

US EPA ARCHIVE DOCUMENT

**State Innovation Grant Project  
Narragansett Bay Commission  
Progress Report - 2  
April 1, 2009 – June, 30 2009**

**Project Title:** Sustainable Energy Management Practices for Wastewater Treatment Facilities

## **Part 1 – Synopsis of Accomplishments**

During the current Project Reporting Period April 1<sup>st</sup> through June 30<sup>th</sup>, 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, an EPA Energy Guidebook Workshop was held on April 1<sup>st</sup>, an EPA Energy Star Portfolio Manager Software Workshop for RI WWTFs was held on April 23<sup>rd</sup>, two EF-EMS Roundtable meetings were held on May 27<sup>th</sup> and June 24<sup>th</sup>; four WWTF energy audits were performed on March 15<sup>th</sup>, June 17<sup>th</sup>, June 24<sup>th</sup> and July 1<sup>st</sup>, and 77 FOG-ERP Compliance/BMP inspections were completed. Please see the attached Project Milestone Table for a more detailed 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

On April 20<sup>th</sup>, 2009 EF-EMS Steering Committee members consisting of NBC staff, Eugene Park from URI, Rich Enander from RIDEM, James Brumm and John Gilheaney from RIMES and Bruce Shaffer from Action Energy met to discuss progress being made with respect to the WWTF Energy Audits being conducted as part of the WWTF Sustainable Energy Management Program. During this meeting the “Energy Audit Team” discussed the recent energy assessment conducted at the Bristol WWTF and made arrangements for an assessment to be conducted at the NBC Field’s Point WWTF on May 15<sup>th</sup> 2009. Also a tentative date of May 20<sup>th</sup> was set for the first Roundtable Meeting.

**Energy Focused Environmental Management System Training Program for WWTFs – Utilizing EPA’s Energy Guidebook** - Power Point presentation on “Ensuring a Sustainable Future: Energy Management for Wastewater Treatment Facilities” – completed see Project Report 2.

**Project Kick-Off Meeting/Workshop** – On February 25<sup>th</sup> a Sustainable Energy Management Systems for WWTFs Project Kick-Off Meeting was held in the NBC’s Corporate Office Building in Providence. Approximately 30 representatives from fifteen Rhode Island WWTFs were in attendance along with representatives from NBC, RIDEM, National Grid and Synagro. During this meeting Dr. Gene Park from URI, Dr. Rich Enander from RIDEM, Gina Snyder from EPA, Jim McCaughey from the NBC and John Gilheaney from RIMES presented information on project plans and goals. See Project Report 2 - Attachment – 3 for a list of attendees and meeting hand-outs.

**EPA Energy Guidebook Training Workshop for Participating WWTFs** – On April 1<sup>st</sup> a full day workshop was held on how to use EPA’s “Energy Management Guidebook for Wastewater and Water Utilities”. The workshop was held at the University of Rhode Island’s Narragansett Bay Campus and was attended by more than twenty representatives from fifteen of Rhode Island’s nineteen municipal WWTFs. The workshop covered key aspects of the EPA Guidebook and the Plan-Do-Act-Check Process including:

- Establishing Energy Goals,
- Benchmarking Energy Use,
- Developing an Energy Policy,
- Establishing Energy Objectives and Targets

At the conclusion of the workshop attendees were given a demonstration of the EPA Energy Star Portfolio Manager system by Barry Wenskowicz, NBC’s Pollution Prevention Engineer. See Attachment 2 of this report for details on the EPA Energy Guidebook Workshop.

**Energy Use Baseline for Participating WWTF** – On April 29<sup>th</sup> 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 Attachment 3 of this report for details on the Portfolio Manager Workshop.

**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 27<sup>th</sup> 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 Attachment 4 of this report for details on this Roundtable meeting.

On June 24<sup>th</sup>, 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 Attachment 5 of this report for details on this Roundtable meeting.

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

<b>Facility</b>	<b>Date</b>
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

## **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.

**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. See Attachment 7 of this report for a list of the selected facilities.

**FOG Management Checklist and set of Best Management Practice (BMP) Factsheets** –NBC, URI, RIDEM and EPA finalized a combined regulatory compliance and FOG BMP checklist in March 2009. See Report 2 - Attachment 6 - FOG Management Checklist.

**Trial Checklist Runs** On November 13<sup>th</sup> 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.

**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 July 2009. The 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.

**ERP Certification** – URI is in 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 Accomplishment - Second Project Quarter**

### **I. WWTF Energy Focused Environmental Management System Project**

- Energy Use Audits/Assessments – Four audits/assessments were conducted between April 1, 2009 and June 30, 2009
- EPA Energy Guidebook Training Workshop – Workshop held on April 1, 2009
- Portfolio Manger Training – Training held on April 29, 2009
- Roundtable Meetings – Meetings held on May 27<sup>th</sup> and June 24<sup>th</sup>, 2009

### **II. FOG Environmental Results Program Project**

- ERP Assessments – 77 Assessments completed between April 1 and June 30, 2009
- ERP Certification – Work on FOG BMP and Certification Process initiated by URI.

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

### **I. WWTF Energy Focused Environmental Management System Project**

- Roundtable Meetings Scheduled for August 19<sup>th</sup> and September 16<sup>th</sup>, 2009
- Continue with Energy Use Assessments –complete three assessments 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 data collection assessments
- ERP Certification – Finalize Workbook and Certification procedures

**Part 5 – Financial Report**

Project expenditures for all of the Project Partners have not been fully tabulated at this time. A summary of estimated of grant related expenses to-date are as follows:

				<b>Total Personnel</b>	<b>Travel</b>	<b>Overhead Expenses</b>	<b>Match Funds</b>	<b>Grant Funds</b>
<b>NBC</b>				\$25,000			\$25,000	\$25,000.00
<b>RIDEM</b>								
<b>RIMES</b>				\$11,100				\$11,100.00
<b>URI</b>				\$39,860.22	\$783.33	\$10,161.04	\$9,755	\$50,804.59
<b>Total:</b>				\$75,960.22	\$783.33	\$10,161.04	\$34,755	\$86,904.59

**Attachments:**

1. Project Milestone Summary Table
2. EPA Energy Guidebook Workshop
3. Portfolio Manager Workshop
4. EF-EMS Roundtable-1
5. EF-EMS Roundtable-2
6. EF-EMS Energy Project - WWTF Status Summary
7. FOG ERP Project Random Selection List