

Atlanta Environmental Management, Inc.

Newsletter



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EPA Announces New Guidelines for Fluoride

The U.S. Department of Health and Human Services (HHS) and the U.S. Environmental Protection Agency (EPA) announced new guidelines on January 7, 2010, for fluoride in drinking water based on recent scientific assessments. HHS currently recommends a range of 0.7 to 1.2 milligrams per liter (mg/L) of fluoride in drinking water to support dental health, especially in children. HHS is proposing that the recommended level of fluoride in drinking water now be set at the lower end of the recommended range. Meanwhile, EPA is initiating a review of the maximum amount of fluoride that should be allowed in drinking water in order to prevent adverse health effects from too much fluoride.

These actions are expected to maximize the health benefits of water fluoridation, an important tool in the prevention of tooth decay, while simultaneously reducing the possibility of children receiving too much fluoride.

Fluoride is an ionic form of the element fluorine (F), a naturally occurring earth element. According to the U.S. Geological Survey, fluorine occurs across the United States in a variety of rocks, minerals, and geologic environments. It occurs as a trace element, as a major component of the mineral fluorite (CaF₂), and as a major economic source of fluorine in fluor spar deposits, which are massive concentrations of fluorite.

Fluoride is used by higher life forms in the structure of bones and teeth. The importance of fluoride in forming human teeth and the role of fluoride intake from drinking water in controlling the characteristics of tooth structure was recognized during the 1930s. The Centers for Disease Control and Prevention named the fluoridation of drinking water one of the 10 great public health achievements of the 20th century.

The drinking-water Maximum Contaminant Level (MCL) for fluoride is 4 milligrams per liter (mg/L). Potential health

effects from long-term exposure above the MCL include potential staining and mottling of teeth (dental fluorosis) and, at higher concentrations, bone disease (skeletal fluorosis).

EPA's Integrated Risk Information System (IRIS) database includes a reference dose (RfD) for fluoride based on dental fluorosis, which results from excess exposure to fluoride during the age of calcification of the teeth (up to about 8 years of age for anterior teeth). However, EPA has determined that objectionable dental fluorosis is a cosmetic effect and not a toxic or adverse health effect (50 FR 47142). Dental fluorosis in the United States appears mostly in the very mild or mild form, as barely visible lacy white markings or spots on the enamel. The severe form of dental fluorosis, with staining and pitting of the tooth surface, is rare in the United States. According to IRIS, "it has been estimated that the development of crippling skeletal fluorosis in man requires the consumption of 20 mg or more of fluoride/person/day over a 20-year period, i.e., 0.28 mg/kg/day."

Americans now have access to more sources of fluoride than they did when water fluoridation was first introduced in the United States in the 1940s. Water is now one of several sources of fluoride. Other common sources include dental products such as toothpaste and mouth rinses, prescription fluoride supplements, and fluoride applied by dental professionals.

A notice of the proposed recommendation will be published in the Federal Register soon and HHS will accept comments from the public and stakeholders on the proposed recommendation for 30 days. HHS is expecting to publish final guidance for community water fluoridation by spring 2011. A prepublication version of the proposed recommendation is available at http://www.hhs.gov/news/press/2011pres/01/pre_pub_frn_fluoride.html

Small Earthquake in Smoky Mountains

At 7:34 a.m. on Sunday, January 2, 2011, a small (magnitude 2.5) earthquake occurred within the Great Smoky Mountains National Park in North Carolina near the border with adjacent Tennessee. The epicenter of the earthquake was located approximately 8 miles north of Bryson City, North Carolina, and 44 miles southeast of Knoxville, Tennessee (136 miles north-northeast of Atlanta). Weak shaking of the ground was reported in adjacent counties on both sides of the border, although no damage was reported.

Since at least 1776, people living inland in North Carolina and South Carolina, and in adjacent parts of Georgia and Tennessee, have felt small earthquakes and have suffered damage from infrequent larger ones. The largest earthquake in the area (magnitude 5.1) occurred in 1916. Moderately damaging earthquakes strike the inland Carolinas every few decades, and smaller earthquakes are felt about once each year or two.

According to the U.S. Geological Survey, earthquakes

in the central and eastern U.S., although less frequent than in the western U.S., are typically felt over a much broader region. East of the Rockies, an earthquake can be felt over an area as much as ten times larger than a similar magnitude earthquake on the west coast. A magnitude 4.0 eastern U.S. earthquake typically can be felt at many places as far as 60 miles from where it occurred, and it infrequently causes damage near its source. A magnitude 5.5 eastern U.S. earthquake usually can be felt as far as 300 miles from where it occurred and sometimes causes damage as far away as 25 miles.

Earthquakes everywhere occur on faults within bedrock, usually miles deep. The January 2 earthquake occurred at a depth of 2.4 miles. Most bedrock beneath the inland Carolinas was assembled as continents collided to form a supercontinent about 500–300 million years ago, raising the Appalachian Mountains. Most of the rest of the bedrock formed when the supercontinent rifted apart about 200 million years ago to form what are now the northeast-

ern U.S., the Atlantic Ocean, and Europe.

At well studied plate boundaries like the San Andreas fault system in California, scientists often can determine the name of the specific fault that is responsible for an earthquake. In contrast, east of the Rocky Mountains this is rarely the case. The inland Carolinas region is far from the nearest plate boundaries, which are in the center of the Atlantic Ocean and in the Caribbean Sea. The region is laced with known faults, but numerous smaller or deeply buried faults remain undetected. Even the known faults are poorly located at earthquake depths. Accordingly, few if any earthquakes in the inland Carolinas can be linked to named faults. It is difficult to determine whether a known fault is still active and could slip and cause an earthquake. As in most other areas east of the Rockies, the best guide to earthquake hazards in the seismic zone is the earthquakes themselves.

Herschel Vinyard Named as New FDEP Director

On January 3, 2011, Florida Governor-elect Rick Scott tapped the business community to fill a key position on his leadership team by nominating Herschel Vinyard, a Jacksonville environmental attorney and shipyard executive, to head the Florida Department of Environmental Protection (FDEP). The appointment is subject to confirmation by the Florida Senate and the Florida Cabinet. If confirmed, Mr. Vinyard will succeed Mimi Drew, who was promoted from deputy secretary after Mike Sole resigned in September.

Mr. Vinyard has more than twenty years of experience in environmental law and business management. During his decade in private practice at Smith, Hulsey and Busey, Mr. Vinyard counseled clients in state and federal environmental compliance and permitting, was heavily involved in the siting of an electrical cogenerating facility, and assisted in industry waste minimization efforts. He received his undergraduate and law degrees from Louisiana State University.

Having practiced environmental law for nearly a decade, Mr. Vinyard, who also served as a member of Governor-elect Scott's Economic Development Transition Team, has a deep background in environmental compliance and innovation. More recently, he has served as director of business operation for BAE Systems Southeast Shipyards. BAE is the world's second largest defense contractor. Governor-elect Scott considered this mix of legal expertise and service with a major Florida employer in nominating Mr. Vinyard as the FDEP Director, saying, "Herschel is a man of deep environmental knowledge and practical business experience. He has a love for our great state's natural resources and a passion for job creation. He will effectively balance those interests for the benefit of all Floridians. We are fortunate to have recruited Herschel from the private sector into government service."

As an example of Mr. Vinyard's focus on environmental responsibility and effective business practices, he provided counsel to BAE Systems in its recent, successful efforts to remove its treated wastewater outfall from the St. Johns River. That wastewater is now being used for irrigation purposes and eliminates a discharge to one of Florida's most significant water bodies. In addition, Mr. Vinyard led his company's three-year effort to obtain state approval for a sovereign submerged lands lease. His experience in this complex regulatory proceeding provided Mr. Vinyard with new insights on the challenges that businesses face in the permitting process and the need to provide a more efficient and streamlined mechanism to meet environmental requirements.

"Good environmental practices make good business sense. Not only can such stewardship better protect the resources around us, they often save money and lead to new innovation. Herschel has been on the front lines of such efforts and will ensure that Florida leads the nation in new partnerships between government and industry that save money, streamline processes and create jobs," Governor-elect Scott said.

During his practice at one of Florida's most well respected law firms, Mr. Vinyard represented numerous clients in a myr-

riad of complex environmental matters. His expertise includes the Resource Conservation and Recovery Act, the Clean Water Act, and liability issues associated with the Comprehensive Environmental Response Compensation and Liability Act, as well as Florida's statutory counterparts in Chapter 376 and 403. He is also a past chair of the environmental and land use law section of the Jacksonville Bar Association.

Mr. Vinyard is involved in a number of volunteer efforts associated with conservation and environmental protection. As an advisory committee member of the Northeast Florida chapter of the Trust for Public Lands, Mr. Vinyard helped develop a strategy to identify and acquire sensitive environmental lands. He serves on Florida DEP's Lower St. Johns River TMDL Executive Committee to assist in the development of a basin management action plan for that water body.

Mr. Vinyard's appointment drew praise from the business community. State Sen. John Thrasher of St. Augustine, who also chairs the Florida Republican Party and once practiced law with Mr. Vinyard, said, "As a longtime environmental lawyer with a sensitivity to Florida's regulatory environment, Herschel has the credentials and background to lead the DEP and do great things." Florida Chamber of Commerce chairman Allan Bense, a former state House speaker and a Panama City contractor, said that Mr. Vinyard's business and environmental experience made him the "right pick." Chamber president and CEO Mark Wilson said that Vinyard will provide predictability and stability needed by businesses.

From environmentalists, Mr. Vinyard's appointment drew mixed reactions. Everglades Foundation CEO Kirk Fordham praised the appointment, saying that Mr. Vinyard has demonstrated a commitment to "sound, innovative practices and policies to conserve our waterways, lakes, estuaries and all of the environmental treasures of this state." Mr. Fordham said that he hopes that Mr. Vinyard will continue Everglades restoration, noting that the project is putting hundreds of Floridians to work.

Other environmentalists, though, are taking a wait-and-see approach because they simply do not know Mr. Vinyard. "I think that the real measure of this decision is whether it comes with a real commitment to protect Florida's environment or change the focus of the agency," said Audubon of Florida executive director Eric Draper. Environmentalists are worried that a proposal by Scott's transition team to merge the departments of Environmental Protection, Transportation, and Community Affairs would dilute environmental protection. Frank Jackalone, Florida staff director for the Sierra Club, said that he is worried about the shipyard's position on environmental issues, such as its support for dredging the St. Johns River, but that he did not want to be critical before knowing more about Mr. Vinyard. Florida Wildlife Federation president Manley Fuller said that he also was unfamiliar with Mr. Vinyard but was encouraged by his involvement in removing BEA Systems' treated wastewater outfall from the St. Johns River and his volunteer work for environmental and conservation causes.

Despite “Water Wars,” Roswell, Georgia, Gets Groundwater Permit

On January 4, 2011, the Georgia Environmental Protection Division (EPD) announced its intent to issue a new Groundwater Withdrawal Permit (No. 060-0007) to the City of Roswell for withdrawal of 167,000 gallons per day (GPD) of water from one well completed in the Crystalline Rock aquifer. Permits are required for any well that withdraws 100,000 GPD or more of water. EPD is accepting comments on the announcement through February 4, 2011.

The permit will be applied to one of two wells drilled by Roswell in 2007. Although the proposed permit will be for 167,000 GPD, the two wells could supply the City with as much as 400,000 GPD, almost a third of what it now uses. The City currently operates a system that serves 14,000 residents. It draws the majority of its water from Big Creek, which supplies 1.2 million gallons per day (MGD), just shy of its average demand of 1.4 MGD. The City supplements its supply with water from Fulton County, last year paying Fulton \$650,000 for 200 million gallons.

State permits for water have faced added scrutiny since July 2009, when U.S. District Judge Paul Magnuson ruled that metro Atlanta had no rights to water from Lake Lanier. In response, former EPD Director Carol Couch froze permits for all new or expanded withdrawals in the Chattahoochee River Basin. Although Roswell officials said that the freeze should not apply to them because groundwater has no effect on Lake Lanier and because the City’s water intake is from Big Creek and not the Chattahoochee, EPD officials told *The Atlanta Journal-Constitution* that they needed their attorneys to give them legal clearance before they could consider Roswell’s permit.

EPD spokesman Kevin Chambers confirmed that the state moratorium on permit applications has included both groundwater and surface water. Roswell officials

said that they were never told this, and the governor’s office likewise said that its directive after Judge Magnuson’s ruling never included restrictions on groundwater permits.

Bert Brantley, a spokesman for former Gov. Sonny Perdue, said that Georgia considers the judge’s ruling an injunction against tampering with flows from Lake Lanier and along the Chattahoochee River. Brantley told *The Atlanta Journal-Constitution* that EPD attorneys may have needed to clear groundwater permits with Alabama and Florida, causing the delay. However, “[EPD] has now been given clearance to proceed with groundwater permit applications, and that includes the City of Roswell,” Chambers told *The Atlanta Journal-Constitution*.

Roswell already has secured a \$970,000 grant from the U.S. Army Corps of Engineers to make the wells operational and to incorporate them into the water system. The City would supply another \$330,000 from its water and sewer enterprise fund. On November 1, 2010, the Georgia Environmental Finance Authority (GEFA) announced that the City of Roswell was approved for a Drinking Water State Revolving Fund (DWSRF) loan of \$1.5 million to finance an automated water metering infrastructure project. The City will pay three percent interest on a 10-year loan for \$1.5 million, the total amount of the project. As a green project, 50 percent of the principal drawn will be forgiven. In making the announcement, GEFA Executive Director Kevin Clark said, “Financing water and sewer projects encourages economic growth and the stewardship of our environment.” The alternative water source could enable Roswell to promote commercial and residential growth and could save the City millions in costs, because groundwater is much cheaper to treat than lake or river water, officials said.

EPA Conference Addresses Indoor Air Quality in Schools

The U.S. Environmental Protection Agency (EPA) held its 11th Annual Indoor Air Quality (IAQ) Tools for Schools National Symposium in Washington, D.C., on January 13–15, 2011. The meeting brought together school board officials, administrators, health association members, school nurses, teachers, parents, and others to take charge in protecting the indoor air environments of children in schools. Nearly 55 million children and approximately 6 million adults spend a significant portion of their days in more than 132,000 public and private school buildings in the United States. Many of these buildings are old, in poor condition, and may have environmental conditions that inhibit learning and pose risks to the health of children and staff.

“Protecting children’s health is a top priority for EPA,” said Gina McCarthy, assistant administrator for EPA’s Of-

fice of Air and Radiation. “School kids, parents and teachers face challenges every day, so EPA designed the Tools for Schools Program to make sure that poor indoor air quality isn’t one of them.”

Poor indoor air quality in schools can impact the comfort and health of students and staff, which, in turn, can affect concentration, attendance, and student performance. Eight school districts across the country were recognized at the IAQ Tools for Schools National Symposium for leading the way to improving conditions at their schools and taking action to prevent future IAQ health risks. The symposium focuses on a wide range of environmental risks, including radon, mold, pest management, and asthma management.

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ABOUT US ...

AEM is a full-service environmental firm based in the southeastern United States, which has been in business for 22 years and has project locations nationwide. AEM's mission remains providing individualized, technically competent, responsive, yet highly cost-effective environmental consulting and engineering services to our clients. AEM has many long-term clients, including industrial, governmental, and commercial, who have been clients for decades. Although company growth is an objective, it is our philosophy that growth is secondary to client service and quality. Put simply, the company's primary loyalty is to its clients, not to the growth of the company, unless growth provides for better client service. Building strong and lasting relationships with our clients is the most important thing that we can do to achieve our goals and ensure long-term stability and future success.

One quality that sets AEM apart from the competition is the personalized service, quick response, and attention given to clients—direct response to our clients' needs in a timely manner. We continuously work to improve the quality of our services to our clients.

AEM actively supports a number of charities including Doctors Without Borders, the U.S.O., Antares Orphan Foundation, the Humane Society of the United States, the Society for the Prevention of Cruelty to Animals, Make A Wish Foundation, and A Welcome Home Animal Rescue.

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