

October 14, 2014

The Honorable Michael R. Pence
Governor of the State of Indiana
State House
Indianapolis, IN 46204

Dear Governor Pence:

At its meeting on September 25, 2014, the Purdue University Physical Facilities Committee of the Board of Trustees approved the financing and construction of the project, "Wade Utility Plant Boiler 5 Dry Sorbent Injection System Installation" on the Purdue University West Lafayette Campus.

This project will provide a retrofit of the existing Boiler 5 with a Dry Sorbent Injection System to comply with the upcoming Environmental Protection Agency Boiler MACT rule.

The estimated cost of this project is \$2,500,000, to be funded from University Funds – Infrastructure Reserve.

Subject to review by the Commission for Higher Education and recommendation by the State Budget Committee and the Budget Agency, we request your approval to proceed with this project. Attached are the completed forms which the Commission has prescribed for its review of such projects. We will be happy to answer any questions you or your staff may have or to provide any additional information you may wish.

Sincerely,



William. E. Sullivan
Treasurer and Chief Financial Officer

/bjm

Attachments

c: Matt Hawkins, Associate Commissioner and Chief Financial Officer
Brian Bailey, State Budget Director
Linda Baer, Interim Comptroller
Kevin Green, Assistant Director of Capital Planning

PROJECT SUMMARY AND DESCRIPTION

FOR: WADE UTILITY PLANT BOILER 5 DRY SORBENT INJECTION SYSTEM INSTALLATION

Institution:	<input type="text" value="Purdue University"/>	Budget Agency Project No.:	<input type="text" value="B-1-15-2-17"/>
Campus:	<input type="text" value="West Lafayette"/>	Institutional Priority:	<input type="text" value="N/A"/>
Previously approved by General Assembly:	<input type="text" value="No"/>	Previously recommended by CHE:	<input type="text" value="No"/>
Part of the Institution's Long-term Capital Plan:	<input type="text" value="Yes"/>		

Project Summary Description:

This project will provide a retrofit of the existing Boiler 5 with a Dry Sorbent Injection System (DSI) to comply with the upcoming Environmental Protection Agency Boiler MACT (maximum achievable control technology) rule. Dry sorbent injection (DSI) technology offers effective removal of SO₂, SO₃, HCl and HF from coal fired boilers, biomass combustors and waste incinerators. Once injected into the gas stream the sorbent efficiently absorbs the acid gases.

Summary of the impact on the educational attainment of students at the institution:

N/A

Project Size:	<input type="text" value="0"/> GSF	<input type="text" value="0"/> ASF	<input type="text" value="N/A"/> ASF/GSF
Net change in overall campus space:	<input type="text" value="0"/> GSF	<input type="text" value="0"/> ASF	

Total cost of the project (1):	<input type="text" value="\$ 2,500,000"/>	Cost per ASF/GSF:	<input type="text" value="N/A"/> GSF
			<input type="text" value="N/A"/> ASF
Funding Source(s) for project (2):	<input type="text" value="\$ 2,500,000"/>	University Funds - Infrastructure Reserves, Fund balance is \$13,707,563 as of 10/10/14	
Estimated annual debt payment (4):	<input type="text" value="0"/>		
Are all funds for the project secured:	<input type="text" value="Yes"/>		
Estimated annual change in cost of building operations based on the project:	<input type="text" value="\$ 66,032"/>		
Estimated annual repair and rehabilitation investment (3):	<input type="text" value="\$ 37,500"/>		

(1) Projects should include all costs associated with the project (structure, A&E, infrastructure, consulting, FF&E, etc.)

(2) Be consistent in the naming of funds to be used for projects. If bonding, note Bonding Authority Year (1965, 1929, 1927, etc.)

(3) Estimate the amount of funding the institution would need to set aside annually to address R&R needs for the project. CHE suggests 1.5% of total construction cost

(4) If issuing debt, determine annual payment based on 20 years at 5.75% interest rate

- If project is a lease-purchase or lease, adjust accordingly. Note the total cost of the lease in the project cost, and annual payments in project description

PROJECT DETAILED DESCRIPTION - ADDITIONAL INFORMATION
FOR: WADE UTILITY PLANT BOILER 5 DRY SORBENT INJECTION SYSTEM INSTALLATION

Institution:	Purdue University	Budget Agency Project No.:	B-1-15-2-17
Campus:	West Lafayette	Institutional Priority:	N/A

Description of Project

This project will provide a retrofit of the existing Boiler 5 with a Dry Sorbent Injection System (DSI) to comply with the upcoming Environmental Protection Agency Boiler MACT rule. The DSI system includes a lime silo, and injection ports. Dry sorbent injection (DSI) technology offers effective removal of SO₂, SO₃, HCl and HF from coal fired boilers, biomass combustors and waste incinerators. Once injected into the gas stream the sorbent efficiently absorbs the acid gases.

Need and Purpose of the Program

The Industrial Boiler MACT rule, which limits Particulate Matter (PM), mercury (Hg), Hydrogen Chloride (HCl), and carbon monoxide (CO) emissions, requires compliance by January 2016. Boiler 5 meets all emission requirements except for the HCl emissions. The DSI will reduce HCl levels to acceptable ranges per the Industrial Boiler MACT (maximum achievable control technology) rule.

Space Utilization

N/A

Comparable Projects

PID 14142 - Boiler No. 2 Conversion project was also a boiler modification project, though more complicated. Boiler 2 had a project budget of \$3,100,000. The Boiler 5 modification will not be as complicated as the Boiler 2 modification.

Background Materials

N/A

CAPITAL PROJECT REQUEST FORM
INDIANA PUBLIC POSTSECONDARY EDUCATION
INSTITUTION CAMPUS SPACE DETAILS FOR Wade Utility Plant Boiler 5 Dry Sorbent Injection System Installation

B-1-15-2-17	Current Space in Use	Space Under Construction (1)	Space Planned and Funded (1)	Subtotal Current and Future Space	Space to be Terminated (1)	New Space in Capital Request (2)	Net Future Space
<u>A. OVERALL SPACE IN ASF</u>							
Classroom (110 & 115)	286,828	-	57,000	343,828	-	-	343,828
Class Lab (210,215,220,225,230,235)	549,947	-	-	549,947	-	-	549,947
Non-class Lab (250 & 255)	1,511,629	-	-	1,511,629	-	-	1,511,629
Office Facilities (300)	2,159,579	-	-	2,159,579	-	-	2,159,579
Study Facilities (400)	389,623	-	36,000	425,623	-	-	425,623
Special Use Facilities (500)	1,155,011	9,578	-	1,164,589	-	-	1,164,589
General Use Facilities (600)	847,963	1,065	4,000	853,028	-	-	853,028
Support Facilities (700)	3,301,473	-	(537)	3,300,936	-	-	3,300,936
Health Care Facilities (800)	83,799	-	-	83,799	-	-	83,799
Resident Facilities (900)	2,328,142	-	-	2,328,142	-	-	2,328,142
Unclassified (000)	57,020	-	(2,330)	54,690	-	-	54,690
<u>B. OTHER FACILITIES</u>							
(Please list major categories)	-	-	-	-	-	-	-
TOTAL SPACE	12,671,014	10,643	94,133	12,775,790	-	-	12,775,790

Notes:

- (1) Identify in a footnote the specific facilities that are included in the data in these columns. Do not include pending approval, non-submitted projects or non-funded projects
- (2) Should include capital projects requested by the institution based on 2013-15 Capital Request Summary

- Space/Room codes based on Postsecondary Ed Facilities Inventory and Classification Manual (2006)

Space under construction includes: Softball Stadium

Space planned and funded includes: Active Learning Center

Space to be terminated includes:

CAPITAL PROJECT COST DETAILS

FOR: WADE UTILITY PLANT BOILER 5 DRY SORBENT INJECTION SYSTEM INSTALLATION

Institution:	Purdue University	Budget Agency Project No.:	B-1-15-2-17
Campus:	West Lafayette	Institutional Priority:	N/A

ANTICIPATED CONSTRUCTION SCHEDULE

	<u>Month</u>	<u>Year</u>
Bid Date	November	2015
Start Construction	January	2016
Occupancy (End Date)	September	2016

ESTIMATED CONSTRUCTION COST FOR PROJECT

	<u>Cost Basis (1)</u>	<u>Estimated Escalation Factors (2)</u>	<u>Project Cost</u>
<u>Planning Costs</u>			
a. Engineering	\$ 300,000		\$ 300,000
b. Architectural			\$ -
c. Consulting	\$ 105,000		\$ 105,000
<u>Construction</u>			
a. Structure	\$ 400,000		\$ 400,000
b. Mechanical (HVAC, plumbing, etc.)	\$ 350,000		\$ 350,000
c. Electrical	\$ 250,000		\$ 250,000
<u>Movable Equipment</u>			\$ -
<u>Fixed Equipment</u>	\$ 662,000		\$ 662,000
<u>Site Development/Land Acquisition</u>			\$ -
<u>Other (Please list)</u>	\$ 433,000		\$ 433,000
Contingencies, Purdue Soft Costs			
TOTAL ESTIMATED PROJECT COST	\$ 2,500,000	\$ -	\$ 2,500,000

(1) Cost Basis is based on current cost prevailing as of: (INSERT MONTH AND YEAR)

(2) Explain in the Description of Project Section of the "Cap Proj Details" schedule the reasoning for estimated escalation factors

CAPITAL PROJECT OPERATING COST DETAILS
FOR: WADE UTILITY PLANT BOILER 5 DRY SORBENT INJECTION SYSTEM INSTALLATION

Institution:	Purdue University	Budget Agency Project No.:	B-1-15-2-17
Campus:	West Lafayette	Institutional Priority:	N/A

<u>ANNUAL OPERATING COST/SAVINGS (1)</u>	<u>GSF OF AREA AFFECTED BY PROJECT</u>			<u>N/A</u>
	<u>Cost per GSF</u>	<u>Total Operating Cost</u>	<u>Personnel Services</u>	<u>Supplies and Expenses</u>
1. Operations		\$ 27,205		\$ 27,205
2. Maintenance		\$ 15,000		\$ 15,000
3. Fuel		\$ -		
4. Utilities		\$ 23,827		\$ 23,827
5. Other		\$ -		
TOTAL ESTIMATED OPERATIONAL COST/SAVINGS	N/A	\$ 66,032	N/A	\$ 66,032

Description of any unusual factors affecting operating and maintenance costs/savings.

[Redacted area]

(1) Based on figures from "Individual Cap Proj Desc" schedule