



Advancing *Biosolids*
Environmental Management
Systems in Local **Communities**

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Week of November 9, 2009 - No. 646



To: NBP Web Site Registrants and Visitors

**From: Sam Hadeed, NBP Office: 703-684-2418 or
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Subject: Weekly Biosolids Update from NBP

WEF Residuals and Biosolids Committee Meeting Minutes from WEFTEC.09 in Orlando, FL; PCBs to be Cleared from Mitchell Park Sewer in Milwaukee, WI; Heat Recovery System Creates Electricity, Lowers Utility Costs in Greater New Haven, CT Water Pollution Control Authority; Opposition to Biosolids Growing in Kings County, Nova Scotia; Biosolids Battle Brewing in Goochland, VA; Old Winnebago County Landfill in Oshkosh, WI One Option for Future Sludge Storage Building; This Week in Washington from WEF.

From **Sam Hadeed**, shadeed@wef.org. **WEF Residuals and Biosolids Committee Meeting Minutes from WEFTEC.09 in Orlando, FL.** The [October 14, 2009 meeting minutes and materials](#) from the WEF Residuals & Biosolids Committee meeting that was held October 14 in Orlando, FL are available for viewing. The meeting materials include the **agenda, meeting minutes, Power Point slides, and attendance list.**

From **Milwaukee, WI Journal Sentinel, 11-7-09. PCBs to be Cleared from Mitchell Park Sewer in Milwaukee, WI.** Workers in protective suits equipped with hoses for fresh air will enter a 120-year-old brick sewer beneath Mitchell Park on Monday to begin removing a thick, jelly-like layer of soil and debris contaminated with toxic chemicals, Milwaukee Metropolitan Sewerage District (MMSD) officials said. Federal environmental officials have agreed to a partial cleanup of polychlorinated biphenyls (PCBs) in the old brick line so work can proceed on a wet-weather relief sewer to be built beneath the aged wastewater conduit.

The new 7-foot-diameter pipe will take storm-swollen flows from south side street sewers directly to Jones Island, freeing up space in the deep tunnel storage system for flows from other areas, said Bob Plecash, project manager for MMSD. The \$35 million relief sewer must be completed in 2010 as part of a court-ordered list of projects aimed at reducing sewage overflows into Milwaukee's rivers and Lake Michigan. A tunnel boring machine has completed about 75% of its 2 1/2 -mile route from a shaft at the inner harbor west, generally beneath Virginia and Pierce streets, to a rail yard north of Mitchell Park. The

machine is boring the segment beneath Mitchell Park, and the final destination is W. Canal and S. 25th streets. To get there, the machine will dig through dirt just inches below the brick sewer. The old line, about 30 feet below ground, is still in use. MMSD engineers fear it could collapse when the machine passes by unless the bricks are reinforced. But the work of shoring up the bricks cannot be done until the PCBs are removed, said Tom Zimmerman, MMSD engineering design and construction manager.

Jelly-like mass

The chemicals have mixed with the sediment to form a jelly-like mass 12 to 15 inches deep in a stretch of the pipe east of the park's domes, Zimmerman said. Crews will remove the gunk from more than 120 feet of the line, working in a space about 4 feet wide and 4 1/2 feet high. Workers will use a 6-inch vacuum hose to dislodge the sediment and remove it, according to Plecash. Then the brick conduit will be reinforced with an epoxy spray, which will harden and strengthen the brick structure.

At least eight days with little or no rain is needed to rid the pipe of PCBs and give it a rigid lining, Plecash said. Any flow in the sewer could carry the PCBs down the sewer to the [Jones Island](#) sewage treatment plant. District production of its Milorganite fertilizer was halted for most of the summer of 2007 after PCBs contaminated sewage sludge at Jones Island. The chemicals were knocked loose in the cleaning of two sewer lines earlier that year. The incident cost the district more than \$4 million. To prevent that from happening, renovation of the brick sewer was halted in September after the PCBs were discovered.

5 patches of PCBs

This is one of five known reservoirs of PCBs in local sewers. The Environmental Protection Agency has not approved a comprehensive cleanup plan for any of the sites, but it did not stand in the way of this partial removal effort, Zimmerman said. An estimated 10 cubic yards of contaminated sediment from the brick sewer will be disposed of at a [Michigan](#) landfill, he said. No cost estimate for the PCB cleanup was available.

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From ***Reliable Plant News Wire. Heat Recovery System Creates Electricity, Lowers Utility Costs in Greater New Haven, CT Water Pollution Control Authority.*** Dresser-Rand Company recently designed and installed a complete waste heat recovery system at the Greater New Haven Water Pollution Control Authority (GNHWPCA) in Connecticut. The project included engineering, construction and testing of the waste heat boiler, steam turbine generator set and condenser, ducting and valves. Through a long-term service agreement with GNHWPCA, Dresser-Rand will also maintain the facility, to achieve the guaranteed electrical production. The system is expected to produce 4.4 million kilowatt hours of electricity per year.

Providing wastewater treatment for the residents of New Haven, Hamden, East Haven and Woodbridge, Conn., the GNHWPCA wanted to reduce its electricity costs, minimize future rate increases and pass those savings on to their customers. The Dresser-Rand project uses waste heat from the wastewater treatment facility to produce steam, powering a Dresser-Rand 750 kW steam turbine generator at the East Shore Water Pollution Abatement Facility. As a result of the project, GNHWPCA expects to reduce its electricity costs by one-third. The GNHWPCA has received financing for 50 percent of the capital cost for project through the use of Clean Renewable Energy Bonds (CREB's) at zero percent

interest for 16 years. The GNHWPCA also received a \$300,000 incentive grant from CTDPU, under Connecticut's legislation for distributed energy facilities.

"With the nation's focus on building renewable and alternative energy capabilities, there's a push to extract all economically viable energy, including energy at water treatment plants," said Peter Salvatore, vice president of global field operations at Dresser-Rand. "This project is illustrative of Dresser-Rand's 'turnkey' approach, providing single-point responsibility, offering an efficient and effective project delivery, and providing added value for our clients. We estimate this type of power recovery solution could be viable for 200 similar facilities in the U.S. And while this project falls on the smaller end of the power scale, Dresser-Rand has equipment and capabilities exceeding 60 megawatts."

The GNHWPCA water treatment process involves removing sludge, or sewer system waste, from the water, reducing the moisture content to a combustible level, and burning the dried sludge in a multiple hearth furnace. The resulting exhaust gas is scrubbed to remove pollutants and then released to the atmosphere. Dresser-Rand's waste heat recovery solution routes the exhaust gas directly from the furnace to a waste heat boiler, creating steam. The steam powers the turbine generator set, producing electricity in a closed loop cycle. The exhaust gas is returned from the boiler to the scrubber and out the exhaust stack. The process is designed such that it does not change emissions and, therefore, does not impact the facility's air quality permit. The system simply diverts the gas upstream of the scrubber, extracts a significant amount of the otherwise wasted heat and returns the gas back to the scrubber to continue its normal exhaust path.

Salvatore adds that, "One of Dresser-Rand's corporate goals is to provide technology enabled solutions that positively impact the environment and the company is constantly seeking opportunities to further that goal." This project is Dresser-Rand's first complete service installation at a sludge incineration facility. "We designed, constructed and tested the system, and we trained the client's personnel on operations," Salvatore said. "Our long term service agreement with GNHWPCA requires us to maintain the plant, to achieve the guaranteed electrical production. To ensure we meet this requirement, the keystone of the maintenance agreement is Dresser-Rand's proprietary 'Performance, Diagnostics, and Consultation' service, which monitors and analyzes the health of the plant and provides 'management-ready information' upon which maintenance decisions are based."

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From ***Chronicle Herald, Halifax, Nova Scotia, Canada. 11-7-09. Opposition to Biosolids Growing in Kings County, Nova Scotia.*** KENTVILLE — Opposition to the use of biosolids on farmland in Kings County is continuing to grow. Kings County council recently passed a resolution asking the province for a moratorium on its use and farm markets are adopting policies that would ban any vendors who use it. And the Nova Scotia Environmental Network has asked for a plebiscite on the issue. County council wants the moratorium on biosolids until more study is done or a plan devised, Warden Fred Whalen said in an interview Friday. "Council doesn't have a lot of options because the province would reign supreme on it. Their decision can be final," he said. "But we have written a letter asking (the province) to hold off implementation and keep biosolids from coming into Kings County until we've had a chance to review and prepare for it." He said the county would like more time to study the issue, including whether biosolids should be processed locally.

Council passed its resolution at a special meeting last week. It was attended by about 60 people who came to show their support for a ban against the use of biosolids. "There is concern among councillors but certainly with citizens too," said Mr. Whalen. The biosolids come from Halifax Regional Municipality's N-Viro facility, which takes sewage sludge from residential, hospital, industrial, street runoff and commercial sources. The bacteria in the sludge are destroyed at the N-Viro plant.

Some farmers are using biosolids as fertilizer on their fields, which is much cheaper than the conventional nitrogen and potassium fertilizers. The Nova Scotia Environmental Network has asked for a ban on its use on farm and public lands in the province. It believes biosolids contain contaminants that are not being eliminated in the treatment process. The network says N-Viro plans to spread 34,000 tonnes of the material on 4,800 hectares of land in the province each year.

Marilyn Cameron, chairwoman of the network's biosolids and waste water caucus, said thousands of tonnes of HRM's treated sludge have been transported and dispersed onto farmland in Kings County this year. She believes the county's request for a moratorium is a good starting point, but it's the province that has to be convinced because the Municipal Government and Environment acts will have to be amended. She has asked for help from local NDP MLAs Ramona Jennex and Jim Morton.

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From ***Goochland, VA Courier, 10-27-09. Biosolids Battle Brewing in Goochland, VA.*** In the wake of much controversy, Nutri-Blend's permit application to apply biosolids on 1,555 acres in Goochland was approved by the Virginia State Water Control Board on October 26. According to Mary Powell, spokesperson for Nutri-Blend, the company will begin applying biosolids in the coming week. In August, Nutri-Blend held a public hearing to become the second biosolids applier in Goochland, and seven residents spoke out in opposition to the application, claiming that the treated sewage sludge known as biosolids posed a health risk to the community. "My father almost died from it," claimed Wendie Roumillat of Jackson Shop Rd. at the public hearing. "It's awful. We didn't know what it was, all we knew was there was this terrible smell coming from a field near my Dad's house."

While there have been anecdotal claims of health problems from biosolids, none have been verified by medical or scientific investigation, said Robert Crockett, a spokesperson for the Virginia Biosolids Council. "Biosolids is a time-tested material," Powell said in an interview, adding that Nutri-Blend welcomes emerging scientific evidence that would prove otherwise.

In its efforts to support research, Powell said that Nutri-Blend is a member of biosolids associations, which donate funds to colleges and universities that research and evaluate the safety of biosolids use. Local farmers like Paul Lanier stand firm in their approval of the fertilizer. "I've been using biosolids for over 30 years," Lanier said. "I've got five grandchildren, and we've had no health problems." Lanier added that his cows have always been healthy, and the biosolids significantly improved the health of his soil. Andrew Pryor, District 1 supervisor, also uses biosolids on his dairy farm. "I've used it for a long time," Pryor said, adding that "it's economical."

In June, tensions between citizens and the county heightened as allegations arose

regarding Goochland's biosolids ordinance. Roumillat and Kathy Crockett of Community House Rd. sought an injunction to halt the spreading of sludge in the county, claiming that it was applied on a flood plain and there was a lack of advance notice. Goochland biosolids monitor Hugh Hardwicke said there was no evidence of a violation, and that the James River was not in danger of being contaminated by run-off.

Despite some citizens' concerns, biosolids remain an attractive option to farmers, especially given the steady decline in commodities prices during the past year. Many studies have been done which uphold the safety of using sludge as fertilizer. The Virginia Department of Health claimed "there does not seem to be strong evidence of serious health risks when biosolids are managed and monitored appropriately." However, the same study also concluded that "no concerted effort has been made to collect and analyze data on reported health effects resulting from biosolids applied to land," and that "it is impossible to determine the full extent of chemical content or biological makeup of a particular biosolids mixture..."

Currently, the Virginia Department of Environmental Quality (DEQ) tests for 10 heavy metals and nine inorganic chemicals. Before it becomes biosolids, the sludge is treated through either aerobic or anaerobic digestion and/or lime stabilization before being certified for land application. The Environmental Protection Agency's 1993 risk assessment analysis determined which biosolids constituents posed the greatest hazard, and tests only for those constituents. However, a recent EPA study tested for 145 contaminants in 74 randomly chosen wastewater treatment facilities in 35 states.

The results revealed an amalgamation of flame retardants, pesticides, plasticizers, pharmaceuticals, semivolatiles organics and polycyclic aromatic hydrocarbons. Goochland records indicated that Nutri-Blend's biosolids come from 38 wastewater treatment facilities in five states. Powell said that Goochland's biosolids will likely come from Richmond, Chesterfield, Henrico and/or Washington, D.C. Powell added that Nutri-Blend gets paid to remove the biosolids from the wastewater treatment facilities-which are funded by taxpayers-then provides it to the farmers free of charge. Sewage sludge has to go somewhere, and the federal government advocates burning sludge to create energy, although that practice has also generated controversy.

Health concerns regarding biosolids use have prompted several Goochland citizens to contact the Community Environmental Legal Defense Fund, which has helped ban biosolids in more than 70 communities in Pennsylvania. "Ultimately, it's not about sludge," said Shireen Parsons, CELDF organizer. "It's about democracy. It's about who gets to choose what the county wants. Is it the citizens or corporations?" CELDF supporters hope to establish an ordinance that would, in effect, ban corporations from applying biosolids in Goochland.

Goochland records indicate that the company Synagro has also applied biosolids to approximately 5,000 acres in Goochland. The Virginia Biosolids Council stated that "the amount of farm and forest land that is permitted for biosolids in Virginia is only 350,000 acres-about four percent of Virginia's farmland."

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From **Oshkosh, WI Northwestern, 11-9-09. Old Winnebago County Landfill in Oshkosh, WI One Option for Future Sludge Storage Building.** *Location needs to be ready to go by 2012.* MENASHA — For nearly 30 years, trucks loaded with biosolids have departed almost daily from the Neenah-Menasha sewage treatment plant at 101 Garfield Ave. destined for farm fields west of Oshkosh, WI. Since it is illegal to land spread sludge whenever the ground is frozen, the dewatered biosolids, considered a beneficial soil additive or fertilizer, are stored temporarily in a large building until the ground thaws.

That massive building, built 20 years ago, is located at Gizmo Farms, a large Town of Omro farm run by Bob and Jim Potratz, that has been handling biosolids from the regional sewage treatment plant since the late 1970s. Some time ago, the Potratz brothers notified the Neenah-Menasha Sewerage Commission they want to end their current 10-year hauling and disposal contract when it expires at the end of 2011, forcing officials to begin looking for a new site. The "most desirable option" is the old Winnebago County landfill on Snell Road on the north side of Oshkosh, according to Randy Much, president of Midwest Contract Operations, the private management company that has operated the Neenah-Menasha sewage treatment plant since 1988. "Everything came back that land application is still the most cost-effective approach," Much said.

Gizmo Farms, which also handles biosolids from the Oshkosh wastewater treatment plant, is not interested in selling the building, which is located on one of their original farms. The Potratz brothers, who did not return phone calls seeking comment, apparently want to use that building for something else. Much said the commission is looking beyond the next decade and "wants to end up owning the building so we can have that available long term and we're not tied to just one sludge hauler."

Commissioners recently reviewed an updated biosolids storage building site study that explored several options, including a hauling-disposal contract with a mega farm in Calumet County or with Veolia Environmental Services, a private refuse hauler and landfill operator that handles biosolids in other parts of the U.S. The commission has authorized Much to approach the county's Solid Waste Management Board to explore the concept further. "We're taking a look at some area of our closed Snell Road site," said John Rabe, director of solid waste for Winnebago County. "This is just a possible location for sludge biosolids storage during the winter months when land spreading is not option." "I've not gotten anything to warrant putting on an agenda," said Rabe, who is waiting for a formal report before putting it on the board's Nov. 18 meeting agenda.

The county has two landfills about two miles apart on Oshkosh's north side, one active and the other closed. The Snell Road landfill takes up about half of a more than 200-acre site just south of the Oshkosh Correctional Institution. It has been closed and capped since 1991. The only activity remaining on site is an electric generation facility fueled by landfill gases and groundwater monitoring required by the state Department of Natural Resources. Steve Brand, superintendent of Oshkosh water and wastewater utilities, is watching the situation closely. He has been conferring with Much and Neenah-Menasha's consultant, McMahon, and "talking with them also as a potential partner in this," he said. "But we're just in the general investigatory stages right now." Oshkosh has a contract with Gizmo Farms through 2015, including renewal options.

Since land spreading of sludge is "absolutely" the most cost-effective disposal method, Brand said Oshkosh wants to work "cooperatively with Neenah-Menasha and McMahon

(consulting engineers) on development of a conceptual plan." Taking a long-term view of biosolids disposal only makes sense, Brand said. "Any time we can work with other communities to try and get economies of scale and work together on improvements, we certainly want to do that."

Much said the landfill site "is very attractive" and would be a good location for storing and hauling to rural Winnebago County farm fields. If Oshkosh were to build its own building at the Snell Road landfill in the future, they could bid hauling contracts together to save money and also explore other options for selling the biosolids with a larger volume if a cost-effective use were developed. "It allows us to stay close to Oshkosh to work jointly," Much said. "This gives us the option for them to join us if there are economies of scale down the road."

Rabe said the study is "very preliminary" and he has not received "anything formal from McMahan, Neenah-Menasha or Oshkosh to take it up with our board yet. "It would certainly have to be worth our while to consider it," Rabe said. "There's certainly going to be some concerns, but those have to be addressed or considered before we move forward." Since the contract with Gizmo terminates at the end of 2011, and DNR approval would be needed to site a biosolids storage building, Much said, "We really need to find something in the next six to eight months if we're going to get it constructed by the time the contract ends."

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From **Sam Hadeed**, shadeed@wef.org. ***This Week in Washington from WEF. This Week in Washington (TWIW)*** is a free weekly e-newsletter of the Water Environment Federation's Government Affairs Department that is published on Fridays. It provides updates on the latest legislative and regulatory developments affecting the water and wastewater communities. View the [on-line edition](#). You can also bookmark this link for future reference. To receive via email, send your request to the **Editor – Sam Hadeed** at shadeed@wef.org.

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