



The State of New Hampshire  
**Department of Environmental Services**

**FB 16 084**

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**Thomas S. Burack, Commissioner**

April 28, 2016

The Honorable Neal M. Kurk, Chairman  
Fiscal Committee of the General Court  
State House  
Concord, NH

Her Excellency, Governor Margaret Wood Hassan  
And the Honorable Council  
State House  
Concord, New Hampshire 03301

*[Signature]*  
Approved by Fiscal Committee Date

**REQUESTED ACTION**

Pursuant to RSA 14:30-a:VI, authorize the Department of Environmental Services (DES) to accept and expend \$285,000 in Pass-Thru Federal Department of Energy funds from the Office of Energy and Planning to complete a project to help municipalities reduce the energy related costs of operating their wastewater treatment facilities, effective upon Fiscal Committee and Governor and Council approval through June 30, 2017. Funding is to be budgeted as follows:

**Energy Efficiency Grants  
03-44-44-442010-52090000  
FY2016**

Class	Budget Category	Current Budget	Requested Action	Revised Budget
<b>Income</b>				
001-404984	Energy Efficiency Grants	\$0	(\$285,000)	(\$285,000)
<b>Expenditures</b>				
020-500200	Current Expense	\$0	\$280	\$280
040-500800	Indirect Costs	\$0	\$4,149	\$4,149
042-500620	Additional Fringe Benefits	\$0	\$4,035	\$4,035
050-500109	Personnel Part-Time	\$0	\$46,112	\$46,112
060-500601	Benefits	\$0	\$17,983	\$17,983
070-500705	In-State Travel	\$0	\$1,941	\$1,941
102-500731	Contracts for Program Services	\$0	\$210,500	\$210,500
	<b>TOTAL</b>	<b>\$0</b>	<b>\$285,000</b>	<b>\$285,000</b>

The Honorable Neal M. Kurk, Chairman  
Fiscal Committee of the General Court and

Her Excellency, Governor Margaret Wood Hassan  
And the Honorable Council

Page 2 of 2

**EXPLANATION**

The purpose of this Pass Through federal grant is to help municipalities save money at their wastewater treatment facilities by identifying potential energy efficiency improvements. There are 74 municipal wastewater treatment plants in the state and they account for up to 40 percent of a municipality's energy consumption. The project will help all 74 plants benchmark their current energy use and will provide comprehensive energy audits and technical assistance to up to 24 of them. This work will identify cost-effective strategies for enhancing efficiency, potentially reducing electric energy usage at participating wastewater treatment facilities by up to 30%.

This is a new grant received after the closing of the FY 2016/2017 budget cycle. The timing of the grant receipt did not allow for creation of new accounts needed to request the acceptance and expenditure of this grant money during the FY2016/2017 budget cycle.

DES is requesting authorization to accept and expend \$285,000 in federal funds and to budget these funds as follows:

Class 020 *Current Expense* – Funds to cover materials and supplies that will be used by staff in completion of this work.

Classes 040, 042, 060 *Indirect Cost, Additional Fringe, and Benefits* – Funds in each class respectively, are necessary since there are personnel costs and these classes are based on a percentage of personnel costs.

Class 050 *Personnel Part-Time Employees* – The funds in class 050 will be used for existing staff positions. These funds will be used to supplant funding of the following position, which is currently budgeted. Funding that is budgeted in the accounts for the current position referenced below will either be lapsed or closed-to-control.

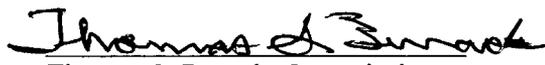
Position #	Title	Account (03-44-44)	Funding	Amount
12111	Civil Engineer V	441018-2002-010	100% Federal	\$44,396

Class 070 *In-State Travel* – A small amount of travel utilizing state vehicles is anticipated for the work being conducted.

Class 102 *Contracts for Program Services* – This is for contract work to conduct research, collect information, conduct technical analysis, and draft reports in support of the project.

In the event that Federal funds become no longer available, General funds will not be requested to support this program.

We respectfully request your approval.

  
Thomas S. Burack, Commissioner



MARGARET WOOD HASSAN  
GOVERNOR

STATE OF NEW HAMPSHIRE  
OFFICE OF ENERGY AND PLANNING  
107 Pleasant Street, Johnson Hall  
Concord, NH 03301-3834  
Telephone: (603) 271-2155  
Fax: (603) 271-2615



February 25, 2016

Sharon Rivard, Civil Engineer V  
Department of Environmental Services  
Revolving Loan Fund  
29 Hazen Drive, PO Box 95  
Concord, NH 03302-0095

RECEIVED  
FEB 29 2016  
DES-WEB

RE: Memorandum of Agreement between the Office of Energy and Planning and the Department of Environmental Services in the amount of \$285,000.00 to complete a project to help municipalities reduce the energy-related costs of operating their wastewater treatment facilities, effective February 10, 2016 through December 31, 2018.

Dear Ms. Rivard:

I have enclosed for your records the Agreement between the Office of Energy and Planning and the Department of Environmental Services for the above-referenced project.

**Please reference PO 1048461 when submitting invoices for payment.**

The Department of Energy is the federal funding source for this contract. Please reference Grant #DE-EE0007223, and CFDA #81.119 on your Schedule of Expenditures of Federal Awards (SEFA) and the Data Collection Form (SF-SAC) as required by OMB Circular A-133.

Should you have any questions regarding this contract, please contact Rick Minard at 603-271-2155.

Sincerely,

Barbara Shea  
Fiscal Manager

cc: Michael Bradley, DES  
Rick Minard, OEP

Enclosure



MARGARET WOOD HASSAN  
GOVERNOR

STATE OF NEW HAMPSHIRE  
OFFICE OF ENERGY AND PLANNING  
107 Pleasant Street, Johnson Hall  
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www.nh.gov/oep

January 8, 2016

Her Excellency, Governor Margaret Wood Hassan  
And the Honorable Council  
State House  
Concord, New Hampshire 03301

Approval by the Governor  
and Council on 02-10-16  
Agenda Item 31  
PO 1048461

**REQUESTED ACTION**

Authorize the Office of Energy and Planning (NHOEP) to enter into a Memorandum of Agreement (MOA) with the Department of Environmental Services (NHDES), Vendor #177894, Concord, New Hampshire in the amount of \$285,000.00 to complete a project to help municipalities reduce the energy-related costs of operating their wastewater treatment facilities, effective February 10, 2016, upon Governor & Council approval through December 31, 2018.  
100% Federal Funds (US Dept. of Energy-State Energy Program)

Funding is available in the following account, with the authority to adjust encumbrances in each of the state fiscal years through the Budget Office, if needed and justified:

<u>Office of Energy &amp; Planning, State Energy Programs</u>	<u>FY 2016</u>
01-02-02-024010-65100000	
102-500731 Contracts for Program Services	\$285,000.00

**EXPLANATION**

The agreement formalizes the terms by which NHDES will work with NHOEP to help municipalities save money at their wastewater treatment facilities. There are 74 municipal wastewater treatment plants in the state and they account for up to 40 percent of a municipality's energy consumption. The project will help all 74 plants benchmark their energy use and then deliver comprehensive energy audits and technical assistance to up to 24 of them. This work will identify cost-effective strategies for enhancing efficiency. NHDES estimates that the participating plants will be able to reduce their energy bills by a total of \$1.8 million per year.

In the event Federal Funds are no longer available, General Funds will not be requested to support this program.

Respectfully requested,

Meredith A. Hatfield  
Director

**Memorandum of Agreement  
Between  
New Hampshire Office of Energy and Planning  
and  
New Hampshire Department of Environmental Services**

**1. Subject:**

U.S. Department of Energy Grant (award number: DE-EE0007223) to conduct a three-year project to help New Hampshire municipalities identify and invest in energy efficiency measures at their wastewater treatment plants to reduce municipal energy costs (“NH Wastewater Efficiency Grant”).

The Department of Energy (USDOE) has awarded \$300,000 to the New Hampshire Office of Energy and Planning (NHOEP) to implement a project developed jointly with the NH Department of Environmental Services (NHDES). This MOA describes the mutual obligations of the two agencies to ensure successful completion of the project.

NHOEP and NHDES have secured commitments from the state’s “Core<sup>1</sup>” natural gas and electric utilities to provide the required \$60,000 match.

This MOA covers the period from the Governor and Executive Council’s approval of NHOEP’s contract with USDOE through December 31, 2018.

**2. Agency Roles**

For the purposes of this Agreement, NHOEP and NHDES agree as follows:

**NHDES will:**

- A. Assign responsible staff to lead this initiative;
- B. Contract with energy auditors and others as needed;
- C. Ensure that the match obligation of the Core utilities is met during the project;
- D. Oversee, implement, and ensure satisfactory completion of the elements in the Statement of Project Objectives (SOPO) defining NHOEP’s obligations to USDOE;
- E. Provide timely data and reports to OEP to meet OEP’s reporting obligations to USDOE;
- F. Provide quarterly invoices to NHOEP no later than 20 days after the end of each quarter, as discussed in Section 7, below; and
- G. Meet with NHOEP, as needed, to coordinate work activities, publications, and reports.

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<sup>1</sup> The term “Core” refers to the statewide ratepayer-funded energy efficiency programs administered by the state’s regulated electric and natural gas utilities and the NH Electric Cooperative.

**NHOEP will:**

- H. Provide NHDES with funding as described under the section entitled PROJECT COSTS;
- I. Assign an NHOEP staff member to serve as project manager and as liaison with NHDES and USDOE;
- J. Meet with NHDES as needed to coordinate work activities, publications, and reports;
- K. Submit to USDOE all required reports and respond to all inquiries regarding the program by USDOE and other agencies;
- L. Provide payment within 30 days of receipt of an invoice that meets state and federal standards for completeness and allowable costs.

**3. The Statement of Program Objectives (SOPO) and Milestones**

The SOPO developed in collaboration with USDOE is the broad outline of the project's schedule, tasks, and deliverables. The SOPO will guide work by NHDES and NHOEP unless all parties agree to modify the SOPO or the milestones it designates. The SOPO is attached to this MOA.

NHDES will present to NHOEP detailed implementation plans for each task (e.g., benchmarking and data analysis, selecting facilities for audits, convening training sessions), consistent with the SOPO, no later than 30 days before the start of each task. NHDES and NHOEP will agree on these detailed plans before implementing them, and NHOEP will respond with approvals or suggestions within 15 days of receipt. Both parties will strive to expedite agreements and will work to engage USDOE in the process as appropriate.

**4. Reporting**

NHOEP must file quarterly reports in USDOE's PAGE system within 30 days of the end of each quarter. NHDES will facilitate this process by submitting quarterly reports to NHOEP that will meet USDOE's needs, within 20 days after the end of each quarter. Data points are likely to include:

- a. the number of WWTFs benchmarked in the previous quarter;
- b. the number of workshops conducted with attendance records and agendas;
- c. the number of energy audits completed;
- d. the number of technical assistance site visits conducted;
- e. a description of any outreach and education NHDES conducted in the previous quarter to promote WWTF energy efficiency and the number of recipients;
- f. the calculated annual and lifetime energy savings from energy saving measures implemented to date; and
- g. the calculated annual and lifetime energy savings from energy saving measures identified through energy audits and technical assistance to date.

NHOEP will work with NHDES to develop a reporting template that will be completed no later than February 20, 2016.

#### **5. Implementation Model**

A key deliverable of this project is an "implementation model," which DOE describes as a short report that would help other states succeed with a similar project. The model will require both NHOEP and NHDES to reflect on successes and challenges and jointly create a narrative supported by analysis that will be useful to others.

#### **6. Project Costs:**

NHOEP shall provide NHDES funding in the amount of \$285,000 to complete the work in the Statement of Project Objectives.

NHDES will work closely with the Core utilities to ensure that they contribute and document their \$60,000 share in cash and services that constitute the project's non-federal match.

The project is to be funded exclusively through the DOE grant and the Core utilities' match. In the event that these resources become unavailable, no General Funds will be used.

#### **7. Invoicing:**

NHDES will submit detailed invoices and related backup documentation within twenty (20) days following the close of each fiscal quarter. Invoices will include financial reports from the Core utilities, as appropriate.

#### **8. Termination:**

Either party may terminate this agreement upon providing written notice to the other, thirty (30) days prior to termination. Upon termination, NHDES will be paid for all approved work completed prior to termination.

#### **9. Duration:**

The project duration extends from January 1, 2016, pending approval by the Governor and Executive Council, through December 31, 2018 for program activities, invoicing and program year closeout, unless terminated by either party, or extended in writing by subsequent agreement of the parties and approval by the Governor and Executive Council.

IN WITNESS WHEREOF, the respective parties have hereunto set their hands on the dates indicated.

Meredith A. Hatfield  
Meredith A. Hatfield, Director  
NH Office of Energy and Planning

1/8/16  
Date

Thomas S. Burack  
for Thomas S. Burack, Commissioner  
NH Department of Environmental Services

1/11/16  
Date

Approved by Attorney General this 16<sup>th</sup> day of January, 2016, as to form, substance, and execution.

OFFICE OF THE ATTORNEY GENERAL

By: Christopher G. Aslin  
Christopher G. Aslin  
Title: Assistant Attorney General

I hereby certify that the foregoing agreement was approved by the Governor and Council of the State of New Hampshire at their meeting on \_\_\_\_\_, \_\_\_\_\_.

OFFICE OF THE SECRETARY OF STATE

By: [Signature]

**DEPUTY SECRETARY OF STATE**

Date: FEB 10 2016

Attachment:  
USDOE Statement of Project Objectives

**US Department of Energy – Competitive FY2015 SEP Grant  
Leading NH’s Wastewater Treatment Facilities to Energy Efficiency  
DE-EE0007223/0000  
Executive Office of the State of New Hampshire  
Statement of Project Objectives**

**A. PROJECT OBJECTIVES**

The overarching goal of this proposed project is to reduce electric energy use by New Hampshire Waste Water Treatment Facilities (WWTF), with a specific goal of reducing electric energy use at participating WWTFs by an average of 33%. These gains will save participating municipalities approximately \$1.8 million per year and will help New Hampshire reach the goals adopted in the 2009 New Hampshire Climate Action Plan: A Plan for New Hampshire’s Energy, Environment, and Economic Development Future. The plan, and an implementing executive order from the Governor, committed the state to reduce greenhouse gas emissions by 20 percent below 1990 levels by 2025.

This proposed project will be the first step in a process that will use comprehensive energy audits to identify efficiency improvements that will take several years to implement. By the end of the project, up to 24 WWTFs will have audits identifying efficiency projects that will include no- cost operational changes and low-cost energy conservation measures that can be implemented almost immediately, as well as longer term cost-effective investment recommendations which, if implemented, would yield the energy savings described above. The audit results will model all of the potential savings that can be gained economically.

To accomplish this goal, the Project Team will focus on removing the barriers that currently prevent municipalities from investing in WWTF energy efficiency through (a) effective engagement of operators and local decision makers, (b) focused education and facility-specific data, and (c) direct onsite technical assistance. Through this approach, this project will educate, empower and enable participating WWTFs to reduce their electricity consumption and provide a model approach that can work in any state.

New Hampshire’s four largest electric utilities are partnering with New Hampshire Office of Energy Planning (NHOEP) and another State Agency Subrecipient (SAS) in this project. The utilities will help benchmark the WWTFs and will subsequently provide funding incentives and programs to assist municipalities in implementing the improvement projects. The success of this project will be measured through comparison benchmarking performed at the beginning and end of the project and through calculating energy.

## **B. TECHNICAL SCOPE SUMMARY**

### **Current Landscape on Energy Use at WWTFs**

A critical first step to facilitating efficiency investments by New Hampshire's WWTFs is to establish a sector-wide baseline that defines the current energy use landscape. This baseline will be established through the Task 1 benchmarking effort using the SAS' WWTF flow and characteristic data in conjunction with the utilities' electric energy use data for each of the 74 municipally-owned WWTFs in New Hampshire. Flow is measured in millions of gallons of wastewater or MG. The goal of this project is to reduce the amount of electricity used per unit of flow, resulting in related cost saving and environmental benefits.

### **Action/Implementation Plans**

#### **Preferred Outcomes and Actions to Achieve**

The preferred outcome for this project is to have an implementation plan from each participating municipality showing the measures it will consider adopting to achieve a 33% reduction in energy use by the participating WWTFs. The project team will work to achieve this outcome through the stakeholder engagement, education, comprehensive energy audits and technical assistance efforts.

#### **Potential Risks to Impede Achieving Outcomes**

The success of this project will depend on the success of the stakeholder engagement effort. If the stakeholder commitment is lower than projected, the project team will initiate the program with those municipalities that do commit, and will continue its efforts to engage additional municipalities as the project moves forward.

Ultimately, the energy savings sought by this project will depend on the municipalities' willingness and ability to invest in the conservation measures identified in the comprehensive energy audits. The project team will work to help municipalities understand the full impact of implementation on the municipalities' budgets with the estimated payback periods. The project team will also help municipalities minimize their direct costs by maximizing their use of low-cost financing, grants, or other efficiency incentives.

## **C. TASKS TO BE PERFORMED**

### **Task 1. WWTF Electric Energy Use Benchmarking and Data Analysis (Month 1 – Month 6)**

**Task Summary:** Evaluate and benchmark electric energy use for each of the 74 municipally-owned WWTFs relative to size/flows and treatment technology. Use data collected during previous onsite visits to most of the 74 municipally-owned WWTFs together with monthly operational data submitted by the WWTFs and electric energy use information to perform benchmarking analyses.

Work together to develop facility-specific data, as well as averages for various categories (e.g., treatment type, age of facility, capacity), and a series of plots showing the range of kWh used/MG treated for a variety of different treatment technologies, including but not limited to aerated lagoons, secondary activated sludge, and advanced treatment. This information will be used throughout the workshops as a tool for benchmarking, teaching, and measuring improvement.

Explore the use of Portfolio Manager, Excel spreadsheets, and other software tools as means for the initial benchmarking and for WWTFs to track their own energy usage over time.

**Milestone1.1 (Q1)** – Development of benchmarking tool to incorporate data. (Verification: Sample benchmark tool described in quarterly performance report (QPR).)

**Milestone1.2 (Q2)** – Completion of benchmarking data analysis. (Verification: WWTF-level energy data and summary analysis described in QPR.)

## **Task 2. Stakeholder Engagement (Month 1-Month 7)**

**Task Summary:** Using the results of the electric energy benchmarking analysis for New Hampshire WWTFs and potential energy savings identified by a series of comprehensive energy audits conducted at WWTFs in Vermont, prepare and conduct an outreach effort to engage New Hampshire WWTF operators and local decision makers in the project.

The objective of this task is to obtain a commitment from at least 50% of New Hampshire's 74 municipally- owned WWTFs to participate in the treatment-specific workshops described under Task 3.

Seek releases during the stakeholder engagement phase to allow the Project Team to share participating communities' WWTF electric energy use at the workshops and to recruit operators from the more energy efficient facilities to speak at workshops.

**Milestone 2 (Q3)** – Completion of Stakeholder Engagement and 50% of stakeholders (WWTF operators and/or local decision makers) signed up to attend an initial workshop. (Verification: Summary of stakeholders registered for workshops included in QPR.)

## **Task 3. Stakeholder Education (Month 7-Month 12)**

**Task Summary:** Develop and hold four initial treatment technology-specific facilitated half-day workshops.

The initial workshops will:

- Educate both the WWTF operators and the local decision makers about the importance of and opportunities for improved energy efficiency;
- Describe common energy conservations measures applicable to the specific treatment technology, including energy saving ideas to take back and immediately implement at their WWTFs;
- Provide the benchmarking results for each facility and for treatment-specific comparisons;

- Host facilitated peer-to-peer discussions to highlight successful strategies for implementation;
- Provide training on reading and understanding electric bills and demand charges;
- Introduce approaches for WWTFs to track their own energy use;
- Share information on financial incentives and financing options; and
- Discuss the availability of comprehensive energy audits and onsite one-on-one technical assistance and the process and requirements to apply for these project benefits.

### **Subtask 3.1. Stakeholder Education – Lagoons**

**Subtask Summary:** Two of these initial half-day workshops will be focused on lagoon facilities. Most lagoon facilities in New Hampshire are located in the northern and western portions of the state and typically have minimal staffing. Even though most of the lagoon WWTFs in New Hampshire are relatively small, many still have significant potential for energy savings. To increase the likelihood of participation, the lagoon workshop will be repeated in two locations. The locations will be selected to increase the ability of lagoon operators and local decision makers to attend by reducing the travel time to the workshop locations.

**Milestone 3.1.1 (Q4) –** Hold two lagoon workshops. (Verification: Summary included in QPR.)

### **Subtask 3.2. Stakeholder Education – Secondary Activated Sludge WWTFs**

**Subtask Summary:** The third half-day workshop will be specific to secondary activated sludge WWTFs. This workshop will be held in a central location within NH. (Verification: Summary notes included in QPR.)

**Milestone 3.2.1 (Q4) –** Hold one secondary activated sludge workshop. (Verification: Summary notes included in QPR.)

### **Subtask 3.3. Stakeholder Education – Advanced WWTFs**

**Subtask Summary:** The fourth initial half-day workshop will be specific to advanced WWTFs. This workshop will be held in a central location within New Hampshire. Municipalities with either existing or proposed advanced WWTFs will be encouraged to attend this workshop.

**Milestone 3.3.1 (Q4) –** Hold one advanced WWTF workshop. (Verification: Summary notes included in QPR.)

## **Task 4. Comprehensive Energy Audits (Month 1-Month 27)**

**Task Summary:** Solicit bids for a contractor with extensive expertise in energy use at WWTFs to perform comprehensive energy audits for each WWTFs selected. The utilities will allow for additional comprehensive energy audits through cost-sharing with the DOE funds, through a separate contract and direct payment for services, or through direct payment to the WWTF. The utility-funded audits may start as early as the first month of the project in those communities that are ready for the analysis, though most of the audits will be initiated no sooner than Month 9.

Select which participating WWTFs will receive a comprehensive energy audit based on a number of factors including: demonstration of an appropriate level of commitment and interest in energy conservation at their WWTFs; support from local decision makers; and need, based on the electric energy use benchmarking. With the requested level of funding, 19 to 20 audits are anticipated using DOE funding and an additional three or four audits supported by the utilities' match dollars.

Comprehensive energy audits will not be conducted for WWTFs that have conducted a comprehensive energy audit within the past 10 years unless significant related projects have been implemented since the original audit. Comprehensive energy audits will not be conducted for WWTFs that are due to be replaced or significantly upgraded in the near future. Additional technical assistance (described in Task 5) may be provided to municipalities facing imminent WWTF replacement.

**Milestone 4 (Q1-Q9)** – Conduct up to 24 comprehensive energy audits during project quarters 1 through 9. (Verification: Completed energy audits listed in QPR.)

**Task 5. One-on-One Technical Assistance (Month 9-Month 29)**

Following the completion of the comprehensive energy audit, work one-on-one with the WWTFs and municipality, including on-site visits as needed, to provide technical assistance on selecting appropriate energy conservation measures to implement based on comprehensive energy audit findings and site observations. Assist the community in developing an implementation plan for higher-cost energy conservation measures, including identifying applicable financial incentives and funding options.

For advanced WWTFs that are either proposed or in design, but do not yet exist, the technical assistance will focus on opportunities to ensure a sustainable design, including energy efficiency and resiliency.

**Milestone 5 (Q4-Q10)** – Conduct at least four one-on-one technical assistance sessions per quarter for project quarters 4 through 10. (Verification: A record of WWTFs visited and a brief summary of technical assistance included in QPR)

**Task 6. Stakeholder Education – Implementation Plans and Case Studies (Month 27-Month 33)**

**Task Summary:** Hold another series of treatment-specific technology workshops to support maintenance and implementation of energy efficiency measures across all WWTFs to follow up to the comprehensive energy audits and one-on-one technical assistance. These workshops will be open to all WWTF operators and local decision makers, regardless of whether they participated in the DOE-grant funded technical assistance and audit program. One objective of the second series of workshops is to inspire additional WWTF operators and local decision makers to pursue comprehensive energy audits and energy efficiency improvements at their WWTFs.

These workshops will provide a forum for facilitated peer-to-peer sharing of efforts made, successes and difficulties relative to energy conservation measures. Assist successful WWTF

participants in developing and presenting case studies to facilitate strong peer-to-peer education and connections, and possibly incorporate a tour of a local WWTF that has implemented a new energy efficiency measure as part of or immediately following the workshop.

Based on feedback from the earlier workshops and technical assistance and the interests of targeted stakeholders, the second set of workshops will offer sessions on specific topics to support maintenance and implementation of energy efficiency measures, such as new and emerging technologies, additional potential energy conservation measures and available renewable energy alternatives to consider.

Attendee surveys at the end of workshops will both gauge the effectiveness of the workshops at increasing knowledge and motivating behavior changes (i.e., pursuit of actions to reduce electric energy use) and solicit suggestions for improving future workshops.

#### **SubTask 6.1. Stakeholder Education – Implementation Plans and Case Studies: Lagoons**

**Subtask Summary:** Develop and hold one or two follow-up half-day workshops for lagoon facilities to address staffing and travel limitations. The locations will be selected to increase the ability of lagoon operators and local decision makers to attend by reducing the travel time to the workshop locations.

**Milestone 6.1.1 (Q10)** – Hold a lagoon workshop in one or two locations. (Verification: Summary notes included in QPR.)

#### **SubTask 6.2 Stakeholder Education – Implementation Plans and Case Studies – Secondary Activated Sludge WWTFs**

**Subtask Summary:** Hold a follow-up workshop for secondary activated sludge WWTFs.

**Milestone 6.2 (Q11)** – Hold one secondary activated sludge workshop. (Verification: Summary notes included in QPR.)

#### **SubTask 6.3. Stakeholder Education – Implementation Plans and Case Studies – Advanced WWTFs**

**Subtask Summary:** Hold two half-day follow-up workshops for advanced WWTFs. One of the advanced WWTFs will be focused on existing WWTFs and will be held in a central location within NH. The second advanced WWTF workshop will be focused on advanced WWTFs that are either proposed or currently in design.

**Milestone 6.3.1 (Q11)** – Hold two advanced WWTF workshops. (Verification: Summary notes included in QPR.)

#### **Task 7. Estimating and Sharing Results – Implementation Model (Month 30-Month 36)**

**Task Summary:** Work on the Implementation Model throughout the course of the project, refining and assembling the document in the final months. Final results will also be shared with the universe of New Hampshire municipally-owned WWTFs as well as with industry and professional associations.

Pursue hosting a webinar on the project in coordination with USEPA Region 1 and DOE as an additional means of sharing the results and lessons learned with interested parties in New Hampshire and beyond.

**Milestone 7.1 (Q12)** – Benchmarking analysis repeated for each participating WWTF. (Verification: Before and after benchmark analyses summarized in QPR.)

**Milestone 7.2 (Q12)** – Measure specific energy saving estimates. (Verification: Estimates summarized in QPR.)

**Milestone 7.3 (Q12)** – Complete Implementation Model. (Verification: Final Implementation Model submitted to DOE.)

### **Task 8. Project Management and Administration (Month 1-Month 36)**

**Task Summary:** The project team will work closely on grant administration and reporting, including QPRs for DOE. Key activities include tracking progress on tasks, expenditures, and match during the course of the project. The project team will regularly discuss the project schedule and requirements and identify and, in coordination with DOE, implement any mid-course adjustments as necessary. Longer-term tasks will incorporate periodic “check-ins” at least every 2-3 weeks to ensure that adequate progress is being made or make any needed adjustments to the approach to the task to maintain the overall project schedule.

#### **Subtask 8.1 Subcontracting**

**Subtask Summary:** Conduct oversight over its subrecipient on any subcontracts with Process Analysts and an energy auditor.

**Milestone 8.1:** Subcontracts signed. (Verification: Include in QPR that subcontracts have been submitted.)

#### **Subtask 8.2 Invoicing and Quarterly Reporting**

**Subtask Summary:** Ensure that all necessary reporting to DOE is completed.

**Milestone 8.2.1 (Q1-Q12):** NH OEP submits quarterly financial reports to DOE.

### **D. PROJECT MANAGEMENT AND REPORTING**

Reports and other deliverables will be provided in accordance with the Federal Assistance Reporting Checklist following the instructions included therein.

In addition to quarterly federal reporting requirements, the following deliverables will be included:

- Completion of WWTF benchmarking data analysis and submission of electric energy use graphs. Q2
- Completion of Stakeholder engagement and 50% of stakeholders signed up to attend an initial workshop. Q3
- Meeting agenda, sign in sheets, meeting notes, meeting action items, evaluations for the Lagoon, Secondary Advanced Sludge and Advanced WWTF Workshops. Q4

- Comprehensive WWTF Energy Audits. SAS anticipates funding 19 to 20 audits using DOE funding and an additional three or four audits supported by the utilities' match dollars. Q1-9
- Trip reports from One on One technical assistance with WWTF Q4-10
- Before and after benchmarking analysis and energy & cost savings estimates report for each WWTF Q12
- Implementation Model completed and submitted to DOE. Q12

Milestones Summary Table

Recipient Name: New Hampshire Office of Energy and Planning  
 Project Title: Leading NH's WWTFs to Energy Efficiency

Task Number	Task or Subtask Title	Milestone Number	Milestone Description	Deliverable(s)	Anticipated Date (months from start of project)	Anticipated Quarter (quarters from start of project)
<b>Task 1: WWTF Electric Energy Use Benchmarking and Data Analysis</b>						
1	WWTF Electric Energy Use Benchmarking and Data Analysis	M1.1	Develop benchmarking tool and incorporate collected electric energy use data, WWTF flow and characteristic data from the SAS and the NH CORE Utilities	Completed Benchmarking Tool	4	1
1	WWTF Electric Energy Use Benchmarking and Data Analysis	M1.2	Analyze electric energy data and develop benchmark comparisons for WWTF treatment types	Electric Energy Use Graphs	6	2
<b>Task 2: Stakeholder Engagement Initiation</b>						
2	Stakeholder Engagement Initiation	M2	Completion of Stakeholder engagement and 50% of stakeholders signed up to attend an initial workshop.	Workshop registration forms	7	3
<b>Task 3: Stakeholder Education</b>						
3.1	Stakeholder Education – Lagoons	M3.1.1	Lagoon Workshops	Meeting agenda, sign in sheet, meeting notes, meeting action items, evaluations	9.5	4

**Milestones Summary Table**

**Recipient Name:** New Hampshire Office of Energy and Planning  
**Project Title:** Leading NH's WWTFs to Energy Efficiency

<b>Task Number</b>	<b>Task or Subtask Title</b>	<b>Milestone Number</b>	<b>Milestone Description</b>	<b>Deliverable(s)</b>	<b>Anticipated Date (months from start of project)</b>	<b>Anticipated Quarter (quarters from start of project)</b>
3.2	Stakeholder Education – Secondary Activated Sludge WWTFs	M3.2.1	Secondary Activated Sludge WWTF Workshop	Meeting agenda, sign in sheet, meeting notes, meeting action items, evaluations	10.5	4
3.3	Stakeholder Education – Secondary Activated Sludge WWTFs	M3.3.1	Advanced WWTF Workshop	Meeting agenda, sign in sheet, meeting notes, meeting action items, evaluations	11.5	4
<b>Task 4: Comprehensive Energy Audits</b>						
4	Comprehensive Energy Audits	M4	Comprehensive Energy Audits	Energy audit reports	1-27	1-9
<b>Task 5: One-on-One Technical Assistance</b>						
5	One-on-One Technical Assistance	M5	One-on-One Technical Assistance	Trip reports	12-29	4-10
<b>Task 6: Stakeholder Education – Implementation Plans and Case Studies</b>						
6.1	Stakeholder Education – Implementation Plans and Case Studies: Lagoons	M6.1.1	Lagoon Workshops	Meeting agenda, sign in sheet, meeting notes, meeting action items, evaluations	30	10
6.2	Stakeholder Education – Implementation Plans and Case Studies – Secondary Activated Sludge WWTFs	M6.2.1	Secondary Activated Sludge WWTF Workshop	Meeting agenda, sign in sheet, meeting notes, meeting action items, evaluations	32	11

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Task Number	Task or Subtask Title	Milestone Number	Milestone Description	Deliverable(s)	Anticipated Date (months from start of project)^	Anticipated Quarter (quarters from start of project)
6.3	Stakeholder Education -- Implementation Plans and Case Studies -- Advanced WWTFs	M6.3.1	Advanced WWTF Workshop	Meeting agenda, sign in sheet, meeting notes, meeting action items, evaluations	33	11
<b>Task 7: Estimating and Sharing -- Implementation Model</b>						
7.0	Estimating and Sharing Implementation Model	M7.1	Benchmarking analysis	Before and after benchmarks	36	12
7.0	Estimating and Sharing Implementation Model	M7.2	Estimate energy savings	Report for each WWTF of potential energy and cost savings	36	12
7.0	Estimating and Sharing Implementation Model	M7.3	Implementation Model	Model submitted to DOE	36	12
<b>Task 8: Project Management and Administration</b>						
8.1	Subcontracting	M8.1.1	Subcontracting	Approved subcontracts	4	2
8.2	Invoicing and Quarterly Reporting	M8.2.1	Invoicing and Quarterly Reporting	Invoices and quarterly reports submitted to DOE	1-36	1-12