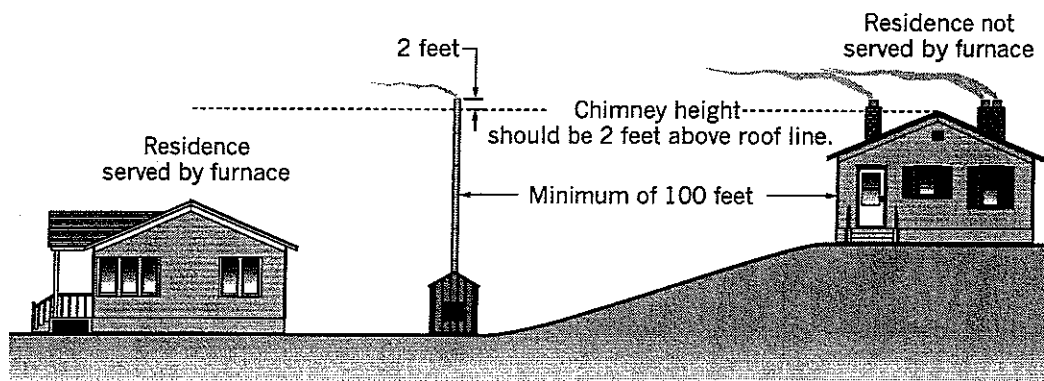


OUTDOOR WOOD FURNACE BEST BURN PRACTICES

1. Read and follow all operating instructions supplied by the manufacturer.
2. **FUEL USED:** Only those listed fuels recommended by the manufacturer of your unit. Never use the following: trash, plastics, gasoline, rubber, naphtha, household garbage, material treated with petroleum products (particle board, railroad ties and pressure treated wood), leaves, paper products, and cardboard.
3. **LOADING FUEL:** For a more efficient burn, pay careful attention to loading times and amounts. Follow the manufacturer's written instructions for recommended loading times and amounts.
4. **STARTERS:** Do not use lighter fluids, gasoline, or chemicals.
5. **LOCATION:** It is recommended that the unit be located with due consideration to the prevailing wind direction.
 - Furnace should be located no less than 100 feet from any residence not served by the furnace.
 - If located within 100 feet to 300 feet to any residence not served by the furnace, it is recommended that the stack be at least 2 feet higher than the peak of that residence.

Chimney Height Installation Scenario



6. Always remember to comply with all applicable state and local codes.



OUTDOOR FURNACE MANUFACTURERS CAUCUS

APPENDIX A
Biomass Combustion Systems Grant Application

Section 1: Applicant Information

Company/organization: School District of Marathon

Address (must be a street address: cannot be a P.O. Box):

School District of Marathon
204 East Street
Marathon, WI 54448

County: Marathon County

Company's federal ID number (EIN or SSN): 39-6003266

Business Type (circle one):

Individual/Sole Proprietor Corporation Partnership Government School
Church Other: _____

Business Classification (circle one):

For Profit Non Profit

Name of primary contact: Richard Parks, District Administrator

Contact's phone number: (715) 443-2226 ext. 107

Contact's fax number: (715) 443-2611

Contact's e-mail address: rparks@marathon.k12.wi.us

Address where system will be installed (must be a street address: cannot be a P.O. Box):
(if different from mailing address)

Marathon Area Elementary School
100 Spring Valley Drive
Marathon, WI 54448

County where system will be installed (if different from mailing address):

Electric utility at the installation address: Wisconsin Public Service

Natural gas utility at the installation address: Wisconsin Public Service

Section 2: Contractor Information

Company/organization that designed and engineered the combustion system:

Marth Wood Shaving Supply, Inc.
6752 State Hwy 107 North
Marathon, WI 54448

Mailing address:

Marth Wood Shaving Supply, Inc.
6752 State Hwy 107 North
Marathon, WI 54448

Phone number: (715) 842-9200 ext. 237

Fax number: (715) 443-3858

E-mail address: tj@marthwood.com

Name of installation contractor: Renewable Energy Systems, LLC

Mailing address: Renewable Energy Systems, LLC
7633 East County Road L
Solon Springs, WI 54873

Phone number: (715) 375-2751

Fax number: not available

E-mail address: mpollock@centurytel.net

List two or three similar projects undertaken and successfully completed by the company or organization that designed and engineered the combustion system and the installation contractor (if different). Provide the name and phone number of a contact person for each project. Focus on Energy reserves the right to contact these individuals:

Rivers Edge, Office Building

Ken Maki, (715) 634-8955

Economart, Grocery Store

Ted Schmitz, (715) 635-2839

Baldwin Dairy, Anaerobic Digester

(715) 635-2836

Name of installation subcontractor (if any): _____

Phone number: _____

Fax number: _____

E-mail address: _____

Name of installation subcontractor (if any): _____

Phone number: _____

Fax number: _____

E-mail address: _____

→ Attach resume summaries for all contractors that will design, engineer and install the project.

Section 3: Project Description

Type and description of combustion system (attach additional sheets as needed):

Our goal is to install a pellet boiler so that we can create a dual heating system for our Elementary school. Being an entity which annually relies on our local taxpayers for funding our operations, it is important for our public educational facility to be attentive to areas in which we can save on expenditures. We believe there will be benefits for our district and taxpayers by the installation of a Pelco 1520 unit. Based on the location of the boiler room at

our Elementary facility, there will be limited labor/construction cost which also makes this project appealing. Our current boilers are now twenty-two (22) years old. The cost of replacing these boilers, should something happen, is quite expensive. Our anticipation is that the installation of the pellet boiler will reduce the wear on our current natural gas boilers thus extending their life too. Based on limited funds available for such a project, we are need of the financial assistance that would be gained by the award of a Focus on Energy Grant.

→ Please attach a copy of the following additional information to the application:

- Feasibility study for the proposed project (for projects producing over 200,000 therms/year)
- Process flow diagram
- Site plan
- Manufacturers equipment descriptions
- System warranty information
- Proposed project construction timeline schedule
- Letters from vendors demonstrating availability of biomass supply

Estimated date of hiring an installation contractor: November 1, 2008

List permit applications that may be required, or have been submitted, and provide permit status:

The Village of Marathon has an ordinance prohibiting the use of solid-fuel fired outdoor heating devices within the village. I am currently on the agenda for their next meeting, October 9, 2008, to ask that the village board consider a waiver for the school district for this pellet boiler system. (Informal discussions have seemed positive for this request.)

Status of power purchase agreement (electrical systems only):

Not Applicable.

Planned installation completion date:

December 30, 2008

Describe how you will operate and maintain the combustion system when completed (O&M plan):

Our staff will operate the unit in accordance with the parameters found in the operations manual. A copy of the operation manual is included as an attachment with this email. Additionally, the installer will provide initial training for our staff.

Describe how you will be tracking the economics of the project when it is operating (e.g., separate account management for combustion system related income and expenses, combined accounting with other business income and expenses)?

Our school usage for heating systems is seasonal. Since we are only looking to install a unit at our Elementary school, we will be able to utilize a cost comparison looking at the annual fuel cost for the wood pellets and the monthly natural gas rates on the bills from our High School facility. We have also been asked to be included in a cost savings analysis by Mr. Don Keck upon completion of our project.

Section 4: Project Costs

Provide a cost breakdown listing of the biomass combustion system. Break out all major equipment (e.g., biomass storage, automated fuel feed system, combustion system, combustion system controls, heat exchanger system, ash removal system, etc.).

NOTE: Buildings, legal fees and roadwork are not considered part of the combustion system.

Itemized list of combustion system components and costs (use additional sheets if necessary):

**BOILER Pelco 1520, pellet burner, 9 foot feed auger,
4 foot ash auger, long neck cyclone and chimney tee with freight \$42,495**

**BIN Schuld/Bushnell White Epoxy 12x10 bin with ladder,
ground lid opening, slide gate, bottom manway, transition and freight..... \$11,074**

**SYSTEM INTEGRATION Renewable Energy Systems will
coordinate placement of boiler, bin, connect augers,
supply/return waterlines vinyl coated where needed, core drilling,
heat exchanger, setting the plate, installing outdoor reset control
with 3-way mixing valve as desired by CESA complete with all antifreeze....\$40,662**

**ELECTRICAL Seliger Electric to primary wire the Pelco Boiler,
primary pumps with starter, reset controller and donfoss motorized valve.....\$2,460**

**CONCRETE Ellenbecker to construct 20x15 slab or pylons to
properly support bin and boiler while also allowing for appropriate drainage...\$5,900**

**FENCING Security Fence to install 70 foot of 8 foot high chain link
fence with 1 opening double swing 8 foot door prior to frost.....\$2,950**

WARRANTY, an extra year for 2-year coverage for installation only.....\$2,500

Total estimated cost of system: \$108,041

Project Revenue Sources:

Estimated annual fuel savings for utilization of heat (dollars/year): \$3,883.00

Estimated annual revenue from electricity sales or savings (dollars/year): Not Applicable

Estimated annual operation and maintenance cost (dollars/year): \$250.00 per year

Simple payback period (years): 10+ years with a 25% grant.

(total estimated cost of the project) divided by (the estimated annual fuel savings + other revenue minus annual recurring costs such as additional estimated operation and maintenance costs)

Show simple payback period calculation:

This information was taken by adding the annual savings projected in the Pre-Feasibility Assessment Results information that has been included with this application. (Please refer to the pre-feasibility life cycle cost model.)

→ Attach an installation/equipment estimate or bid from a manufacturer or installation contractor.

Section 5: Financial Need

Describe why you need Focus on Energy funding for this project. Provide details of why your proposed project cannot proceed with the financial resources available to you.

Our district has been researching the possibility of implementing the addition of this renewable energy source for heating at our Elementary facility since last spring. As a public entity the full cost of the project will prohibit the district from being able to proceed because the payback for installation will exceed the desired commercial payback of less than ten years. Even with all costs going up, the assistance of this program will allow us to bring the installation payback within this ten year window. Additionally, other expected indirect paybacks for the district include increasing the longevity of our current boilers, saving heating costs by utilizing the heat exchange system allowing for moderate temperatures to be utilized (not just current boiler limits) during fall and spring, and most importantly allowing the district to have the benefit of a dual system to take advantage of the most cost efficient fuel source on a monthly/annual basis.

→ Financial Information (include A or B below):

- A. If this project requires financing in the form of a loan, please attach a letter from your lender that they will provide financing for this project.

Estimated date to obtain financing: Not Applicable

Source of financing: Not applicable

- B. If this project does not require a loan, please attach a letter from your financial institution (bank, credit union, etc.) that indicates sufficient funds are available to complete this project.

Letter is being sent via U.S. mail.

Have you applied for or been awarded other grants for this project (government, utility, etc.)? If yes, please identify the grant, source of grant, the grant award amount and anticipated award schedule:

No, this is the only grant of which I am aware for our project.

- ~ The Pelco biomass hydronic heating unit can be used to supply hot heating fluid to multiple heating circuits. The heating fluid is transferred from the Pelco to each heating circuit through the use of a hot water circulator.
- ~ In this example, the Pelco is supplying hot heating fluid to two heating circuits. Each circuit has multiple heat loads.
- ~ Balancing valves or circuit setters are used to balance the amount of heating fluid supplied to each heat load on each heating circuit.
- ~ The maximum heating supply fluid temperature of the Pelco is 180°F. The recommended heating fluid is water or a water / propylene glycol solution not to exceed 50% concentration.

