

Subject: NEBRAMail

Date: Friday, July 24, 2009 11:13 AM

From: Ned Beecher <ned.beecher@nebiosolids.org>

To: NEBRA <info@nebiosolids.org>

NEBRAMail...*distilled biosolids & residuals news for New England & eastern Canada*

NEBRAMail, published on an "as-needed" basis, is provided for the benefit of NEBRA members and contacts. Feel free to forward it, in its entirety. To subscribe or unsubscribe, email info@nebiosolids.org. Notable news from past NEBRAMails, etc. are available at <http://www.nebiosolids.org/index.php?page=news>.

2009 North East Residuals & Biosolids & ENERGY Conference
November 4 & 5 - New Haven, CT

CONTENTS

- * Maine DEP: Gravel Pit Reclamation Project Very Unlikely To Have Impacted Neighbors' Wells**
- * Seabrook, NH and PMC Biotech in Conflict Resolution**
- * Ontario Proposes Regulation Change for Use of Biosolids and Other Residuals on Farms**
- * The Obama White House Kitchen Garden and Biosolids Compost**
- * NERC Provides Free Manure Management Guidance**
- * Nantucket Composting Operation is First CCX Composting Carbon Emissions Offset Project**
- * Reminder: You Can Now Become an ABC-Certified Biosolids Land Applier**
- * Perfluorochemicals of Concern at Biosolids Land Application Site in Alabama**

*** In Brief... / En Bref...** George Neill retiring, VT TV shows wood ash use, "Crapshoot," Quebec docs in English, BNQ's new biosolids product standards, bioenergy workshop materials available online from WEF R & B conference in Portland...

* Calendar...

Maine DEP: Gravel Pit Reclamation Project Very Unlikely To Have Impacted Neighbors' Wells

This spring, in East Sangerville, ME, a gravel pit reclamation project was blamed as a potential contributor to complaints of illness amongst neighbors. Residents of several area homes claim they share similar symptoms of “memory problems and muscle disorders” and believe the gravel pit reclamation may have been the cause, according to articles in the *Bangor Daily News* (<http://www.bangordailynews.com/detail/105073.html>).

The 8-acre Barrett gravel pit reclamation project was conducted by New England Organics in the late 1990s, using paper mill residuals, ash, and biosolids. Initial monitoring at the time revealed release of some pollutants to groundwater, notably arsenic from the native soil and nitrate, but not at dangerous levels. Continued monitoring into 2006 documented the return toward normal groundwater quality.

This spring, when concerns were raised by area residents, ME DEP had independent testing done on area well water. Nothing unusual was found: the groundwater meets drinking water standards and has for several years. Regarding the possibility that harm may have been caused by elevated nitrate or arsenic levels documented by past tests, DEP and other scientists stated clearly that “there is no likely groundwater pathway.” The shallow groundwater from under the reclamation site flows toward – “and likely discharges into” – a small brook that flows between the gravel pit and most area homes.

Seabrook, NH and PMC Biotech in Conflict Resolution

“In April, selectmen voted unanimously to terminate the contract with PMC BioTec for a sludge reduction process in place at the town wastewater treatment plant.” So began a *Hampton Union* news story in early June (<http://www.seacoastonline.com/articles/20090602-NEWS-906020307>). The news was a bit of a shock to the wastewater and biosolids management profession, because many in the field have been watching with great interest the success of the PMC BioTec sludge reduction technology that started up at Seabrook more than a year ago. Many toured the facility as part of NEBRA’s series of events last September and as part of a NHWPCA meeting last December. The new process had reduced the volume of sewage sludge hauled out of the Seabrook wastewater treatment plant by 80+%.

But operational and possibly design errors or malfunctions led to significant releases of malodors, especially this past winter, aggravating neighbors of the plant. Although the efficacy of the PMC BioTec process had been demonstrated, “the Board of Selectmen ultimately decided the cost savings were not worth the potential problems the new system created,” according to the article. By late May, the transition back to operations without the new technology was almost completed.

Now, PMC BioTec and the Town have entered a contractual conflict resolution process involving mediation and then arbitration.

Ontario Proposes Regulation Change for Use of Biosolids and Other Residuals on Farms

The Ontario Ministry of Environment (MOE) and the Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) have proposed amendments to the General Nutrient Management Regulation (O. Reg. 267/03), under the Nutrient Management Act, for the management of non-agricultural source materials (NASM). The intention is to improve the regulatory framework governing the application of NASM on agricultural land. This initiative proposes to manage biosolids as a NASM (nutrient source) under the NMA instead of as waste under the Environmental Protection Act. The application of biosolids would require a NASM Plan approved by OMAFRA. The proposed amendments have been posted on the Environmental Bill of Rights Registry (EBR #: 010-6515) and are open for comment until July 29, 2009. More details and background about biosolids use in Ontario are available at <http://www.ene.gov.on.ca/en/land/biosolids/index.php>.

This action is the second of a “two stage initiative to improve the regulatory framework governing the application of non-agricultural source materials (NASM) on agricultural land.”

According to the Environmental Registry announcement: “The ministries have developed a framework that would strengthen Ontario’s already strict land application standards for these materials. The proposed framework supports MOE’s waste diversion goals, as it encourages the proper beneficial use of materials through land application that will enhance the productivity of soils, rather than sending these materials for

disposal in a landfill site.

“The proposed NASM framework would:

- manage non-agricultural source material on agricultural land as a beneficial nutrient;
- establish and revise existing standards and approval requirements for NASM, under O Reg. 267/03, to focus on the quality of the materials;
- streamline the regulatory process by removing overlapping approvals;
- provide notification to the local district office of the MOE prior to the land application of NASM;
- ensure environmental protection by extending the existing framework to include all agricultural land where NASM is applied in Ontario, as opposed to just those farms that are already required to have a nutrient management strategy; and
- require approval under the *Nutrient Management Act, 2002* (NMA) for the application on agricultural land of materials with higher metal or pathogen concentrations, that are still within acceptable levels (e.g. sewage biosolids and pulp and paper biosolids).

“The proposed regulatory framework is not a “one-size fits all” approach to managing NASM. Materials destined for land application would have to follow strict rules and standards set out in the regulation. Materials that do not meet the beneficial quality standards for use as a nutrient would be prohibited from being land applied as a nutrient on agricultural land.

MOE will continue providing compliance and enforcement activities under the *Environmental Protection Act* (EPA), NMA, and the *Ontario Water Resources Act* (OWRA), such as

responding to off-site environmental impacts that result or may result in an adverse effect or environmental impairment.

In a recent article, *Northumberland Today* noted: “MOE has been approving the land application of biosolids and other NASM for over 30 years with no objective evidence of health or environmental impacts when requirements were followed, [Northumberland] MPP Rinaldi says.” However, according to the *Canadian Press*, “some communities and environmental groups are crying foul over Ontario's plan to allow sewage sludge to be spread on farmers' fields without a waste-disposal permit.”

As part of the public consultation process, meetings were held around the province in early July. After the public comment period closes July 29th, MOE will develop final regulations with consideration of input received.

Ontario is also updating its Municipal Hazardous & Special Waste (MHSW) regulations, which address the reduction, diversion, and disposal of such things as paints, solvents, used oil filters, unused fertilizers and pesticides, batteries, fluorescent bulbs, mercury-containing products, and pharmaceuticals. See http://www.stewardshipontario.ca/mhsw/pdf/plan/mhsw_plan_jun17_09.pdf. Note that all fertilizers, micronutrients, supplements that are regulated under the Fertilizers Act (Canada) which are required to display an N-P-K claim and are packaged in 30 kilogram quantities or less – including composted manure and any compost with a nutrient claim – are covered by this new regulation.

The Obama White House Kitchen Garden and Biosolids Compost

In mid June, *Mother Jones* published a story that raised the question of whether use of biosolids compost in urban locations – in particular the White House lawn where Michelle Obama was starting a home garden – was more of a “culprit” in contamination of urban soils with lead than flaking lead-based paint and auto exhaust. The article cited a soil test that found the garden’s lead level to be 93 mg/kg.

The *Mother Jones* story raised a strong rebuff from the White House food and garden blog, *Obama Foodarama* (<http://obamafoodorama.blogspot.com/2009/06/white-house-kitchen-garden-as-media.html>): “the only thing toxic about the White House kitchen garden is the rumors: scientists correct the record on contamination,” read the headline. The blog’s author confirmed the accuracy of the garden’s lead test result, but then checked in with three environmental science professors who stated that the level was not unusually high for an urban soil. One was quoted as saying: “This is about politics, not lead.... It’s inflammatory. 93 ppm is well below background lead for an urban environment. It’s what you’d expect just from atmospheric deposition.” The blog ended with this: “*Mother Jones* is now officially on top of the compost heap of White House Kitchen Garden bashers....”

Because of the high profile of the Obama garden – the first one at the White House in many decades – the discussion prompted articles by the *Huffington Post*, *Reuters*, *The Baltimore Sun*, and *The New York Times*.

Mother Jones responded in kind with an online posting addressing the question: “Is it really a good idea to grow vegetables on land that has been fertilized with sewage sludge?” It goes on to recite the list of commonly-cited concerns with biosolids use: trace chemicals, allegations of impacts to farm animals, a few food companies that won’t knowingly purchase crops grown on biosolids-amended soils, and a few jurisdictions (e.g. Switzerland) where biosolids use on soils is not allowed. But it does concede: it's important to keep in mind that sludge is widely used in US agriculture and hasn't been shown to make people sick (though there are many anecdotal cases).”

Dr. Rufus Chaney, a world expert on metals in soils, and Dr. Sally Brown of the University of Washington have both expressed dismay at the variety of outrageous statements made about biosolids compost use in urban soil applications. They are familiar with applications of compost on White House grounds and other urban sites, and their research, and that of others, clearly demonstrates benefits to soils and large reductions in the bioavailability of lead – significant advancements in protection of public health – with no significant risks. As Brown noted in *BioCycle* in 2008, in response to hyped concerns about use of biosolids compost in Baltimore, the compost use reduced bioavailable lead levels “by two-thirds, with results published in a scientific, peer-reviewed journal (*Science of the Total Environment*, Vol 340, 2005). The benefits of these types of solutions are so clear, so visible, so hard to dispute,” they should be in widespread use improving urban environments.

NERC Provides Free Manure Management Guidance

(from NH DES & Northeast Recycling Council)

The New Hampshire Department of Environmental Services (DES) has partnered with the Northeast Recycling Council (NERC), the New Hampshire Department of Agriculture, and the states of New Jersey and Vermont to develop “How to” manuals and other materials to help small farms and “Hobby” farms manage manures in an environmentally sound manner. The number of small, “hobby” farms in the Northeast is rapidly growing and accounts for a high percentage of farms in the region. Very often these types of recreational farms are owned and managed by people who have little or no farming experience. This lack of knowledge can cause a myriad of issues, not the least of which is the pollution caused by the mismanagement of farm wastes and manure.

The NERC Manure Management Education Project assists small and hobby farmers/livestock owners to understand and adopt best management practices for handling and using manure. Free manure management workshops were held in New Jersey, New Hampshire, and Vermont. Technical assistance in manure management was provided to workshop participants upon request. Now, the free guidance materials are available at the NERC website at http://www.nerc.org/manure_management.html.

The Manure Management Education project was funded by a U.S. Department of Agriculture Rural Development Solid Waste Management Grant. The goal of the project was to decrease water pollution and enhance solid waste management by promoting the proper management of manure on small and

hobby farms.

Nantucket Composting Operation Is First CCX Composting Carbon Emissions Offset Project

(from Environmental Credit Corp)

Methane emissions from solid waste landfills account for a small but not insignificant portion of total U. S. greenhouse gas (GHG) emissions: 149 million metric tons (2.4% of the total) in 1990 and 139 million metric tons (1.8% of the total) in 2007. Within the category, landfill methane emissions have decreased by 11% over the 17 year period, largely driven by a continued increase in gas collection for regulatory compliance, energy generation, GHG project credits, etc.

Landfill gas capture and destruction projects are well accepted and represent a large share of registered GHG mitigation projects executed within the U.S. to date. However, they are not the only means of reducing GHG emissions from the waste industry. There are numerous other technologies and processes that reduce or avoid emitting GHGs into the atmosphere, including recycling, composting, gasification, and combusting organic waste as fuel to create electricity. Recognizing these significant GHG emissions reduction opportunities, the Chicago Climate Exchange (CCX) developed a protocol for projects that avoid landfill methane emissions from organic waste; it was finalized earlier this year.

In April, CCX approved the first composting project under this new protocol. The project aggregator is Environmental Credit Corporation and the owner is Waste Options Nantucket, LLC.

Waste Options manages a recycling, composting, and landfill operation on Nantucket Island, Massachusetts. The project consists of composting a waste stream that is comprised largely of food residuals, along with biosolids cake from the local wastewater treatment plant. Waste is composted for several days in a large rotating “Bedminster” tunnel digester, screened, and then composted again in aerated static piles in an indoor, negative air pressure facility that exhausts through a biofilter. Yard waste is added to the composted material for further composting and curing in turned outdoor windrows. The finished compost is used locally for landscaping and gardening.

The project began diverting organic waste (food residuals and biosolids) from the Nantucket landfill in late 1999. By composting organics instead of landfilling the waste, Nantucket has reduced its net greenhouse gas emissions by almost 30,000 metric tons CO₂e over a six-year period (2003 to 2008), as quantified by the CCX methodology. The protocol requires the project proponents to monitor and record project related data, such as type, origin, and amount of waste being composted; daily compost material time and temperature; etc. For CCX registration, these and other records as specified by the protocol are audited, including an on-site visit by CCX-accredited independent verifier, Richardson Smith Gardner & Associates.

An expanded version of this article appeared in the June issue of *BioCycle* magazine (<http://www.biocycle.net>).

Reminder: You Can Now Become an ABC-Certified

Biosolids Land Applier

(from the Association of Boards of Certification)

The biosolids land application (BLA) certification program developed by the Association of Boards of Certification (ABC) was highlighted at the 2009 WEF Residuals and Biosolids Conference this spring in Portland, OR. The certification helps ensure protection of public health and the environment through certification and demonstrates professionalism and competency of industry professionals (http://www.abccert.org/abc_certification_program/biosolids_land_applier.asp).

ABC, a non-profit organization established in 1972, is comprised of almost 100 member-certifying authorities from across the globe and works to advance water quality and integrity through certification. According to Suzanne De la Cruz, Chief Operating Officer, ABC's biosolids certification program is unique to the industry. Although all states in the U.S. have a certification or licensing program for wastewater treatment operators, only a few states offer land applier certification, she said. "Our program is among the first to provide this mechanism for individuals to demonstrate expertise in the field through certification, as their colleagues in wastewater treatment have done through state regulatory boards."

During the development phase, ABC conducted a national job analysis of land appliers to identify essential job tasks performed by land appliers and the capabilities required to competently perform job tasks. We used the results of the job analysis as the foundation for the development of valid land application certification exams, said De la Cruz. The Need-to-Know Criteria (http://www.abccert.org/testing_services/

need_to_know_criteria.asp), contains the results of the analysis and is available for certification programs and trainers to help prepare land applicators for certification.

In order to be certified by ABC, a land applicator must meet specific education, experience, and examination requirements for the level of which they are applying. Two levels of ABC certification are available:

Class I - Covers knowledge and skills required for field operators

Class II - Focuses on knowledge and skills required for managers

De la Cruz explains that in addition to meeting established requirements, examinees must pass an exam with a score of 70 percent or higher. Testing options are flexible and exams can be administered nationally and internationally. Contact ABC or NEBRA for further information.

Perfluorochemicals of Concern at Biosolids Land Application Site in Alabama

Last fall, perfluorochemicals (PFCs) were detected in Alabama agricultural soils that had received biosolids applications for the past dozen years. These chemicals are used in fire-fighting foams, personal care and cleaning products, and repellent coatings on carpets, textiles, leather, and paper.

Discovery of the contamination of the Decatur biosolids was triggered by the admission of one of several PFC manufacturers and users that “it had unknowingly discharged PFCs into the

Decatur Utilities wastewater treatment plant,” according to a U. S. EPA fact sheet (available from NEBRA). Last fall’s “limited set of screening study soil and sludge samples collected from two of the biosolids agricultural application sites and from the Decatur facility” showed levels of PFCs ranging from 55 to 2,531 parts per billion.

This preliminary finding led to monitoring studies by EPA and the AL Department of Environmental Management (ADEM), which were conducted over the winter and spring. Public water supplies and private wells in the areas around the land application sites were tested for PFCs. No PFCs were found in two of the three public water supplies, and the third had levels below EPA’s new provisional health advisory levels for drinking water (0.4 ppb for perfluorooctanoic acid, PFOA, and 0.2 ppb for perfluorooctyl sulfonate, PFOS). However, two of six private wells tested had levels above the EPA provisional health advisory level for PFOA (2.2 ppb and 0.6 ppb). The owners of these wells were immediately provided bottled water and then connected to the public water supply. Other homes in the area were offered the same option, and two agreed to be connected to the public water supply. Additional groundwater monitoring wells and 32 ponds and a stream were also tested, with levels of PFOA ranging from non-detect to 11.0 ppb and of PFOS ranging from non-detect to 0.151.

According to the EPA fact sheet, “USDA and FDA are conducting an investigation of the potential impact of the environmental PFC contamination on livestock and food products (such as beef and milk) in the Decatur area.” Meanwhile, EPA and ADEM continue to monitor drinking water and inform the Decatur area communities involved.

Decatur halted its biosolids land application program in November.

Meanwhile, according to an *Environmental News Service (ENS)* article, Daikin Industries “announced that by the end of 2012 Daikin and its subsidiaries intend to stop manufacturing, using and selling water and oil repellent products made using perfluorooctanoic acid. PFOA is a toxicant and carcinogen in animals, persistent in the environment, and is detected in the blood of Americans in the low parts per billion range, where it has been linked to infertility. In people with higher exposures, PFOA is linked to birth defects, increased cancer rates, and changes to lipid levels and the immune system. PFOA has been detected in industrial waste and consumer products including stain resistant carpets, microwave popcorn bags, and food packaging. PFOA is also found in food and water.” Other Decatur area companies manufactured or used PFOA in the past, up until 2004. *ENS* notes that 3M was a leading producer of PFOS, but decided to phase out its manufacture in 2000. According to a 3M website (http://solutions.3m.com/wps/portal/3M/en_US/PFOS/PFOA/Information/Action/), it no longer manufactures or uses either chemical. At the same time, the company states “In more than 25 years of medical surveillance we have observed no adverse health effects in our employees resulting from their exposure to PFOS or PFOA.”

Like many synthetic chemicals of potential concern in biosolids, human exposure to PFCs is greater through contact with consumer products than through the remote possibility of exposure via biosolids land application. None-the-less, the PFC issue in Alabama is an example of the importance of vigilant industrial pretreatment programs for protection of quality

biosolids recycling programs. It is also an example of the protectiveness and responsiveness of state and federal agencies and a local utility faced with a biosolids related issue of actual potential significance.

In Brief / En Bref...

George Neill, wastewater engineering guru extraordinaire of the NH Department of Environmental Services, is retiring. George is one of those environmental pioneers who have worked in the trenches since the days of the Clean Water Act, instigating the cleaning of the region's waters. George has been a leader in the NH Water Pollution Control Association and NEWEA, a top-notch trainer of scores of operators and engineers, and a supporter of NEBRA since its inception. George, we'll miss having you as a valuable resource day-to-day. Keep in touch!

WCAX-TV, Channel 3 in Burlington, VT recently aired a story about the agricultural use of wood ash from the Burlington Electric wood-fired electricity generator in the city's Intervale area. The plant produces 100 tons of ash a week, according to the report, and Resource Management, Inc. manages the testing, marketing, and distribution to area farms. The story notes that the cost to a farmer of the potash supplied in wood ash is about ½ that of traditional chemical fertilizer potash. The story includes video and an interview with a farmer in Alburgh. See <http://www.wcax.com/global/video.asp?clipId=3905389&topVideoCatNo=63459&autoStart=true>

The film “Crapshoot: The Gamble with our Wastes” is now

available free on the internet: http://www.nfb.ca/film/crapshoot_the_gamble_with_our_wastes/. It lays out the arguments on which critics of biosolids rely, and it includes interviews with staunch opponents of centralized wastewater and biosolids land application such as Abby Rockefeller. NEBRA has a review of the film at <http://www.nebiosolids.org/index.php?mact=News,cntnt01,detail,0&cntnt01articleid=43&cntnt01origid=24&cntnt01returnid=24>.

Several important Québec regulatory documents are now available online in English:

Guidelines for the beneficial use of fertilizing residuals - Reference criteria and regulatory standards - 2008 edition - including addendices 1, 2 and 3 (http://www.mddep.gouv.qc.ca/matieres/mat_res-en/fertilisantes/critere/guide-mrf.pdf).

Fall spreading of fertilizing residuals - environmental risks and preventive measures (<http://www.mddep.gouv.qc.ca/matieres/articles/epandage-en.pdf>).

Dioxins, furans, PCBs, and PAHs in eastern Canada compost (July 2003)(<http://www.mddep.gouv.qc.ca/matieres/articles/compost-en.pdf>).

Independent quality control of fertilizing residuals by Environment Québec: Summary of parts I & II. (<http://www.mddep.gouv.qc.ca/matieres/articles/controle-en.pdf>).

The passing of an era: GSI Environnement has recently closed its office in Sherbrooke, according to news from the Quebec environment ministry (MDDEP). Founded by Jean Shoiry more than 20 years ago, this was long the central company office. The closing is caused, in part, by the closing of several composting operations over the past two years.

The BNQ (Bureau de normalization du Québec) recently published new standards for municipal biosolids. Two types of advanced treatment biosolids can now be certified: advanced alkaline biosolids and heat dried biosolids. There is already a BNQ quality standard for composted biosolids. BNQ standards are relied on throughout Canada. Under Québec regulations, any biosolids certified by BNQ can be applied to any crop – including home gardens – without a certificate of approval. The new biosolids BNQ standards address disinfection; levels of trace elements (metals), dioxins, and furans; product labeling; and recommendations for agronomic uses. The development of this standard required 3 years of work by a committee of volunteers led by Sylvain Allard of the BNQ and supported with funds from the Québec environment ministry and RECYC-Québec. The standard can be purchased online, in French, for Can \$74, at http://www-es.criq.qc.ca/pls/owa_es/bnqw_norme.detail_norme?p_lang=en&p_id_norm=12439&p_code_menu=NORME.

WEF RBC 2009 Specialty Conference Meeting Minutes and Bioenergy Technology Workshop Materials are available for viewing at the WEF Biosolids Access Water Knowledge channel web page: <http://www.wef.org/MembershipCareers/MembershipInformation/CommitteeList/ResidualsandBiosolids.htm>.

Calendar...

July 31, 2009 – deadline for submission of abstracts for the WEF Residuals & Biosolids Conference in Savannah, GA, May 23 – 26, 2010. Submit at <http://www.wef.org/CmsWEF/Pages/AbstractSubmittal/EndUserAbstractSubmission.aspx?EventID=4f120a31-ffab-46f7-833a-23df1710fb86>.

July 31, 2009 – deadline for best registration rate for the 5th Canadian Residuals & Biosolids Conference (see below).

September 13 – 15, 2009 – “Residuals and Biosolids Management In a Climate of Change,” the 5th Canadian Residuals & Biosolids Conference, Niagara Falls, ON. Deadline for getting the best hotel room rate is August 13th. See <http://www.weao.org>.

September 20-22, 2009 – “Back to School: Biosolids Basics,” 22nd Annual Northwest Biosolids Management Association Conference, Blaine, WA. This two-day event will feature refresher classes in nutrients, regulations, and public engagement; cutting edge curriculum in greenhouse gas emissions; the state of emerging contaminants and microbes; and triple bottom line accounting. See <http://capps.wsu.edu/biosolids> <<http://onlineinfo.wsu.edu/enewsletterpro/t.aspx?S=1&ID=27&NL=26&N=59&SI=46648&URL=http%3a%2f%2fcapps.wsu.edu%2fbiosolids>> .

November 4 & 5, 2009 – The Annual North East Residuals & Biosolids Conference & Exhibit, Holiday Inn, North Haven, CT. Featuring tours of the new energy recovery operations at the New Haven incinerator, presentations on energy efficiency in biosolids programs, and the latest demonstrated successes in energy production from biosolids.

North East Biosolids and Residuals Association
P. O. Box 422
Tamworth, NH 03886

Phone 603-323-7654
Fax 603-323-7666
www.nebiosolids.org