

US EPA ARCHIVE DOCUMENT

**State Innovation Grant Project
Narragansett Bay Commission
Progress Report - 4
July 1, 2009 – September, 30 2009**

Project Title: Sustainable Energy Management Practices for Wastewater Treatment Facilities

Part 1 – Synopsis of Accomplishments

During the current Project Reporting Period July 1st through September 30th, 2009 the following activities took place: the Project Partners (NBC, RIDEM, URI and RIMES) and EPA continued to meet and participate on conference calls to discuss and plan activities associated with project development and implementation, four WWTF energy audits were performed on July 1st, July 14th, July 22nd, and August 25th, a Roundtable Project Update meeting was held on September 16th, a draft FOG-BMP Workbook was developed, and 106 additional FOG-ERP Compliance/BMP inspections were completed. See Attachment 1- Project Milestone Table for a complete summary of project activities.

Part 2 – Narrative Discussion

I. WWTF Energy Focused Environmental Management System Project

Management System Steering Committee – The EF-EMS Steering Committee continues to keep in contact through meetings, e-mails and phone conferences. Formal Steering Committee members include:

- James McCaughey, NBC
- Barry Wenskowicz, NBC
- David Aucoin, NBC
- Richard Enander PhD., RIDEM
- Gene Park, PhD., URI
- John Gilheeny, RIMES
- Beth Termini, EPA
- Gina Snyder, EPA
- Bill Patenaude, RIDEM
- Bill Harritos, QDC – NWPCA
- Dennis Colberg, QDC – NWPCA
- Peter Eldridge, West Warwick WWTF – NWPCA

In addition to the above noted Steering Committee members the following individuals are kept informed of on-going project planning activities and are invited to all Steering Committee meetings:

- Anne Leiby, EPA - New England, Region 1
- Jeff Dunham, National Grid
- Brent Herring, Untied Water - NWPCA
- Andy Dzykewicz, Rhode Island Office of Energy Resources

- Nick Ucci, RIPUC
- Tom Simbro, Wright-Pierce – NWPCA
- Madeline Snow, EMS Service Program – UMASS

Various project management meetings that took place during this reporting period included:

- On Friday, July 24, 2009, NBC and URI met to discuss Sustainable Energy progress being made with respect to the overall WWTF Sustainable Energy Management Project.
- On Wednesday August 5th NBC and URI met with Action Energy to discuss on-going WWTF energy audit activities. During this meeting Bruce Shaffer from Action Energy stated he will not be able to participate in audits in the immediate future due to other obligations but may be available in the distant future. Bruce stated that he will complete the reports for the 7 facilities that have already had energy assessments completed.
- On August 12th NBC, RIDEM, URI and RIMES met to discuss WWTF data collection efforts and plans for continued audits. As a result of this meeting URI Engineering students will collect and compile WWTF operating data from RIDEM files.
- On September 14th NBC met with EPA to discuss the upcoming EF-EMS Roundtable meeting being held in association with the Narragansett Water Pollution Control Association (NWPCA).
- On September 8th NBC and URI met with representatives of National Grid to discuss the on-going WWTF EF-EMS project.
- On September 1st NBC, URI and RIMES met to plan for an upcoming project presentation at the NWPCA Clambake at Twelve Acres Lodge on September 25th.

Energy Focused Environmental Management System Training Program for WWTFs – Utilizing EPA’s Energy Guidebook - Task completed see Project Report 2.

Project Kick-Off Meeting/Workshop – Task completed - see Project Report 2 - Attachment – 3 for a list of attendees and meeting hand-outs.

EPA Energy Guidebook Training Workshop for Participating WWTFs –Task completed – see Project Report 3 - Attachment 2 for details on the EPA Energy Guidebook Workshop.

Energy Use Baseline for Participating WWTF – On April 29th the Project Partners organized and held a ½ day workshop on how to use EPA’s Portfolio Manager Software to enter and efficiently track monthly energy use. The workshop was held at the Barry Hall computer training room within the Pastore Center in Cranston and was attended by eleven representatives from eight of Rhode Island’s nineteen municipal WWTFs. Attendees setup accounts for their respective WWTFs, entered multiple building locations, entered at least one year’s worth of energy usage (gas, oil, electric), shared their data with EPA and other RI WWTFs and received an ‘energy rating that will be used as the basis for measuring future improvements. NBC’s P2 Engineer distributed materials on how to track Power Factor and kW Demand at the conclusion of the workshop. See Project Report 3 - Attachment 3 for details on the Portfolio Manager Workshop.

During the current reporting period NBC and URI collected energy use data from the eight facilities visited as part of the energy audits and updated each of these WWTFs’ Portfolio Manager Accounts for the previous year’s energy use.

EF-EMS Roundtable – The EF-EMS Roundtable is made up of various representatives from the nineteen WWTFs located in the State of Rhode. Through these meetings Roundtable Members are learning how to implement a “Plan-Do-Check-Act” approach to establishing more efficient energy management practices at their facilities, how to measure and benchmark their current energy use, and how to identify and assess potential renewable energy use opportunities.

On May 27th 2009 a ½ day WWTF Sustainable Energy Management Roundtable Meeting was held at the Warwick WWTF. The Roundtable was facilitated by John Gilheeny of the Rhode Island Manufacturers Extension Services (RIMES). Sixteen representatives from 12 Rhode Island WWTFs were in attendance. As part of the Roundtable Meeting participants develop an Energy Policy Statement for their individual facilities and National Grid representatives gave a talk on how to interpret commercial electric bills. See Report -3 - Attachment 4 for details on this Roundtable meeting.

On June 24th, 2009 the Project Partners organized and held a ½ day EF-EMS Roundtable meeting in the NBC Board Room. During the Roundtable meeting at NBC, attendees participated in a live webcast sponsored by the Water Environment Federation (WEF), which focused on how to upgrade process controls and modify equipment management in order to optimize energy efficiency and save money. See Report 3 - Attachment 5 for details on this Roundtable meeting.

On September 18th the third EF-EMS Roundtable Meeting was held as part of the NWPCA’s Annual Trade Show. This meeting took the form of a project activity update – see Attachment 2 for information on presentation made during this meeting.

WWTF Energy Use Assessments – The following Energy Use Assessment have been conducted to date:

Facility	Date
Bristol WWTF	March 19, 2009
NBC Field’s Point WWTF	May 15, 2009
West Warwick WWTF	June 17, 2009
South Kingstown WWTF	June 24, 2009
Jamestown WWTF	July 1, 2009
Narragansett	July 15, 2009
NBC Bucklin Point WWTF	July 22, 2009
QPDC WWCP	August 25, 2009

II. FOG Environmental Results Program Project

FOG-ERP Steering Committee FOG-ERP Steering Committee will include the following members:

- James McCaughey, NBC
- Kerry Britt, NBC
- Abigail Sweeney, NBC
- Barry Wenskowicz, NBC
- David Aucoin, NBC
- Richard Enander PhD., RIDEM
- Gene Park, PhD., URI
- Beth Termini, EPA
- Gina Snyder, EPA
- Anne Leiby, EPA - New England, Region 1
- Dale Venture, Rhode Island Hospitality Association

A full Steering Committee meeting will be scheduled upon completion of the Baseline Data Collection process. The above individuals will be invited to participate in a FOG-ERP Project Steering Committee Meeting anticipated to be held during the next Project Reporting Period.

Various project management meetings that took place during this reporting period included:

- **Newport Biodiesel** - On August 17th NBC and URI met with Chris Benzak of Newport Biodiesel to discuss the FOG ERP Project and the possibility of working with Newport Biodiesel to help promote better waste grease management practices and local restaurants. On September 11th NBC, URI and RIMES conducted a site visit of the Newport Biodiesel production facility in Newport.
- **FOG Workbook** - On August 17th NBC met with URI to discuss comments and changes to the draft FOG BMP Workbook.

Identification of Industry Sector Universe – A review of NBC permit files and records has identified 400 restaurants/food service facilities in the Field’s Point servicing district and 200 restaurants/food service facilities in the Bucklin Point Serving District. All identified restaurants/food service facilities will be participating in the project.

In accordance with the final QAPP, using an Excel “Random Number Generator”, URI and RIDEM selected a random sampling of 200 restaurants/food service facilities for baseline data collection using the finalized FOG BMP. Task completed - see Progress Report 3 - Attachment 7 for a list of the selected facilities.

FOG Management Checklist –NBC, URI, RIDEM and EPA finalized a combined regulatory compliance and FOG BMP checklist in March 2009. Task completed - see Report 2 - Attachment 6 - FOG Management Checklist.

Trial Checklist Runs - On November 13th 2008 the Project Partners accompanied NBC Pretreatment Technicians on site visits of three food service establishments located in the City of Pawtucket in order to perform a trial run of the FOG Checklist and the overall FOG ERP Assessment process. As a result of these trial runs and subsequent discussions with EPA several modifications were made to the checklist including: elimination of redundant questions, clarification on questions regarding the management of the two identified FOG waste streams (i.e. Brown Grease vs. Yellow Grease), and collection of quantitative data on the amounts of fresh oil being used by those restaurants that utilize frialators. No additional Trial Runs were deemed necessary – task completed.

FOG Best Management Practices (BMP) Factsheets – During the current reporting period URI developed a draft FOG BMP Workbook – see Attachment 3.

Kick-Off Workshop - This workshop will be held after initial baseline data collection has been collected. No action taken during the current Project Reporting Period.

ERP Assessments – Seventy-Seven baseline data collection assessment were conducted by NBC Pretreatment staff between the months of April and June 2009 and additional 106 were conducted between July 1st and September 30th, 2009. Thirty of these restaurants were found to be out-of-business. All remaining baseline assessments are anticipated to be completed during the next Project Period. Upon completion of all baseline assessments NBC Pretreatment staff will continue to perform the combined regulatory/BMP inspections of all remaining restaurants and food service facility serviced by the NBC in accordance with the Project Work-plan – see Attachment 4 for a FOG ERP Assessment summary.

ERP Certification – URI continues the process of developing a FOG BMP Workbook and Certification Program. Draft documents will be prepared and submitted to EPA for review during the next Project Reporting Period.

Statistical Analysis – No action taken

Part 3 – Summary of Accomplishments - Fourth Project Quarter

I. WWTF Energy Focused Environmental Management System Project

- Energy Use Audits/Assessments – Four assessments were conducted during this reporting with a total of eight audits/assessments having been conducted as of September 30, 2009.
- Roundtable Meetings – A third Roundtable meeting was held on September 18th, 2009

II. FOG Environmental Results Program Project

- FOG ERP Assessments – 106 assessments were conducted this reporting period with a total of 183 assessments having been completed as of September 30, 2009.
- FOG ERP Workbook – A draft FOG ERP Workbook was developed by URI.

Part 4 – Projection of Activities, Accomplishments, and Major Expenditures for the Next Quarter Report

I. WWTF Energy Focused Environmental Management System Project

- A Roundtable Meeting is scheduled for October 21st, 2009
- Continue with Energy Use Assessments –complete initial eight assessment reports during the next project period

II. FOG Environmental Results Program Project

- FOG-ERP Steering Committee – Form Steering Committee and schedule first meeting
- ERP Assessments – Complete baseline assessments and analyze collected baseline data
- ERP Certification – Finalize Workbook and Certification procedures

Part 5 – Financial Report

During the current reporting period an MBE report was submitted to EPA – see Attachment 5. A summary of grant related expenses to-date are as follows:

	Salary	Fringe	Non-Classified Limited	Total Personnel	Operating	Travel	Overhead Expenses	Match Funds	Grant Funds
NBC	\$17,470	\$7,530		\$25,000				\$25,000	\$25,000.00
RIDEM									\$0.00
RIMES				\$12,600					\$12,600.00
URI	\$76,532.13	\$16,635.00	\$10,440	\$103,607.62	\$70.00	\$1,746.38	\$26,587.90	\$25,302	\$132,011.90
Total:				\$141,207.62	\$70.00	\$1,746.38	\$26,587.90	\$50,301.76	\$169,611.90

Attachments:

1. Project Milestone Summary Table
2. EF-EMS Roundtable-3
3. FOG-ERP Workbook - Draft
4. FOG-ERP Baseline Assessment – List
5. MBE Report