

All Agency Project Request

2015 - 2017 Biennium

<u>Agency</u>	<u>Institution</u>	<u>Building No.</u>	<u>Building Name</u>
University of Wisconsin	Oshkosh	285-0F-0061	HEATING PLANT & CHIMNEY

<u>Project No.</u>	<u>Project Title</u>
17G1N	Upgrade Fuel Reliability

Project Intent

This project provides investigation and research, and pre-design, and design services in accordance with the DFD Consultant Policy & Procedure Manual to provide on-site fuel oil storage, burner redundant capacity, and associated equipment in the Heating Plant to allow 72 hours of weekend boiler operation at historical peak usage rate in the event of a natural gas outage or curtailment with the largest boiler unavailable for service in accordance with the Department of Administration (DOA) and UW System Administration (UWSA) Risk Management requirements. The heating plant facility and equipment will be evaluated to identify deficiencies, develop design solution alternatives, and recommend appropriate corrective measures.

Project Description

Project work includes installation of new fuel oil burners for the coal/gas-fired boilers; approximately 40,000 gallons of fuel oil storage tanks; spill containment; and associated equipment and controls. All existing coal and ash handling equipment will be removed.

Project Justification

The coal-fired boilers were installed in 1965 with sidewall natural gas burners. Increasing environmental concerns associated with burning coal and disposal of coal ash, the elimination of coal as a boiler fuel at UW-Madison, Capitol Heat & Power, and Waupun Correctional Institution, and the uncertainty of economic supply of coal in the limited quantities needed have all led to UWSA making a priority of elimination coal as a heating plant fuel at all UW institutions.

The Department of Administration, in conjunction with UWSA Risk Management, requires that each heating plant have on-site storage of emergency boiler fuel to allow 72 hours of operation at the historic peak weekend steam usage rate in order to sustain operations in the event of an extended primary fuel disruption or curtailment. Coal is being phased out as a central heating plant fuel source for all UW institutions. The current coal supplier, the only bidder on the current coal contract, is operating in bankruptcy. UW-Oshkosh currently has 25,000 gallons of fuel oil storage capacity, and approximately 30 hours of run time. This project will provide additional fuel storage capacity on campus. The 72-hour standard is derived from the scenario of a natural gas supply interruption during a winter weekend starting on a Friday and an inability to obtain a fuel oil delivery until the following Monday morning. Without adequate back-up fuel inventory maintained on-site, heating outages of even short duration during extreme cold may occur requiring closure of and freeze damage to campus buildings, harm to research animals, and disruption of campus instruction, food service and events. Uncertain availability of coal beyond the expiration of the current coal supply contract in June 2020 and environmental concerns preclude the use of coal as a long term secondary fuel.

DOA has determined it is not cost effective to replace existing coal boilers with new gas/oil boilers. Doing nothing would expose the facilities to unacceptable risk of winter heating loss.

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A/E Consultant Requirements

A/E Selection Required?

Consultants should have specific expertise and experience in the modification of university heating plant design, piping design, structural design, electrical design, fuel oil tank and associated instrumentation, controls integration, and coordination with environmental permit engineers as part of a design team. Design work may also include alteration and/or repair on existing boilers which will require loading calculations and boiler water circuit knowledge to determine if flow and heat transfer will work with design. Work will also include site surveys, acquiring field data, and verifying as-built conditions to assure accurate development of project scope. 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

Project Budget

Construction Cost:	
Haz Mats:	
Construction Total:	
Contingency:	
A/E Design Fees:	
DFD Mgmt Fees:	
Other:	
	\$3,099,000

Funding Source(s)

	<u>Total</u>
GFSB - Utilities Repair & Renovation [Z080]	\$0
PRSB - Utilities Repair & Renovation [T570]	\$0
Agency/Institution Cash [AGF0]	\$0
Gifts	\$0
Grants	\$0
Building Trust Funds [BTF]	\$180,000
Other Funding Source	\$0
	\$180,000

Project Schedule

SBC Approval: TBD
A/E Selection: 08/2017

Bid Opening: TBD
Construction Start: TBD
Substantial Completion: TBD
Project Close Out: TBD

Project Contact

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

Project Scope Consideration Checklist

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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.

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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?
Required hazardous materials abatement [ACM fittings on fiberglass insulation, magnesia pipe insulation,] has been included in the estimated project schedule and project budget.
4. Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent?
Construction work must generally occur in non-heating months and any required boiler outages must be coordinated in advance with physical plant staff.
5. Will the project impact the heating plant, primary electrical system, or utility capacities supplying the building? If yes, to what extent?
Construction work must generally occur in non-heating months and any required boiler outages must be coordinated in advance with physical plant staff.
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.
Routine boiler and plant maintenance and operations.
7. Have you identified the WEPA designation of the project...Type I, Type II, or Type III?
Type III. Construction will occur in an existing building, adding fuel storage for existing fuels, without increasing boiler/heating capacity.
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
9. Are there any other issues affecting the cost or status of this project?
10. Will the construction work be limited to a particular season or window of opportunity? If yes, explain the limitations and provide proposed solution.
Construction work must generally occur in non-heating months and any required boiler outages must be coordinated in advance with physical plant staff.
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?
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).
Work is to be in accordance with all applicable building and environmental codes. Air Permit revision will be required.

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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.
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.