



Maine Department of Environmental Protection  
Bureau of Land and Water Quality  
March 2009  
O&M Newsletter

A monthly newsletter for wastewater discharge licensees, treatment facility operators and associated persons

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## WASTEWATER INFRASTRUCTURE STIMULUS UPDATE

On February 17, 2009, President Obama signed into law the American Recovery and Reinvestment Act (ARRA) that provides economic stimulus funding for a wide variety of uses including investment in wastewater infrastructure and non-point source abatement projects to be funded through the Clean Water State Revolving Fund (CWSRF).

In the January *O&M News* the Department requested that facilities submit shovel ready projects that could be considered for possible funding. The Department received more than 200 proposed projects from over 90 entities totaling over \$300 million dollars.

The Department will receive approximately \$29.1 million dollars under ARRA that can be distributed for investment in wastewater infrastructure and non-point source abatement projects. This money will be administered through the CWSRF. Since requests for project funding far exceed available ARRA funding the Department has prioritized proposed projects to determine how the money will be distributed.

Over the last month, the Department has developed draft proposed project ranking criteria, reviewed information submitted on the proposed projects, and developed a draft list of projects the Department proposes to fund under ARRA. The Department is proposing to distribute this money to selected projects in funding packages consisting of a mixture of principal forgiveness loans and zero percent interest loans.

Governor Baldacci and the Legislature's Joint Standing Committee on Natural Resources have been briefed on the proposed ranking criteria and the draft proposed project list.



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By March 13, 2009 all of this information will be formally posted to public comment. After comments are received, reviewed, and any appropriate changes made, the final ranking criteria and project list will be submitted to the Environmental Protection Agency so that ARRA funds can be awarded to Maine.

Department staff will work with entities receiving ARRA funds to guide them through the application process. If you have questions, email [Steve McLaughlin](mailto:Steve.McLaughlin@maine.gov) at [steve.a.mclaughlin@maine.gov](mailto:steve.a.mclaughlin@maine.gov) or Brandy Piers at [brandy.m.piers@maine.gov](mailto:brandy.m.piers@maine.gov).

Additional information regarding ARRA funds, including the formal public comment documents referenced above, are available at the State's ARRA websites at:

DEP:  
<http://www.maine.gov/dep/recovery>

Governor's Office:  
<http://www.maine.gov/recovery/>

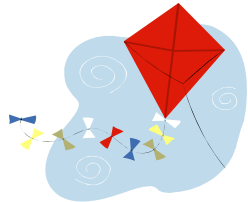
### ***For Practice***

1. If the supernatant from an aerobic digester has high solids content and is returned headworks of the system, how will it most likely affect the activated sludge aeration basin?
  - a. Increase the DO level.
  - b. Increase the MCRT.
  - c. Increase the F/M ratio.
  - d. Increase the removal efficiency.
2. The concentration of dissolved oxygen that may be held in water
  - a. Increases as temperature increased
  - b. decreases as temperature decreases
  - c. is independent of temperature
  - d. increases as temperature decreases
3. The type of solids that is the most difficult to remove using a standard biological treatment process is.
  - a. Organic dissolved
  - b. Inorganic dissolved
  - c. Organic suspended
  - d. Organic dissolved
4. You have a positive displacement pump that delivers 275 gpm against a head of 85 feet with an overall 82% efficiency. If you pay 12.8¢ per kwh for electricity, how much will it cost you to run the pump 15 hours per day for a year?
  - a. \$8,765
  - b. \$6,382
  - c. \$4,482
  - d. \$2,615



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### SSOs from Private Sources

In a July 2008 O&M News article, Sanitary Sewer Overflows (SSOs) were defined and regulatory responses as well as reporting requirements were described. That article focused on collection systems and pumping stations under the ownership or control of municipalities or districts. There are other potential sources of SSOs that are not under the direct control of a licensee: privately-owned collection systems and pumping stations. These can be just as serious a threat to surface waters or public health as any SSO owned by a municipality or district. Depending on local sewer use agreements or ordinances, there may be very few private pumping stations contributing to a municipal collection system or there may be many.

In this article, I have included the facts from one specific case, while leaving out names of the entities involved. Near the end of November 2006, the Department and the local municipality received complaints of sewage odors and the discharge of raw waste water from a privately-owned pump station. The waste water was being discharged into a wetland that is associated with a class B

stream. In their response to the overflow, municipal personnel and the contractor for the private party found that the pumps had failed due to clogging with accumulated grease. This pump station is owned by a subsidiary of a large national chain, and its local facility includes limited food processing in a small deli as well as a full-size grocery store. It also receives wastewater under a contract from a nearby fast food restaurant. The private collection system consists of grease traps immediately outside each business, and sewer lines from the grease traps to the pumping station area. The pumping station area includes an equalization tank, a large storage tank and then the pumping station wet well and pumps. The large storage tank was initially necessary because the pumping station had to be put on a timer due to limited downstream capacity in the municipal sewer system. That capacity is now adequate and the timer limitation is no longer necessary.

As mentioned above, the pumps became clogged with grease and failed. In fact, the equalization tank, the storage tank, and the wet well were all filled with grease, some of which had hardened into a concrete-like mass. The removal of this material, as you may well know, was a difficult and time-consuming process. The grease accumulation was due to years of neglect by the owner of the pumping station. Although the grease traps immediately outside the



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owner's store had been pumped regularly, the tankage near the pumping station had not, and the grease traps at the fast food restaurant apparently had not either.

Aggravating the lack of grease removals, the pumping station had failed 5 years previously, and had been restarted with what were supposed to be temporary repairs, including use of a float control system rather than the original pressure transducer and placement of one pump on the float and the other on solely manual control. No permanent repairs were ever undertaken, and the pumping station had been ignored for years. At the time of the overflow, the alarm was inoperable, and the warning light would not work due to a burned out bulb.

These events occurred even though the municipality had a grease ordinance and staff dedicated to working with business owners with grease traps. The owner of this business had not responded to municipal communications and requirements, and the municipality had not caught up with the owner's lack of compliance before this incident. This points up the problems inherent to private ownership of pumping stations, which can easily lead to "out of sight – out of mind" treatment of the pumping station and grease traps. The operation and maintenance of sewer lines and pumping stations is not part of normal business operations and therefore gets no priority. To prevent such lack of attention from creating problem, the

municipality must be thorough and aggressive with education of private owners and enforcement of sewer use agreements and municipal ordinances to raise the priority of O&M for the business. No matter how competent or dedicated municipal employees are in their compliance efforts, one facility being missed can result in serious, downstream problems in the municipal sewer system and localized threats to water quality or public health when discharges occur.

In this particular case, the private owner was forced to pay for cleanup and refurbishment of the pump station and additional tankage, participate in the municipal grease trap program, establish a regular schedule both for grease trap maintenance and for pump station O&M, and pay a penalty to the State for the illegal discharge. In addition to the cost to the private owner, there was a significant staff time expense to the municipality as well.

*Phil Garwood*

### *Spring Exam*

Applications for the May 13, 2009 Spring Exam will be due in to the JETCC office by March 27, 2008 or postmarked by March 25, 2009.

*Dick Darling*



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***Approved Training***

March 11, 2009 in Bangor, ME – Basic Math for Operators – Sponsored by MRWA – Approved for 6 hours  
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March 12, 2009 in Orono, ME - PVC Valves, Connections & Joining – Sponsored by JETCC – Approved for 6 hours  
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March 18, 2009 in Augusta, ME - DEP Issues Briefing – Sponsored by JETCC – Approved for 6 hours  
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March 19, 2009 in Jay, ME - Hands-On Applications to Minimize Pump & Facility Maintenance – Sponsored by JETCC – Approved for 6 hours  
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March 24, 2009 in Wells, ME – BOD and TSS Review – Sponsored by JETCC – Approved for 6 hours  
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March 25, 2009 in Various Locations in ME - True Confessions of a Water/Wastewater Operator – Sponsored by MRWA – Approved for 4 hours

March 25, 2009 in Orono, ME - PVC Valves, Connections & Joining –

Sponsored by JETCC – Approved for 6 hours  
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March 31, April 7, 14, 21, 28, May 5, 2009 in Biddeford, ME – Basic Wastewater - Sponsored by JETCC – Approved for 24 hours  
\*\*\*\*\*

April 16, 2009 in Portland, ME – Using PowerPoint to Make Your Point – Sponsored by JETCC – Approved for 6 hours  
\*\*\*\*\*

April 28, 2009 in Augusta, ME - FOG Management Overview - Controlling Collection System Impacts & Disposal Options - Sponsored by JETCC/NEIWPCC – Approved for 6 hours  
\*\*\*\*\*

May 12, 2009 in Gray, ME – Basic Math for Operators – Sponsored by MRWA – Approved for 5 hours  
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May 14, 2009 in Gorham, ME – Advanced Certification Math for Operators – Sponsored by MRWA – Approved for 5 hours



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Note: JETCC stands for Joint Environmental Training Coordinating Committee – PO Box 487 – Scarborough, ME 04070-0487 – Tel (207) 253-8020

MRWA stands for Maine Rural Water Association - 14 Maine Street, Box 36 - Brunswick, ME 04011 – Tel (207) 729-6569

NEIWPC stands for New England Interstate Water Pollution Control Commission – 116 John St. – Lowell, MA 01852-1124 – Tel (978) 323-7929

Horsepower requires =  $(275 \times 85)/(0.82 \times 3960) = 7.2 \text{ hp}$   
1 hp = .746 kW: 7.2 hp = 5.37 kW  
 $5.37 \text{ kw} \times 15 \text{ hr/day} \times 365 \text{ days/year} = 29,4000\text{kWh}$   
 $41,500 \text{ kWh} \times \$0.128/\text{kWh} = \$3,763$



**Answers to *For Practice*:**

1. (c) High solids in the supernatant will add food to the system, which will increase the F/M ratio.
2. (d) Colder water can hold more dissolved oxygen.
3. (b) Activated sludge systems remove dissolved organic solids by absorbing that material into the cells of the organisms in the sludge. Organic and inorganic suspended solids are removed by physical settling in the secondary clarifiers. There is, however, no biological or physical removal of dissolved, inorganic solids.
4. (c) Horsepower required =  $(\text{flow in gpm} \times \text{head in feet})/(\text{efficiency} \times 3960)$

*Think Spring*