

VERMONT STATE CONSERVATION INNOVATION GRANTS  
Quarterly Progress Report

Project Title: Fuel from the Field to the Flue: Grass pellet heating equipment combustion optimization project.
Grantee Name: Meach Cove Real Estate Trust
Project Director: Christopher W. Davis
Progress report author (if different than Director):
Period Covered by Report: 10/1/14 – 12/31/14
Project End Date: 9/20/2015

**Work performed during this period:**

1. The State Fire Marshal who is the Electrical Inspector is scheduled to return on October 6, 2014 to perform a final inspection of both boilers and the boiler room installation. The inspector issued his final approval for the boiler installation allowing the boilers to be operated to heat the building.
2. On October 17 we began burning premium softwood (60%)/hardwood (40%) pellets. The Evo boiler has performed as designed. Issues were found with the oil boiler controls, and one of the new thermostats was defective. The Project Director worked with the mechanical contractor to make changes to the system to insure the oil boiler would operate as a back-up heat source for the system. Issues continue to prevent the oil boiler from starting reliably when it is called. Work with the mechanical contractor to identify and solve the problems continues.
3. Meach Cove ordered and installed ¾” (R-4.9) closed cell elastomeric (rubber) pipe insulation to the supply and return piping in the large workshop space to reduce the heat loss of the hot water being pumped into the Modine heaters and the baseboard tube and fin heating in the office and shop areas in the building.
4. The Project Director drafted an Excell spreadsheet layout to organize the data that will be collected during the boiler combustion testing. The plan is to be able to enter the data directly into the spreadsheet using an Android tablet.
5. Meach Cove entered into a contract with RER to manufacture five tons of 2.25 inch diameter “pucks” with switch grass grown by Meach Cove and stored in round bales. RER is making repairs to their BHS Slugger puck making machine in preparation for making the pucks for Meach Cove.

6. The Project Director located and purchased twenty 38 cubic foot capacity bulk bags with duffel tops and 16" x 18" bottom spouts (@ \$11.00 each plus freight) to hold the 5 tons of "pucks" that RER will manufacture.
7. The Project Director contacted The University of Vermont Engineering Department and Vermont Technical College about the possibility of borrowing or renting an emission analyzer from either of these institutions. He has also contacted several instrument sales and rental companies to purchase or rent an acceptable emission analyzer. The goal is to be sure that any instrument that is borrowed, leased or purchased would be easily operated, reliably calibrated, and the data that is collected during the combustion testing could be compared with the grass combustion emission data collected at Meach Cove, SUNY Canton N.Y. and Cornell.
8. The Project Director has been working with RER and Troy Boiler Works to get the cleaning and maintenance information for the Evo boiler in anticipation of beginning grass combustion testing in January, 2015.

**EQIP and CIG provisions:**

1. The primary EQIP-eligible producer for this project is:

Meach Cove Real Estate Trust  
P.O. Box 309  
Shelburne, VT 05482

2. There are no (\$00.00) direct or indirect payments for structural, vegetative or management practices under this project.
3. The Project Director, Christopher W. Davis, certifies that there will not be any direct or indirect payments made to an individual or entity for any structural, vegetative or management practices through this grant. The AIG and HEL/WC provisions do not apply to this project.

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