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## MTSU Clean Energy Initiative Project Funding Request

There are five (5) sections of the request to complete before submitting. See <http://www.mtsu.edu/~sga/cleanenergy.htm> for funding guidelines.

1. General Information	
Name of Person Submitting Request : Reggie Floyd	
Department/Office : Energy Services	Phone # (Office) 615-898-2306
MTSU Box # 32	Phone # (Cell) <del>238-7391</del>
E-mail : reggie.floyd@mtsu.edu	Submittal Date 10-6-2016

2. Project Categories (Select One)	
Select the category that best describes the project.	
<input checked="" type="checkbox"/> Energy Conservation/Efficiency	<input type="checkbox"/> Sustainable Design
<input type="checkbox"/> Alternative Fuels	<input type="checkbox"/> Other
<input type="checkbox"/> Renewable Energy	

3. Project Information
<p>a. Please provide a brief descriptive title for the project.</p> <p>b. The project cost estimate is the expected cost of the project to be considered by the committee for approval, which may differ from the total project cost in the case of matching funding opportunities. <b>Any funding request is a 'not-to-exceed' amount. Any proposed expenditure above the requested amount will require a resubmission.</b></p> <p>c. List the source of project cost estimates.</p> <p>d. Provide a brief explanation in response to question regarding previous funding.</p>
3a. Project Title : bypass feeders (AMG,BDA,BAS,COE,JUB,KOM,LRC,BRAGG,MC,CKNB,STU,TODD,JACK,FAIR,AND WMB)
3b. Project Cost Estimate : \$9,800
3c. Source of Estimate : Nashville chemical
3d. If previous funding from this source was awarded, explain how this request differs? n/a

#### 4. Project Description

(Completed in as much detail as possible.)

- a. The scope of the work to be accomplished is a detailed description of project activities.
- b. The benefit statement describes the advantages of the project as relates to the selected project category.
- c. The location of the project includes the name of the building, department, and/or specific location of where the project will be conducted on campus.
- d. List any departments you anticipate to be involved. Were any departments consulted in preparation of this request? Who? A listing may be attached to this form when submitted.
- e. Provide specific information on anticipated student involvement or benefit.
- f. Provide information for anticipated future operating and/or maintenance requirements occurring as a result of the proposed project.
- g. Provide any additional comments or information that may be pertinent to approval of the project funding request.

##### 4a. Scope: Work to be accomplished

Purchase and install Bypass feeders to closed loop system. These feeders will allow us to add chemicals into our closed loop system. The chemicals will keep the inside of the coils and piping clean.

4b. Scope: Benefit Statement: Eliminating the contaminants/sediments from the piping and coils increases the thermal conductivity and eliminates clogged heating coils. Keeping the fluid clean as water is reintroduced into the close loop system improves the overall efficiency of the system. This system will improve heating of the building in colder weather for occupancy comfort.

#### 4. Project Description (continued)

4c. Location of Project (Building, etc.) bypass feeders will be placed in fifteen buildings on campus(see 3a)

#### 4d. Participants and Roles

Energy Services Department, Dillingham and Smith and Nashville Chemical

#### 4e. Student participation and/or student benefit

No student involvement is planned at this time; however, the comfort level for the occupants in each building should be improved.

#### 4f. Future Operating and/or Maintenance Requirements

Future requirements should be minimal. Cleaner loop systems should lessen the need for repairs through keeping the lines cleaner, lessening the sediment, rust, lessen corrosion, and equipment should last longer.

#### 4g. Additional Comments or Information Pertinent to the Proposed Project

The cleaner internals provided by the bypass feeders and chemicals provides a more efficient thermal heat transfer surface, which means less hot water and steam are needed to heat a building and less gas is needed to produce the steam, saving dollars in utilities costs.

The improved and more efficient heating system also means fewer maintenance requests.

## 5. Project Performance Information

Provide information if applicable.

- a. Provide information on estimated annual energy savings stated in units such as kW, kWh, Btu, gallons, etc.
- b. Provide information on estimated annual energy cost savings in monetary terms.
- c. Provide information on any annual operating or other cost savings in monetary terms. Be specific.
- d. Provide information about any matching or supplementary funding opportunities that are available. Identify all sources and explain.

5a. Estimated Annual Energy Savings (Estimated in kW, kWh, Btu, etc.)

Difficult to determine.

5b. Annual Energy COST Savings (\$)

TBD, includes energy savings from reduced steam production, less gas required, less water usage, improved thermal heat transfer, better control, water pumps to run more efficiently causing less wear and better flow through the loops, etc., and other items as already mentioned. Maintenance avoided cost \$15000-\$20,000/yr., estimated energy saving \$2000 per yr.

5c. Annual Operating or Other Cost Savings. Specify. (\$)

TBD, increases life of the equipment, fewer maintenance issues.

5d. Matching or Supplementary Funding (Identify and Explain)

None at this time.