making—is funded in part by an allocation of approximately \$35 million from the Southwest Florida Water Management District.

The pipeline facilitates Swiftmud's objective of utilizing alternative water sources to offset potable water use and offers the added benefit of addressing critical water supply concern as the project is located in the district's Southern Water Use Caution Area.

The project also includes a water treatment system and a deep groundwater injection well system at the Polk Power Station.

Construction of the transmission main is phase one of a series of anticipated public private partnerships TECO is undertaking to secure alternative water supply for expansion of their power generation facility.

The utility announced its intent to file a petition of need with the Florida Public Service Commission and a site certification application with the Florida Department of Environmental Protection for the expansion in the fall of 2012.

TECO intends to increase its Polk power generation capacity by 460 megawatts by January 2017 if approved.

The project will initially use approximately four million gallons per day of the wastewater currently being discharged from the city of Lakeland's 1,600-acre created wetland secondary water treatment system into the Alafia River.

"TECO has a total take contract," said Bob Conner, assistant director of water utilities for the city of Lakeland. "Presently, about 7.0 mgd is flowing from our wetlands to the Alafia. The volume is expected to grow through the contract period."

TECO is also finalizing the details of public-private partnership reclaimed water supply agreements with the city of Mulberry and Polk County which, once connected to the pipeline, will allow TECO to utilize in excess of an additional million gallons a day of treated wastewater from those sources.

The project will deliver a number of benefits to Lakeland and Polk County, as well as TECO. Both Lakeland and Polk County currently discharge treated effluent into surface water.

Without delivery of treated wastewater upon generation to customers who provide a committed financial return, the cost of surface water storage and discharge is anticipated to rise substantially with the implementation of proposed nutrient reduc-

tion regulations and total maximum daily load requirements.

"We will avoid the expenses of finding alternative disposal or upgrading to meet the numeric nutrient criteria on our present disposal," said Conner.

Transmission of Lakeland's reclaimed water to the Polk facility will begin in March, 2014.

The use of reclaimed water by industrial customers is frequently process-driven and therefore predictable. It is considered a more efficient use than distribution to individual private consumers who may or may not utilize the resource consistently.

By providing their reclaimed water to TECO, Lakeland and Polk County are maximizing the utility of a currently underutilized resource. This maximization in turn reduces dependency on groundwater pumping.

Polk County data indicated that the TECO partnership will allow their water resource system to reach the high percentage of efficiency and 75 percent beneficial use required for a longer term consumptive use permit.

Both the city and county have been able to negotiate longer term 20-year consumptive use permits with SWFWMD in part as a result of their participation in the TECO project.

## Plan for divvying up funding for oil spill restoration taking shape

By **ROY LAUGHLIN**

**A**s the trial to assess civil damages against BP for the Deepwater Horizon oil spill got underway in New Orleans in March, plans for the money also shifted into high gear.

The RESTORE Act of 2012 established the Gulf Coast Ecosystem Restoration Council that will receive 30 percent of whatever damages are assessed against BP.

The RESTORE Act requires the council to develop by July, 2013, a detailed comprehensive plan for its Gulf ecosystem remediation plan. This plan will be the blueprint for efforts that could be funded by BP-generated fines and penalties.

The Gulf Coast Task Force, in its final report released in December, 2011, made

four recommendations for long term efforts and the council recently added a fifth.

The task force goals are to restore habitat, restore water quality, replenish and protect living coastal and marine resources, and enhance community resilience. The council's fifth goal is to restore and revitalize the Gulf Coast's economy.

Beyond defining goals, the comprehensive plan will describe necessary provisions to incorporate the strategy, projects and programs recommended by the task force.

Additionally, the plan will include a list of any project authorized prior to the enactment of the RESTORE Act, the completion of which would further the purposes

**RESTORE**  
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**CRYSTAL**  
From Page 1

of the plant followed the discovery of a crack the containment building concrete.

"That was discovered while our workers were creating an opening in the containment structure allowing the replacement of two steam generators," she said.

Danenhower said the unit was shut down for scheduled maintenance at the time so there was no danger when the discovery was made.

Since 2009, there has been much conjecture about the future of the plant, but the final decision was all about dollars and cents. The estimated cost of repairing CR3 has ranged from \$1.49 billion on the low side to as high as \$3.43 billion.

After the 2009 crack discovery, more were found in 2011 at the 860-megawatt nuclear plant.

While 600 full-time jobs may eventually disappear, Danenhower said Duke is now forming an in-house decommission team that will oversee the retirement process for the plant. She said some of the staff will come from current employees with 300 needed initially.

The decom organization plan will include scope, schedule, costs and other elements of the decommissioning process.

"Decommissioning is a very structured and multiplying process," Danenhower emphasized. "It takes several years to get into a decommissioning mode so this decommissioning organization will oversee that process."

While the decom organization will have

300 on staff initially, Danenhower said that number will decline over time as the regulatory process winds down, relieving them of requirements associated with the plant. She said the long term decontamination process could take 40-60 years to complete.

The decommissioning plan is called a "safe store option," requiring high level Nuclear Regulatory Commission involvement.

Danenhower said after the February closing announcement, the clock started ticking when Duke Power/PEF submitted a cessation of operation statement and a permanent removal of all nuclear fuel stipulation to the NRC.

The time clock means that by Feb. 20, 2015, additional paperwork must be submitted to the NRC detailing the scope of the decommissioning including cost estimates and scheduling.

The company has voiced concern about the future of its employees. Danenhower said that some of them could become part of the decommissioning transition team and others transferred to facilities operated by Duke in the Carolinas.

Citrus County Commission Chairman Joe Meek, in a statement after the closing was announced, said "while this decision will have a major impact on our community, it will provide an opportunity to redefining our priorities."

Meek is also president of the Citrus Economic Development Council and he alluded to county efforts underway to convince the company to locate its proposed natural gas power plant in the county.

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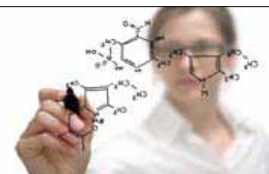
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**ASCHAUER**  
From Page 10

not apply to intermittent streams, but the narrative nutrient criterion remains applicable to them.”

The petitioners objected to the use of the SCI, arguing that it is “primarily a measure of biological responses to human disturbance and not specifically to nutrient pollution.” The petitioners urged that the SCI was not “a good test for the presence of algal toxin.”

The ALJ pointed out, however, that the SCI “is only one part of the streams criteria” and that the “SCI provides information about faunal health.” Ultimately, the ALJ concluded that DEP “proved by a preponderance of the evidence that the proposed numeric criteria ... are reasonably designed to prevent pollution and protect their designated uses.”

The petitioners also took issue with the sampling requirements of the proposed rule and argued that more sampling should be required. Finding that DEP only set a minimum number of samples and that the choice

of a minimum sample size is “as much a matter of policy as of science,” the ALJ concluded that DEP “proved by a preponderance of the evidence that the sample size and compliance criteria used in the proposed rules are reasonably designed to prevent pollution and protect designated uses.”

**The appeal**

The petitioners appealed ALJ Canter’s final order. The three arguments advanced on appeal by the petitioners were: (1) the ALJ erred in dismissing the claim that a new use classification was created (the stream definition argument) by the rules; (2) the ALJ made numerous evidentiary errors keeping evidence out, resulting in a “cumulative impact” warranting reversal; and (3) the ALJ erred in concluding that since algae outbreaks occur in nature, no toxic algae outbreak is a violation of nature.

As might be expected, in response, the opposing parties argued that the ALJ was correct in his final order, and that the order should be upheld.

The First District Court of Appeal is-

sued a PCA, short for “per curiam affirmed.” In essence, without written opinion, the appellate court upheld the ALJ’s final order.

**Going forward**

This column would be incomplete if it did not mention the ongoing development of NNC by EPA and DEP. Indeed, with regard to the development of the criteria, there is still work to be done.

The consent decree from the 2008 federal litigation required EPA to propose rules in the absence of a rule from DEP establishing NNC. While DEP passed a rule covering many of Florida’s waters, EPA has pointed to 62-302.531(9), FAC, as giving rise to a concern that Florida’s rules may not be implemented. Specifically, 62-302.531(9), FAC, reads, in pertinent part, as follows:

“... Accordingly, these rules shall be effective only if EPA approves these rules in their entirety, concludes rulemaking that removes federal numeric nutrient criteria in response to the approval, and determines, in accordance with 33 U.S.C. § 1313(c)(3), that these rules sufficiently address EPA’s January 14, 2009 determination...”

It can be argued that a failure to meet the three conditions contained within this section precludes Florida’s NNC rules from taking effect.

So, on Dec. 18, 2012, EPA published two separate proposed rules in the Federal Register—the first one titled Water Quality Standards for the State of Florida’s Streams and Downstream Protection Values for Lakes: Remanded Provisions (the Phase I Rule), and a second titled Water Quality Standards for the State of Florida’s Estuaries, Coastal Waters, and South Florida Inland Flowing Waters (the Phase II Rule). Both rules would establish NNC for the state of Florida, each rule dealing with a different set of waterbodies.

Interestingly, the Phase I rules would act to “gap fill” and provide criteria for only those waters not addressed by the Florida’s NNC rule—those excluded by the definition of “stream”—unless 62-302.521(9), FAC, precludes DEP’s NNC rules from taking effect, in which case the Phase I Rule would apply to all waterbodies, even those included in the definition of “stream” in DEP’s NNC rules.

Having published proposed rules for lakes and flowing waters (the Phase I Rule) and South Florida canals, estuaries and coastal waters (the Phase II Rule), EPA must finalize the Phase I Rule by Aug. 31, 2013, and the Phase II Rule by Sept. 30,

2013 (1) in the absence of a Florida rule addressing those waterbodies, or (2) an amendment to the consent decree, or (3) some other agreement. To that end, EPA and DEP recently reached an agreement that may result in EPA’s Phase I Rule and Phase II Rule being unnecessary.

On March 15, 2013, DEP announced an agreement with EPA intended to resolve all differences and allow Florida to take the unquestioned leadership role with regard to the establishment of NNC. The agreement requires DEP to establish NNC for 22 estuary and coastal segments by July 1, 2013, or as soon thereafter as possible. As for the remaining estuary and coastal segments, DEP is to conclude its rulemaking by Dec. 1, 2014.

Until DEP establishes NNC for the remaining estuary and coastal segments, proposed legislation would require that the applicable water quality standards shall be the current unimpaired conditions of those waters. The proposed legislation directs DEP to calculate interim numeric values representing those unimpaired conditions and submit the criteria to the governor and Legislature by Aug. 1, 2013.

Furthermore, the agreement requires DEP to submit the document titled Implementation of Florida’s Numeric Nutrient Criteria Standards dated March 11, 2013, to EPA for review under the CWA once that document has been adopted by rule.

In exchange, “EPA is prepared to take actions that would make it unnecessary for EPA to finalize federal criteria for these waters.” Furthermore, “EPA is prepared to amend the 2009 determination to clarify the numeric nutrient criteria are unnecessary for flowing waters not covered by the stream definition.”

It has been a long path. Normally, the administrative rulemaking proceeding discussed would have been an end to the effort.

Here, however, Florida will have to wait to see if the agreement between DEP and EPA resolves this matter and allows DEP’s NNC rules to take effect.

It has been a year since the final hearing concluded. Florida may not be forced to wait much longer for its DEP rules.

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## Robotic rakes to clear South Florida pump station intakes

By ROY LAUGHLIN

The South Florida Water Management District has started work on two remotely operated automated pumping stations that will feature robotic rakes. The rakes are slated for installations at upgraded S-133 near the city of Okeechobee and the S-135 structure in western Martin County.

“Anything you can imagine could be blown into a canal and can be removed by the new rakes,” said Gabe Margasak, a spokesman for the district.

He further explained that even large trees can be blown into canals in high winds and float to intakes at pumping stations. During large flood events, many tons of land and aquatic plant debris are removed at control structures so that pumps can move water to help prevent flooding.

“They do get large piles, tons of vegetation,” said Margasak.

In the past, station operators often resorted to using heavy equipment, manually operated, to keep the canals open and pumps operating effectively.

Automation is not at all new to the district. They have 45 automated debris rakes and even more automated pumping stations, though not all are remotely operated.

They have automated and remotely operated their monitoring stations for years, which gives the district substantial capability with rugged telemetry to support remote operation of critical equipment.

The advance for the S-133 and S-135 structures is the combination of automated pumps and robotic rakes designed for remote operation from SFWMD’s control center in western Palm Beach County.

The new rakes being installed across the district’s control structures “are commercially available units with minor modifications to fit our needs,” said Margasak.

The cybernetic controls vary from the simplest to the most sophisticated. The simplest have an on-off switch. Those rakes are at small and medium-sided pumping stations. The rakes operate when the pump is running.

The more complex rakes are controlled by programmable logic controller software developed by the manufacturer and customized as needed.

District managers are confident that as long as fuel to generate electricity is available at the stations, the pumps and rake systems will be able to continue remote controlled operation in any hurricane event.

With automated rakes, station operators will be able to concentrate on other challenges that inevitably occur in extreme events without the distraction of manually operating equipment.

District managers see a more effective and continuous flood control effort as the primary benefit of increasing automation and remote control at their water control structures. Something as mundane as robotic rakes make a big contribution to that mission.

**FEDFILES**  
From Page 2

neering/planning and policy in a joint University of Massachusetts Boston and Tufts University program.

She has worked for state agencies in both Massachusetts and Connecticut, and has worked for both Democratic and Republican governors in those states.

As a state environmental official, she worked on mercury emission reductions, environmental technology, brownfield development, cleaning up Long Island Sound and other air pollution preventative programs.

It is her recent experience and accomplishments at the EPA, however, that may provide the most insight into the basis of her appointment. She joined the EPA in 2009. Under her leadership, the agency established new rules for mercury emissions to air, ramped up air quality standards for soot and set stricter air emission standards for power plants.

Her involvement with higher fuel economy standards for automobiles signals many EPA watchers to believe that McCarthy will be the second term Obama administration point person for climate change policy and regulation.

Increasing fuel standards for automobiles is accepted as the most effective way to reduce CO2 emissions in the transportation sector. The rules she crafted put the U.S. at the forefront internationally of automobile fuel efficiency standards.

Her appointment, predictably, was praised by many environmental organizations, but was only faintly praised or criticized by industry spokesman and legislators who represent districts whose energy industries have strong political ties.

The Department of Energy will also take a leading role in formulating Obama's climate change legacy during his second term. Professor Ernest Moniz, Cecil and Ida Green Professor of Physics and Engineering Systems at the Massachusetts In-

stitute of Technology, is Obama's nominee to replace Dr. Steven Chu as secretary of the Department of Energy. At MIT, Moniz is the director of the Institute's Energy Initiative and Laboratory for Energy and the Environment.

Moniz received his bachelor's degree from Boston College in physics and then a Ph.D. in theoretical physics from Stanford University. He joined the MIT faculty in 1973.

During the second Clinton administration, he was an undersecretary for the Department of Energy, and prior to that in the first Clinton administration, he was an associate director for science in the Office of Science and Technology Policy in the Executive Office for the President.

Moniz has a reputation as a pragmatist with a government policy background who works effectively with industry. The MIT Institute he heads has a history of support from major players in the energy industry. He is a proponent of a pragmatic strategy of exploiting fossil fuels as an economically attractive bridge to a dominant renewable energy future.

If these two nominees are approved by the Senate, indications are that considerations of climate change will be part of President Obama's energy policy legacy,

but that policy will be linked to pragmatically limited goals that many experts fear may not be sufficient to meet crucial thresholds to restrain climate change effects to manageable levels globally.

**Smart growth linked to environmental justice.** The EPA released a report explaining how low income, minority and tribal communities can use the principles of smart growth land-use and development strategies to create healthy communities, spur economic growth and protect the environment.

The report includes ideas to help smart growth designers and planners provide for the needs of low income residents when planning for development or redevelopment in under-served communities. Some of this information is presented as case studies.

Those case studies examine topics such as designing safe streets, preserving affordable housing, repairing and updating existing infrastructure before investing in new projects, remediation of contaminated properties and reducing risk of using facilities with potential or identified environmental contamination.

**Sustainable growth policies.** Five Florida communities are among 43 commu-

nities across the country that will receive EPA assistance to implement sustainable growth policies that encourage local economic development and safeguard human health and the environment.

The program, a collaboration between EPA, the U.S. Department of Housing and Urban Development and the U.S. Department of Transportation, received a total of 121 applications and funded 43 of them.

Fort Lauderdale will get assistance with Creating a Green Streets Strategy; Pompano Beach's assistance is for Neighborhood Planning for Healthy Aging; Bowling Green and Zolfo Springs will receive assistance with Sustainable Strategies for Small Cities and Rural Areas; and Lake Worth was selected to receive assistance for Using Smart Growth to Produce Economic and Fiscal Health.

The EPA program may offer any one of up to 14 different tools including two-days of on-site technical assistance visits by EPA staff or consultants followed by written advice on their findings and suggestions.

In the 2013 round of funding that EPA announced in February, only nine of the tools were offered nationwide to applicants. Florida recipients will focus on the four sustainability goals listed.

## Palm Beach fights to keep landfills

By DAN MILLOTT

For years, the town of Palm Beach has been removing refuse from ocean-shore homes and carting it to two landfills several miles to the west near the Florida Turnpike.

But the Palm Beach County Commission, in their capacity as the Solid Waste Authority Board of Directors, now wants the town's two landfills shut down.

The county has filed a petition to change the directives of both the Palm Beach County Health Department and Florida Department of Environmental Protection.

Those two agencies have given temporary approval for the town to receive waivers allowing them to continue operating the two landfills.

Keith Rizzardi, attorney for the town, said the first petition filed for the Solid Waste Authority was dismissed because of errors and was later re-filed. The matter will eventually go before an administrative judge.

Town Manager Peter Elwell said the town filed an answer to the county petition, but since it is now a pending legal action, officials would not comment on the merits of the case.

If Palm Beach has to abandon the current landfill sites, they would have to transport their waste elsewhere, perhaps to a site run by the Palm Beach County Solid Waste Authority.

Town of Palm Beach Public Works Director Paul Brazil said such a move could cost the town as much as \$1 million up front, plus higher operating costs.

For decades, the town has been hauling refuse to a site near Okeechobee Boulevard and a second on Skees Road.

The county commission, after receiving complaints from residents, moved in October to shut down the two landfills. However, the town contends the landfills are environmentally friendly, safe, legally operated and are a cost-effective disposal option.

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**RESTORE**

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and goals of the comprehensive plan in the act. It will also describe funding mechanisms and other payment provisions for trust funds to be allocated over the 10-year program and identify a three-year project priority list that will be subject to available funding.

The draft provisions for the comprehensive plan are well developed but are not

set in stone. They will influence and be influenced by individual states' efforts and dovetailed through planning.

Up to this point, much of the input has been formalized by high level government and special interest group membership. Public outreach efforts are now a major component in the final stages of the comprehensive plan development.

The council has announced a schedule that provides opportunities for public en-

agement from individuals across the Gulf Coast region. A schedule will be updated throughout the spring. Members of the public may speak at the meetings and written comments will also be accepted.

The first group of public meetings was held in Mississippi, Louisiana and Florida in February.

Most observers expected BP would settle out of court on civil damages before the end of February, perhaps during the time when the council's initial public meetings were being held.

But no out-of-court settlement was reached and the first trial sessions were held in early March.

BP scored an early win when Judge Carl Barbier supported BP's motion to exclude about 800,000 gallons of oil that came from the well after the disaster, but was salvaged at the well point.

In the worst-case scenario, exclusion of

those 800,000 gallons from the spill tally could reduce BP's possible liability by about \$3.4 billion. The originally assumed \$21 billion in civil damages is now down to about \$17.6 billion.

BP lawyers are still disputing the government's estimate of the volume of the spill, claiming it's about 20 percent too high. They also said that they think damages should be capped at several billion dollars.

The trust fund received part of the \$1 billion in civil fines and penalties under the Clean Water Act paid by Transocean Deepwater Inc. when Judge Barbier approved a settlement reached in January.

It remains to be seen how much more, if any, the current trial in Judge Barbier's courtroom will add to available project funding to be dispersed for Gulf ecological restoration by the Gulf Coast Ecosystem Restoration Council.

house or building to the system.

For properties that have contaminated potable wells that qualify for the program, the department will offer to pay all connection costs, excluding the utility deposit, Gillespie said.

Florida's drinking water state revolving fund program provided an \$89,694 pre-construction grant to the city in February.

The program plans to provide the city with an additional \$910,306 in construction grant funds in April. The pre-construction and construction grants from the program will cover up to 85 percent of the total project cost.

Construction involves running water distribution lines an estimated 3.4 miles.

The water supply restoration program has initiated a contract with the city, expected to be completed in April, that will commit \$269,144 to cover some of the project costs not covered by the grant funds along with utility connection costs for qualified properties, Gillespie said.

The state has identified another 43 wells across Polk County, including 25 about two miles northwest of Mulberry, with elevated levels of arsenic. Of those 43, 12 systems have been equipped with filters.

DEP officials said the department is spending about \$4 million annually in its water supply restoration program. In Polk County, the agency has spent about \$450,000 sampling wells and mitigating water quality issues.

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**ARSENIC**

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Efforts are underway to get the residences connected to the Mulberry municipal system with the help of funding from the state revolving fund program and the water supply restoration program, Gillespie said.

State officials are assisting the city with securing a federal grant that will pay for extending water lines and connecting each

**SOLAR**

From Page 8

age the development of solar energy.

Florida is not one of them.

When Broward received the phase one grant, 14 cities signed up for the one-stop electronic permit program for solar projects. Across the state, Miami-Dade, Monroe, Sarasota, Orange and Alachua counties have all shown interest.

The Florida Solar Energy Center in Cocoa will act as depository for solar system design templates. FSEC will maintain a database that will streamline the system so all 67 counties can draw from a single source.

Stephen Barkaszi, executive director of FSEC, said if the Phase Two grant is approved, it will put in place a streamlined permitting process for small commercial and residential solar electric systems. He said the beauty of the new system is speed.

"People can apply on-line and have their permit quickly—if not instantly. That will avoid lost time and cost, and everything else that goes along with permit delays."

The Solar Energy Industries Association, a Washington-based trade group, says solar represents just one percent of the energy produced nationwide, but the installation of solar panels doubled in 2010 and 2011 so substantial growth has been shown.

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