All Agency Project Request

2013 - 2015 Biennium

Agency	Institution	Building No.	Building Name
University of Wisconsin	Oshkosh	285-0F-9950	Multi-Building

Project No. 13A3N

Project Title Campus Services Ctr Waste Heat Connect

Project Intent

This project provides investigation and research, pre-design, and design services to install a piping connection and ancillary mechanical equipment to allow waste heat to be recovered from the UW-Oshkosh Foundation bio-digester electrical power generator and transferred to the Campus Services Building heating system. This will substantially reduce the utility cost for the service building. The proposed piping route and building mechanical equipment will be evaluated to identify deficiencies, develop design solution alternatives, and recommend appropriate corrective measures.

Project Description

Project work includes the construction of ~300 LF hot water piping connection between the generator water jacket and the service building hot water heating system, and the installation of a heat exchanger, pump and four unit heaters in the service building. Hot water piping will be direct buried from the generator building to the southwest corner of the service building. The heat exchanger and pump will be installed in a storage area in the southwest corner of the building with a piping connection to the building hot water system. Hot water sourced unit heaters will replace natural gas fired unit heaters in each of the four maintenance shop areas.

Project Justification

A 2013 preliminary engineering study indicated that it is feasible to recover the heat rejected from the UW-Oshkosh Foundation bio-digester electrical generator which is located about 200 LF from the UW Services Center building. This 350KW generator rejects approximately 1,494 MBH of waste heat to ambient air at 100% load. The waste heat should be recovered to meet the 1,040 MBH peak winter heating load and 160 MBH peak summer heating load of the Campus Service Center.

It is anticipated that the heat transfer system will provide 100% of the annual heat needed for the Services Center building assuming that the generator will be operated continuously. This will effectively eliminate the gas bill for building heating saving approximately $21,000 per year. When the increased electrical energy cost to operate the new pump is taken into account, the savings will be approximately $20,300 per year. The simple payback for this project is approximately 12.3 years.

A/E Consultant Requirements

☑ A/E Selection Required?

Consultants should have specific expertise and experience in the design and coordination of mechanical heating and cooling systems and electrical power generating equipment as part of a design team. Work includes site surveys, acquiring field data, and verifying as-built conditions to assure accurate development of design and bidding documents and production of necessary design and bidding documents. Consultants should indicate specific projects from past experience (including size, cost, and completion date) in their letter of interest and when known, include proposed consulting partners and specialty consultants.

The consultant will verify project scope, schedule, and budget estimates, and recommend modifications as required to complete the specified project intent. The consultant will prepare a pre-design document to establish an appropriate project scope, budget, and schedule prior to the university seeking authority to construct from the Board of Regents and State Building Commission.

Commissioning

☑ Level 1

☐ Level 2

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Project Budget

Construction Cost:		
Haz Mats:		
Construction Total:		
Contingency:	15%	
A/E Design Fees:	13%	
DFD Mgmt Fees:	4%	
Other:		
		$250,000

Funding Source(s) / Total

GFSB - []	
PRSB - []	
Agency/Institution Cash [AGF0]	
Gifts	
Grants	
Building Trust Funds [BTF]	
Other Funding Source	
	$250,000

Project Schedule

SBC Approval:	10/2015
A/E Selection:	
Bid Opening:	01/2016
Construction Start:	03/2016
Substantial Completion:	08/2016
Project Close Out:	12/2016

Project Contact

Contact Name:	Chuck Hermes
Email:	<hermes@uwosh.edu>
Telephone:	(920) 424-2299 x

Project Scope Consideration Checklist

	Y	N
1. Will the building or area impacted by the project be occupied during construction? If yes, explain how the occupants will be accommodated during construction.	☑	☐
All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.		
2. Is the project an extension of another authorized project? If so, provide the project #...	☐	☑
3. Are hazardous materials involved? If yes, what materials are involved and how will they be handled?	☐	☑
Hazardous materials abatement is not anticipated on this project. Has WALMS data available per Mr. Day.		
4. Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent?	☑	☐
All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities. Minimal disruption. Only a short duration disruption is anticipated at cut-over.		
5. Will the project impact the heating plant, primary electrical system, or utility capacities supplying the building? If yes, to what extent?	☑	☐
All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities. Project will provide redundant heating source to back up natural gas fired heating system.		
6. Are other projects or work occurring within this project's work area? If yes, provide the project # and/or description of the other work in the project scope.	☐	☑
7. Have you identified the WEPA designation of the project...Type I, Type II, or Type III?	☑	☐
Type III.		

8. Is the facility listed on a historic register (federal or state), or is the facility listed by the Wisconsin Historical Society as a building of potential historic significance? If yes, describe here. ☐ ☑

9. Are there any other issues affecting the cost or status of this project? ☑ ☐

   Campus has completed shared utility easement and user agreement with the UW-Oshkosh Foundation.

10. Will the construction work be limited to a particular season or window of opportunity? If yes, explain the limitations and provide proposed solution. ☑ ☐

    Project work is seasonal. Preferred project work schedule should be limited to late spring, summer, and/or early fall months if possible.

11. Will the project improve, decrease, or increase the function and costs of facilities operational and maintenance budget and the work load? If yes, to what extent? ☑ ☐

    Completion of this project will decrease operational energy costs.

12. Are there known code or health and safety concerns? If yes, identify and indicate if the correction or compliance measure was included in the budget estimate, or indicate plans for correcting the issue(s). ☐ ☑

13. Are there potential energy or water usages reduction grants, rebates, or incentives for which the project may qualify (i.e. Focus on Energy <http://www.focusonenergy.com> or the local utility provider)? If yes, describe here. ☑ ☐

    Project should qualify for Focus on Energy Custom Incentive funds.

14. If this is an energy project, indicate and describe the simple payback on state funding sources in years and the expected energy reduction here. ☑ ☐

    When the increased electrical energy cost to operate the new pump is taken into account, the savings will be approximately $20,300 per year. The simple payback for this project is approximately 12.3 years.